



(RESEARCH ARTICLE)



Implementation of the 5S work culture (Seiri, Seiton, Seiso, Seiketsu, and Shitsuke) in the engineering department of PT X, Sidoarjo

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Abstract

Work culture is closely related to the norms, beliefs, values, and attitudes formed in a company. One of the important work cultures owned by the company is the 5S culture or housekeeping whose application needs to be done as a form of self-protection of workers to stay safe in carrying out work activities so as to increase company productivity. PT X is one of the companies in Sidoarjo engaged in animal feed. The purpose of this study is to analyze in depth the implementation of the 5S work culture (Seiri, Seiton, Seiso, Seiketsu, and Shitsuke) in the Engineering Section of PT X, Sidoarjo. This research is a qualitative study with a descriptive approach, namely by providing a description of the actual conditions related to the implementation of 5S in the company. Data collection techniques are carried out by means of observation, interviews, and documentation studies. Based on the results of the study, the 5S work culture at PT X Engineering Section is still not optimally implemented. This is evident from the condition of the workplace that has not been well maintained, many unused items are in the workplace, and there are storage cabinets that are not labeled with information. The lack of awareness of workers regarding 3S habituation and the lack of supervision from management are inhibiting factors in implementing 5S optimally.

Keywords: Culture; Work; Implementation; 5S; Productivity

1. Introduction

The rapid development of the industrial world from time to time requires all parties involved to always prepare themselves from various kinds of competition. One of the keys to success so that companies can survive in the midst of intense competition is by implementing a good work culture. Work culture is a set of behavior patterns that are overall inherent in each individual in an organization or company. Building a culture means improving and maintaining the positive side and trying to get used to certain patterns of behavior in order to create a new, better form. The company certainly has its own characteristics that will distinguish it from other companies. This is called organizational culture or work culture.

Work culture is closely related to the norms, beliefs, values, and attitudes formed within a company. Work culture is a key factor in determining the personality of all members of the organization, so it is often reflected in employee behavior. Companies that have a good work culture will have an impact on increasing employee performance, so that company performance can also increase as a whole. This statement is reinforced by research conducted by 'Levly, Muhammad, and Sulistiowati [1] which suggests that a healthy and positive work culture or organizational culture has an important role and significantly affects employee performance'. One of the important work cultures owned by companies is the 5S culture or housekeeping. The 5S work culture is an important thing that should get the attention of leaders, company administrators, and workers. A good, safe, and comfortable work environment will help companies to achieve the four main target areas of the industry, namely efficiency, productivity, quality, and most importantly,

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work safety. A good work environment arrangement will have a big impact on workers in carrying out every activity without experiencing disturbances that can eliminate work time.

Based on data obtained from RIDDOR (The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations), as many as 35% of injuries received by workers are due to slips, trips, and falls from heights [2]. This shows that good 5S implementation needs to be applied in the workplace as a form of self-protection for workers to stay safe in carrying out work activities so as to increase company productivity. Based on ISO 45001, there are five control hierarchies that companies can use to eliminate hazards and reduce the risk of accidents. The five hierarchies are elimination, substitution, engineering, administrative control, and Personal Protective Equipment (PPE). 5S is one of the risk controls that belongs to the fourth control stage, namely administrative control.

The 5S work culture is a Japanese culture that systematically describes good housekeeping practices. 5S comes from five Japanese words, namely Seiri (sort), Seiton (set in order), Seiso (shine), Seiketsu (standardize), and Shitsuke (sustain). 5S is a system created to summarize a series of activities to prevent waste that causes errors, defects, and accidents in the workplace [3]. The 5S work culture teaches to carry out activities of sorting, organizing, cleaning, maintaining conditions, and habituation with the aim of being able to carry out activities or work properly. The implementation of 5S can help companies in creating neat, clean, and comfortable work area conditions, so that it will form a good work culture and motivation that can improve company performance. This statement is in line with the results of research conducted by 'Risma [4] in the manufacturing industry which states that the application of 5S has a significant effect on the company's operational performance'.

PT X is one of the companies in Sidoarjo engaged in animal feed. PT X consists of several divisions or sections, one of which is the engineering section. As a company that implements Occupational Safety and Health (K3), PT X has an obligation to ensure the safety of workers from possible work accidents that occur in the workplace, one of which is by implementing 5S. The Engineering Department at PT X has not implemented the 5S culture optimally. Based on observations, there are still many workplace conditions that illustrate that the engineering department has not implemented the 5S culture properly. Therefore, the author is interested in analyzing more deeply the implementation of the 5S work culture (Seiri, Seiton, Seiso, Seiketsu, and Shitsuke) in the Engineering Section of PT X, Sidoarjo.

2. Material and methods

This research was conducted in one of the industries that focuses on the production of animal feed in Sidoarjo, namely PT X. The focus of this research is to describe the implementation of the 5S work culture consisting of Seiri, Seiton, Seiso, Seiketsu, and Shitsuke in the engineering department at PT X. This research is also used as an evaluation material to prevent risks in the form of work accidents caused by various potential hazards in the workplace. This research is included in the type of qualitative research with a descriptive approach to show the actual conditions related to the implementation of 5S in the engineering department at PT X. This research uses information sources from primary data which include the results of field observations, interviews, and documentation. Secondary data used are scientific articles from various journals to support the primary data taken. The data collection technique in this study consists of observing the actual conditions in the field where researchers see activities directly during the research, semi-structured interviews with one of the administrative staff in the engineering department at PT X to provide their opinions and ideas regarding the implementation of the 5S culture in the company, and conducting documentation as evidence.

3. Results and discussion





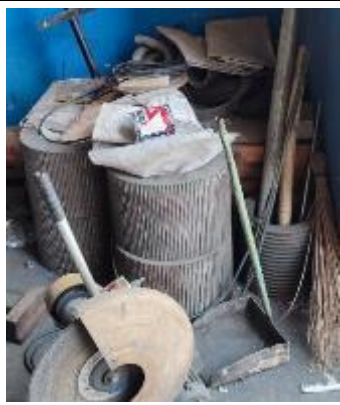
3.1. Implementation of the 5S work culture in the Engineering Department

5S work culture is a continuous improvement process on how a worker can treat his workplace properly. The implementation of the 5S work culture in a company can create a clean and tidy workplace and provide benefits for both the company and workers. In engineering, the 5S work culture is very useful for increasing worker productivity, training workers to work more safely, effectively, and efficiently, so that all assigned tasks can be completed properly. A well-implemented 5S work culture will create a moral work pattern, have high discipline, and a controlled and comfortable work environment.

Based on the results of observations that have been made at PT X Engineering Section, it appears that the 5S work culture has not been fully implemented. The condition of the workplace is still not well maintained and there are still many unused items in the workplace and work tools that are not placed in place. There are storage cabinets that are not






labeled with information, making it more difficult to find items. In detail, the following is the implementation of the 5S work culture that is not appropriate at PT X Engineering Section:

Table 1 Inappropriate implementation of 5S work culture

No.	Evidence	Location	Information
1		Engineering Front	Unused wooden pallets are placed in front of the fire extinguisher. This will slow down workers to retrieve the fire extinguisher in the event of a fire. In addition, stacked used wood also has the potential to become a hiding place for pests such as rats.
2		Engineering Front	There is a lot of broken machinery and rusty metal placed at the front of the engineering area. These objects take up quite a lot of the road shoulder, so pedestrians have to walk to the center. This is dangerous because workers can be hit or nudged by forklifts, loaders and trucks.
3		Workshop Area	Personal Protective Equipment (PPE) is not well organized, the condition of PPE is quite dusty because the glass is not closed, and there are machines that block in front of the cupboard. This condition makes it more difficult for workers to find PPE and reluctant to use it because of the dirty conditions.
4		Workshop Area	In the cupboard, it can be seen that there are many items that are not grouped according to their type. This can make it difficult for workers to find the items they need.
5		Workshop Area	In the workshop area, cleaning tools such as brooms and dustpan have been provided but they are not placed in a special place and are not neatly arranged. Sand and plastic were also found scattered on the floor. In the corner of the room, there are piles of machines, plastics, paint cans, and other items that are dusty.

Although the overall implementation of the 5S work culture at PT X Engineering is still lacking, there are several areas that have implemented the 5S work culture quite well. The following is a fairly good implementation of the 5S work culture at PT X Engineering:

Table 2 Good implementation of 5S work culture

No.	Evidence	Location	Information
1		Engineering Front	Cabinets for engineering tools that have important functions and expensive prices.
2		Electrical Area	Cabinets for storing keys are numbered according to their size, making it easier for workers to find keys.
3		Sparepart Area	Engineering items such as pneumatic, washers, and bolt-nuts have been labeled and classified according to type and size.
4		Sparepart Area	Technical items in the form of v-belts are hung on top according to size, making it easier for workers to find and take them.
5		Engineering Front	There are cleaning facilities available in the form of trash bins which are divided into three types, namely for paper, plastic and leaf waste. The bins are in good condition and there is no accumulated garbage.

3.2. Obstacles to the implementation of 5S work culture in the Engineering Department

Each company certainly has different inhibiting factors in implementing a work culture. Based on the results of interviews conducted with the admin of the engineering department, the obstacles to implementing the 5S culture come from two factors, namely human factors (workers) and management factors. Workers in the engineering department are lacking in carrying out 3S work habits (seiri, seiton, and seiso), so the 5S work culture cannot be carried out consistently. All 5S activities (Seiri, Seiton, Seiso, Seiketsu, and Shitsuke) will not last long and be implemented if all workers have not done it repeatedly and maintained the first 3S. One form of 3S that has been implemented by engineering workers is the habit of returning work tools to their original place. However, this is because the tools used in the engineering department are expensive, so workers are required to always return work equipment to its original position, while for work tools that are not valuable, they tend to neglect to return them to their original place.

Strategies to implement the 5S work culture in the engineering department have been implemented by holding briefings before work to remind workers to always apply the 5S work culture, safety at work, use of Personal Protective Equipment (PPE), and so on. However, if observed directly in the field, there are still many workers who underestimate the 5S work culture. There are still many findings that indicate that the implementation of 5S in the engineering department has not been fully implemented.

Constraints from management factors are caused by a lack of attention from the top with the implementation of 5S in the field such as enforcement of SOP implementation, implementation of audits and inspections, implementation of 5S gemba, and provision of 5S training or socialization to workers. The company once had a 5S committee that was tasked with providing promotional tools related to 5S activities, facilitating 5S training activities for employees, standardizing 5S activities, coordinating 5S audit activities, and informing management and all employees about the progress of 5S implementation in the company. However, this 5S committee has not been updated for quite some time and is no longer active. The 5S inspections and trainings that were routinely conducted in the past have not been implemented again, resulting in a disorganized workplace.

A written SOP (Standard Operating Procedure) containing steps or stages regarding the implementation of 5S is also not available in the company, so there are no guidelines that bind workers to implement the 5S culture. SOPs are very important for companies because they serve as a legal basis to anticipate unexpected situations or circumstances. With SOPs, workers will find it easier to carry out work, detect obstacles that workers may experience, and encourage workers to be more disciplined and responsible. This statement is reinforced by the research of 'Silfana, Uus, and Laras (5) which says that employee quality, work processes, productivity aspects, and the application of regulations have a significant effect on the application of the 5S work culture'.

Apart from regulations, informants also said that the implementation of 5S was constrained due to the uneven distribution of tasks which resulted in the supervisors not having enough time and energy to enforce the 5S culture in the engineering department. The accumulation of unused items such as used machines, wooden pallets, rusty iron, etc. in front of the engineering area is due to the absence of a temporary disposal site and still has value if sold, therefore it cannot be disposed of carelessly and must wait for parties outside the company to pick up.

Based on the informants' opinions, it can be concluded that the 5S work culture at PT X Engineering Department is still not optimally implemented due to the absence of written regulations such as SOPs and supervision such as inspections and audits from management. In addition, the lack of worker awareness regarding the 3S (seiri, seiton, and seiso) is also an obstacle in implementing 5S optimally. Therefore, an improvement effort is needed so that 5S can run continuously, so that a safe work environment is created and work activities become effective and efficient.

3.3. Improvement recommendations

Based on the analysis of 5S implementation in the engineering section discussed in the previous sub-chapter, it can be seen that the 5S work culture has not been implemented optimally in this section. A structured strategy for the implementation of the 5S work culture can be used as a basis for taking solutions related to obstacles in implementing the 5S culture. Therefore, the suggestions that can be given to the company are:

- a. Seiri (Sort)
Mark unused items using red tags to make it easier to identify items that are still useful. Items that have been red-labeled should be removed from the workplace and moved to a vacant lot used specifically for placing useless items, so that they do not endanger and interfere with workers activities.
- b. Seiton (Set in Order)
 - 1) Items that are used should be placed in a cupboard so that they are not dusty and look neat.
 - 2) Grouping of goods can be adjusted to the type or frequency of use. Items that are often used are placed in a location that is easily accessible to workers.
 - 3) Items that have been grouped can be labeled with information about the name of the item, item code, location of the item, and the number of items to make it easier for workers to find the items needed.
- c. Seiso (Shine)
 - 1) Record cleaning tools such as brooms, mops, duster, and dustpan to ensure that they are not lost or damaged.
 - 2) Organizing community service with all technical workers every week so that the workplace is always clean and tidy.
- d. Seiketsu (Standardize)
 - 1) Provide warning signs such as the prohibition of littering, tidying up after workers, and other signs related to the implementation of 5S.

- 2) Organize a meeting with management to discuss the lack of 5S implementation in the company and its impact, so that management can consider and revive the 5S committee that has not been active for a long time.
 - 3) Develop an SOP related to the implementation of 5S in the company.
 - 4) Conduct daily or weekly inspections by management to determine the progress made, maintain the consistency of 5S implementation, and find out things that need to be improved, so that the 5S culture can be improved.
 - 5) Management can provide rewards in the form of intensive for workers who have implemented 5S well and provide punishment to workers who do not comply with the rules.
 - 6) Develop a 5S checklist audit data form and conduct regular 5S audits.
- e. Shitsuke (Sustain)
- 1) Provide socialization or training to workers on how to apply the 5S culture, and the importance of applying the 5S culture. Training can be carried out once a month which is attended by all PT X workers.
 - 2) Remind workers to apply 5S in the morning before work so that the 5S culture will always be embedded in workers and become a routine in daily activities.

4. Conclusion

The 5S work culture at PT X Engineering Department is still not optimally implemented. The lack of optimal implementation of the 5S work culture is due to the absence of written regulations such as SOPs and supervision such as inspections and audits from management. In addition, the lack of awareness of workers regarding the 3S (seiri, seiton, and seiso) is also an obstacle in implementing 5S optimally. As a suggestion from this research, the company should make written regulations such as standard operating procedures and periodic supervision such as inspections and audits. This research can be used as input as well as consideration for progress both from a technical and administrative perspective, especially in terms of implementing the 5S work culture in the Engineering Section of PT X, Sidoarjo and as additional reference material for further research.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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