

## **Implementation of Kaizen Culture in Occupational Health and Safety (OHS) at PT. Automotive Manufacturing Indonesia with the 5S Method**

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### **Abstract**

To improve efficiency, quality and safety in the work environment, the application of Kaizen culture is indispensable. This study aims to analyze the application of Kaizen culture in OHS with the 5S method, namely Seiri (Sort), Seiton (Set in Order), Seiso (Shine), Seiketsu (Standardize), and Shitsuke (Sustain) at PT. Indonesian Automotive Manufacturing. The research method uses a qualitative approach with data collected through direct observation and interviews of workers. The results showed that there were still shortcomings in undergoing OHS at PT Automotive Manufacturing Indonesia. It is necessary to increase workers' awareness of the importance of OHS again in order to reduce the risk of work accidents, create a clean and orderly work environment.

**Keywords:** FMEA, QCC, Improvement.

### **Introduction**

Occupational health and safety (OHS) in the manufacturing sector is essential in order to create a safe and productive work environment. The implementation of OHS not only protects workers from the risk of accidents and occupational diseases, but also improves the company's operational efficiency. With a good OHS system in place, companies are able to reduce costs related to workplace accidents and improve employee morale and productivity. Research shows that companies that implement OHS well have higher productivity levels and fewer incidents that do not disrupt the production process.

Kaizen culture plays a significant role in supporting continuous improvement in the workplace. Kaizen, which means “continuous improvement” in Japanese, encourages all members of the organization to be active in the improvement process. In the context of OHS, Kaizen helps create awareness of the importance of safety among employees. By involving all staff in improvement efforts, companies can proactively identify and address potential hazards. This approach not only improves safety but also builds a more positive and collaborative work culture.

The 5S method is a practical tool in the effective implementation of Kaizen in the manufacturing sector. This method consists of five steps: Seiri (Sort), Seiton (Set in Order), Seiso (Shine), Seiketsu (Standardize), and Shitsuke (Sustain). Each step aims to create an organized and clean work environment to minimize the risk of accidents. For example, the implementation of Seiri helps remove unneeded items from the work area, thereby reducing clutter and improving efficiency. Meanwhile, Seiso focuses on routine cleaning that keeps the work environment safe and extends the life of equipment.

The implementation of the 5S method in the workplace also strengthens the OHS culture. With clear standards and consistent hygiene practices, employees are more encouraged to comply with safety procedures. Seiketsu ensures all best practices are documented and consistently applied, while Shitsuke encourages discipline in adhering to established standards. This creates a work environment where safety is a top priority, reducing the likelihood of workplace accidents.

Overall, the integration of OHS with Kaizen culture and the application of the 5S method provides long-term benefits to manufacturing companies. Not only does it improve worker safety and health, but it also drives operational efficiency and productivity. By involving all employees in the continuous improvement process, companies can build a safer and more efficient work culture, which ultimately supports business sustainability.

### **Kaizen Concept**

Kaizen is a Japanese philosophy that means “continuous improvement.” It promotes consistent improvement across many aspects of an organization, including work processes, product quality, and operational efficiency, through collaboration from all levels of employees. This approach does not require large investments, but instead focuses on small changes made regularly to create a big impact in the long run.



Image 1. Kaizen

Kaizen involves all elements of the organization, from management to workers, to jointly identify problems and implement simple yet effective solutions. This philosophy also targets reducing waste, increasing productivity, and establishing an adaptive and collaborative work culture. In relation to Occupational Health and Safety (OHS), Kaizen contributes to creating a safer work environment by recognizing risks and improving safety procedures. This philosophy also builds a culture of discipline and collective responsibility to maintain work safety and efficiency.

### 5S Method in Kaizen

5S is a Japanese management method that is an important part of the Kaizen approach to continuous improvement. The 5S concept consists of five Japanese terms: Seiri (Sort), Seiton (Set in Order), Seiso (Shine), Seiketsu (Standardize), and Shitsuke (Sustain).



Image 2. Kaizen within 5S

This method is designed to create a work environment that is neat, clean, and efficient, and supports increased productivity and safety. Here are the 5S steps:

#### 1. Seiri (Sort)

Seiri is the first step towards sorting needed from unneeded items in the work area. Items that serve no purpose should be removed to reduce clutter and increase efficiency. This step aims to create a more organized and spacious workspace, so that needed items can be accessed easily.

#### 2. Seiton (Set in Order)

Once the sorting process is complete, the next step is to organize the necessary items in a systematic and efficient manner. Each item should be placed in a predetermined location for easy finding and access. The “items in place” principle is applied to reduce search time and support increased productivity. This process also involves the use of labels or signs to indicate storage locations.

#### 3. Seiso (Shine)

Seiso refers to maintaining cleanliness in the work area. It involves regular cleaning to ensure that equipment and the work environment are kept clean, free from dust and dirt. Maintaining cleanliness not only supports employee health but also creates a more comfortable working atmosphere and supports productivity.

4. Seiketsu (Standardize)

Once the previous steps are in place, Seiketsu focuses on standardization to ensure cleanliness and order are maintained. This step involves creating written guidelines or standardized procedures on how to carry out each step, including an organized schedule for implementation.

5. Shitsuke (Sustain)

Shitsuke is the final stage that emphasizes the need for discipline in applying all 5S steps consistently. This process aims to form good habits among employees, so that the 5S principles become part of the daily work culture.

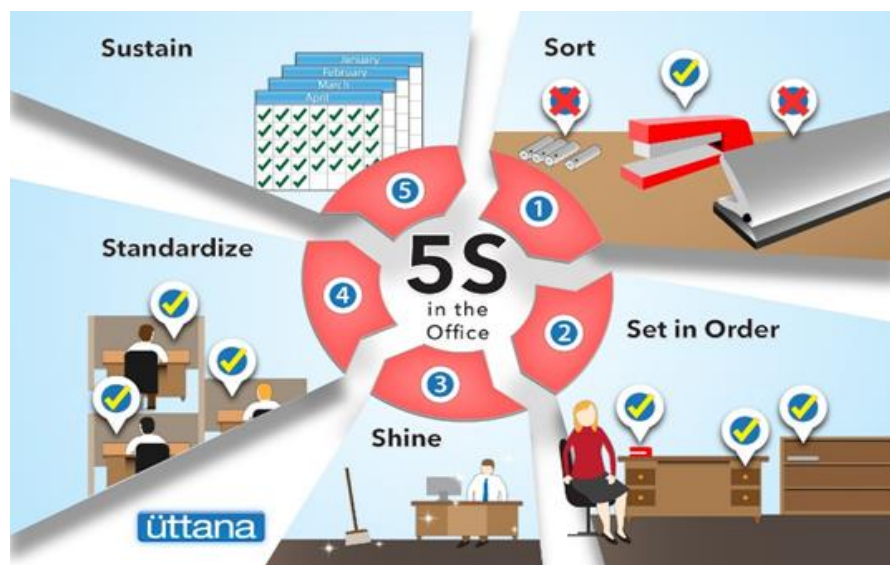


Image 3. 5S Method

The application of the 5S method has a significant effect on occupational health and safety:

1. Reducing the Risk of Accidents: By removing unnecessary items and maintaining a clean work area, the potential for workplace accidents can be minimized.
2. Improves Employee Health: A neat and clean work environment supports employees' physical and mental health, helps reduce stress levels and increases job satisfaction.
3. Builds a Sense of Responsibility: Involving all employees in the implementation of 5S helps create a collective sense of responsibility for the cleanliness and tidiness of the workplace.
4. Raising Employee Awareness of OHS: This involves all employees in OHS training efforts, so that OHS in the company runs well. For example, training on using personal protective equipment (PPE) properly and correctly.
5. Creating a Sustainable Safety Culture: With good training and inspection, the OHS culture in the company will be structured so that practicing OHS is an obligation for employees.

## Method

This research applies a qualitative method in order to analyze the application of the 5S method in an effort to improve occupational health, safety, and productivity in the manufacturing sector. Data was collected through direct observation of workplace conditions and interviews with 19 employees consisting of 15 production operators, 3 leaders and 1 supervisor. This approach aims to understand the application of the steps Seiri (Sort), Seiton (Set in Order), Seiso (Shine), Seiketsu (Standardize), and Shitsuke (Sustain), and their impact on work efficiency and employee safety. Observations were made to identify poorly organized work areas, the layout of work tools, regular cleaning, the implementation of operational standards, and the level of employee discipline. Data analysis was then used to assess the success of the 5S method in creating a safer and more efficient work environment.

## Result and Discussion

### Seiri (Sort)

Table 1. Analysis Of OHS Program With Seiri Method.

<b>K3 Implementation at PT Automotive Manufacturing Indonesia</b>	<b><i>Seiri</i> Method</b>	<b>Description</b>
Used and unused marking markers are mixed in one place	Sort out items that are still in use and get rid of or discard items that are no longer in use	Not yet compliant
Stacks of unused pallets and cardboard boxes	Get rid of or discard unused items	Not yet compliant
Plastic scraps that were left to collect and scatter on the floor	Get rid of or discard unused items	Not yet compliant
Unavailability of trash bins in some work areas	Trash bins are available in each work area	Not yet compliant
Sorting of defective products is done routinely every day	Identify defective items and separate them according to the designated place	Compliant

Seen in table 1, the application of OHS in the Seiri method has some appropriate actuals and some inappropriate actuals.

### Seiton (Set in Order)

Table 2. Analysis Of OHS Program With Seiton Method.

<b>K3 Implementation at PT Automotive Manufacturing Indonesia</b>	<b>Seiton Method</b>	<b>Description</b>
Each product component has a designated place	Goods have a fixed special place	Compliant
Defective products have a designated place	Goods have a fixed special place	Compliant
Plastic scraps that were left to collect and scatter on the floor	Goods have a fixed special place	Not yet compliant
Each storage area is equipped with an identity	Each layout has a clear identity	Compliant
There are no boundary lines in some places of the production area	There are boundary lines in each production area	Not yet compliant

Seen in table 2, the application of OHS in the Seiton method has some appropriate actuals and some inappropriate actuals.

### Seiso (Shine)

Table 3. Analysis Of OHS Program With Seiso Method.

<b>K3 Implementation at PT Automotive Manufacturing Indonesia</b>	<b>Seiso Method</b>	<b>Description</b>
Workers clean their work area	Cleaning the work area	Compliant
Regular cleaning schedule	Regular cleaning schedule	Compliant
Workers clean the equipment that has been used	Cleaning on work equipment	Compliant

Seen in table 3, the application of OHS in the Seiso method is actually in accordance with.

### Seiketsu (Standardize)

Table 4. Analysis Of OHS Program With Seiketsu Method

<b>K3 Implementation at PT Automotive Manufacturing Indonesia</b>	<b>Seiketsu Method</b>	<b>Description</b>
Workers often do other activities while working	Workers must focus on their work	Not yet compliant
Workers often go straight to their lockers without waiting for the dismissal bell.	Workers go to their lockers after hearing the dismissal bell ring	Not yet compliant

Seen in table 4, the application of OHS in the Seiketsu method there are actuals that are not yet appropriate.

### Shitsuke (Sustain)

Table 5. Analysis Of OHS Program With Shitsuke Method.

<b>K3 Implementation at PT Automotive Manufacturing Indonesia</b>	<b>Shitsuke Method</b>	<b>Description</b>
No misunderstandings between employees	Good communication between employees	Compliant
Comply with all company regulations that have been determined	Rules are adhered to by all employees	Not yet compliant
Receive guidance from leaders on a regular basis	Rules are adhered to by all employees	Compliant

Seen in table 5, the application of OHS in the Seiton method has some appropriate actuals and some inappropriate actuals.

## Conclusion

The results of direct observation in this study show that there are actual data that are not in accordance with the standards set and actual data in accordance with existing standards. With this, it can be concluded that the company plays an important role in supporting and ensuring the implementation of OHS runs effectively and thoroughly. Suggestions for improvement for PT Manufaktur Otomotif Indonesia to improve the implementation of K3 with the 5S (Kaizen) method:

- a. Seiri (Sort)  
Workers can sort between items that are no longer used and items that are still used. Sorting between used and unused items aims to make it easier for workers to find the items they want to use.
- b. Seiton (Set in Order)  
Provide a special place for the items used. This aims to make it easier for employees to find the items they need.
- c. Seiso (Shine)  
Maintain the existing suitability by raising workers' awareness to be more concerned about the cleanliness of the environment around the work area. To ensure health and comfort during work.
- d. Seiketsu (Standardize)  
Workers receive supervision while working so that workers can be disciplined and orderly to do their work more optimally.
- e. Shitsuke (Sustain)  
Increase worker awareness with fair sanctions to ensure worker compliance with company regulations and effective communication to educate workers through their respective leaders.

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