International Multidisciplinary
Research Journal

Indian Streams Research Journal

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"THE EVALUATION OF 5'S SYSTEM" WITH REFERENCE TO ABHIJAT EQUIPMENTS PVT. LTD., SATARA"

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Short Profile

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ABSTRACT:

The theory behind the 5S concept is to basically manage the work space in an organised way. As with the lean thinking concept, which is intertwined with this business theory, the whole aim is to look at the work flow, improve all the inefficiencies within it, remove all the waste and by keeping the whole working environment neat and tidy then a safe working space is maintained. Thus employees feel that the areas in which they spend all of their working days are clean, tidy and good to work in. It's a way of improving business whilst taking into account the environmental needs of the staff. In working environment employees try to keep the working areas clean and bright. In business operations management and staff are encouraged to come up with ideas on how we can improve our work by being a slick organisation. Business has a tendency to put up barriers especially those that will slow a process down. The job is to challenge those barriers and move forward as quickly as possible.

This paper attempts to investigate the factors which are responsible for keeping working place neat and tidy. Similarly with the help of descriptive statistics it is clear those employees of Abhijat Equipment Pvt. Ltd, Satara are aware about importance of implementing Five S system in organization

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and they try to follow all instruction given in the five S. Managerial implications and measures for improvement are discussed.

KEYWORDS

Five S, quality, environment, Seiri, Seiton, Seiso, Seiketsu, Shitsuke .

INTRODUCTION:

The theory behind the 5S concept is to basically manage the work space in an organised way. As with the lean thinking concept, which is intertwined with this business theory, the whole aim is to look at the work flow, improve all the inefficiencies within it, remove all the waste and by keeping the whole working environment neat and tidy then a safe working space is maintained. Thus employees feel that the areas in which they spend all of their working days are clean, tidy and good to work in. It's a way of improving business whilst taking into account the environmental needs of the staff.

In working environment employees try to keep the working areas clean and bright. In business operations management and staff are encouraged to come up with ideas on how we can improve our work by being a slick organisation. Business has a tendency to put up barriers especially those that will slow a process down. The job is to challenge those barriers and move forward as quickly as possible.

Abhijat Equipment Pvt. Ltd. has tradition of engineering excellence. Company is located at old national highway molacha odha, Satara. Company wants to establish and maintain a quality environment in company by improving its organization, so the company implemented 5'S system.

There have been many useful tools created for purpose of improving quality. These tools have not only been devoted to the quality experienced on the manufacturing side of business, but also to the quality of an organized and well disciplined workplace. Quality at workplace will lessen the chance for potential disasters, such as missing important documents because a new employee did not know where they go or line workers getting injured because of scrap laying on the floor. One universal method the Japanese invented to prevent mishaps from occurring because of untidiness and lack of organization is the five's. Company adopted 5'S system but there is some problem in its implementation. Hence company wants to review the 5'S system and to find out gaps in implementing it. Previously organization have already implemented 5'S system but organization is not getting results according to that, so they want to know present status of 5'S system , where are the gaps in implementation and what are they. The 5'S system containing various functions such as sorting, neatness, clean up, standardization/ systematize and discipline. Therefore study aims to study the 5'S system and to find out the gaps in implementing it. Researcher has selected topic gap analysis of 5'S for the study concern with Abhijat Equipment Pvt. Ltd.

OBJECTIVES

1.To know present status of 5'S system.
2.To evaluate the 5'S System i.e. Seiri, Seiton, Seiso, Seiketsu, Shitsuke .
3.To observe effect of 5'S on efficiency.

REVIEW OF LITERATURE:

(Gapp, 2008) Opine that there are several key concepts behind the Japanese approach to 5S management. These findings demonstrate the importance of both the technical (visible) and philosophical (invisible) approaches required for each of the 5S components. (Bayo-Moriones, 2010) opine that the existence of a positive relationship between the use of 5S and some contextual factors such as size, the integration of the plant in a multinational group, the type of product manufactured, the technology used and the quality programmes in the plant. Moreover, 5S is positively related to some operational performance measures, especially those referring to quality and productivity. (Bresko, 2005) suggest that although 5S will not solve today's competitive challenges, it does provide a solid foundation for achieving operational excellence. In fact, some world-class companies claim that there can be no improvement without 5S. (LISTA, 2012) he believe that though wide range of ideas is considered, although all ideas won't end up being viable, all are worthy of investigation. The key is to observe nonvalue-added processes and create an environment to promote value-added work through waste elimination. (Ardith Ct., 2005) he believe that the companies that have succeeded to maintain an organized workplace have established standards. Standards are most effectively used with color in order to create discipline and adherence. These standards have evolved from a process called 5S. The 5S methodology helps create and keep an organized workplace. (Shah, 2003) opine that evidence provides strong support for the influence of plant size on lean implementation, whereas the influence of unionization and plant age is less pervasive than conventional wisdom suggests. The results also indicate that lean bundles contribute substantially to the operating performance of plants, and explain about 23% of the variation in operational performance after accounting for the effects of industry and contextual factors.(Motwani, 2003) By means of a case study, discusses the most important elements of lean manufacturing (LM), the strategies used by the company for implementing LM, and the significant benefits that were accrued in manufacturing operations. (Worley, 2006) He obverses that evidence was found to support the supposition that management support does play a role in driving a lean manufacturing implementation. Management support impacted the lean manufacturing implementation both negatively and positively. The research also found moderate support for improved communication in the organization attributable to the lean implementation. (B. Modarressa, 2007) Kaizen 5S and lean manufacturing has are interrelated to each other and costing on one can be considered as a part of another. (Wu, 2003) He observed that, even given the same organizational constraints and resources, lean suppliers gain significant competitive advantages over non-lean suppliers in production systems, distribution systems, information communications, containerization, transportation systems, customer-supplier relationships, and on-time staging/delivery performance.

RESEARCH METHODOLOGY:-

The type of research is descriptive research. Primary data contains opinions, experiences, views which is collected from the employees/workers by researcher which is used to evaluate 5'S system. Secondary data contain company record about implementation 5'S system. The primary data has been collected through the schedule, observation & unstructured interview. This data is used for data analysis to draw interpretation & conclusion. Researcher has selected schedule as an instrument to collect primary data. For collection of primary data researcher used convenient sampling method. The

study is conducted in the organization Abhijat Equipment Pvt. Ltd., Satara. is confined to production department and its sub- departments of the Such as – Grinding, Milling, Drilling, CNC, Stores, Paint shop, Assembly, Design CNC. of the same organization.

Total population size is 79. Researcher has selected 43 employees as respondent to collect the required information for study the evaluation 5'S system. Data analysis deals with analysis of whole data collected through various techniques. Researcher has analyzed the data with the help of percentage method, tables, and graphs.

Data Analysis

Table 1
Title:- Workers ability to locate the things

Sr. No.	Particulars	Respondents	Percentage
1	Always	18	41.86
2	Most of time	8	18.60
3	Sometime	17	39.53
4	Never	0	0
	Total	43	100

(Source – Primary Data)

From the above table researcher found that 41.86% workers are always able to locate the things when there is need of that thing. Whereas 18.60% and 39.53% workers are able to locate things most of time and sometime respectively.

Table 2
Title:- Medium used for information storage.

Sr. No.	Particulars	Respondents	Percentage
1.	Papers	41	95.34
2.	Digital Instruments	2	4.65
	Total	43	100

(Source – Primary Data)

From the above table researcher found that 95.34% people have used papers as medium for information storage. Whereas 4.65% persons have used digital instruments for information storage.
Workers are more convenient to use papers as medium for information storage.

Table 3
Title: - Workers ability to distinguish between necessary and unnecessary items.

Sr. No	Particulars	Respondents	Percentage
1	Always	31	72.09
2	Most of time	4	9.30
3	Sometimes	8	18.60
4	Never	0	-
	Total	43	100

(Source – Primary Data)

From the above table researcher found that 72.09% workers are able to distinguish between necessary and unnecessary items. Whereas 9.30% and 18.60% workers are able to distinguish between necessary and unnecessary items most of time and sometime respectively. Most of workers are able to distinguish between necessary and unnecessary items while doing work.

Table 4
Title : - Measures adopted when things not in use

Sr. No.	Particulars	Respondents	Percentage
1	Dispose	16	37.20
2	Keep	27	62.79
	Total	43	100

(Source – Primary Data)

From the above table researcher has found that 37.20% people dispose the things when those things are not in use. Whereas 62.79% people keep the things when that things not in use. There are more workers who have the tendency to keep the things although that things not in use.

Table5
Title:- Categorization in items like most wanted, occasionally used, very rarely used item.

Sr. No.	Particulars	Respondents	Percentage
1	Yes	43	100
2	No	0	0
	Total	43	100

(Source – Primary Data)

From the above table researcher has found that 100% workers has made categorization in items like most wanted items, occasionally used items, and items very rarely used.
All the workers have made categorization in items like most wanted items, occasionally used

items and items very rarely used.

Table 6
Title:- Things responsible for not finding right material

Sr. No.	Particulars	Respondents	Percentage
1.	Not Keeping Wanted Things in an Orderly Way	32	74.41
2.	Not Organize Things in proper Way	11	25.58
	Total	43	100

(Source – Primary Data)

From the above table researcher has found that 74.41% workers are of opinion that not keeping things in orderly way is the reason for not finding right material on right time. Whereas 25.58% workers are of opinion that not organizing things in proper way is the reason for not finding right material on right time. Most of workers are not keeping wanted things in an orderly way.

Table 7
Title:- Precautions taken to avoid wrong usage of tools

Sr .No.	Particulars	Respondents	Percentage
1.	Tools kept apart	37	86.04
2.	Paint the silhouette of the tool on board	6	13.95
3.	Not taking any precaution	0	0
	Total	43	100

(Source – Primary Data)

From the above table researcher has found that 86.04% workers have kept tools apart to avoid wrong usage of tools. Whereas 13.95% workers have painted the silhouette of the tools on board to avoid wrong usage of tools.
Most of the workers are keeping tools apart from each other to avoid wrong usage of tools.

Table 8
Title: - Ways followed to determine reorder level.

Sr. No.	Particulars	Respondents	Percentage
1	Maintain bin cards	26	60.46
2	Use of markers and tags	17	39.53
3	Not following any system	0	0
	Total	43	100

(Source – Primary Data)

From the above table researcher has found that 60.46% workers maintain bin cards to

determine reorder level. Whereas 39.53% workers use markers and tags to determine reorder level.

Most of the workers maintain bin cards to determine reorder level. While some of workers use markers & tags to determine reorder level.

Table 9
Title: - Marking the place for everything

Sr .No.	Particulars	Respondents	Percentage
1	Yes	43	100
2	No	0	0
	Total	43	100

(Source – Primary Data)

From the above table researcher has found that 100% workers mark the place for everything.

Table 10
Title:- Ways adopted for keeping tools

Sr. No.	Particulars	Respondents	Percentage
1	Mark the outline	o	0
2	Mark the placement line	43	100
3	Not adopted any measure	0	0
	Total	43	100

(Source – Primary Data)

From the above table researcher has found that 100% workers mark the placement line for keeping the tools.

Table 11
Title:- Measures adopted for giving proper care to items meant for emergency

Sr. No.	Particulars	Respondents	Percentage
1	Kept in proper way	10	23.25
2	Regular checking are done	0	0
3	Safety stock kept	3	6.97
4	Not taken any measure	30	69.76
	Total	43	100

(Source – Primary Data)

From the above table researcher has found that 23.25% workers have kept items in proper way which is meant for emergency. Whereas 6.97% workers have kept safety stock of items which are meant

for emergency and 69.76% workers have not taken any measure for giving proper care to items which are meant for emergency.

Table 12
Title: - Reasons for things become dirty.

Sr. No.	Particulars	Respondents	Percentage
1	Not taking timely action	25	58.13
2	Lack of attention	18	41.86
	Total	43	100

(Source- Primary Data)

From the above table researcher has found that 58.13% workers are of opinion that things become dirty because of lack of timely action. Whereas 41.86% workers are of opinion that things become dirty because of lack of attention.

Table 13
Title: - Clean their workplace by their own.

Sr. No.	Particulars	Respondents	Percentage
1	Always	32	74.41
2	Most of time	0	0
3	Sometime	0	0
4	Never	11	25.58
	Total	43	100

(Source- Primary Data)

From the above table researcher has found that 74.41% workers always clean their workplace by their own. Whereas 25.58% workers never clean their workplace by their own.

Table 14
Title: - Activities adopted for purpose of cleanup.

Sr. No.	Particulars	Respondents	Percentage
1	All grimes or muck is to be removed	14	32.55
2	Looking into area by area	3	6.97
3	Look in all places where work is in progress	18	41.86
4	Look at equipment condition	8	18.60
5	Not adopted any activities	0	0
	Total	43	100

(Source- Primary Data)

From the above table researcher has found that 32.55% workers have removed all the grimes or muck and 6.97% workers look into area by area for purpose of cleanup. Whereas 41.86% workers look in all places where work is in progress and 18.60% workers look at equipment condition for purpose of cleanup.

Table 15
Title: - Factors studied while doing job of cleaning.

Sr. No.	Particulars	Respondents	Percentage
1	Find out root cause	7	16.27
2	What is to be cleaned	21	48.83
3	What should be the order of cleaning	7	16.27
4	Check up system of cleaning	8	18.60
	Total	43	100

(Source- Primary Data)

From the above table researcher has found that 16.27% workers find out root cause while doing job of cleaning. 48.63% workers first decided what is to be cleaned and 16.27% workers first decided what should be the order of cleaning while doing job of cleaning. Whereas 18.60% workers check up system of cleaning while doing job of cleaning.

Table 16
Title: - Measures adopted to find out failures.

Sr. No.	Particulars	Respondents	Percentage
1	Yes	43	100
2	No	0	0
	Total	43	100

(Source- Primary Data)

From the above table researcher has found out that 100% workers have adopted measures to find out failure or abnormalities.
All the workers are adopted measures to find out failures or abnormalities.

Table 17
Title :- Measures to be adopted for creating zeal to work.

Sr. No.	Particulars	Respondents	Percentage
1	Make the workplace bright & beautiful	39	90.69
2	Provide a good clean atmosphere	4	9.30
3	Provide uniform which become neat & good	0	0
4	Apply colour which is stand out	0	0
5	Not any one of the above	0	0
	Total	43	100

(Source- Primary Data)

From the above table researcher has found out that 90.69% workers are of opinion that making the workplace bright and beautiful is essential for creating zeal to work. Whereas 9.30% workers are of opinion that providing a good clean atmosphere is essential for creating zeal to work.

Most of the workers are of opinion that workplace should be bright & beautiful. It is the best measure for creating zeal to work.

Table 18
Title :- Measures adopted to alert against danger.

Sr. No.	Particulars	Respondents	Percentage
1	Yes	43	100
2	No	0	0
	Total	43	100

(Source- Primary Data)

From the above table researcher has found out that 100% workers have adopted measures to alert against danger.

All the workers have adopted measures to alert against danger.

Table 19
Title :- Teamwork is useful for functioning.

Sr. No.	Particulars	Respondents	Percentage
1	Yes	43	100%
2	No	0	0%
	Total	43	100%

(Source- Primary Data)

From the above table researcher has found out that 100% workers are of opinion that teamwork is useful for functioning.

All the workers are of opinion that teamwork is essential for functioning.

Table 20
Title :- Clarity about given instructions and communications

Sr. No.	Particulars	Respondents	Percentage
1	Always	39	90.69
2	Most of time	4	9.30
3	Sometime	0	0
4	Never	0	0
	Total	43	100

(Source- Primary Data)

From the above table researcher has found out that 90.69% workers are of opinion that whatever instructions or communication they are given or received is always clear. Whereas 9.30% workers are of opinion that most of time given instruction and communications are clear.

Most of the workers are of opinion that whatever instructions or communications given to them are always clear.

FINDINGS

Seiri- sorting

1.In working hours most of the workers are able to locate the things i.e. (41.86%) but there is large scope for improvement as (39.53%) workers find it difficult to locate the things on time. (Table 1)
2.In company most of the workers are using papers as medium for information storage. i.e. (95.34%). (Table 2)
3.Most of the workers i.e. (72.09%) are always able to make distinction between necessary and unnecessary items it helps them to work more productively. (Table 3)
4.Most of the workers i.e. (62.79%) are keeping the things although the things are not in use. (Table 4)
5.While doing the work all the workers make categorization of items like most wanted items, occasionally used items and items very rarely used. It helps them to do the work more efficiently. (Table 5)

Seiton- Neatness

6.Most of the workers i.e. (74.41%) are not keeping the things in orderly way. (Table 6)
7.In company most of the workers i.e. (86.04%) are keeping the tools apart from each other to avoid wrong usage of tools. (Table 7)

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8.In company there is more convenience to maintain bin cards to determine reorder level. (Table 8)

9.All Workers mark the place for keeping everything. (Table 9)

10.All Workers mark the placement line for keeping tools, jigs, fixtures in the right place in the right way. (Table 10)

11.Most of the workers i.e. (69.76%) have not adopted any measures for giving proper care to items which are meant for emergency. (Table 11)

Seiso - clean up.

12.Most of the worker are of opinion that things become dirty because of lack of timely action. (Table 12)

13.After completion of work most of the workers i.e. (74.41%) are always cleaning their workplace by their own. (Table 13)

14.In company most of the workers i.e. (41.86%) look in all places where work is in progress. While some of them i.e. (32.55%) are removing all grimes or muck and few of them i.e. (25.57%) look at equipment conditions and look into area by area for purpose of cleanup. (Table 14)

15.In company all the workers have adopted measures to find out failures or abnormalities if any. (Table 15)

Seiketsu - systematize- standardization

16.It is found that 100% workers have adopted measures to find out failure or abnormalities.

17. In company most of the workers i.e. (90.69%) are of opinion that their workplace should be bright and beautiful to create zeal to work in them. (Table 17)

18.In company all the workers have adopted measures to alert against danger.   (Table 18)

Shitsuke- Discipline

19.All the workers are of opinion that teamwork is useful for functioning. (Table 19)

20. Most of the workers i.e. (90.69%) are of opinion that given instructions and communications are clear. (Table 20).

SUGGESTIONS: -

1.Organization should use digital instruments like CD, DVD's for information storage. So that wanted information can easily be located and it saves time and space.

2.Company should adopt suitable recycle or disposal measures on unused things and make the best possible use of space and investment cleared from it.

3.Company should organize training programme for workers and at the work place tagging a board showing in pictorial form, sequential and orderly way to keep things in systematic manner.

4.The workers should inculcate among them habit of cleaning the things whatever they are using on every day, so this timely action avoid the grimes or muck is to be accumulated on things and it would help to maintain the things in required status.

5.Proper care must be given for contingency or items which are meant for emergency. They all should be kept in proper way and regular checking is to be done to see that they are available in sufficient number and in proper condition.

CONCLUSION:-

From the research study it is clear that 5'S system is not perfectly implemented in the organization or there are some problems in implementation of 5'S system. There is huge scope for improvement in the system. If the organization takes proper measures to implement it efficiently there will not be any problem and productivity of organization will increase.

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