



5S As a Form of Lean Manufacturing Implementation in the Perspective of Human Resources: A Case Study in Food SMEs

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ABSTRACT

The objectives of this research are to find out employees' understanding of lean manufacturing and 5S and how it is implemented. These research methods are a type of qualitative research using a case study approach which was carried out at food SMEs. data collection was carried out through a series of field observation procedures and interviews with employees and leaders. The results of the research show that employees' understanding of the company cannot be said to be good. This is indicated by the results of observations and interviews which present the fact that employees do not know exactly how 5S should be implemented and what are the benefits of being disciplined in carrying out company operations using 5S. the company has provided various supporting documents and facilities and infrastructure, but this was not accompanied by socialization and training procedures, resulting in not optimal implementation of the 5S. Lean manufacturing deployment was found to be restricted by the human resource aspect, which could not be realized.

Keyword: lean Manufacturing, 5R, Productivity, SMEs

Introduction

MSMEs, however, face a number of problems relating to quality, production, delivery, and flexibility on a regular basis (Yadav et al., 2019). The various problems reduce the ability of SMEs to survive and achieve sustainability. In order to compete effectively in providing customers, many businesses throughout the world have been forced to embrace new manufacturing practices that concentrate on operating process optimization. Due to this circumstance, the idea of "lean production" has become more popular (Habidin et al., 2016). The results of the study highlight that numerous SMEs are interested in adopting the Lean Manufacturing mindset (Antosz & Stadnicka, 2017).

The concept of lean manufacturing continues to develop along with increasing awareness of the industrial world that competitive advantage can only be achieved through a process of continuous improvement in every aspect of the company's operations, where efficiency, effectiveness are the keys to achieving competitive advantage and sustainability of the organization or company. The consistent application of lean manufacturing principles is believed to be ammunition for companies to survive in the global competition. The use of lean concepts can give businesses a competitive edge across a variety of sectors (Durakovic et al., 2018). Lean manufacturing will lead the manufacturing sector in the future, and lean manufacturing practices are among the most effective ways for manufacturers to become more competitive globally (L. Barreto et al., 2018). Lean manufacturing also plays a role in shaping the company's operational flexibility and supportive culture in waste reduction efforts (Gupta and Jain 2013). The main purpose of developing the concept of lean manufacturing is to minimize processes that do not provide added value to consumers but increase costs. and training (Abu et al., 2019).

Additionally, numerous cases of lean implementation problems have been described in the literature. Despite its advantages and benefits, small and medium-sized businesses are still reluctant to implement lean manufacturing (Henao et al., 2019). Human resource factor is referred to as a determinant of the success of the implementation of lean manufacturing, although there are other factors, much of the attention of researchers is still directed to humans. Employees are necessary for the successful implementation of lean and employee resistance in SMEs is a significant factor in the slow acceptance of lean (Panizzolo et al., 2012). Lean manufacturing is one of the approaches used as an instrument to increase productivity with changes in the form of quality and finance (Tortorella et al., 2016), can be used at various business scales when they want to achieve financial sustainability (Sundar et al., 2014). In general, 5S refers to efficient housekeeping, standardizing, and maintaining them (Jagdish R. Jadhav et al., 2014)

A number of factors, including a consistent vision, the formulation of short-term goals and a sense of urgency, as well as the promotion of mutual understanding, are crucial for the implementation of lean. (Sim & Rogers, 2008) (Fullerton & Wempe, 2009) (Nguyen, 2015), (Zhang et al., 2017) Stated that Establishing the correct culture, developing efficient communication, carrying out low cost production, and securing outside funding are all necessary for businesses to successfully execute lean. and Successful lean manufacturing facilities have a certain organizational culture and heavily rely on interpersonal and relational skills training, supplier partnerships, customer involvement, and continuous development (Bortolotti et al., 2015) (Iranmanesh et al., 2019) The dimensions of lean manufacturing can be identified as follows: processes and equipment, scheduling and planning, visual information systems, relationships with suppliers, relationships with customers, labor force, product and technology development (Wahab et al., 2013)

The human factor is an important variable for the successful implementation of lean manufacturing, limited knowledge and misunderstandings about the concept of lean manufacturing reduce the ability of organizations to achieve success (Mostafa et al., 2013). Team involvement in the process of sharing experiences and the learning process as well as organizational culture was found to have an influence on the successful implementation of lean manufacturing (Näslund, 2008). In addition, several other variables are indicated as critical factors in the implementation of lean manufacturing, in the context of MSMEs (Yuik et al., 2020) mention at least 4 determinants of success: leadership and commitment to top management, training, involvement and empowerment of employees as well as developing a framework. Sharing of experiences and learnings is needed during the implementation process, in order to ensure the process contributes significantly to the achievement of organizational goals (de Oliveira et al., 2019)

5S itself is derived from the philosophy of continuous improvement originating from Japan, namely 5S: Seiri, Seiton, Seiso, Seiketsu, Sitsuke, this philosophy was then popularized throughout the world, in Indonesia it was adapted into Ringkes, Resik, Rapi, Rawat, Rajin (5R). 5S is an acronym for Seiri, Seiton, Seiso, Seiketsu, Sitsuke is a philosophy developed and internalized in organizations as an effort to improve the continuous production process and minimize waste that often adds costs but does not provide added value for consumers. 5S is a lean manufacturing implementation method or tool that can increase productivity through improved processes in the workplace (Gomes et al., 2013). The benefits of the 5S program in achieving notable gains in a variety of competitive aspects, such as overall organizational initiatives, production achievements, quality and process improvement achievements, value engineering achievements, employee-related achievements, positive workplace utilization, and safety improvement achievements (Randhawa & Ahuja, 2018). (Sánchez et al., 2015) provided evidence of increases in productivity (83-68%) and quality (36-67%) based on performance measurements as well as an improvement in the work environment to support the existence of a positive correlation between manufacturing performance factors and implementation of the 5S technique (18-33 %).

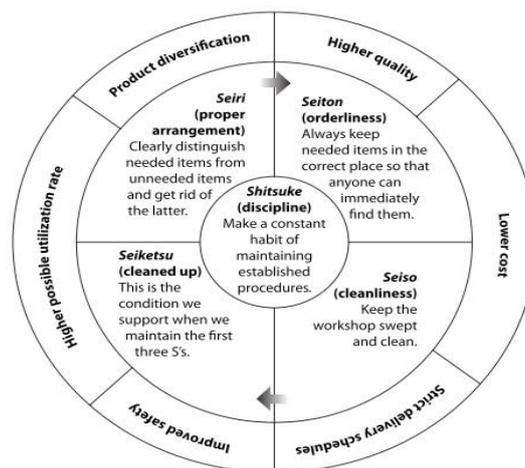
This concept is basically a statement of employee and company commitment that is carried out regularly and with regular monitoring to strive for a comfortable, safe, and possible work process that is efficient, effective and achieves productivity. This commitment is also an effort to achieve customer satisfaction and achieve competitive advantage on an ongoing basis through continuous improvement. Therefore, the continuity of the implementation of the 5S is something urgent to implement. The 5S philosophy is one of the crucial tools in the

implementation of lean manufacturing. (Radzali et al., 2019) stated that since the 5S method was put into place, the evaluation in the five areas—performance, workspace, equipment search time, working environment, and work safety—has grown.

It requires the involvement of all parts of the organization so that the implementation of the 5S can make a maximum contribution. The behavior of the Manager as the leader will be a benchmark for employees how the 5S can be implemented consistently. Socialization, counseling, training, habituation and evaluation as well as supervision are important instruments to encourage employees to apply high discipline. Synergy between the leadership and other parts of the company at various levels to commit to implementing the 5S is absolutely necessary so that the goal of achieving competitive advantage through continuous improvement can be realized. In fact, in some research results, although the concept of 5S has been widely realized for its urgency, but at the implementation level, this concept is still a discourse at least in industries that operate on a certain scale. The main challenges faced are related to the lack of knowledge of employees, employee resistance to change, financial limitations

The 5S process is a fundamental component in lean philosophy, where 5S is a tool for organizations or companies to manage the work environment, reducing waste increases productivity. (Katara & Yadav, 2019), in the Indonesian context, this 5S is called the 5R. 5R should be internalized within the company as a culture. The culture of managing the workplace so that it is always neatly organized, clean and orderly so as to facilitate the implementation of work (Nusannas 2016). The schematic diagram of 5S is described as follows:

Figure 1 (Hirano, 2009)



In a company that puts its business focus on how to meet customer expectations, the production process becomes one of the crucial ones. Translating customer desires into a product requires the willingness and ability of human resources to learn and continue to get better. Continuous improvement is a guide to the direction of work for human resources, on the other hand, continuous improvement requires the involvement of all elements of human resources at various levels. The implementation of human resource management and quality management in all lines of the company helps the company to identify the factors that cause HR to be willing to be involved in the continuous improvement process (Blaga, 2020). Toyota has even established a set of human resource management practices that are proven to increase employee intentions to be proactive in the improvement process. These practices are training, communication, respect, empowerment, security, supervisor support and K3 (Benkarim & Imbeau, 2022).

The first main problems faced by companies in the implementation of 5S are employee resistance to change and the second is the involvement of top management in the implementation process (Gala & Wolniak, 2013). To successfully deploy 5S, a variety of strategies are required. The organization's staff must receive updated education and training for a 5S application to be successful (Singh & Ahuja, 2015). The organizational culture and degree of involvement of human resources in continuous improvement practices, in this context is 5S determines the level of achievement of the 5S goals (Kleszcz, 2017). Leadership engagement,

employee participation, worker behavior, knowledge, and skills of workers are a few critical success factors that are vital as an intangible feature for building 5S sustainability in manufacturing SMEs (Setiawan et al., 2021).

Research Methods

This research is a qualitative descriptive research, seeks to provide an overview of how employee understanding and top management and the implementation of 5S. The study was carried out at the PT Golden Leaves Jaya Abadi (PT GLJA) Producing snacks is what this business does. data used is taken from the process of observing employees' daily lives in the workplace. How they carry out their duties, how tasks, tools and materials are coordinated, how materials move, and people in the production process and various other things related to the production process from beginning to end. Included in this is a review of the availability of 5S implementation documents and the extent to which they have been utilized. Interview procedures are carried out with employees and leaders in order to explore information related to employee understanding and knowledge of the concept and implementation of 5S in the work environment. Interviews were performed with 5 respondents at the staff level and 2 respondents at the middle management level. The stages of data analysis include data reduction, which entails choosing information pertinent to the research topic, displaying data, presenting data and information relevant to the description of the facts to be obtained, and the final stage, which involves drawing conclusions based on a variety of field findings.

Results and Discussion

5S is a household activity in the workplace that supports the improvement and development of a company. From the results of observations on PT GLJA, it can be stated that the company basically has a concept and design for the implementation of 5S activities, this is because the company has understood the importance of consistency in the implementation of the 5R for the achievement of company goals regarding efficiency, operational effectiveness which has an impact on achieving competitive advantage. This awareness is evidenced by the preparation of a number of 5S implementation documents, the design of training programs and the preparation of various other supporting facilities and infrastructure. Among these documents are: 5S activity program documents, 5S work instructions, program implementation commitment documents. The preparation of srana and infrastructure has also been pursued, including the provision of goods display racks, the provision of cleaning equipment, the separation of production space with raw material storage space.

However, the successful implementation of the 5S requires the full support of employees and leaders as the main actors of 5S activities. Based on the results of observations of employees, it is explained that employees' understanding of the importance of 5R is relatively low, this is possible due to the lack of time for socialization and training. Although the training program has been designed, in practice the program has not been implemented optimally. This lack of training and socialization has resulted in low understanding and awareness of employees regarding the importance of the 5S for employees and the company and the significant role of the 5S in achieving company goals. As stated (Mostafa, Dumrak and Soltan 2013) that human resources play an important role in the success of lean manufacturing. Lean production with a wide selection of tools including 5S requires support in terms of ability, skills and commitment of human resources in the company as well as affirmation of the importance of processes in working and focusing on customers (Viteri Moya et al., 2016) In this context 5S is a tool used by PT GLJA. This tool is chosen among various other lean tools considering ease of implementation and flexibility to resource limitations.

This low understanding and awareness of employees can be seen from (1) the lack of compliance of employees in carrying out work procedures in accordance with the 5S work instruction document. Employees tend to be inconsistent in carrying out 5S work instructions and sometimes neglect some procedures. (2) lack of discipline of employees in carrying out each 5S activity, for example, not being disciplined in placing goods in storage areas that are in accordance with their specifications. Putting personal items mixed with company materials and equipment and so on. (3) From the results of the interview, it was found that employees still have the perception that the rules that have been included in the work instructions are difficult.

From the company's side, the weakness of implementing 5S can be seen from the lack of socialization and efforts to internalize the 5S work culture. This is reflected in (1) there is no design of routine socialization activities to improve employees' knowledge and understanding of 5S activities. (2) weak control and supervision, especially in the implementation of 5S work instructions.

From the facts of the research above, it can be seen that each party, be it management or employees, both contribute to the inadequacy of the implementation of the 5S. This is in line with the findings (Gala and Wolniak 2013) which states that the 2 main factors faced in the implementation of the 5S are employees and peak management. Synergy between employees and management can basically be a force to optimize the implementation of the 5S in order to achieve the company's competitive advantage. The 5 main factors for the success of lean manufacturing implementation are training, communication, reward systems, job design and work organization (Martínez-Jurado et al., 2014) where these factors require synergy of management as policy designers and employees as actors in its implementation.

Conclusion

Lean manufacturing is one of the methods that is believed to lead companies to achieve a competitive advantage through cost efficiency and process effectiveness. Consumer complaints about the more expensive costs they have to pay for sometimes less appropriate values encourage companies to think about how they should operate at a reasonable cost, reducing waste in many sectors but generating value that matches consumer expectations.

PT GLJA realizes similar conditions, therefore, the company strives to start designing lean production tools that are easy to design and easy to implement. So the 5S is used, which is already popularly used. A number of documents have been prepared, facilities and infrastructure are available, but the company faces obstacles with the capacity and awareness of human resources, both at the employee level and at the leadership level. These constraints have reduced the company's chances of increasing productivity. Massive socialization and training are needed to improve employee awareness. In the context of leadership, a commitment is needed to encourage employees to implement the 5S through exemplary and control mechanisms.

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