

Continuous Improvement Through Kaizen In An Automotive Industry

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Abstract

PT AGP is a company engaged in the automotive industry. In its activities, PT AGP applies the kaizen culture as a corporate culture which includes all activities in the company. The purpose of this study is to describe the process of implementing kaizen culture at PT AGP. This study also illustrates the application of Kaizen by PT AGP related to the implementation of the main concepts of kaizen, the main system of kaizen, and gemba kaizen. The research method used in the study used in this research is descriptive qualitative method. Data collection methods used were interviews with triangulation conducted to 5 participants, direct observation, and documentation. The analytical method used in this study is data reduction, data presentation, and drawing conclusions / verification and data analysis. The results of this study are the application of Kaizen to enrichment to form the mindset of employees related to kaizen. The application of kaizen culture increases the rate of productivity and increases in the perceived benefits of the company. Kaizen activity was introduced as a whole company culture. The application of kaizen activity encourages employee aspirations in improving their performance and contribution to the improvement of the company. 2. The company adopts all components of kaizen culture that have been established by the parent company. Cultural adaptation occurs when employee contributions start to form a kaizen work culture that is more adaptive to reforms that occur in the company. Employee contributions contribute to continuous improvement, improve quality, reduce costs, and shorten delivery time.

Keywords : *Continous Improvement , Gemba Kaizen, Automotive Industry.*

I. INTRODUCTION

Every industries is very dependent on the effectiveness of interactions with its environment to maintain its existence. This dependency is included in the relationship between organizational culture and the values of that culture. The kaizen strategy relies mainly on human efforts to improve results, and this requires an improvement in the process. The process-oriented approach is called the "plan-do-check-act" (PDCA) cycle and the "standardize-do-check-act" SDCA to improve the improvement process. This cycle can be called a cycle of improvement. The introduction of the main concepts of kaizen, as well as the main kaizen system, can be applied in implementing kaizen culture in the company. That is why understanding of the main concepts and systems of kaizen is essential for the company. The goal of kaizen is to improve three parameters: quality, cost, and delivery or can be called QCD (quality, cost, delivery). This means that kaizen focuses on improving the quality of goods or services, and strives to reduce costs at every stage of the business organization in order to shorten work time. The goals of kaizen culture reflect that continuous improvement must have a final goal in its application. In essence, it can be concluded from the general explanation above that the culture of kaizen is a better change. That's why kaizen can be used in various fields and industry lines for companies that apply it. Because the main focus of kaizen is the contribution of each individual in the company to make sustainable changes, kaizen also manages and improves the quality of individuals within the company. The management of human resource management in this kaizen way forms a new discipline in change for the better. The main assumption of kaizen is to encourage employees to continue to improve the workplace / workplace (Gemba). This contributes to the independence and great self-control that can be achieved by employees. The main task of employees in a gemba is to maintain and improve or improve standards in achieving adequate quality, cost, and delivery (QCD).

The human resource factor is an important factor in the sustainability of the company. That is why the role of human resource management in the application of kaizen culture has an influence. Human resource management is a planning, organizing, coordinating, implementing, and supervising the procurement, development, remuneration, integration, maintenance, and separation of workers in order to achieve organizational goals (Mangkunegara, 2001: 2) current human resources is a valuable asset that can be obtained and developed by the company. Because humans are the main key to the success of kaizen, Japanese companies focus on continuous improvement in terms of this human resource development process. Thus it is expected that human resources can be well motivated to improve their performance. Therefore, human resources become a crucial asset in the growth of the company in order to maintain the company's quality standards. The advantage of implementing kaizen culture lies in the economic condition of the country where it is implemented which has a low economic growth rate or is classified as a developed country (Imai, 1986: 24). However, research presented by Fatimah (2016), Jimantoro (2016), Matchikita, et al. (2015), Vento, et al. (2017), and SuarezBarraza and Ramish-Pujol (2009) indicate that the practice of kaizen has been carried out in various developing countries throughout the world. Some challenges that can be found in implementing kaizen culture are in developing countries such as Indonesia, which was once a Japanese colony despite having different cultural backgrounds. Indonesia in the global competition ranks 41st or the lowest of countries that were once Japanese colonies such as China (28), South Korea (26), and Taiwan (14) (Schwab, 2016: xiii). One of the main factors of the global competition index is the level of quality of human resources in Indonesia that is different when compared to other former Japanese colonies. The application of kaizen culture in Indonesia is certainly a phenomenon that deserves to be investigated because it is possible to emerge challenges or adaptations encountered in its application, bearing in mind that Japanese culture is still applied in Indonesia today. PT AGP has implemented kaizen culture as its corporate culture. The success of PT AGP during its existence in meeting the needs of automotive spare parts to the automotive industry thanks to the kaizen culture adopted by the company since 10 years and is a very interesting thing to discuss

II. METHOD

This research is descriptive research with quantitative approach. This research was conducted at PT AGP, located in Tangerang. The focus of the research is the process of applying kaizen culture to the company. The researcher focused on historical data on the application of kaizen culture in the company through interviews. Adaptation of kaizen culture to the company. The researcher focuses on the adaptation made by the company in applying the cultural component of kaizen. Collecting Techniques Data Collection Techniques that are used by other elite researchers: interviews, documentation, observation and triangulation. Even the instruments used in the study are: interview guidelines, researchers, notebooks and recording devices. The participants of this study were 5 people who were the management and top management of PT. AGP

III. RESULT AND DISCUSSION

Kaizen Culture in the Company The Process of Implementing Kaizen Culture It is very important to distinguish between the application of kaizen culture and the transfer of kaizen culture. Implementation refers to the process of change that refers to the actions, reactions, and interactions of various interests to move the company from its current position to more advanced conditions (Pettigrew, 1987: Yokozawa, 2013). From the results of research conducted, it was found that the culture of kaizen was first applied by companies on the request of its customers, namely automotive manufacturing companies and has been applied comprehensively with various activities held by the company. Brunet and New (2003) in their study entitled *Kaizen in Japan: Empirical Study*, explained that the culture of kaizen in organizations can adapt from time to time, and reflect changes in organizational environmental conditions. From the results of research on key informants, it indicates that the culture of kaizen which was originally applied by the company gradually adapted due to various continuous improvement activities, which instead formed a kaizen culture that is more adaptive to the environment of PT AGP. **Kaizen Culture Benefits to the Company** Benefits of kaizen culture to the company according to Yokozawa and Steenhuis (2013) in their study stated "These benefits are reported along with both the social and technical dimensions of the organization and include cost reduction, productivity improvement, reduction in defects, and improvement in employee's morale and motivation".

From the results of the interviews conducted, according to Participant P1, productivity was stated to increase when kaizen culture began to be established as corporate culture. Activities carried out by companies related to competition for kaizen motivate and improve the quality of the work of employees. Based on the statement of Participant P2 as the executor of the job, the benefits associated with increasing productivity are actually experienced by the company, where job capabilities have increased based on the kaizen culture adopted by the company. From increasing productivity, P2 Participants can also predict work on time, and can plan the use of consumables.

Company Objectives Applying Kaizen Imai Culture in his book *Gemba Kaizen* (1997: 10) explains that the goal of kaizen culture is "quality, cost, and delivery (quality, cost, delivery) -QCD". From the research conducted, it was found practical interpretation of the objectives of the application of kaizen culture in the company. Participant 3 states that cost is the most important factor in kaizen goals in the company, because by streamlining existing costs, companies must also reduce the time spent while still improving quality. Participant 4 stated that there were several objectives in the application of kaizen culture, including; increase productivity, accommodate employee ideas and creativity, and find alternative solutions to problems that are difficult to deal.

According to Participant 5 that the purpose of implementing the culture of kaizen is to increase productivity, streamline material use, and work time. *Adaptation of Kaizen Culture to Companies The Main Concept of Kaizen Historically*, the idea of kaizen or continuous improvement (CI) was first developed in the United States and transferred to Japan after the Second World War ended (Schroeder and Robinson, 1991; Huntzinger, 2002). After that kaizen was adapted and developed by Japanese manufacturing companies which based on that produced the name kaizen. There are two main reasons why the CI program developed rapidly in Japan after the end of the Second World War (Kenney and Florida, 1993; Yokozawa and Steenhuis, 2013). The first reason is that Japan faces a very serious lack of resources, so they must find low-cost ways to increase productivity and reduce costs. Secondly, Training Within Industry (TWI) has been introduced to Japanese industry by US occupational forces. This has had a profound impact on training Japanese workers and managers in analytical methods and has laid a strong foundation for CI (Huntzinger, 2002; Yokozawa and Steenhuis, 2013).

Several previous studies indicate that Kaizen helped the Japanese manufacturing industry to gain a significant competitive advantage (Bessant, 1991; Imai, 1986; Oliver and Wilkinson, 1992; Yokozawa and Steenhuis, 2013). In general Imai (1986) in Smadi (2009: 203) defines kaizen as "the process of continuous improvement in any arena of life, personal, social, home, or work". Kaizen as a culture that is inherent in the lifestyle of Japanese society affects the overall behavior patterns. This indicates that kaizen culture is a guideline in every individual's behavior in continuous improvement. Imai (2014: 5) also explains the definition of kaizen culture specifically in the business sphere that "Kaizen means continuous improvement involving everyone both managers and employees". This kaizen premonition assumes perfecting work at all times. By continuing to make improvements, every individual in the company also contributes to the improvement and development of the company in the future. Kaizen and Imai Management (2014: 191) describe management tasks in kaizen can be divided into two areas: (1) "maintenance management" ongoing business activities to obtain results and profits and (2) "kaizen management" to perfect processes and systems .

From the results of the study found that employees at PT AGP contributed in the form of suggestions related to standards in work processes based on efficiency in order to cut work time with tools created by employees themselves to simplify the work process. PT AGP also provides competition activities in which there is training on kaizen culture. *Process Versus Results* According to Lyu (1996) in Smadi (2009: 208) "Kaizen strategy helped the company increase productivity due to improvement in work processes". From the results of the study found that employees at PT AGP are required to continue to streamline work time, where employees contribute directly to work processes and priorities. Employee involvement in improving the production process in the company, forms an efficient attitude that is reflected in key information 3, where he directly evaluates work processes and cuts processes to shorten production time.

From the results of the above data interpretation, it can be concluded that the organizational perspective on kaizen culture has reflected its orientation towards the process. This is reflected in the company's activities in involving employees as contributors in improving the production process in the company. Imai (2014: 33) explains that process-oriented managers will be interested in: a) Discipline. b) Time management. c) Skills development. d) Moral. e) Moral communication and good communication are the initial foundation in improving the process carried out by Mr. Yudy as assistant production manager. The PDCA / SDCA cycle Imai (1997: 05) in his book *Gemba Kaizen* states "SDCA is standardized to achieve process stability, while PDCA implements changes to improve it. SDCA is related to the maintenance function, whereas PDCA refers to

improvement; these two things are the main responsibility of management ". From the research conducted, management applies the PDCA / SDCA cycle as a whole starting from the first process in the production flow to the last process, namely delivery. Bosses also demand that their subordinates continue to carry out PDCA / SDCA in all their activities. Prioritizing Quality Imai (1997: 5) states that in QCD, quality is a top priority for the company, and makes it competitive advantage. Managers are often tempted to make compromises regarding the terms of surrender or cost cutting. In this case, managers take the risk of sacrificing not only quality, but their business lives. From research conducted by the work stated that there are still behaviors that hamper the quality of work. Talking With Data Kaizen is a process of solving problems, where in order to find solutions to these problems is to find problems based on relevant data to be rationally examined. Collecting, ascertaining, and analyzing data for improvement is the main goal in solving problems in kaizen (Imai, 1997: Imai, 2001). From the research conducted, it was found that key informants relied on data as a reference in assessing and evaluating the obstruction of the work process, based on labor, machinery, and material in carrying out improvements. The Following Process Is a Consumer Imai in his book Gemba Kaizen (1997: 6) explains that: "All work is basically carried out through a series of processes, and each process has both a supplier and a consumer. A material or information grain is provided by process A (the supplier) and then done and added value in process B to be subsequently submitted to process C (the consumer). The following process must always be treated as a consumer. This axiom, the following process is the consumer, refers to two kinds of consumers: internal consumers (processes that are still in the same company) and external customers (who are in the market).

From the research conducted, it was found that management guarantees the optimal quality of each process in accordance with the contracts carried out with consumers. For the scope of activities Mr. Hermanto and Participant 3 stated that their focus is on internal consumers, which is a series of processes that exist within the company. Main System of Kaizen TQC / TQM In TQC / TQM the main concern of the company is the quality of its employees. Companies that have succeeded in improving the quality of their employees are halfway through producing quality products. From the research conducted, it was found that TQC / TQM is carried out in the quality section and is the responsibility of QA / QC (quality assurance / quality control). Just-In-Time Production System Production system on time, or commonly called just-in-time (JIT) is an inventory control system (Schonberger, 1986: 13). According to Imai (2014: 134), the waste that occurs in the production process is in the following categories: (1) Excessive production. (2) Waste of time on the engine. (3) Waste that occurs in the transportation unit. (4) Waste in the process. (5) Waste in taking inventory. (6) Waste in movement. (7) Waste in the form of defective units. From the research conducted, it was found that the parent company monitors each work process and applies work standards. This provides a challenge for employees to be able to complete work on time without any waste. Total Productive Maintenance According to Imai (1997: 8) "TPM focuses on improving the quality of equipment. TPM aims to maximize equipment efficiency through an integrated system to maintain preventive measures to extend the life of the equipment. From the research conducted, it was found that the company implemented the total productive maintenance system (TPM) in full. Participant 5 states that the maintenance and improvement division is directly responsible for the TPM. However, the leader and executor of the work are directly responsible for all the equipment used in the process and the contribution in its improvement. Explanation of Company Policy Management must set clear goals for the company to guide each individual and ensure that all leadership models and kaizen activities are directed towards achieving these goals. The application of kaizen and its implementation indeed requires more rigorous and detailed monitoring (Imai, 1997: 8). From the research conducted it was concluded that the company implemented SGA (small group activity) activities as a means of elaborating company policies related to kaizen. There is a management representative division that is fully responsible for the translation of kaizen behavior in the company. Imai (2014: 219) "policies describe the target or orientation of the medium to long term". Imai (1997: 9) also explains that "kaizen without targets is like a journey without a destination. Kaizen is very effective when everyone works to achieve the target, and management must determine the target ". From research conducted. It was found that the initial purpose of implementing the kaizen culture was elaborated directly by managers to provide effective and efficient work related solutions and the target of each worker in completing their work. Suggestion System According to Imai (1997: 9) "Japanese managers looked at the main role of the suggestion system as a means of growing interest in kaizen, namely by empowering their employees to submit suggestions, however small the meaning of the advice ". From the research conducted, it was found that the company had used a suggestion system in the form of a suggestion box provided to inform improvements or complaints of work constraints. Due to the suboptimal use of the suggestion box, the company implemented a verbal suggestion system by reporting to the direct supervisor. In addition, the company also facilitates suggestions from employees in the daily briefing activities carried out in the company. Small Group Activities Imai (2014: 147) explains that small group activities can be defined as small informal, voluntary groups organized in the company to carry out specific tasks in the workshop. This small group was originally

formed to stimulate cross development among its members. From the research conducted, it was found that PT AGP implemented the SGA (small group activity) system to build employee involvement in its contribution to the company.

The SGA activities are competed annually with direct monitoring from the management representative on the progress of the SGA activities of the employees. Based on the observations of researchers, SGA activities are competed annually both internally and globally with affiliated companies in various countries, and monitored directly by the Management Representative. There is a management representative division that is fully responsible for the translation of kaizen behavior in the company. Imai (2014: 219) "policies describe the target or orientation of the medium to long term". Imai (1997: 9) also explains that "kaizen without targets is like a journey without a destination. Kaizen is very effective when everyone works to achieve the target, and management must determine the target ". From research conducted. It was found that the initial purpose of implementing the kaizen culture was elaborated directly by managers to provide effective and efficient work related solutions and the target of each worker in completing their work. Suggestion System According to Imai (1997: 9) "Japanese managers looked at the main role of the suggestion system as a means of growing interest in kaizen, namely by empowering their employees to submit suggestions, however small the meaning of the advice ". From the research conducted, it was found that the company had used a suggestion system in the form of a suggestion box provided to inform improvements or complaints of work constraints. Due to the suboptimal use of the suggestion box, the company implemented a verbal suggestion system by reporting to the direct supervisor. In addition, the company also facilitates suggestions from employees in the daily briefing activities carried out in the company. Small Group Activities Imai (2014: 147) explains that small group activities can be defined as small informal, voluntary groups organized in the company to carry out specific tasks in the workshop. This small group was originally formed to stimulate cross development among its members. From the research conducted, it was found that PT AGP implemented the SGA (small group activity) system to build employee involvement in its contribution to the company. The SGA activities are competed annually with direct monitoring from the management representative on the progress of the SGA activities of the employees. Based on the observations of researchers, SGA activities are competed annually both internally and globally with affiliated companies in various countries, and monitored directly by the Management Representative in charge of overseeing the progress of SGA activities of employees on condition that each group may not discuss themes has been discussed previously, and members of the group continue to be randomized annually. SGA activities are carried out outside active working hours. This encourages employee loyalty in completing SGA tasks outside working hours. Gemba Kaizen Standardization Imai (1997: 54) explains that standardization is an inseparable part of quality assurance, and without standards it is impossible to build a reliable system. From the research conducted, it can be explained that PT AGP applies a strict standardization system related to procedures implemented in the workplace.

VI. CONCLUSIONS

The implementation of kaizen culture increases the rate of productivity and increases in the perceived benefits of the company. Kaizen activity was introduced as a whole company culture. The application of kaizen activity encourages employee aspirations in improving their performance and contribution to the improvement of the company. Cultural adaptation occurs when employee contributions start to form a kaizen work culture that is more adaptive to reforms that occur in the company. Employee contributions contribute to continuous improvement, improve quality, reduce costs, and shorten delivery time. Continuous improvement based on employee contributions forms a kaizen culture that can continue to adapt and develop even better. The advice given is that Management can apply the term kanban or it can be called an inventory card that is personally written by the executor of the job. The purpose of the application of this kanban card is to produce good production from the start, which is never to accept, to never process, and to not give up defective products by cooperating with suppliers about inventory, namely reducing the amount of goods that come in, eliminating buffer stocks, reducing purchasing costs, improving handling of raw materials, achieving a small amount of inventory and getting a reliable supplier. Kanban cards themselves are very useful as further information from each line of work related to work process information and availability of supplies. 2. The company can set short-term goals and long-term goals to provide targets and encourage employees to meet these targets. Because if only continuous improvement is demanded, the impact on employees will be limited. Management can set clear goals for the company to guide each individual and ensure that all leadership models and kaizen activities are interpreted to achieve these goals. Thus, a kaizen culture will be realized that is not only adaptive to the company environment, but also encourages better employees.

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