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## IMPLEMENTATION OF “5S METHODOLOGY” IN AN ORGANIZATION

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### ABSTRACT

This Paper Describes The Methods And Techniques Of 5s Which Are Used To Increase The Efficiency Of All Processes In The Industry. The Main Goal Is To Reduce The Losses In The Industry And The Implementation Of The 5s System. It Can Be Seen That Due To The Introduction Of The 5s Rules, There Are Big Changes In The Company, For Example: Improve Cost, Increase Effectiveness And Efficiency In The Process, Efficiency Of The Maintenance And Repair Of Machines, Safety, Accuracy, And Quality And Pollution Control, According To The Decisions. 5s Methodology To Analyze The Processes Running On The Workplace. And Permits For Setting Up 5s Well-Organized, Clean, High-Impact And High-Quality Workplaces. Research Clearly Shows That Workers' Training Is Very Important About The 5s Rules. The Essential Thing Is To Break The Activities On Some Major Steps And To Maintain Continuous Improvement. This Method Can Be Used In All Companies, Resulting In The Effective Organization Of The Workplace.

**Keywords** - Quality Improvement, 5s Implementation, Improves Efficiency, Reduction Of Cost, Elimination Of Wastes Etc.

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### INTRODUCTION

With the changing techno-economic scenario around the entire world, the market has turned from seller to buyer type. The main object of every organization is to satisfy the stated and implied needs of the customers. To provide quality product within stipulated time it is necessary to improve the working conditions. In order to improve the performance of employee, organization has to create interesting working environment. A pleasant condition can help improving performance and motivation on the workers. 5S is a system in which to reduce work and optimize productivity and quality through maintaining and orderly workplace. The benefit of good workplace include the prevention of defects; prevention of accidents; and the elimination of time wasted for searching tools, documentation and other ingredients of manufacture.

The 5S is the methodology of creation and maintaining well organized, clean, high effective and high quality workplace. Its result is the effective organization of workplace, elimination

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of losses connected with failures and breakdowns in machines, improvement of the quality and safety of work[. The implementation of 5S is crucial as it serves as stepping stones to create a strong housekeeping culture in the organization[2].

The history and philosophy of the 5S has its roots in Japan. Name 5S is the acronym of five Japanese words of the following meanings:

1. Seiri (sort),
2. Seiton (set in order),
3. Seiso (shine),
4. Seiketsu (standardize),
5. Shitsuke (sustain)

### **5S Systematization:**

5S states that:

**SEIRI** (sorting and disposing the unnecessary items). Deals with sorting all the tools, materials and other equipment in the workplace. Important equipment is stored accordingly, which reduces the hazards at the work place.

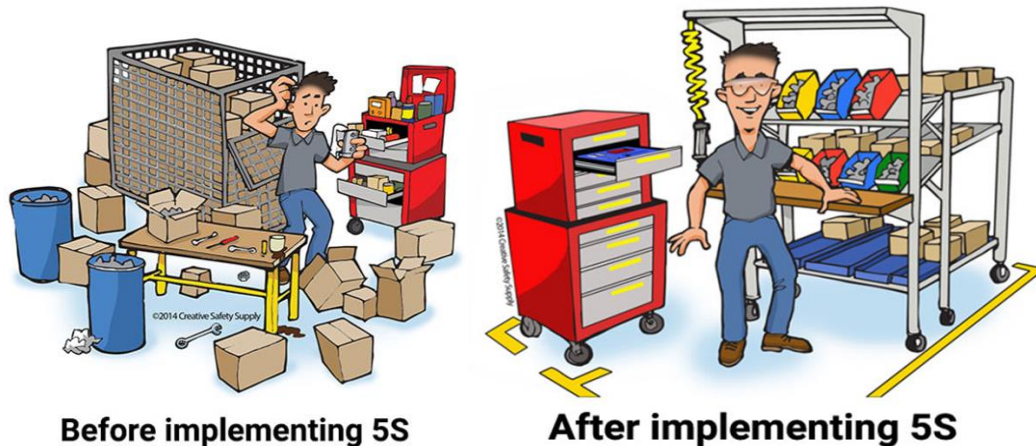
**SEITON** (everything is set in order, provide a place for everything). Identifies the need of the worker. Tools, materials and other equipment should be arranged systematically for quick access and movement.

**SEISO** (shining, cleaning, removal of waste and dust) Point out the need and necessity of clean and neat work place. Cleaning should become a daily activity. Work place should be cleaned at regular intervals (generally at the end of the shift or once in 3hours). Every tool and equipment should be restored at their own places after their use.

**SEIKETSU** (consistent and standardized work environment with unique rules of organization and storage along with cleanliness). Everyone should know his or her responsibility. Cleaning should become a part of regular work routines. This helps in having a good control over the production.

**SHITSUKE** (Sustain, realization of the above set of rules in order). Maintain these standards continuously for years. Implementing 5S should begin from educating the workers about 5S and its importance. It is mandatory that every worker should understand the need of 5S and its advantages. Workers should be provided with an example for all the 5S's, which makes it easy to understand. It is very important to understand the fact that this methodology do not refer only for the production team but also refers to stores (warehouse) and other office teams. It is better to supply a 5S pocket guide to the workers such that they could clarify their doubts by reading it.

## IMPLEMENTATION OF 5S



Many businesses decide to implement a 5S program as a way to standardize procedures, increase orderliness, and improve efficiency. Generally, having a team design and implement a program is effective because people from different parts of the business bring unique perspectives. Using a team also removes the burden of starting and maintaining 5S—which can be a large project, especially in large organizations—from one person. The team will be responsible for tailoring 5S to the needs of the workplace.

Each 5S program will feature visuals best suited to the work environment and its employees. For example, a program could use floor markings that divide work areas from storage areas or shadow boards that highlight where tools should be stored. A 5S program should also assign specific responsibilities to employees such as cleaning a work surface daily or making sure all tools have been returned to the storage area at the end of a shift.

This framework can be adjusted over time to improve the program based on feedback from people in the organization.

### Success factors in 5S implementation

It was observed that 5S initiatives should be integrated with organisational objectives and top management across the entire organisation for becoming a successful initiative. The other success factors for fruitful deployment of 5S initiatives in organisations include the following:

- 1 The strong support and commitment from the top management is the most essential success factor for the implementation of 5S in any organisation. The commitment is not as a lip service or giving the approval to start the process. There should also be commitment of providing resources for intense training and improvement by the top management.
- 2 It is also important to build a positive learning environment of 5S methodology in order to realise the importance of the 5S technique in an organisation with the help promotional campaign, lectures, presentation and discussion for the improvement and development.
- 3 The need of leadership in the 5S program is also important success factor for its implementation. It important to select the leader of the program from the members of the top management instead of getting approval from them.

- 4 The organisations should develop strategic link of 5S initiatives with other problem solving and quality improvement drives and consider 5S as part of an organisational policy and strategic plan .
- 5 There is a need for top management of organisations to create an environment of trust and open communication with trade unions for improving industrial relations.
- 6 The top management need to obtain buy in of all employees that 5S is a virtuous cycle for the organisation, and must follow the PDCA cycle consistently.
- 7 5S program should involve Kaizen approach of small incremental changes to better adapt the employees to the changes with little disruption. By imbibing incremental changes at workplace, 5S system will be better received and be more sustainable (Grier, 2008).
- 8 Team formation, improved communication among various departments, involvement of all employees from top to shop floor, autonomous culture and kaizen activities are critical factors for successful implementation of 5S program in an organisation.

### **Manufacturing performance achievements through 5S implementation**

5S technique is precious for every organisation since it facilitates realisation of motivating and safe working environment for all employees in the organisation. It requires top management commitment, promotional campaign, employee training, team working environment, evaluation of the results and maintaining the 5S records. Skaggs (2010) has stated that 5S program starts with employee training at all levels and with appropriate training, the employees in the organisation can practice the 5S easily. 5S helps in facilitating the smooth running of operations and encourages employees to align with organisational goals. 5S practice can bring significant improvement in environmental performance leading to improved housekeeping, health and safety. It is a set of straightforward steps for realising continuous improvement. 5S can be effectively deployed in any size or kind of organisation, offices and other places. Ho (1999c) has studied the number of achievements gained by 5S in various sectors of organisations in Hong Kong. At C&K Systems Ltd. (security systems manufacturer), 5S has facilitated realisation of the best quality of product with cheerful environment and reduce the staff turnover rate in the plant. At central textile limited, it yielded tremendous results in cleaning and tidying with continuous improvement in quality. At CKFC construction Ltd., 5S settled down the problems of quality and delivery requirements to the clients. At Computer Products Asia Ltd. (manufacturer of computer power supplies) 5S built the base foundation for JIT and TQM in the company. It contributed to productivity improvement including quality, cost, delivery, safety and morale. At Communication Services Ltd. (subsidiary of the Hong Kong Telecom Ltd), 5S helped in providing best services facility to their customers. At Elec & Eltek Ltd. (printed circuit board manufacturer) 5S resulted in development of improved communication and team spirit among the employees.

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### **Each Step of 5S Defined**

#### **1) Sort / Seiri**

Sort is the first step in any 5S process. The term sort is originally derived from the Japanese word Seiri. Each step in the 5S process has an associated goal that can be specifically outlined to help guide efforts. For the step of Sort, the goal is to remove unnecessary items from the room, station, or space being organized. Furthermore, the sorting phase also aims to provide a clean slate on which to build and carry out the other four steps.

Beginning the process of Sort starts out simply, as nearly everything should be removed from the target area. Even though taking items from one space and placing them into a big pile in another space seems like it may be making a mess, this is not true. Instead, this is the opportunity to really make decisions about what needs to stay and what needs to go so actions can be immediately taken for items that are no longer used or needed.

**How It Works:**

Industrial bins are needed for an accurate sort. Based on the standard approach, there are three to four "bins" or sorting categories used when conducting a 5S sort.

**Sort Tips**

- Different spaces require different sorting frequencies. For example, a workstation should be sorted to ensure tidiness everyday it will be used. On the other hand, a storage or filing cabinet may only need to undergo the initial steps of 5S monthly, quarterly, or even annually.
- It is important to actively audit the sorting process of any 5S'd space to ensure accuracy and attentiveness. Sometimes, an emphasis on organization can overshadow other important areas; be sure to check in on tool calibration, supply expiration dates, and potential safety hazards while areas are undergoing audit organization.

**2) Set in Order / Seiton**

The second step of 5S is "Set in Order" which is derived from the Japanese term [Seiton](#). This phase focuses on placing the items deemed essential in the Sort phase back into the workstation or area in a specific, well-organized manner. More importantly, Set in Order is truly about finding the most efficient and sensible homes for the tools and items within that area.

Every time employees have to search around for a tool to complete their jobs, time is wasted and by extension, the business loses money. Setting items in order in an intentional and planned way is essential to minimizing these types of losses.

For example, imagine the importance of well-organized tools for EMTs. They need to have their most frequently needed tools and equipment on hand and easily accessible to help save the lives of their patients. Logical organization paired with knowledge of where tools and supplies are could literally make the difference between life and death. While the stakes may not always be as high in a production facility, every loss of efficiency does bleed a business' profits out little by little.

**How It Works:**

A good way to begin this step is to map out the area where the tools and equipment will be returned to. During this stage, it is critical to really think about the jobs being performed in or around each station. This knowledge should be used to map out the most convenient and comfortable areas for workers to go to or reach towards. Employees' most frequently used tools should reside in easy-to-access areas with the least restrictions possible. The goal is to minimize the need for employees to repeatedly reach over and between items by placing the most frequently used tools and supplies closest to the station operator, while opting to place less utilized items in other areas.

### **Set in Order Tips:**

- One excellent tool/technique for setting a workspace in order in an efficient manner and keeping it that way is to utilize [shadow boards](#). Shadow boards feature outlines of tools behind or beneath the locations where they hang or sit when stored. When an item is removed from its specific location, it is easy for a worker to quickly see where to put it back because of its silhouette. Shadow boarding can be easily applied to already existing surfaces and pegboards where items are kept.
- Personalize the placement of items. Workers are individuals and what works for one may not be the most efficient option for another. In the context of setting a workspace in order, this could mean making adjustments to where items are stored if an employee working at that station frequently is particularly tall or short. In addition, another consideration is to whether an employee is right or left handed. Accommodating for this can make reaching and maneuvering to get to tools easier, safer, and more efficient. Asking employees personally to get involved with decisions, or at the very least provide feedback on what organizational setups would make the most sense for day-to-day tasks, can make a big difference in levels of efficiency and improve the process.

### **3) Shine / Seiso**

Stemming from the Japanese term [Seiso](#) is "Shine," which means to sweep or sanitize. This is the third stage of a 5S project. First and foremost, the Shine phase is basically a complete and unapologetic cleaning of the entire workstation or space. In this phase, employees should be cleaning, dusting, polishing, sweeping, and vacuuming along with anything else needed to attain perfect order.

### **How It Works:**

1. In nearly any case, a clean workplace is a safer workplace. For instance, keeping floors clear of dust and debris helps reduce the risk of trips, slips, and falls – an extremely common cause of workplace injury. A clean workplace also helps counteract any potential infections or other health hazards employees might otherwise encounter. Simply put, workplace accidents have the potential to destroy efficiency, and a good shining can help workers avoid them.
2. Cleaning can be used as an inspection tool. Clear expectations are necessary for positive employee interactions and, ultimately, results. When employees know what is expected of their workspace, they are more likely to keep things in that state. Posting imagery nearby that shows the fully cleaned or "shined" state of a workspace can be a helpful way to keep this communication alive even when no one is physically present to deliver it. Furthermore, an information board can even show step-by-step instructions for how certain areas or tools are meant to be cleaned at the beginning and/or the end of a shift.
3. A regular and thorough cleaning helps prevent tool and machinery degradation. Not only does this help with safety as described above, it can also ensure these items last longer. A longer natural lifespan means less costly replacement and maintenance in the future.

### **Shine Tips:**

- Be proactive, not reactive. Cleaning should always be carried out on a schedule, not in response to a workspace that has grown too cluttered to navigate efficiently. Reactive cleaning indicates a lack of cleaning already in progress and also suggests that workers are unable or unwilling to stick with the schedule. Shine is not about cleaning up messes as they arise; instead, it is more about implementing the proper cleanliness strategies to avoid making messes in the first place.
- Workers should take turns rotating into a supervisory role in which they are tasked with ensuring that "Shine" is up to par and done in sensible ways. This team member should be responsible for working with other members of the team on their own habits. Rotating this job helps to keep everyone happy and involved, and it also may save managers and supervisors time as they will not have to constantly carry out the task themselves.
- When Shine is done properly and on schedule for a certain period of time, rewarding workers with simple incentives (pizza parties, gift certificates, awards, etc.) can be an easy way to keep the positive momentum going. This can be useful when moving forward with the remaining 5S steps.

### **4) Standardize / Seiketsu**

[Seiketsu](#), Japanese for "Standardize," is the fourth step in the 5S process. This stage directly connects with some of the closing tips from the "Shine" section, and that's because it builds on the idea of auditing and checking in on 5S efforts regularly. Standardization is essentially "the bridge" between Shine and the final step of 5S, Sustain. By standardizing the approach to 5S, it can ensure organizational efforts are sustained in the long run. Failing to standardize procedures can lead to work becoming sloppy over time and a loss of efficiency.

Begin to standardize 5S operations by making the process more than a word-of-mouth agreement. This is the time to implement a clear, universally understood system so that employees are certain about what they are expected to do. One excellent way to do this is to design and print out [5S audit sheets](#) that can be used by whoever is checking an area on a given day. A checklist that asks specific questions about the work area can help ensure that processes are carried out as intended.

### **Some questions on the checklist may include:**

- "Are all tools in their correct place on the shadow boards?"
- "Have power tools been unplugged with their cords properly stored?"
- "Are the necessary supplies in place for the next worker who will begin a shift at that station?"



## 5) Sustain / Shitsuke

### What Happens When Audits Don't Return the Desired Results?

One of the biggest concerns with standardization is that sometimes audits may come back consistently lackluster from a 5S'd area. This is a problem, but a common one that can be addressed with relative ease. In general, many times failure at this stage is due to failing to recognize one or more factors contributing to disorganization. Contributing factors may include:

- Inadequate employee training. Sometimes, it may just be that workers have not had effective or enough training about what is expected of them. This is especially common when not all workers were involved in the original 5S efforts. This situation can also arise from employee turnover, which can place new employees into a position where others would have had more training. In this case, new employees may find themselves unable to keep up due to lack of knowledge or practice.
- Lack of Time. A question to ask is, "Are current shifts and schedules allowing adequate time to complete the set 5S tasks?" Sometimes schedules along with high demands hinder the employees' abilities to complete organizational tasks after a shift. In these cases, it is important to take a step back and look into other efficiency tweaks that could allow more time for employees to complete these needed tasks.
- Lack of requested feedback. In the standardization process employee feedback should be collected and responded to in a timely and genuine manner. Employee suggestions should be taken to heart, especially if comments hint that something is not working properly. After all, it is the employees who are tasked with keeping things in order day after day.

The final step, which is known as Sustain or [Shitsuke](#), focuses on taking all of the previous steps of 5S, including the standardized procedures, and transforming them into ongoing habits to ensure continuous improvement. Just having a basic system in place is not enough, and the existence of the Sustain step is a testament to this. When workers are required to do something new in the workspace, it will not become an automatic habit right away; it takes people time to actually form longstanding habits.

### How It Works:

1. **Demonstrate.** Anything expected of workers should be demonstrated correctly by a trained and knowledgeable professional. This is the portion where workers gain an understanding of what actually needs to be done.
2. **Supervised undertakings.** Employees need to be worked with closely so they know what is expected. In addition, employees should be monitored through their first few attempts to make sure the daily 5S habits that are being formed are the exact habits needed and desired. Workers shouldn't be coddled through this. Mistakes should be corrected.
3. **Periodic check-ins.** After the initial training, it is important to stay vigilant by utilizing the auditing techniques established in the standardizing step to regularly ensure that

things are running smoothly. Having employees learn to properly do these checks can be helpful for positive habit forming as well.

4. **Make changes as necessary.** Sometimes continued undesired behavior or undesired results come about as a consequence of a faulty system. If this is the case, find the fault in the original setup and correct it as necessary.

### **Sustain Tips:**

#### **New Employee Training**

When existing employees help train new employees, it helps refresh the tactics and practices of 5S.

- When a new employee joins a team that uses 5S, one of the best things to do is let current employees carry out the new employee's training. Teaching someone else how to accomplish a task requires one to evaluate his or her own knowledge, and workers can easily spot gaps that they may have questions about. Doing this also helps reinforce the ideas they are teaching, especially if workers have grown sloppy over time or deviated from the original expectations.
- Measure, don't just guess. Sustaining is about making adequate progress. The ultimate goal of 5S is to increase efficiency. The actual organizational steps taken on the way are components of this goal and shouldn't overshadow the larger endeavor. It is imperative to keep accurate tabs on whether or not the 5S effort has helped workers cut down on production times, accident rates, missing equipment costs, etc. over time. Use actual numbers and do not overlook the facts, even if they are not as impressive as hoped for.

### **CONCLUSION**

In order to maintain the competitiveness of organisations, the top management has to continuously strive to imbibe innovative tools and techniques. 5S initiatives offer significant benefits to manufacturing and service organisations to attain drastic improvements at workplace, thereby motivating the organisations to learn more knowledge about 5S technique for its effective implementation in their organisations. But the challenge is, how effectively, they implemented the 5S technique into day to day activities of the organisation for successful running of program in the long term. The manuscript clearly provides step-by-step 5S methodologies reported in literature by different authors in the successful implementation of 5S technique in the organisations. The paper highlights the success factors and obstacles of 5S implementation for the organisations in the support of knowledge who are interested to run the program. An insight into 5S implementation methodologies will be significantly helpful for researchers and practitioners to understand 5S program from its meaning to the end of its successful implementation and sustainability.

## **REFERENCES:**

1. Hirano, Hiroyuki (1995). 5 Pillars of visual workplace. Cambridge, MA: Productivity Press. ISBN 978-1- 56327-047-5.
2. Total Quality Management Bester field, Dale H Pearson Education India - 2011 .
3. Goetsch, D.L, and S.B.Davis. Total Quality Handbook. Upper Saddle River, NJ: Prentice Hall, 2001.
4. Albert, M. (2003) ‘This shop really shines...and sorts, simplifies, standardizes and sustains’, Modern Machine Shop [online] <http://www.mmsonline.com/articles/this-shop-reallyshinesand-sorts-simplifies-standardizes-and-sustains> (accessed 10 January 2015)
- 5.Erdal, M. (2007) ‘5S system – cleaning and order management’ [online] <http://www.meslekiyeterlilik.com> (accessed 25 December 2014).