

IMPLEMENTATION OF 5S METHODOLOGY IN THE BANKING SECTOR

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ABSTRACT

5S is a structure for organizing the workplace in order to perform the work efficiently, effectively, and safely. This is a method or a system of putting the right thing at the right place for identification on the right time for usage. It belongs to keeping the workplace clean to identify the faults at ease. 5S encompasses of the words derived from Japan: Seiri (categorize), Seiton (set in order), Seiso (shine or clean), Seiketsu (standardize), and Shitsuke (sustain). Every organization is it manufacturing, banking, It or academic, employees form the most important aspect as their efficiency level leads to the efficiency of the organization. Lot of work has been done to identify ways and means to improve the efficiency at the workplace. This paper aims at studying one such method that is 5S methodology as a tool to improve efficiency at the workplace. The study is done in the banking sector, specifically the private sector banks of Nagpur city. The results conclude that the overall average utilization of this methodology is 73% in the banks.

KEYWORDS: 5S, Productivity, Lean Manufacturing, Kanban, Poka-Yoke

INTRODUCTION

(What is 5S?)The origin of the 5S methodology can be contributed to Toyota, where it began as a part of the Toyota Production System (TPS). This method of manufacturing was originated by leaders at the Toyota Motor Company in the early and mid-20th century. This system targets intensification of the value for the customers through products or services. Value creation is done by identifying and reducing or eliminating the errors or defects from the production processes. This process of eliminating the non-value adding activities refers to Lean Manufacturing which involves a lot of tools like 5S, Kaizen, Kanban, and Poka-yoke. 5S is a system of workplace organization, Kaizen is a tool for continuous improvement of working practices, Kanban is a scheduling system for lean manufacturing and Poka-yoke is a system designed to prevent inadvertent errors. Toyota believed that an untidy, disorderly space can lead to problems, stoppages in production, and even accidents, thus impacting the company in an adverse manner. So it considered 5S in an introductory part of the Toyota Production System to keep the workplace clean, tidy, organized and standardized.

The Five S Stands Japanese Words Given Below

- 'Seiri' means Sort
- 'Seiton' means Set in Order

- 'Seiso' means Shine
- 'Seiketsu' means Standardize
- 'Shitsuke' means Sustain

Seiri or Sort: Sorting refers to identifying the necessary items and removing the unnecessary items from them so as to avoid confusions. This is generally done through 'red tagging'. Items that do not support the desired task at the workplace are tagged red and removed from the place. This helps the identification of the material, tool, component or any document easily in need without wasting the time.

Set in Order: This process refers to organizing the items or the documents at the workplace in a sequential manner. A thing that is required frequently is kept at a very proximal distance from the point of usage. Things that are seldom required kept at a remote distance so that they do not hurdle the operations. Sequencing helps to reduce the time for manufacturing or any process in the organization.

Shine: This method under 5S refers to keeping the work environment clean. A clean and tidy workplace helps to keep the motivation to work high for the employees. Equipment, machines, tools, furniture etc must be kept clean and maintenance must be done on regular basis for avoiding the breakdowns to happen. This also helps the operator of the machine to identify the flaws or the problems in the machine during working. Employees feel more comfortable in a clean and tidy environment thereby increasing his ownership toward the organization.

Standardize: Once the first three S's are implemented by the organization, the next step followed is Standardization. The organization and the employees must create standards to maintain the 3 s mentioned above. This would create new norms for the organization. Deviations from the processes could be easily identified. Standardization would lead to more efficient employees thereby improving the efficiency of the organization.

Sustain: Sustain refers to nourishing the first three steps in the workplace for the long run. This final step of 5S is said to be the most challenging: remaining disciplined enough to sustain the positive changes made in Sort, Set in order and Shine. This could be obtained by providing regular training and communication to the employees for confirming that 5S methodology being implemented effectively by the organization (5S: Sort, Set, Shine, Standardize, Sustain).

Benefits of Implementing the 5S Process

In long run with standardization and sustenance of the sort, set in order and shine system of 5S, organizations are attaining efficiency gains from 10% to 30% (Benefits of implementing the 5S Process).

- Discarding the unnecessary items from the necessary items reduce wastage of time due to waiting time and motion.
- Set in order system 5S results ensures that components, equipment, tools, machines, people etc. are located in the most ergonomic and thus efficient safe positions.
- A shine of 5S ensures that the workplace remains neat and clean thereby helping the operators to identify major faults and reasons for the breakdown in the machine.

- Standardization assures that the work of the organization is done in a standard way that implements the most efficient work method with clear standards.
- Sustain ensures that the 5S methodology is implemented for long run thereby making improvements for the organization through the constant involvement of your staff.

Thus ultimately the benefits to which the organisation leads to are the reduction in costs due to wastage and over time, better quality implementation in processes resulting in a quality of product and service, increased the productivity of the employees and thus the organization and employee satisfaction.

5S at a Private Sector Bank

(ICICI Bank's 'Five S' clean up act.)ICICI is an Indian multinational banking and financial services company headquartered in Mumbai. The company claims to have saved around Rs. 75 million through the implementation of quality programmes. This could be contributed to the use of Five S that made up to 50 per cent savings.

- Five S is implemented into just two levels: implementation and Sustenance.
- Record time for tracing documents has reduced to 30 seconds.
- The employees route their way through the workplace using colors for reference (orange is for cabinets, blue for workstations, mauve for vaults and pink for storage).
- The keys belonging to all departments in the office are hung in a central key hive, each keychain is color coded according to the department to which it belongs.
- Anyone taking a key out of the hive has to sign a register, to ensure that it can be easily tracked if necessary.
- All the records neatly lined up. A colored line runs diagonally across all files. This ensures that the file retrieved is returned to its original place, without disturbing the sequence.
- The vacant space when a file is removed is filled with a dummy so that the other files remain upright.
- Files are cross-referenced in alphabetic order, by date and by month -- making retrieval far simpler.
- Five S is an entirely people-driven initiative at this bank.

LITERATURE REVIEW

(5S: A 5-step approach to getting your office organized) This article explained how Toyota became a lean office through the implementation of 5S principles in its workplace.

Toyota is recognized with mounting Lean Office, along with the successful 5S method of keeping an area neat, organized and clutter-free. These 5S principles are practical and functional when applied to the office or any area that needs to be organized.

In case of Sort, it believed that when something is doubted for its use, it must be removed from the place thereby reducing the clutter. Clutter is a result of delayed decisions. Anywhere clutter was seen, decisions were on waiting. Hence large trash cans and recycling and shredding bins were installed at this step. Knowing the company's retention policies for both electronic data and paper helped gain confidence in making necessary decisions.

Straightening process involved designating specific places for items for easy use and stores them when needed. Keeping frequently-used office supplies on the desk or in a drawer, putting them away in the same place, in the say way, every time was a part of setting things in line. Labeling drawers, cabinets or shelves to designate what goes where made easy identification of things.

Shine aspect of 5S included taking 60 seconds once a week and wiping down all flat surfaces with a cleaning cloth, paper towel or disinfectant wipe.

A standardizing process being uniform and consistent automatically becomes more efficient. Errors were reduced and productivity was increased. Using color-coding, labels, signage, reviewing and minimize processes, identifying tasks that repeat on a regular basis, record each step required to complete it were executed as a part of standardization.

Sustain component of 5S was to make it simple by making 5S a routine.

(Ravi Chourasia, 2016)The study on Review on Implementation of 5S methodology in the Services Sector aimed at reviewing the implementation of 5S methodology as one of the tools of lean management in the services sector. The study concluded that the system helps to organize a workplace for improved efficiency, decline waste, optimize quality, improves productivity and satisfied customers. Results have shown that 5S can be applied to the service industry with helpful effects. The effectual use of 5S in an organization provides a safe environment, optimal utilization of space and leads to improved quality. The results indicated that various service industries such as hospitals, hotels, banks and higher education have utilized the principles and tools of lean to increase their competitiveness. The 5S describes how items are stored and how the new order is maintained. It helps in increase in coordination between employees and improvement of staff productivity. It reduces the service time and increases customer satisfaction. The 5S methodology provides a basis to create an organizational culture and start working with continuous improvement criteria. 5S is proposed as a quality and value oriented business model appropriate to the service industries. The success of the 5S program can be attributed to the strong cooperation and active involvement of all staff members of the organization. Future work will discuss the adaptation of the 5S methodology in the educational institute.

(R. S. Agrahari, 2015) The study on Implementation Of 5S Methodology In The Small Scale Industry: A Case Study was done to identify the possible advantages of 5S methodology in small-scale industry. It concludes d that the advantages of implementing the 5S rules were

- Process development by cost reduction
- Stock confinement
- 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.
- The number of customers has been increased after maintaining a clean and neat layout.
- Machine maintenance cost has been reduced.
- The standards of the company came to the next level.
- Improvement in safety has supported in reducing the injuries of workers.
- Slips and falls of the material have been reduced.
- The travel time of materials is reduced which led to a reduction of work hazards.

OBJECTIVES OF THE STUDY

To Study the Implementation of 5S Methodology in the Banks

This objective was framed with a view to understanding whether banks implement the 5S methodology. If they are implementing it, what is the extent to which all the aspects of 5S are implemented was to be known.

To Understand the Correlation within the Five S of the 5S Methodology for the Banks

Organizations may or may not implement the 5S methodology. Keeping the work environment clean is a regular process in banks or any other organizations. Likely sequencing the things as per requirement and sorting things may also be practised by the firms without even fitting this process into 5S. To know whether the banks also implement standardizing and sustaining aspects of the three S mentioned above was aimed at through this study.

RESEARCH METHODOLOGY

Population and Sampling Design

This study of the implementation of 5S methodology in the banking sector was conducted on the private sector banks in Nagpur city.

Data were collected from 33 branches and main branch offices of 7 major private sector banks. Responses were taken from minimum two respondents of each branch. A total of 60 responses were collected from the banks. A structured questionnaire was used to collect data from the respondents. The questionnaire comprised of 20 statements representing the 5S practices followed by the firms. Respondents had to rate these practices on the scale of 1 to 5, 1 being never practised and 5 being extensively practised.

DATA ANALYSIS

Descriptive Statistics

Table1: Descriptive Statistics of the Data Collected from the Banks on the Implementation of 5S

	Range	Mean	Std. Deviation
Useful things near to work place	0	3	0
Elimination of unwanted files/documents	2	2.77	0.98
Ample space for work	1	4.28	0.45
Equipment/Documents are at useful place	3	3.72	1.29
Proper Storage space	1	3.62	0.49
Correct Labelling of all files/folders	1	3.33	0.48
Arrangement of furniture according to use	2	4.33	0.95
Position of documents in relation to department	2	3.95	0.85
Shelves are properly maintained	1	3.72	0.45
Orderly records of old documents	1	3.28	0.45
Cleanliness at work place	1	4.33	0.48
Regular update on notice board	0	4.00	0.00
Efficient maintenance of equipment	2	3.77	0.98
Hygiene in washrooms	1	4.33	0.48
Required stock of new stationery	2	3.57	0.91
Computers are of updated version	1	3.28	0.45
Safety and security norms	1	3.62	0.49
Appointment of supervisory authority	2	3.05	0.85
Regular short meeting to monitor 3S	1	3.67	0.48
Timeliness in employees in following 3S	3	3.62	1.22
Valid N (listwise)	60		

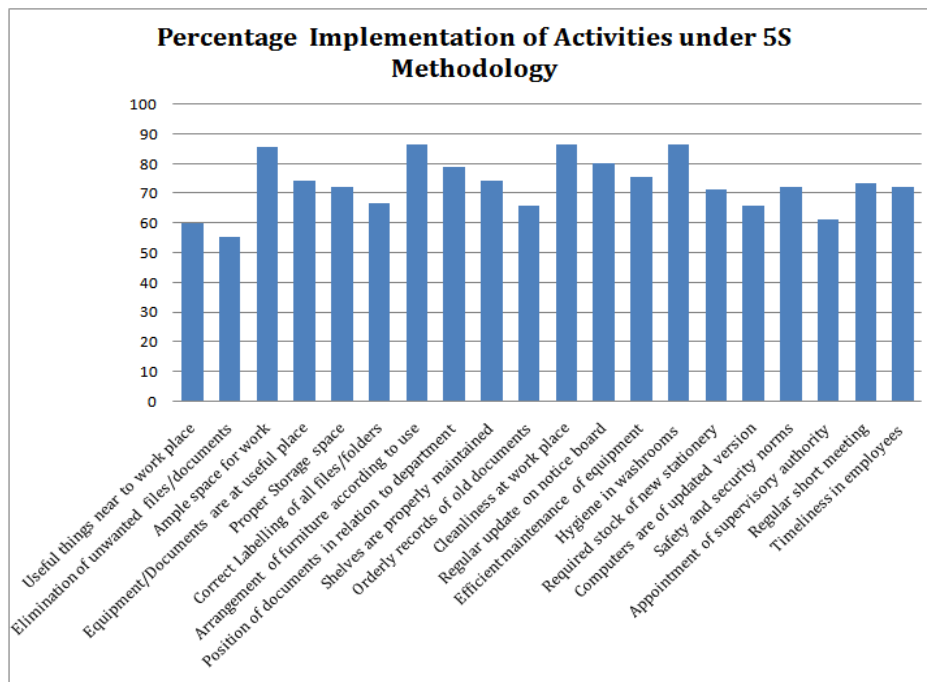


Figure 1: Percentage Implementation of Activities under 5S Methodology

The above figure shows the extent to which the activities under 5S are being implemented by the banks. It can be seen that elimination of unwanted files and documents is practised least by the banks. This can be attributed to the importance given to the physical documents that, though are obsolete, but carry important information of the banks in

terms of finance, customer and organization. Second least practised aspect of 5S is the appointment of supervisory authority to monitor the implementation of the three S. Implementation, evaluation and controlling the 5S methodology is considered to be the work of every employee and hence not much stress is given upon identifying the special authority to monitor the same.

Ample space for work, an arrangement of furniture according to use, cleanliness at workplace and hygiene maintained in the washrooms are the aspects that are practised extensively by the banks. Proper organization of the items, furniture and documents and the removal of unnecessary items from the shelf has resulted in more vacant space that is used by the staff for more efficient working. The arrangement of furniture in a manner that aids the employees and the customers to deliver and gain services effectively is practised by the banks. The cleaning of the washroom area and the other premises is also maintained by the banks.

Testing of Hypothesis

Null Hypothesis H₀: *There is no significant relationship between the Sort, Set in order, Shine systems of 5S methodology with Standardising and Sustaining systems of the 5S methodology.*

The basis for framing this hypothesis is that most of the organizations implement the three S of the 5S methodology naively. Regular cleaning of the workplace, sequencing of the things as per the usage, removal of the unnecessary items is done on a regular basis. But do they have standardization in implementing this three S? Organisations may or may not be implementing standardize and sustain systems of the 5S. With this assumption, this hypothesis was framed.

For testing the hypothesis, Kendall's tau-b (τ_b) correlation coefficient is used. It is a nonparametric measure of the strength and direction of association that exists between two variables measured on at least an ordinal scale. It is considered a nonparametric alternative to the Pearson's product-moment correlation when your data has failed one or more of the assumptions of this test. It is also considered an alternative to the nonparametric Spearman rank-order correlation coefficient (especially when you have a small sample size with many tied ranks).

Table 2: Correlation within the Five Ss of the Methodology

		Correlations					
			S1	S2	S3	S4	S5
Kendall's tau_b	S1 (Sort)	Correlation Coefficient	1.000	-.845**	.011	.343**	.343**
		Sig. (2-tailed)	.	.000	.927	.003	.003
		N	60	60	60	60	60
	S2 (Set in order)	Correlation Coefficient	-.845**	1.000	-.103	-.069	-.069
		Sig. (2-tailed)	.000	.	.430	.577	.577
		N	60	60	60	60	60
	S3 (Shine)	Correlation Coefficient	.011	-.103	1.000	-.162	-.162
		Sig. (2-tailed)	.927	.430	.	.187	.187
		N	60	60	60	60	60
	S4 (Standardize)	Correlation Coefficient	.343**	-.069	-.162	1.000	1.000**
		Sig. (2-tailed)	.003	.577	.187	.	.
		N	60	60	60	60	60
	S5 (Sustain)	Correlation Coefficient	.343**	-.069	-.162	1.000**	1.000
		Sig. (2-tailed)	.003	.577	.187	.	.
		N	60	60	60	60	60

** . Correlation is significant at the 0.01 level (2-tailed).

The above table presents Kendall's tau-b correlation, its significance value, and the sample size that the calculation was based on. Here it can be seen that Kendall's tau-b correlation coefficient, τ_b , is 0.343 for Sort Vs Standardize and Sort Vs Sustain and that this is statistically significant ($\alpha = 0.05$). There was a strong, positive correlation between S1-S4 and S1- S5.

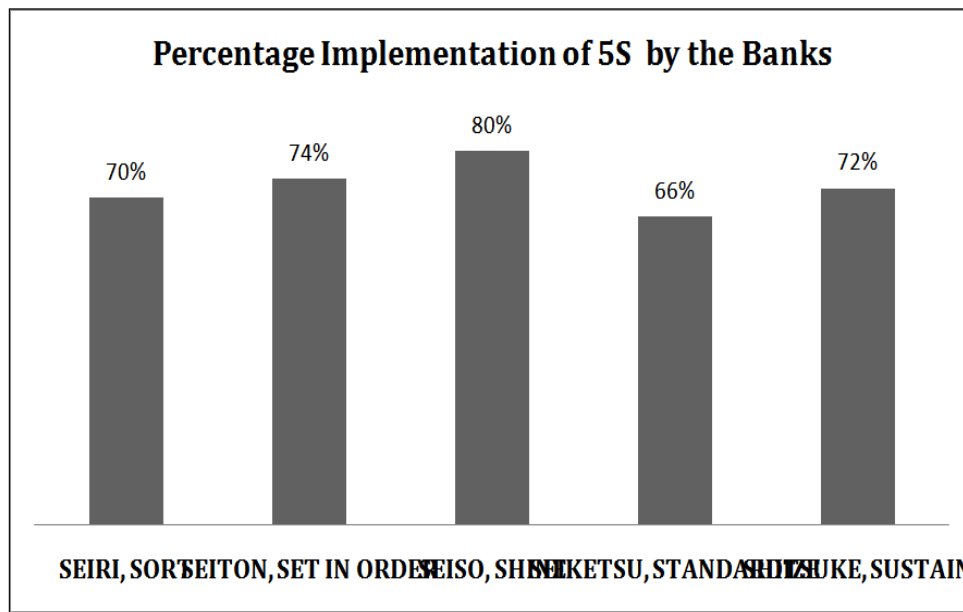


Figure 2: Percentage Implementation of 5S by the Banks

The data also reveals that shine ie keeping the workplace clean is a common practice in the banks. This aspect of 5S is practised to an extent of 80% by these banks. Standardize aspect of 5S is practised at a level of 66% by the banks as identified through the data collected. When the correlation between the shine and standardize of 5S was done, it was understood that the correlation is negative (-0.162). Though the correlation is very week, some amount of inverse relationship can be drawn from this. Those banks that focus on shine aspect may probably no focus on the standardize aspect and vice versa.

Similarly, the Sustain aspect of 5S is practised by the banks at an average of 72%. But the correlation between the shine and sustain is obtained negative. This again indicated that the firms that focus on sustain aspect of 5S may not focus on the shine aspect and vice versa.

CONCLUSIONS

5S is a tool to improve workplace effectiveness. Though its prominent usage is seen in manufacturing systems, the service industry is also focusing on the tools to improve productivity through workplace management. This study revealed that the banking sector is also implementing all the five Ss of the 5S framework. Though the extent of usage varies from department to department, branch to branch and bank to bank, but its implementation is prominent. The benefits identified are proper utilization of the workspace, wherein ample space for the internal customers is obtained. The arrangement of furniture is made flexible and appropriate for the functioning of the bank. The shining aspect of 5S has contributed to regular cleaning of the workplace and clean and hygienic washroom areas for the staff. Future researches can be done to identify the impact of 5S implementation by the banks on the efficiency and productivity. This study was performed on the

private sector banks of the given region. Further public sector banks can be studied to know the status of 5S implementation. Those banks that are not implementing 5S, reasons, and barriers to its implementation can be studied.

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