

Application of the Kaizen Method to improve the quality and efficiency of Company Production

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ABSTRACT

The Kaizen method, which originates from Japan, is known as a continuous approach to process improvement that emphasizes employee participation, reduced waste, and increased efficiency. This research aims to investigate the impact of applying the Kaizen Method in improving company quality and efficiency. This research uses a qualitative approach with descriptive methods. The results of this research reveal that applying the Kaizen method in a company can significantly increase production efficiency and product quality in a sustainable manner. By focusing on waste reduction, operational standardization, employee training, and the use of quality tools such as Pareto charts, root cause analysis, and statistical process control (SPC), companies are succeeding in identifying, analyzing, and addressing quality problems more effectively. Involving employees from various levels, including the design team, in the Kaizen process also has a positive impact on innovation in product design.

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INTRODUCTION

In this dynamic industrial era, the understanding that continuous improvement in quality aspects has a very significant impact has become the main pillar for many companies (Fonna, 2019). This awareness arises from continuous changes in market demands and increasingly high customer expectations. Companies realize that competitive advantage lies not only in creating innovative products, but also in providing superior and consistent quality (Julyanthry et al., 2020).

Continuous quality improvement creates products that not only meet, but also exceed customer expectations (Sadikin, 1997). By combining innovation and a focus on quality, companies can increase the selling value of their products, create customer loyalty, and open up opportunities for sustainable business growth (Ferdiansyah & Abadi, 2023). This creates an environment where every employee in the company is expected to contribute to process improvement, creating a company culture that is responsive to change and always looking for ways to improve (Sihite, 2018).

Through continuous quality improvement efforts, companies not only pursue competitive advantage, but also create the foundation for long-term sustainability and success (Paramita, 2012). By prioritizing quality, companies can build a strong reputation, create solid relationships with customers, and become leaders in their industry (Tri et al., 2019). Thus, quality improvement is not just an isolated task, but becomes a philosophy that permeates every operational aspect, driving growth and success in an ever-changing industrial world (Ekoanindiyo, 2013). Therefore, continuous improvement strategies, such as the application of Kaizen principles, have become the basis for companies wishing to maintain and improve their position in the market.

The Kaizen method, which is based on the concept of continuous improvement, has become the basis of operational philosophy in many modern industrial organizations (Fitri, 2016). By placing emphasis on a continuous cycle of improvement, Kaizen becomes more than just a process improvement approach; it is a culture that motivates all levels of employees to actively participate in improving performance and productivity (Janjic et al, 2020).

In the Kaizen context, improvements are not only focused on operational efficiency, but also on product quality (Realita & Indrawati, 2022). Eliminating waste and excessive workload is a key principle, enabling companies to optimize their resources (Rusdiana & Soediantono, 2022). Kaizen also emphasizes the importance of a team-based approach, where all members of the organization contribute to improvements, creating a work environment that is collaborative and responsive to change (Ratna, 2018).

The main goal of Kaizen is to eliminate waste that does not add value to products or services. Thus, each step in the production cycle is carefully evaluated, and every aspect that does not provide added value is identified and corrected (Fatkurrohman & Subawa, 2016). This not only increases efficiency, but also has a positive impact on customer satisfaction and company reputation. Kaizen is not just a method, but a philosophy that encourages an adaptive and progressive corporate culture (Pearce, 2008). By adopting this approach, companies can continue to grow and compete in an ever-changing marketplace, creating a foundation for long-term sustainability and success.

The application of "Kaizen" opens up opportunities for comprehensive improvements in the entire production chain, starting from the initial stage, through the production process, to storing goods in the warehouse and shipping to customers (Pitoyo & Akbar, 2019). In the early stages of production, "Kaizen" allows companies to detail each step in product planning and design, looking for ways to optimize the design to make it more efficient and economical (Nusamas, 2016).

When at the production process stage, the application of "Kaizen" can have a positive impact on operational efficiency and product quality. Identifying and eliminating waste in the production process is key, reducing the possibility of defects and ensuring that each step provides added value (Santoso & Soeherman, 2021). This quality improvement not only has an impact on customer satisfaction but can also reduce the cost of repairing or replacing defective goods. At the storage stage in the warehouse, the "Kaizen" principle involves good organization to minimize inefficient storage space and ensure goods are ready to be shipped quickly. This process can reduce warehousing costs and speed up responses to customer requests (Martono, 2019).

By reducing the number of damaged or defective goods, companies can save on repair costs and increase production efficiency, which will ultimately have a positive impact on product sales value (Yulia, 2017). Thus, "Kaizen" is not just a method of improvement, but a philosophy that covers the entire product life cycle. This comprehensive implementation can create high sales value and good quality, while significantly reducing production costs, making companies more competitive and responsive to market needs.

METHOD

The method used in this research involves reading, reviewing, and analyzing various relevant literature. The research approach applied is qualitative, a systematic research method used to investigate or study an object in its natural context without manipulation or hypothesis testing. This qualitative method is sometimes called "naturalistic research method" because it is carried out in natural conditions (natural settings). This method is also known as the ethnographic method because it was originally more commonly used in cultural anthropology research, and is also referred to as a qualitative method because the focus of data and analysis is qualitative (Moleong, 2014). The object of qualitative research is a situation or object that is natural or in accordance with natural conditions, so this method is often identified as a naturalistic research method. A natural object is an object that is not manipulated by the

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researcher so that its condition when the research begins, takes place and ends is relatively constant. In the context of this research, researchers use secondary data, especially data obtained through literature study which includes information about primary library materials, especially from literature such as books and scientific works. To assess the validity of the data, a credibility test is carried out through triangulation, which aims not only to ensure the truth about several phenomena, but also to achieve the effectiveness of the process and the desired results.

RESULTS AND DISCUSSION

Kaizen is a way of getting people to work smart and understand the true purpose of work. Therefore, employees dare to question every element of a task or operation in order to maximize efficiency (Abdullah, 2013). With kaizen, it is possible for an element of work to be reduced or even eliminated altogether, in order to obtain better results (. The Kaizen method can improve the quality and efficiency of a company's production through several steps and implementation principles:

Waste Reduction (Young):

The Kaizen concept places great emphasis on recognizing, reducing and even eliminating all forms of waste in the context of the production process. Waste, which can include wasted time, excessive use of materials, or unnecessary movements, is considered a factor that does not add value to a product or service. Waste reduction is a key step in increasing production efficiency, where companies by understanding and identifying waste can optimize every step in the production process, retaining only those elements that provide added value.

In practice, Kaizen uses various tools and techniques to identify and overcome types of waste, as is well-known in the Kaizen 7 Wastes concept. Waste from overproduction can lead to excess stock, lost time, and increased carrying costs. Waiting time in the production process can result in long production cycle times. Unnecessary transportation and inefficient movements can add to production time and costs. Excessive production processes, excessive inventory, unnecessary movements, and defective products were also identified as forms of waste that must be addressed. By reducing or eliminating these wastes, companies can achieve higher efficiency and improve the quality of the products produced.

Employee Participation

The Kaizen concept is not just a process improvement method, but also advocates a culture of active employee participation in the entire series of improvements. In this context, Kaizen becomes more than just a guide to operational improvement; it is the foundation for creating an inclusive, collaboration-focused work environment. Involving employees at various levels in the improvement process not only lifts their motivation, but also opens the door to a deeper understanding of the challenges and problems faced at various levels of the organization.

Active employee participation is a key element in the successful implementation of Kaizen. Their involvement is not just as implementing instructions, but as important contributors who have a direct understanding of how the production process runs. By encouraging employees to participate in improvement initiatives, Kaizen builds a strong bond between workers and organizational goals. This creates a work atmosphere that is open to innovative ideas, suggestions for improvement, and effective problem solving.

Apart from having a positive impact on the production process, active employee participation also increases the sentiment of ownership of the improvement results. Employees who feel heard and appreciated will be more motivated to contribute positively to production efficiency and quality. Therefore, Kaizen is not just an improvement method, but a philosophy that celebrates employee collaboration and participation in shaping a more efficient and quality future for the company.

Continuous Improvement

The Kaizen principle, which emphasizes continuous improvement, leads to an approach that goes beyond making one-time corrections, but rather towards establishing a company

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culture that continuously innovates and improves itself. Kaizen is not an isolated action, but rather an operational philosophy that is integrated into every aspect of a company's life. By developing this culture, companies create an environment where every member of the organization is actively involved in finding ways to improve and increase operational efficiency.

Continuous improvement in the context of Kaizen also includes the evolution of product quality over time. By making improvement a habit, companies can ensure that the products they produce not only meet current quality standards but also continue to evolve to reach higher levels. In the Kaizen view, process improvement is not an end goal, but rather a continuous step toward greater improvement, creating a foundation for sustainability, competitiveness, and consistent customer satisfaction. Therefore, Kaizen Principles are not just a process improvement method, but rather a key driver for sustainable growth and success in an ever-changing industrial world.

Quality Control

Kaizen as a philosophy of continuous improvement, brings a meticulous approach to quality control in every stage of production. This process involves continuous monitoring and evaluation of each production step, with the primary goal of identifying potential defects or weaknesses early on. In this way, companies can take corrective action proactively, preventing bigger problems from occurring at a later stage.

Careful monitoring of quality control in the context of Kaizen is not only concerned with the finished product, but also involves evaluation of raw materials, production processes and any elements that influence the final quality. Kaizen emphasizes the importance of preventing defects rather than correcting them afterwards. By understanding and correcting any potential deviations from quality standards, companies can improve product consistency and accuracy, reduce defect production rates, and increase customer satisfaction.

The meticulous approach to quality control implemented by Kaizen creates an environment that is responsive to change and full of attention to detail. Through continuous monitoring and proactive improvements, companies can significantly improve product quality, strengthen their reputation in the market, and create the basis for sustainability in business.

Process Standardization

Establishing operational standards is a key element integrated in the Kaizen philosophy. By detailing and developing standard procedures, a company creates a stable foundation for its operations. This process not only provides guidance for employees in carrying out their duties, but also ensures consistency and reduced variation in each stage of production.

In the context of Kaizen, operational standards are not static, but can be adapted and updated continuously to reflect improvements and innovations. Standardization helps create an environment where every production step is performed the same way, reducing the possibility of errors and increasing operational efficiency. By having clear standard procedures, companies can minimize variations in production output, thereby improving overall product quality.

Implementing operational standards is not just about creating routines but is also part of ongoing efforts to improve quality. With clear guidelines in place, companies can more easily assess their achievement against established standards, identify opportunities for improvement, and involve employees in the improvement process. Therefore, operational standardization not only improves efficiency but is also the basis for continuous improvement in product quality.

Employee training

Kaizen highlights the important role of employee training as a crucial element in efforts to increase operational efficiency. Deep understanding and adequate skills are the main focus to ensure that each employee is able to carry out their duties optimally. In this context, training is not only seen as a necessity, but also as a strategic investment to achieve higher levels of productivity.

By paying special attention to training, Kaizen creates an environment where employees can continuously develop and improve their skills. Skilled employees are not only more efficient in carrying out their tasks, but are also more likely to reduce production error rates. Training is

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geared towards providing a better understanding of the production process, tools used, and best practices. Thus, Kaizen not only focuses on the final result but also on developing employee potential, creating sustainability in increasing efficiency and quality.

Involving employees in the Kaizen improvement process not only refers to operational understanding, but also to enhancing their skills and knowledge. Thus, training in the Kaizen philosophy is not only a means to achieve production goals, but also as a proactive step to create competitive advantage and sustainable competitiveness.

Use of Quality Tools and Techniques

Kaizen not only carries the concept of continuous improvement, but also involves the use of various quality tools and techniques that can help in identifying and dealing with quality problems effectively. One frequently used tool is the Pareto chart, which helps identify a large number of problems based on their level of contribution, allowing companies to address key problems with the highest priority.

Apart from that, root cause analysis is an important approach in the Kaizen method. By digging deeper into the root of the problem, companies can identify the underlying causes of quality problems and take more effective preventive measures. Kaizen also applies statistical process control (SPC), which helps monitor and control production quality on an ongoing basis. By utilizing statistical data, companies can identify significant changes in production processes and take corrective steps before problems become more serious.

The use of these quality tools and techniques in the context of Kaizen creates a systematic framework for the identification, analysis, and treatment of quality problems. By utilizing this approach, companies can increase operational effectiveness, continuously improve product quality, and achieve Kaizen's goal of continuous improvement in production processes.

Product Design Improvements

The Kaizen philosophy is not limited to efforts to improve the production process alone, but also involves improvements in product design. Involving the design team in the Kaizen process is a key step to ensure that product quality is not only improved from the production side, but also from a design perspective. In this context, Kaizen recognizes that effective and innovative product design can have a direct impact on customer satisfaction and the overall quality of the product.

The importance of involving the design team in Kaizen creates opportunities to evaluate and improve aspects such as functionality, reliability and market competitiveness. Kaizen encourages design teams to proactively look for ways to improve products, identify potential improvements, and respond to customer feedback. In doing so, Kaizen creates an environment where innovation in design is not viewed as just an isolated event, but as an integral part of continuous improvement efforts.

Involving the design team in Kaizen also promotes cross-functional collaboration, where creative thinking and views from different fields can be brought together to achieve the best results. In this way, Kaizen not only encourages operational efficiency, but also creates a holistic approach that links product quality with design aspects that can have a positive impact on customer satisfaction and competitiveness in the market.

CONCLUSION

The Kaizen philosophy forms a holistic approach to continuous improvement in production processes and product design. Kaizen is not only limited to operational efficiency, but also covers product quality as a whole. By emphasizing waste reduction, operational standardization, employee training, and the use of various quality tools, Kaizen creates a systematic framework for identifying, evaluating, and correcting quality problems. Involving employees of various levels, including the design team, in the Kaizen improvement process shows that success depends not only on production efficiency, but also on innovation and continuous improvement in product design. Kaizen encourages a company culture that is responsive to change, with a focus on active employee participation and continuous

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improvement. The importance of Kaizen in combining operational and design aspects ensures that companies not only achieve higher production efficiency but also produce products that are high quality and responsive to customer needs. In conclusion, Kaizen is not just a method of improvement, but rather a philosophy that forms the basis for continued growth and success in an ever-changing industrial world.

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