



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Implementation Of 5s Practices In The Company

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Abstract

5S is one of the tools of Lean Management enabling them to organize work in an effective way. It could be implemented in all spheres of the company. The article provides the theoretical description of Lean Management and 5S and also shows a case study based on gained experience. The author also describes the problems that occurred during the implementation of the 5S.

Introduction

5S is a workplace organization method that uses a list of five Japanese words: seiri (整理), seiton (整顿), seisō (清掃), seiketsu (清潔), and shitsuke (躰). These have been translated as "sort", "set in order", "shine", "standardize", and "sustain".[1] The list describes how to organize a work space for efficiency and effectiveness by identifying and storing the items used, maintaining the area and items, and sustaining the new organizational system. The decision-making process usually comes from a dialogue about standardization, which builds understanding among employees of how they should do the work.

5S is a five-step methodology for creating a more organized and productive workspace: **Sort, Set in order, Shine, Standardize, and Sustain**. 5S serves as a foundation for deploying more advanced lean production tools and processes.

Many manufacturing facilities have opted to follow the path towards a **5S lean manufacturing system** as part of a continuous improvement program or **lean manufacturing** process. The 5S system is part of Toyota's Lean Manufacturing methodology designed to reduce waste within your facility.

The 5S methodology¹ is typically the first step towards in eliminating waste from manufacturing processes and eventually leads to improving bottom-line results. There are five pillars in 5S, which stand for: Sort, Set in Order, Shine, Standardize, and Sustain. The goal of a 5S program is to get products closer to operations and workers, organized and labeled to eliminate wasted time and materials.

The 5S philosophy is "a place for everything and everything in its place," is a mantra of UNEX. We help you find the right space optimization solution that eliminates wasted time, underutilized space, and lost inventory. The result of a 5S lean manufacturing implementation is a significant reduction in space needed for existing operations. Workers improve their workspaces by cleaning and organizing them.

Tools and materials are labeled and stored in organized storage locations. Shelving and racks optimize the storage of items in a smaller footprint, helping to improve the order picking process by eliminating the need to search for things.

1S:- Sort

Sort through materials, keeping only the essential items needed to complete tasks. (This action involves going through all the contents of a workspace to determine which are needed and which can be removed. Everything that is not used to complete a work process should leave the work area.)

Seiri is sorting through all items in a location and removing all unnecessary items from the location.

Goals:

- Reduce time loss looking for an item by reducing the number of unnecessary items.
- Reduce the chance of distraction by unnecessary items.
- Simplify inspection.
- Increase the amount of available, useful space.
- Increase safety by eliminating obstacles.

Implementation:

- Check all items in a location and evaluate whether or not their presence at the location is useful or necessary.
- Remove unnecessary items as soon as possible. Place those that cannot be removed immediately in a 'red tag area' so that they are easy to remove later on.
- Keep the working floor clear of materials except for those that are in use for production.

2S: - Set in Order

Ensure that all items are organized and each item has a designated place. Organize all the items left in the workplace in a logical way so they make tasks easier for workers to complete. This often involves placing items in ergonomic locations where people will not need to bend or make extra movements to reach them.

Seiton is putting all necessary items in the optimal place for fulfilling their function in the workplace.

Goal:

- Make the workflow smooth and easy.

Implementation:

- Arrange work stations in such a way that all tooling / equipment is in close proximity, in an easy to reach spot and in a logical order adapted to the work performed. Place components according to their uses, with the frequently used components being nearest to the workplace.
- Arrange all necessary items so that they can be easily selected for use. Make it easy to find and pick up necessary items.
- Assign fixed locations for items. Use clear labels, marks or hints so that items are easy to return to the correct location and so that it is easy to spot missing items.

3S:- Shine

Proactive efforts to keep workplace areas clean and orderly to ensure purpose-driven work. This means cleaning and maintaining the newly organized workspace. It can involve routine tasks such as mopping, dusting, etc. or performing maintenance on machinery, tools, and other equipment.

Seiso is sweeping or cleaning and inspecting the workplace, tools and machinery on a regular basis.

Goals:

- Improves the production process efficiency and safety, reduces waste, prevents errors and defects.
- Keep the workplace safe and easy to work in.
- Keep the workplace clean and pleasing to work in.
- When in place, anyone not familiar to the environment must be able to detect any problems within 15 metres (50 ft) in 5 seconds.

Implementation:

- Clean the workplace and equipment on a daily basis, or at another appropriate (high frequency) cleaning interval.
- Inspect the workplace and equipment while cleaning.

4S:- Standardize

Create a set of standards for both organization and processes. In essence, this is where you take the first three S's and make rules for how and when these tasks will be performed. These standards can involve schedules, charts, lists, etc.

Seiketsu is to standardize the processes used to sort, order and clean the workplace.

Goal:

5S: - Sustain

Sustain new practices and conduct audits to maintain discipline. This means the previous four S's must be continued over time. This is achieved by developing a sense of self-discipline in employees who will participate in 5S.

Growth of company with use 5S system:

Initially gaining popularity through its usage in improving manufacturing processes, companies outside of the manufacturing industry discovered that the **5S methodology** was versatile enough to be used for other types of business operations. Below are some of the top industries that benefit from the 5S methodology.

Objective of the Study :

To know the implementation of useful tools for creating an effective work environment without bothersome and useless influences to observe proper practices in and also study the employee welfare facility through 5s practices.

Data Analysis and Interpretation :

- PPE Non-compliance register are available in the plant.
- First aid box is available
- Scarp yard is available in the plant
- Settling tank are available
- Daily chipping and cleaning activity followed regularly
- Viability of LOTOTO system
- Fastrack incident reporting

SAFETY ASPECT OF PLANT

- Plant
- Site
- Vehicle

Literature Review:

Author

Beata GALA, Radoslaw WOLNIAK Silesian University of Technology

Abstract:

5S is a one of the tools of Lean Management enabling to organize workplace in an effective way. It could be implement- ted in all the spheres of the company. The article provides the theoretical description of Lean Management and 5S and also shows a case study based on gained experience. The author also describes the problems that occurred during the imply- mentation of the 5S.

CONCLUSION:

Proper implementation of 5S guarantees the real benefits that result in the increase of productivity and efficiency of the work, as well as improve the quality and safety requirements. Keep in mind that success depend mainly on the aware perception in the 5S concept of the whole team, both employees and managers. That is what a man is called – driving force in carrying out the changes. In order to maintain the level of earned 5S it should be a process of continuous improvement. Every employee should “take care” of the system by following the set standards, the development of improvements to the work report noted problems errors, and by actively engaging in training. While managers are required to prepare and implement a schedule of repeated internal and external audits. Takashi Osada believed that if the organization manages to implement and maintain the system 5S, it is capable of dealing with other practices. However, a company that is unable to enter the home rules 5S, you will know how to perform other tasks that are required from a competing company.

2) IMPLEMENTATION OF 5S METHODOLOGY IN A METALWORKING COMPANY

Author

CLÁUDIO COSTA, LUÍS P. FERREIRA, JOSÉ C. SÁ & F. J. G. SILVA

Abstract:

Nowadays, flexibility is of the utmost importance in organizations in order to respond quickly to customer requests. The implementation of Lean tools requires a major transformation in the company’s culture; on the other hand, it also generates enormous advantages and enables great adaptability. 5S is the foundation of Lean production systems. This is not merely a method of cleaning the work area; it also includes methods for sorting, organizing, cleaning and standardizing.

This paper reflects the work carried out in a metalworking company. This basically involved analyzing all the problems observed in a machining cell in order to provide solutions. This was essentially undertaken through 5S methodology, but the process was also improved by resorting to other necessary tools and actions such as layout changes. This project aimed to improve the cell itself, making it a safer place to work. The tools implemented in the production cell have improved safety in the workstation, increased productivity, and drastically reduced waste.

Discussion and Conclusions

The work presented has produced remarkable gains, both in the production area as well as in those of quality and safety. Owing to the nature of the improvements undertaken, most of which were organizational and visual, it is difficult to measure the results obtained in an accurate manner. This is a limitation of this work. However, by observing the work carried out, one was able to perceive that when the cleaning and organization processes are increasingly executed, the operators’ performance and productivity are also enhanced. This is a direct consequence of workers being able to find everything faster, without making mistakes, in a more ergonomic and safer manner, thus executing their tasks more effectively. The result of

these changes is reflected in minimum levels of waste material, as well as in reduced labour and times which, in turn, lead to a greater reliability of delivery dates and, ultimately, customer satisfaction.

However, the advantages are not merely restricted to the visual aspects and to the mathematics of productive efficiency. Through these improvements, one also observed higher levels of morale and pride in the workers. There was, furthermore, a visible improvement in the work environment and in internal communication/human relations. The existence of more room, better storage organization, as well as several other changes, all contributed to making the workstations safer by limiting the chances of accidents. It is undeniable that all of these aspects are essential to everyone's sense of wellbeing. There is great relevance in highlighting that these parameters are of great importance in a philosophy of continuous improvement: only by having motivated staff can one possibly hope to achieve positive results. One must also highlight the importance of promoting training activities to discuss these Lean techniques with operators; this is fundamental to the process since workers are, unquestionably, the drivers of change. It is also expected that in the future, through discipline and a compliance with the proceedings for the 4S and 5S stages, the company will achieve a greater capacity to criticize and organize, so that the cells will not return to their previous state of neglect.

3) Implementation of 5S management method for lean healthcare at a health center in Senegal: a qualitative study of staff perception

Author

Shogo Kanamori, Seydou Sow, Marcia C. Castro, Rui Matsuno, Akiko Tsuru & Masamine Jimba

Conclusions

The pilot intervention of the 5S management method was perceived to have improved the quality of healthcare services in a resource-poor facility in Senegal. In addition, the improvement of the work environment by the application of the 5S management method was observed to have motivated staff in a healthcare facility where resource constraints and other demotivating factors prevail. Although our results cannot be generalized to other health facilities, they provide a viewpoint for assessing the applicability of the 5S management method, particularly to government healthcare facilities in resource-poor settings where a disorderly work environment serves as a potential bottleneck in providing adequate healthcare services. Quantitative and qualitative research based on a larger-scale intervention would be needed to elaborate and validate these findings as well as to identify the costeffectiveness of their integration into health systems' management procedures. The findings of the research can then be used to develop and present policy options, particularly to government health authorities in low- and middle-income countries and representatives of donor agencies that provide support in such fields.

4) Implementation of 5S Methodology in a Food & Beverage Industry: A Case Study

Author

Sk. Riad Bin Ashraf, Md. Mynur Rashid, Dr. A R M Harunur Rashid

Abstract –

Food and beverage industry in Bangladesh is a potential sector and growing rapidly since 2000. This industry alone makes up 22% of the total manufacturing production in the country and around 2.45% of country's total labor force. This sector of Bangladesh is also impacting global market by exporting food and beverage to 90 different countries. Now a day this sector faces challenges to retain its prosperous position due to uprising of new competitors both in the national and international market. So, continuous improvement is required to overcome these challenges. Various lean tools can be used to achieve this improvement. This paper experiments application of 5S approach to a real world production scenario at a food& beverage industry. Initially, the whole system was analyzed and this showed a lot of incongruities in different areas. Improvement proposals were made based on 5S and were implemented over the course of next few months. From the proposed improvement proposal, lots of benefits such as space saving, money saving, increasing productivity, decreasing rejection of components and many more were achieved.

CONCLUSION

In this paper, enhancements in various functional areas in a food and beverage industry were demonstrated using 5S techniques. The results showed that 5S methodology can be effectively used in this sector. Various advantages are found which include: Process development by cost reduction, Better usage of workplace, Prevention of losing tools, Process growth, Increasing efficiency, Shortening of time required for searching necessary things, Improved working conditions for workers, Reduced machine maintenance cost and so on. Though this experiment shows numerous benefits of 5s in a food and beverage industry, it can be applied to any industry.

5) A Review on 5S Implementation in Industrial and Business Organizations

Author

Araanash Ghodrati

Abstract:

5S is a systematic technique used by organizations comes from five Japanese words: Seiri (sort), Seiton (set in order), Seiso (shine), Seiketsu (standardize), and Shitsuke (sustain). This system helps to organize a work space for efficiency and decrease wasting and optimize quality and productivity via monitoring an organized environment and use

visual evidences to obtain more firm results effectiveness. As importance role of 5S implementation in today's organizations, this study aims to review previous studies about benefits of 5S implementation and its efficiency in organizations. Consequently 5S can support the objectives of organization to achieve continuous improvement in performance and productivity

Conclusion

The most important barrier for implementation of 5S effectively is poor communication. Techniques of communication and their efficiency are seldom evaluated and communication faults rarely addressed in an industrial workplace. Poor communication can cause wasting resources, time and money, and lowering moral amongst employees. The results of evolving communication systems in an uncontrolled fashion in industries or business could be confusing and complex.

There must be an applicable way for using 5S as an improvement tool for communication system. The surveys indicate that there are difficulties in the effective 5S implementation. Another significant barrier is the space between managerial level and shop floor employees and the poor training and awareness of 5S. Since some critical decisions of 5S activities, including time and budget performance must approve and support by management, therefore more cooperation is recommended during implementation period [6]. It is concluded that 5S key of success is training. 5S implementation is not possible without proper training and employees are not capable to actively standardize the 5S . Organization should pay attention to this fact that resistance to change is one issue which will be occurring during 5S implementation. Therefore, it is believed that continuous training is the key applying to change the organization culture, and assessment should focus on improvement and progress regarding all input from the organization until complete establishment of 5S system

Research Methodology :

The study which include of selection of sample and tools used for collecting data and tools.

Primary Data :

The primary data was collected by survey method with the help of specially designed schedules by conducting face to face interviews from the sample respondent.

Secondary Data:

Secondary data was collected from the books, periodicals, journals, office records, papers, company records, internet etc.

Conclusion :

Due to implementation of 5S, there was improvement in space utilization, reduce unnecessary movement, creating integrated maintenance system, reduce time to find the tools and material, increase safety of the employees, decrease scope of error, increase productivity, and improved inventory system, also increasing of machines' efficiency, maintain the cleanness of tools and material, maintain the workstation cleanness, easy to check, quick informing about damages (potential sources of damages) and improve working environment.

The result of implementation of 5S is 400m square space saving in the plant department, much movement of men, material is reduced. Awareness of the 5S concept indirectly improved the morale of employees with better working environment. Periodically 5S scorecards should be checked and 5S auditing should be carried out for long term benefits to the organization.

Repair and maintenance of heavy equipment activities are performed in less time and with a considerable decrease in the cost, with an increase in available space dedicated to the equipment. After that, it also decreases the preparation time, maintenance costs, the anomalies identification time and the accident rate.

Suggestions :

- Train employees.
- Build a team for implementation.
- Assign time and develop a program for implementation.
- Provide resources for implementation.
- Recognize and support the implementation by managers and directors.

The zone wise 5S audit report is reviewed by the respective zone leader. The scope for improvements is studied and corrective actions are initiated. It is necessary to decide corrective actions which are permanent in nature rather than temporary.

We, at Visualmitra have supported many organizations towards effective implementation of 5S with Simple and Practical approach which is very well appreciated by the clients

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