

AN ANALYSIS OF THE APPLICATION OF THE 5S METHOD AT PT AGILITY INTERNATIONAL WAREHOUSE AT PT DUNIA EXPRESS TRASINDO

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Abstract: One alternative which can be used to simplify the storage process in the warehouse is 5S method. The 5S methodology is derived from five Japanese words: Seiri, Seiton, Seiso, Seiketsu, and Shitsuke. Departing from that point, this study is aimed at investigating the implementation of the 5S method at PT Agility International in PT Dunia Express Trasindo. PT Agility International is a company that focuses on moving, managing, and distributing goods that support global trade. To achieve that purpose, this study was carried out qualitatively using interviews as the primary data collection, followed by supervisors and auditors in that company. The result revealed that implementing the 5S methodology ensures that the warehouses fulfilled the general standards for neatness and comfort. Nevertheless, several inhibiting factors at PT Agility International were found, causing the implementation of the 5S method at PT Agility International in PT Dunia Express Trasindo has not been maximized.

Keywords: 5S, Seiri, Seiton, Seiso, Seiketsu, Shitsuke, Warehouse

Introduction

PT Agility International is a company that focuses on moving, managing, and distributing goods that support global trade. This company offers air, sea, land freight, warehousing, distribution, and specialized services in logistics projects, exhibitions and events, and chemicals. One of the warehouses of PT Agility International is located at PT Dunia Express Trasindo. PT Dunia Express Trasindo is a total logistics service provider company based in Sunter, North Jakarta, Indonesia. PT Dunia Express Trasindo provides all existing logistics services ranging from import materials, factory delivery, warehouse storage, and finished goods delivery to final consumers or exports outside Indonesia.

According to Martono, a warehouse is a temporary storage area and inventory retrieval to support operational activities for the following operational processes, distribution locations, and final consumers (Mulyati et al., 2020). In general, Warehouses are required as inventory storage areas to preserve inventory sources, support customer service policies, anticipate changing market conditions (such as seasons and demand fluctuations), and support the manufacturing department.

Lined up with the paragraph as mentioned earlier, The 5S method can be implemented to optimize the warehouse storage process. This method facilitates environmental work, reduces waste, and improves workplace safety (Prayuda, 2020). Particularly, the 5S methodology is derived from five Japanese words: Seiri, Seiton, Seiso, Seiketsu, and Shitsuke. This alternative is a way of organizing and managing a healthier and sustainable workplace. In addition to that, the increased productivity due to more efficient office arrangements is one of the advantages of implementing a 5S culture. The 5S method also ensures that a warehouse will be able to deliver standard work of the highest quality. It starts from implementing the 5S by Toyota Corporation, which other Japanese companies later followed to spread to many world-class companies (Nusannas, 2018).

The following are the objectives of the 5S program developed by Quality Productivity Development (1989) :

- a. Create a clean, bright, orderly, and pleasant workplace.
- b. Maintain the equipment and supplies as well as buildings during the work process.
- c. Realize the work discipline needed to achieve work standards.
- d. Maintain work safety and stability and the quality of work results during operations.
- e. Improve the quality of work by reducing the diversity of work results.
- f. Implement efficiency and effectiveness improvements in each function.

- g. Establish a comfortable and pleasant work atmosphere, discipline, and mutual respect among employees (Filip & Marascu-Klein, 2015).

The 5S methodology consists of Seiri, Seiton, Seiso, Seiketsu, and Shitsuke. First, Sort (Seiri), which is sorting, aims to remove all unwanted materials from the workplace; after sorting the unwanted materials from the workplace, they are placed in a specific area. This process reflects that necessary and unnecessary materials available in the workplace should be sorted and classified. Hence, implementing 5S with visual management will result in substantial improvements in the workplace, such as proper storage of necessary goods and efficient utilization of storage space and work area (Anggarini, 2020).

Second, Seiton or Set in Order means to set to aim "a place for everything and everything in its place." For valuable materials, specified locations are determined and designated in a specified order. In this phase, tools, equipment, and materials should be arranged systematically for the most accessible and most efficient access. Additionally, there must be a place for everything, and there must be a place for it. The main objectives are to create an orderly workplace, prevent wasting time looking for resources, and increase productivity.

Third, Seiso aims to maintain cleanliness in workplaces, workstations, offices, shops, outlets, hallways, gangways, and others. It is crucial to create a clean and orderly work and living environment because dust, dirt, and waste are messy, indisciplined, inefficient, production errors, and work accidents. A clean and well-organized workplace leads to higher machine efficiency and less human error.

Fourth, Seiketsu means personal order. The concept of personal hygiene continuously practices the previous three steps—standardization in maintaining good condition. Specifically, maintaining a neat work environment where employees are faster and safer to get the items needed to

complete tasks. On the contrary, chaos such as an uncomfortable working atmosphere will occur if the settings are not appropriate and are stressed continuously. This matter can result in an inefficient working atmosphere.

Fifth, Shitsuke (standardize). This phase is defined as personal discipline. Discipline means applying the skills of things as they should, by practicing the previous 4S continuously and making them a habit in daily life, by teaching employees what to do and practicing better habits (Anggarini, 2020).

Based on this description, this present research focuses on analyzing the Implementation of the 5S Method at PT Agility International in PT Dunia Express Trasindo. This study aims to analyze the implementation of the 5S method and find out the factors that hinder the practice of 5S in the warehouse of PT Agility International.

Method

To fulfill the research aims, qualitative research was employed. Qualitative research aims to obtain a complete picture of a subject from the perspective of the person being studied. Qualitative research deals with the ideas, perceptions, opinions, or beliefs of those surveyed, which cannot be measured by numbers (Sulistyo-Basuki, 2006:78).

This research was conducted from June - July 2021. The instrument in this study involves interviews, writing instruments, and recording equipment. Specifically, this study uses primary and secondary data collection methods. The primary data in this research were obtained from interviews. Interviews were conducted with questions and answers and discussions with Supervisors and Auditors. The secondary data in this study is the documentation of the company profile.

Discussion and Result

A GENERAL DESCRIPTION OF THE COMPANY

PT Agility International is a logistics company that has competed globally in logistics, shipping, and global warehousing, first established in 1979. This company includes the Pusat Logistik Berikat (PLB), which President Joko Widodo issued in 2015. Similar to other developing companies, PT Agility International, which found its first company in Jakarta, has expanded into a logistics firm with operations in major Indonesian cities, Surabaya, Solo, Medan, and Makassar, which all have their systems to improve their businesses while still synergizing with one another

One of the warehouses of PT Agility is located in the warehouse area of PT Dunia Express Trasindo, Sunter, North Jakarta. This warehouse employs a total of 18 workers.

APPLICATION OF THE 5S METHOD

As one expert Kaizen (Wolio, 2015) said in the Journal of Industrial Technology, the success of many companies in the world in applying the method 5S has become a fundamental starting point in establishing the implementation of a continuous improvement strategy. Specifically, it integrates the 5S method as one of the elements required to carry out the currently widespread Lean Management implementation (Suárez-Barraza et al., 2011).

PT Agility International has adopted the 5S method since 2014. Up to present time, the practices of 5S have been included in every employee's job description and the main priority in the office and warehouse at their disposal. Each individual has an obligation in the area determined by the person in charge of cleanliness's plan and its rules to make it simpler for employees to use the 5S method. The responsibility map has ten columns and contains the name of the person in charge. Furthermore, in the office area,

ADVANTAGES OF APPLYING THE 5S METHOD

Through the implementation of the 5S method in warehouses and offices, each work performance at PT Agility International is expected to be easier and faster than before. This target is due to the use of the 5S methodology to avoid work delays in delivery, administration, and goods storage. Therefore, the work can be completed nearly twice as fast when the warehouse is clean, making it more straightforward for staff to execute their jobs. Furthermore, the work environment becomes more pleasant, safe, clean, and employee morale and productivity will be improved (Hudori, 2017).

Takashi Osada (1995) states that the advantages we get when implementing 5S are as follows :

- a. Be a fun workplace. A clean, tidy, and orderly workplace allows workers to be more motivated and excited to work.
- b. Be an efficient workplace. The time used to find the goods or equipment needed affects the efficiency of the work. The application of 5S that pays attention to the placement and arrangement of needs in an easily accessible place and facilitates the search process makes work faster and more effective.
- c. Minimize work accidents. An environment that applies the 5S concept will bring workers to work in free of hazards and work accidents. A neat and clean work environment from implementing 5S means ensuring work safety and preventing workers from dangers that may arise from an unclean and unhealthy environment.
- d. Increase the quality and quantity of products. Companies that have adopted 5S have fewer defects than companies that have not applied for implementing 5S, which affects worker productivity (Rizkya et al., 2021)

INHIBITING FACTORS FOR THE APPLICATION OF THE 5S METHOD

According to the audit results of PT Agility International, the application of Shitsuke to the 5S technique has not performed flawlessly in practice. This evidence is the main factor in analyzing the existing factors that impede the use of the 5S method in PT Agility International's offices and warehouses, aiming to find a solution for future challenges of applying the 5S methodology.

Table 1.

Shitsuke			0.00
Office & Warehouse	1	The 5S socialization and refreshment are consistently carried out regularly.	Not OK
	2	The working station of the head of the work unit has delivered 3S.	Not OK
	3	The head of the work unit is actively involved in the internal process of patrolling the area.	Not OK
	4	All personnel understands in detail the 5S concept (sampling of 2 personnel).	Not OK
	5	There is a 5S promotion in the work area.	Not OK
	6	5S promotional materials are consistently updated every three months.	Not OK

The first inhibiting factor is warehouse conditions that are not proper. PT Agility International's warehouse has an area of 600 m².

However, the warehouse is full of pallets that are not adequately organized, making cleaning difficult and requiring more time for planning ahead of time. Due to the limited loading dock yet many trucks, causing trucks to the lineup, and the volume of work has increased significantly. As a result, staff must work on the 5S method for an extended period since warehouse conditions must first be optimized.

The second inhibiting factor is a lack of staff awareness. When the activity or work is busy, employees frequently leave documents that are no longer necessary on the work desk, causing it to get cluttered and making it harder for employees to perform their jobs. Furthermore, employees are used to storing coats and bags in a drawer in the work area.

The third inhibiting factor is that 5S has not been prioritized when jobs or large volume moderate activity occurs, generally happening twice a month. According to the informant, eight hours in one day to work on a high volume is sometimes inadequate. Therefore, 5S activities are completed after the job is done first and not according to the proper procedure, namely implementing 5S before and after work.

The fourth inhibiting factor is that the person responsible for the cleanliness plan has not been functioning optimally; whereas, each person is accountable for implementing 5S in a given place. This finding can be considered an inhibiting factor because if there are individuals who cannot attend, there is no one to replace them, resulting in no one handling the area.

The fifth inhibiting factor is the limitation of working tools' demand or support to the leader due to cost-saving. For example, the demand for a better quality broom can make the warehouse cleaning process more effective and efficient.

Conclusion

Based on the discussion results above, it can be concluded that the implementation of the 5S method at PT Agility International in PT Dunia Express Trasindo, warehouses has fulfilled general standards in neatness and comfort. The application of this 5S method can generate positive added value, allowing the warehouse to perform as desired from the time products are received until they are released.

Though the results of the 5S audit implementation have been positive for S1 to 4S (Seiri, Seiton, Seiso, Seiketsu), the stage of 5S (Shitsuke) still has to be improved. Peculiarly, the suggestion is to increase the realization of 5S at PT Agility International to be more successful because it yields rather good outcomes.

In spite of the success of the 5S implementation, there are several inhibiting factors tackled by the company. Those matters involve warehouse conditions that are not proper, lack of employee awareness, high volume work activities have not been prioritized, the person in charge of cleanliness plan is not functioning optimally, and there are limitations to demand supporting facilities the leader. Because of these inhibiting factors, the implementation of the 5S method at PT Agility International in PT Dunia Express Trasindo has not been maximized, meaning that there are still shortcomings in carrying out the 5S method. As response to this finding, it is inevitable that PT Agility International will strive to improve and maximize the 5S method's implementation in its warehouses.

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