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5S Implementation in Small Scale PVC Garden Tube Manufacturing Industry

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ABSTRACT

The aim of this thesis is to give an exceptionally straightforward instrument to limited scope businesses that will assist them with facilitating of work and give a culture which will expand efficiency and benefit. Small and medium scale industries are mainly suffered from marketing and competition from large industries. Consequently an exceptionally viable device requires whose execution is more affordable and bit by bit execution is in the middle of between the runnings of industry. With the assistance of writing survey and conceptualizing with specialists a Japanese device "5S" is find out generally reasonable and proper for limited scope industry arranged in Madhya Pradesh particularly in Jabalpur.

The basis of the "5S" is a bunch of five stages that incorporate "Seiri, Seiton, Seiso, Seiketsu and Shitsuke. These five Japanese words significance are Sort, Set all together, Shine, Standardized and Sustain as the names infers and the grouping is executing finished to come by the ideal outcomes. These "5S" was carrying out in Utkarsh Polyworld industry arranged in Maneri region Mandla. A audit sheet was ready to examinations the execution results and 10 weeks review was led. The 5S review results were displayed in diagram and results were sum up.

Keywords:— *Small Scale industry; 5S industrial tool and 5S Audit Sheets.*

I. INTRODUCTION

Small and medium scales industries are now become the very important agenda of state government. Madhya Pradesh government schemes and policies related to SMEs are very favorable and provide growing environment. The reason behind the central government policies, because central government also encourage and promote the SMEs of every sector. The main reasons behind these steps are as follows:

The main reasons behind these steps are as follows:

At INDIA and Madhya Pradesh already have so many laghu udyog but they are suffering financial and support from government but have great potential to grow.

I this huge population employment is big issue and, in every election, it becomes main agenda therefore SME's development and support may become best solution.

SME's development is also created big startup and entrepreneurs.

SME's have great potential to support economy very well and this can be seen in the states SMEs report.

Madhya Pradesh also have numbers of local ancestral business but are suffer financially and technologically therefore government scheme related to SMEs may help to continue their old culture and also become helpful to the economy.

Table 1: MSME Categories

Criteria	Manufacturing		Service	
	Turnover	Investment	Turnover	Investment
Micro	Rs. 5 crore (US$ 0.6 million)	Less than Rs. 25 lakh (US$ 0.03 million)	Rs. 5 crore (US$ 0.6 million)	Less than Rs. 10 lakh (US$ 0.01 million)
Small	Rs. 50 crore (US$ 6.8 million)	More than Rs. 25 lakh (US$ 0.03 million) but less than Rs. 5 crore (US$ 0.6 million)	Rs. 50 crore (US$ 6.8 million)	More than Rs. 10 lakh (US$ 0.01 million) but less than Rs. 2 crore (US$ 0.3 million)
Medium	Rs. 250 crore (US$ 34 million)	More than Rs. 5 crore (US$ 0.6 million), but less than Rs. 10 crore (US$ 1.4 million)	Rs. 250 crore (US$ 34 million)	More than Rs. 2 crore (US$ 0.3 million) but does not exceed Rs. 5 crore (US$ 0.6 million)

1.1 5S Concept and History

Takashi Osada in 1991 coined the original concept of 5-s in the early 1980s. 5-s is the acronym for five Japanese words Seiri (organization), Seiton (neatness), Seiso (cleanliness), Seiketsu (standardization) and Shitsuke (discipline) respectively. 5-s has been introduced in Japan mainly in the manufacturing and service industries. Toyota, the major car manufacturer is one of the pioneering firms who adopted the 5-s principles. Japanese believe that 5-s Principles are not only valuable at their workplaces but also improves their cognitive sense. Osada refers to the 5-s as the five pillars to establish and maintain total quality environment in an organization [16].

Steps of the 5S process are as follows:

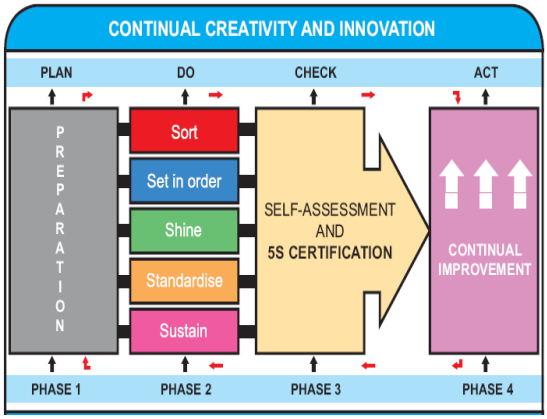

Figure 1: Implementation Steps of 5S (NPC PERBADANAN PRODUKTIVITI NEGARA)

1.2 Idea of the Study

The idea of this thesis is to provide a tool or working culture which help and support the MSME in the present fast-growing market of MSME and competition with their limited resources.

Following points come under the discussion and finding process of the idea are as follows:

- MSME has very limited shop floor area for all manufacturing works because they can't afford the large area due to financial constraints.
- MSME's have very limited man power and have negligible technical experts.
- Most of the MSME's have single unit production machine. It means they have only one production machine, which is become big problem when the machine is not working.
- MSME's have very limited time to complete the project and they can't afford the any idle, delay and breakdown time.
- Most of the MSME's has very poor retention of employee due to their

limited budget.

- In most of the MSME's owner is the whole soul head of the production and marketing departments due to which he doesn't has the time to focus on the improvement of the plant.
- MSME's are also not much aware about the technical tools available for their enhancement and support.

Above given point will give the idea of this research. After considering all the points its find out that the MSME should have a good industrial tool which will solve most of the above issues with very less financial and technical support.

1.3 Significance of the Research

This research is very important now days because in present scenario most of the developed countries are also focusing on the MSME's, for example UK and CHINA SME generate 51% of national turnover and contribute 60% of total export in CHINA. Therefore, in INDIA government also focused on the development of SME's by providing financial support. The SMEs also provide the solution of big problem like unemployment. Therefore in this research main focused given to the growth of the SME's but it's also observed that the number of startups from SMEs are going to close and also, they are not turn into big businesses.

Following are the main benefits of this research are as follows: -

- SMEs are aware about the implementation of industrial tools in their organization.
- SMEs are now about the optimum utilization of man, machine & materials.
- SMEs are able to prepare a good shop floor design.
- Overall working culture will improve and also know about the benefits of the good working culture.
- SMEs are able to access their working methodology by organizing self-audit and how to conduct audit.

2. LITERATURE INTRODUCTION

Below given the details of 5S and relevant research papers those are adopting by various research authors and industries and get valuable results:

YEAR	TITLE	AUTHOR	RESULTS
2020	Assessment on 5S Approach Strategy for Small Medium Enterprise (SME): A Case Study in Sabah	Mohd Adzrie , T. Vincent	After the implementation of 5S for three months, the new culture has resulted in an improvement of the working environment and an increase in the motivation of the staff involved. Employees are happier with their work environment after the implementation of 5S.
2019	Implementation of Shitsuke for Sustaining with 5S Culture in a Mechanical Workshop	Valentine Khumalo,Kapil Gupta	The 5S as tool is implemented for the first time at the mechanical workshop. A lot is achieved other than set objectives. Firstly, the workshop area is clean, free from any hazards, improved working environment and conditions, well organized workshop, and well secured locations for tools, materials and equipment.
2019	Implementation of 5s in Small and Medium Enterprises (SME)	Mohd Adzrie1, , F. O. Chai1 , K. Elcy1 , R. M. Joselyn1 , Na Mohd-Lair1 , M.A. Madlan	Implementation of 5s in Small and Medium Enterprises (SME) In short, it was found that after the 5S implementation, the evaluation in the five areas have increased which includes performance, workspace, equipment search time, working environment and work safety.
2018	A CASE STUDY: HOW 5S IMPLEMENTATION IMPROVES PRODUCTIVITY OF HEAVY EQUIPMENT IN	Atma Yudha Prawir,Yuwami Rahayu,Mohammad Hamsa,Humiras Hardi	First result is reducing maintenance activity until 95 minutes faster than before. And give impact to the second result with increasing in the degree of equipment availability 3.75% average and productivity 10.58 tons/hour equals to 253.92 tons/day.

Introduction of PVC Garden Tube Manufacturing Industry

Utkarsh Polyworld, PVC Garden Tube manufacturing industry is situated at sector-B, Industrial Area Maneri, Mandla (M.P.). At Maneri numbers of small, medium and larger industries are situated. Utkarsh Polyworld, PVC Garden Tube manufacturing industry was established as on 06/04/2015.

Table 2: Overview of Company

Overview at Company	
Turnover	1.5 Crore
Employees	8
Organization	Structured
Quality Systems	ISO certified, not Implemented
Marketing Network Well Developed	Well Developed
Customers	Police housing cooperation, local dealer

Organization Structure:

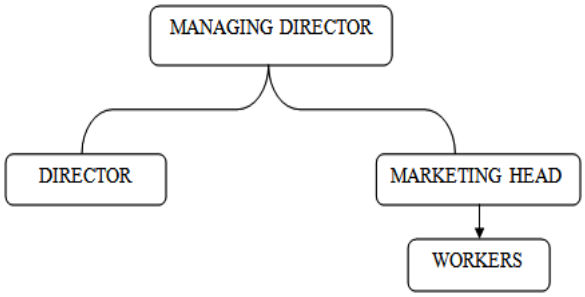

Figure 2: Organization Structure

2.1.1. Process

PVC garden tube manufacturing machine is used High-Density Polyethylene as raw material, oil as lubricant and color for the manufacturing of tubes. These tubes are light in weight and used for various purposes like garden irrigation, home water supply, and drip irrigation and in farming etc. These tubes are manufacture in extruding machine and cooled in spray cooling bath. Below given the flow chart of PVC garden tube manufacturing:

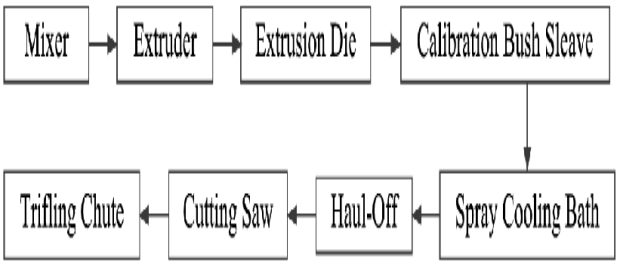

Figure 3: Flow chart of PVC Garden Tube Machine

2.1.2. Plant Capacity

I.Working days in a year: 300

II.Working hours/day: 9 (1 shift)

III.Lunch Break (Meal + Tea): 45 minutes

IV.Raw material tentative requirement: 180 Ton per annum

V.Annual Production capacity: Ø 1/2 inch. PVC Tube: 60 Ton per annum.

VI.Annual Production capacity: Ø 3/4 inch. PVC Tube: 60 Ton per annum.

VII.Annual Production capacity: Ø 1 inch. PVC Tube: 60 Ton per annum.

2.1.3. Raw Material

The main raw materials required for manufacturing PVC garden tube are HDPE, oil and color (180 MT per annum).

2.1.4. Infrastructure

The basic infrastructure required is:

Land: 18,000 sq.ft.

Building: 12,000 sq.ft.

Power: 30 KW

Water: 1,000 Ltr. Per day.

Manpower: 9 Nos. [Administrative (3), Factory Staff (3), Helper (3)]

Literature Review Work

The block diagram are as follows:

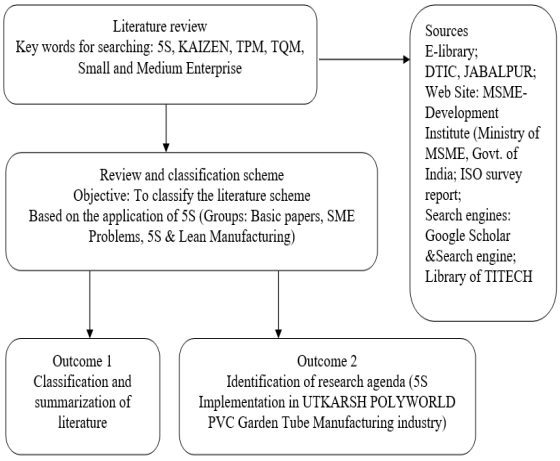

Figure 4: Literature review framework

IV. Problem Statement

The micro, small and medium enterprises contribute 29% to the country's GDP. At Madhya Pradesh MSME contribute 14.1% to the state GDP. MSME growth is very good in Madhya Pradesh but at the same time many numbers of MSMEs are going to close or NPA every year due to various reason. Also, MSME don't converted into large business in Madhya Pradesh. Government provides so many benefits to the MSME but still the growth is not satisfactory. Therefore, in this research work main focus is given to the MSME, for this purpose a small-scale industry Utkarsh Polyworld PVC garden tube manufacturing industry is consider for the analysis situated in Maneri District Mandla. After visiting the industry and discussion with the industry owner it finds out that industry overall growth is not satisfactory. The reason behind are as follows: -

- Industry doesn't have technical knowledge for increase productivity and optimum utilization of resources.
- Plant layout is not appropriate and shop floor is not utilized properly.
- Raw materials and tools are not placed systematically.
- No standard procedure of working.
- Working environment is not comfortable due to congested area.

V. Research Methodology

The aim of this thesis is to help out the private engineering colleges at Jabalpur to prioritize the barriers as per their weightage to easily understand the main barriers which affect the quality of engineering education. Therefore in this research work a research structure is prepared by which private engineering colleges can easily find out the barriers in the quality of and at the same time knows about their weightages.

Research Flow Chart

The research design flow chart is prepared for the industry in block diagram format for the better understanding of all hierarchy persons. The research block diagram is as follows:

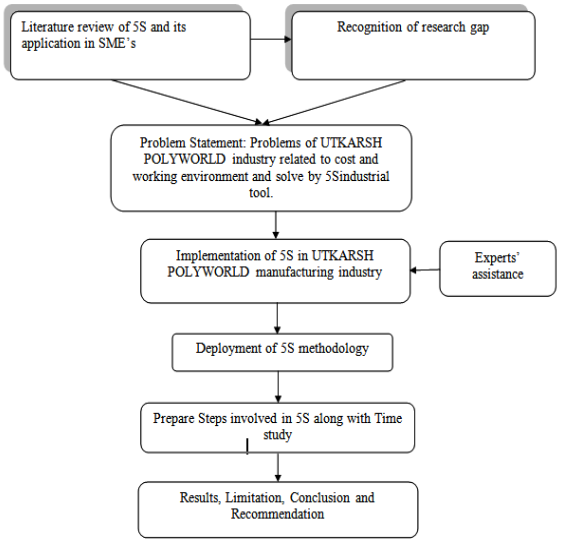

Figure 5: Research Flow Chart

VI. Development of 5S

5.1 Examination of 1S "SORT" implementation:

Table 3: Before and after implementation of first S "SORT"

S.No	ITEMS	BEFORE 1S "SORT"	AFTER 1S "SORT"
1	Materials (raw materials, grease, oil, PVC tubes, packeging polythene etc)	Place is not arrange as per needed and unneeded items, causes wastage of raw materials, defects in tubes, working time increase, accidents and irritability.	Only needed items kept near the machines, raw materials and finished product PVC tube are segregated; scrap sent to grinding area and used oils,packings & grease are sale or dispose properly.
2	Tools & Equipments	Weighing machine, wrenches, measuring buckets, hopper,vernier, packing material are not in place and placed away from needed area.	All the tools & equipments are arranged according to priority wise and placed near the requirement area.
3	Connection apparatus	Measuring tool, electric board and wraping machine are not place near the extrysion machine and causes time delay at the time of production. Long electric extension wire lying on the ground might be causes accidents.	A trolly is arrange for carrying all necessary tools beside the extrusion machine, electric extensions wire are covered and placed along wall side.
4	Visual control	Needed and unneeded are mixed and working area is very congested hence causes very poor monitoring and lead to danger situation and workers are not monitor properly.	Needed and unneeded are placed properly and working areas become open, therefore visual control become easy.

Cost Analysis of Scrap red tagged

1) Cost of damage PVC garden tubes = Rs 80/Kg

Quantity of damage PVC garden tubes red tagged= 18 Kg

Total amount recovered after sale of damage PVC garden tubes = 45*18= Rs 810/- rupees

2) Cost of empty Plastic bags of raw materials and colors= Rs 10/Kg.

Quantity of empty Plastic bags of raw materials and colors red tagged= 88 Kg.

Amount recovered after sale of empty Plastic bags of raw materials and colors = 10*88= Rs 880/-rupees

5.2 Observation of 2S "Set in Order" implementation:

Following the implementation of 2nd S, tools and equipment were organized and arranged according to priority. Therefore, the damage and additional costs of tools and equipment will be reduced, saving money from having to buy new ones.

Table 4: Tool Searching Time comparison before & after "Set in order"

S.NO.	TOOL SEARCHING TIME	MINUTES/DAY
1	BEFORE "2S"	40
2	AFTER "2S"	15

Cost analysis:

Worker pay per month = Rs 9000/-

Average working hour per day=8

Average labor rate per minute=9000/ (30*8*60*) = Rs 0.63/-

Saved minute per day = (40-15) = 25 min

Total Money saved per day =25*0.63= Rs15.75/-

Per month saving=15.75*30= Rs 472.5/-

Table 5: Before and after implementation of second S "Set In Order"

S.No.	ITEMS	BEFORE 2S "Set In Order"	AFTER 2S "Set In Order"
1	Inventory Levels	Inventory is not arrange in proper manner without leveling and only one time inventory level is check and update per month. Due to which per day updation of all not possible hence number of shortage and delivery issues arises.	Inventory level for raw materials finished product and scrap area are indicate properly by which every one in industry aware about the stock due to which inventory ordering become timely and easy.Wastage stock is also knownon daily basis by which defectswill reduce.
2	Tools & Equipments Marking	Tool box and equipments are not mark properly due to which daily basis labours and new employee are not doing work quickly because time wasted in identification.	All the tools & equipments are marked properly and will help to reduce the lead and ideal time.
3	All Area Name Plated	Maximum area and the departments are not name plated due to which mooving and carrying of items take time and time study also not done for it.	All the area and departments are name plated properliy which is very useful for reducing unneccesary delay in items and also become good for inspection and customer visits.
4	Area Dividing Marking	Area for each sections are not divided properly & mark and some areas are merged which create confusion at the time of requirement and working area become conjested.	Area properly divided and mark which will free large area and mooving path become accidents and injuries free.

5.3 Observation of 3S "SHINE" implementation:

This Shine seems to be very casual but has more impact on the working environment and tool life. . The general habit is to make everything in the workplace clean, shiny and neat. In order to make items have a longer life for using and have a better working place, companies make sure to make the important culture to all the employees to do the cleaning after off duty but before they leave the company. Clean the machines, such as the moulds and

panels, thoroughly, especially in the raw materials area, because dust, loose threads, and other contaminants can contaminate the LLDP and other ingredients, resulting in manufacturing faults. Cleaning the equipment is not enough in the shine step of the 5S process; employees must also clean all tools and sweep the floor to ensure a safer and cleaner working environment.

Utkarsh Polyworld PVC garden tube manufacturing company employs a powdered raw material and, when spread on the ground, renders it slick and dangerous. When raw material bags are put on the ground, the powder on the bags makes the ground slippery, requiring worker cleaning at the same time. To complete the shine phase in the industry, the 5S leader informs all employees that if they do not clean the floor, they are putting themselves in danger of slipping and falling.

5.4 Observation of 4th S "STANDARDIZED" and 5th S "SUSTAIN" Implementation

Standardized implies that each representative should follow and keep up with the over "3S" and practice it all the time to finish the above methodology consistently at their own level, as the name infers. To keep an eye on staff, a weekly inspection was carried out. The weekly check was done as an audit process for 12 weeks and evaluated on a scale ranging from 0 to 4. After sharing the audit results with all of the employees, it was discovered that both the employees and the employer were highly motivated and confident in their abilities.

Outputs from development of 5S

- The working atmosphere improves dramatically as a result of the inventory's appropriate organization, and productivity rises as a result of the lack of aggravation caused by the inability to locate the inventory.
- Inventory handling costs are reduced, and inventory is safeguarded from damage.
- The floor areas between the stations were clean and roomy, which reduced the time it took for objects to move and avoided any mishaps.
- Monitoring and inspection have become easier, and managers can see the stock level and production level on a daily basis.
- A culture and habit of cleanliness and discipline is developed among the all employees.
- Retention of the worker also improves.
- Employers can easily make decisions about new bits and budgetary levels. .
- Self-esteem and satisfaction of employer and workers was increased and they are working together to achieve company goal.

5.5 Data Collection and Processing Record

The execution of 5S is finished with the assistance of exploration papers were study and investigate industry working technique. Information gather and dissect on the essential premise were chiefly break down the time examination when execution of 5S and recorded. After that the outcomes were share & discuss with industry supervisor and workers. The outcomes got were made sense of in point 5.1. Information assortment and handling finished in about fourteen days and after that a review was led to check the impacts of all the 5S with the assistance of audit sheet which is displayed beneath:

Table 6 : "5S" Audit Sheet Sample

5S AUDIT CHECK FORM FOR UTKARSH POLYWORLD PVC Garden Tube INDUSTRY MANERI,MANDLA (M.P.)									
0=Very bad; 1= Bad; 2= Average; 3= Good; 4= Very good									
S. No.	5 S	ITEMS	GENERAL ASSESSMENT CRITERIA	SCORE					
				0	1	2	3	4	
1	SEIRI (SORT)	Materials (raw materials, grease, oil and PVC Garden Tube etc)	Raw materials, PVC Garden Tube, scrap and used oils & grease is segregated or not.						
2		Tools & Equipments	All the tools & equipments are arranged according to priority wise and placed near the requirement area.						
3		Connection apparatus	All the dies are arrange combined and cooling water pump placed away from electric devices and electric extensions wire are covered and placed along wall side.						
4		Visual control	Needed and unneeded are placed properly therefore visual control become easy.						
1	SET IN ORDER (SEITON)	Inventory Levels	Inventory level for raw materials finished product and scrap area are indicate properly.						
2		Tools & Equipments Marking	All the tools & equipments are marked properly and will help to reduce the lead and ideal time.						
3		All Area Name Plated	All the area and departments are name plated properly.						
1	SEISO (SHINE)	Machines	Machine clean from inner & outer side before & after use.						
2		Floors	Floor should be free from loose raw materials water, and threads.						
3		Cleaning and control	Inspected all the area and take corrective actions.						
4		Cleaning responsibility	All persons in the organization have cleaning responsibility.						
5		Cleaning habit	Cleaning should become the daily routine work.						
1	SEIKETSU (STANDARIZED)	Working environment (ventilation/lighting)	Working area should be neat & clean, Air is fresh & odourless.						
2		Tools & Equipments	All tools & equipments are arranged according to priority basis.						
3		Working clothes	Safety gloves and shoes are used or not.						
4		Daily Basis Information	Daily basis inventory level information update or not						
1	SHITSUKE (SUSTAIN)	Revision & Training	Weekly revision of 5S practice & training programs.						
2		Safety Wearing	Safety becomes habit like wearing of helmets/gloves/shoes.						
3		Coordination between people	5S become a culture & teamwork.						
4		Rules and guidelines	Up to date & regularly reviewed.						
5		Regular Practice	Check for 5s implementation follow.						

VI. "5S" AUDIT RESULTS

5S activities are a very successful and profitable tool for ongoing growth, but the industry owner must conduct audits at regular intervals to ensure that they are implemented consistently and sustainably. The 5S activities were implemented at a departmental level in the industry, and the company was audited for ten weeks, with weekly audit sheets being filled out. To represent the result of each "S" in terms of weeks, a graph is created with weeks on the x-axis and a specific "S" on the y-axis. All the results of each "S" are shown in below graphs with their results explanation. Table 6.2 displays the audit score for each week, with the 10th week audit score sheet displayed in Table 6 as an example. In this research work audit sheet is prepared by using questions for each 5S's and the data on these forms have been used to analyze the implementation success of 5S within the industry. The questions of the audit sheet are prepared with the help of literature review and experts guidance. The weekly assessment scores are divided into five categories in the audit checklist. The categories are as follows 0 = Very bad, 1 = Bad, 2 = Average, 3 = Good and 4 = Very good have been determined.

6.1 Sort Audit Result

In Figure 6, it can be seen that the sort score for weeks 1 and 2 is one since the workers are not yet finished sorting process work, so the score is one. From week 2 to 4 sort scores increases continuously because sorting work done properly but in week 5 it was flat by 3 point as in 4th week because pending sort work of week 4 was not completed in week 5. After week 7, workers have a better understanding of the benefits of sorting and are more likely to follow it. As a result, from week 8 to week 10, this becomes a constant improvement.

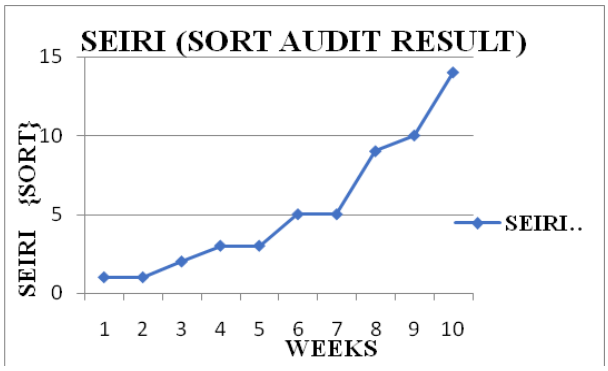

Figure 6: Sort Score Graph

6.2 Set in Order Audit Result

In Figure 7, it can be observed that the set in order score improves by one point from week one to week three, but it does not improve in weeks four and six because the pending work of set in order remains pending in weeks four and six, just as it did at the end of weeks three and five. Because of sorting and inventory levels marked and inventory space appropriately split, the score continued to grow up to the tenth week, and the maximum score was attained in the tenth week.

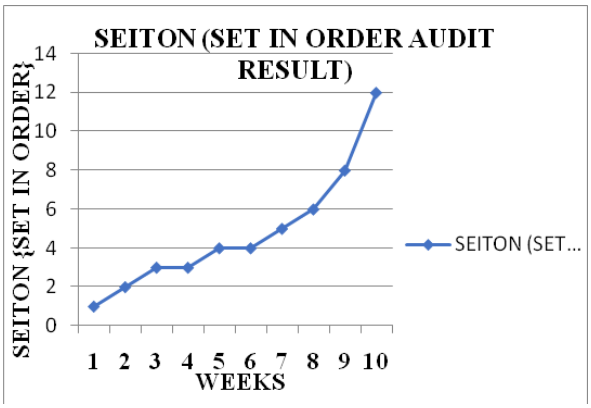

Figure 7: Set in Order Score Graph

6.3 Shine Audit Result

Figure 8 shows that the shine score grows steadily from the fourth week onwards, but it does not improve steadily from week one to week three because shine activities have not yet established a habit for the worker. In 8th week shine score was not improving because maintenance team has not perform cleaning responsibilities properly. Then, as a result of the workers' involvement in cleaning objectives, the shine score continues to improve.

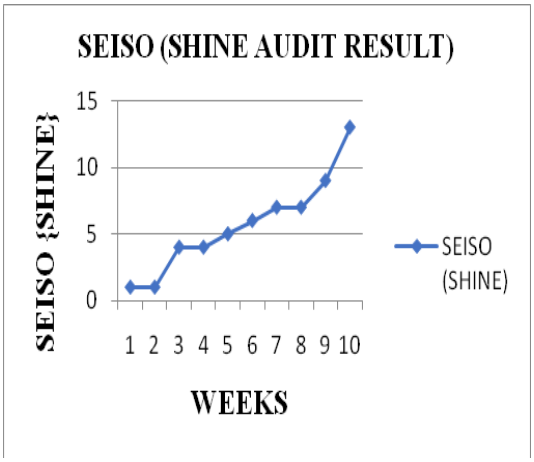

Figure 8: Shine Score Graph

6.4 Standardized Audit Result

There are two main reasons for preserving standardized in industry: the first is that the above three "S" must be correctly applied, and the second is the problem of human psychology, It is a reluctance to change. As a result, the standardization graph shows a lot of differences. However, after the eighth week, the findings were very beneficial in favor of implementing "5S," because the two concerns listed above were handled by time and continuous effort alone.

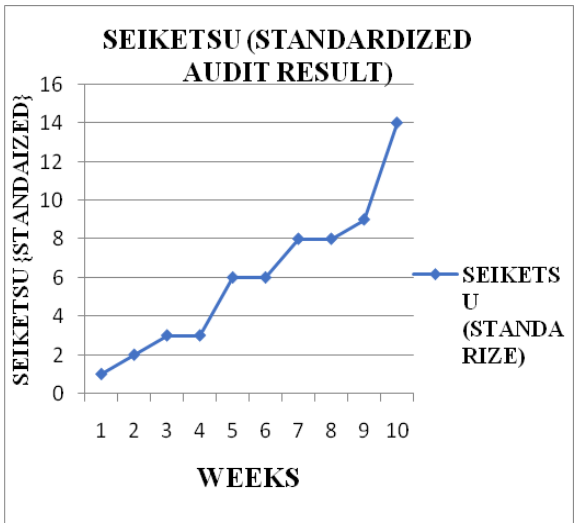

Figure 9: Standardized Score Graph

6.5 Sustain Audit Result

This last "S" is highly significant and typical to apply because it is critical to properly implement the above "4S" in order to meet the criteria of "sustain". The success of "sustain", it is very important that the "5S" should become a culture of an organization and it became a routine job of all persons of the organization. By the continuous and regular effort of all persons of the organization sustain achieved its goal but from the audit it is clear that this "S" must need consistency.

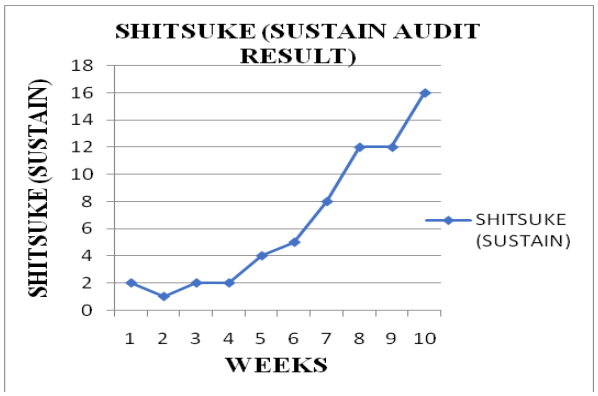

Figure 10: Sustain Score Graph

6.6 Total 5s Score

This total 5S score topic basically defines the overall improvement of the 5S activities at the industry within 10 weeks. The graph given below clearly indicates the proper implementation of the 5S activities is very good industry and its improving day by days.

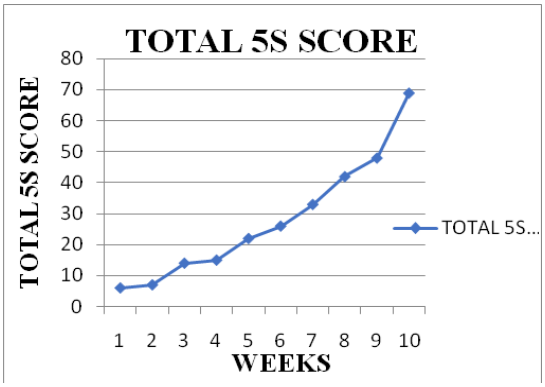

Figure 11: Sustain Score Graph

The audit lasted ten weeks, during which time all parameters were evaluated and the findings were displayed using graphs. Table 6.1 shows the 10th week, which depicts the audit process. Following below given the summarize audit results in table form:

Table 7: 5S Audit Weekly Score

5S ACTIVITIES (WEEKS)	SEIRI (SORT)	SEITON (SET IN	SEISO (SHINE	SEIKETSU (STANDARI	SHITSUKE (SUSTAIN)	TOTAL SCORE
1	1	1	1	1	2	6
2	1	2	1	2	1	7
3	2	3	4	3	2	14
4	3	3	4	3	2	15
5	3	4	5	6	4	22
6	5	4	6	6	5	26
7	5	5	7	8	8	33
8	9	6	7	8	12	42
9	10	8	9	9	12	48
10	14	12	13	14	16	69

VI. Conclusions

The merits of implementing 5S in industry:

"1S" Sort:

- Normal premise valuable and pointless things were isolated.
- All the materials and apparatuses are set need wise close to the necessity region.
- Same size moulds and tanks are organized appropriately.
- Red labeling has been finished by which visual assessment become simple.

"2S" Set in Order:

- Stock level of raw materials and completed item or order was show appropriately.
- Lead time and ideal time lessen definitely.
- Inspection and audit become simple by legitimate name platting.

- Floor region appropriately isolated and moving of things become simple and safe.

"3S" Shine:

- Working climate and work fulfillment move along.
- Perfect and clean working region work on the functioning state of worker.
- Machine support cost diminishes and cleaning becomes a propensity.
- Industry design becomes wonderful for client visit and for examination.

"4" Standardized

- Standard working culture develop which very helpful for new employee
- Safety level increase and records are up to date maintain
- All the worker is aware about their duties and responsibility
- Discipline and cleaning become a habit

"5" Sustain

- Worker maintenance increment and collaboration get to the next level.
- Improve the information on 5S in all representatives.
- Quality improves by decrease in mix-ups and abandons.
- Correspondence improves between offices.
- 5S become a culture of the association.

VII. LIMITATION

This exploration work was predominantly considering the standards, guideline, climate and nature of Madhya Pradesh limited scope industry. Consequently 5S industrial tool execution measures is ready and altered according to investigate work concern industry for example Utkarsh Polyworld Pvt. Ltd. Boundaries chose in audit sheet, which is essentially has a place with PVC garden tube fabricating industry, consequently to utilize this audit sheet for other assembling businesses its suggested that audit sheet is changed commonly of industry. PVC garden tube producing machine is exceptionally smaller thusly to work and keep up with machine is extremely less apparatuses required consequently in other industry where quantities of things and devices are more expense and time computations will changed.

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