

# The effects of kaizen to improve productivity



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The term, Kaizen refers to improvement or change for the better. It states the philosophy or practices that focus upon continuous improvement of processes in manufacturing, engineering, and business management generally. In business Kaizen encompasses many of the components of Japanese businesses that have been seen as a part of their success. Kaizen includes Quality circles, automation, suggestion systems, just-in-time delivery, Kanban and 5S in running a business. It has improved productivity and made the automotive industry grow according to many companies such as Toyota.

## **Purpose**

This paper tends to obtain results and analyse the effects of Kaizen on improving productivity in the automotive industry.

## **Design/Methodology/Approach**

This is a conceptual paper, and secondary data based. The paper examines a vast body of research, which looked at the model from different perspectives, and critically explores its potential benefits and drawbacks in the automotive industry.

## **Originality/Value**

This paper shows that success of Kaizen model is not always guaranteed, certain variables in the industry still applies, leaving the effect to differ according to firms and systems used by each company.

## **Keywords**

Effects, Kaizen, Improve, Productivity, Automotive industry.

## **I. Introduction**

Japan's management philosophy has introduced a new creative strategy for competitive success in business, or the so-called "Kaizen" model. The term Kaizen began to receive attention from management experts and scholars around the world when Masaaki Imai published his first book in 1986, "The Key to Japan's Competitive Success". Kaizen is a Japanese word, which means "continuous improvement" (Manos, 2007). In the broader sense, Imai (1986) described Kaizen as "the process of continuous improvement in any arena of life, personal, social, home, or work." In business, he defined it as "the process of gradual and incremental improvement in a pursuit of perfection of business activities." Under this strategy, continuous improvement is considered to be everybody's job in an organization, in that any employee must do his/her job and improve it (Channon, 2005).

A decade after publishing his first book, Imai revisited Kaizen in another book in 1997 – a contribution which further enhanced Kaizen strategy "the Japanese way" by stressing the importance of the workplace (where real action occurs) in continuous improvement. According to Kaizen, there should be improvement every day in an organization. Even "total quality management," which has received focused attention in the literature in recent years, was found deeply rooted in the Japanese management, and thus viewed as an integral element in Kaizen strategy. Figure 1 as follows is the kaizen umbrella in which every alphabet in KAIZEN contains their different meaning or components.

Figure 1. The umbrella of Kaizen. Adapted from "Kaizen Philosophy: A Review of Literature," by Jagdeep Singh and Harwinder Singh, 2009, The Icfai <https://assignbuster.com/the-effects-of-kaizen-to-improve-productivity/>

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## **II. Literature Review**

Kaizen strategy and the drive for competitiveness: challenges and opportunities (Sami Al Smadi, 2009). Kaizen is a strategy to reduce energy consumption and waste, and yet improve productivity in targeted activities and processes (Wilson and Morton, 2006). Kaizen has qualitative and quantitative benefits, including more time and money saving with reduced inventory cost (Manos, 2007). One study found that Kaizen was the reason for substantial improvement in process performance (Bradley and Willett, 2004). Many organizations have prove a drastically improvements – often 50% and above – in key operating measures such as lead-time, floor space, work in process(WIP), cycle time, productivity, on-time delivery rate, and defect rate (Vasilash, 1993; Redding, 1996; Rusiniak, 1996; Sheridan, 1997b; Oakeson, 1997; Cuscela, 1998; Melnyk et al., 1998; Minton, 1998; LeBlanc, 1999; McNichols et al., 1999; Hasek, 2000; Creswell, 2001; Butterworth, 2001; Bane, 2002; Bradley & Willett, 2004; Martin, 2004). During the 2000s, specifically the past eight years, the model drew more attention in the literature and continued to receive growing support worldwide (Manos, 2007). One study found that Kaizen was the reason for substantial improvement in process performance (Bradley and Willett, 2004).

## **A. The assessment of the effects of Kaizen to improve productivity in the automotive industry**

The implementation of Kaizen strategy is primarily based on five guiding principles. Five major principles were particularly highlighted by Imai (1986, 1997).

### **1. Processes and results**

Kaizen strategy counts mostly on human efforts to improve results which requires process improvement. Imai introduced a process-oriented approach, referred to as the “ plan-do-check-act” (PDCA) cycle is used for process improvement. “ Plan” refers to setting a target for improvement whereby “ Do” is implementing the plan. “ Check” is the control for effective performance of the plan. On the other hand, “ Act” refers to standardizing the new (improved) process and setting targets for a new improvement cycle. As literal as it can be, the cycle is called the “ improving cycle.” As the resulting work process, following each cycle of improvement, becomes unstable due to the nature of change, a second cycle is, therefore, required to stabilize it. The second cycle is described as the “ standardizing cycle,” and referred to as “ standardize-do-check-act” (SDCA) cycle. The main purpose of this cycle is to iron out abnormalities in the resulting work process and bring it back to harmony before moving to a new improving cycle. In other words, the standardizing cycle maintains current work processes, while the improving cycle improves them. The two cycles (PDCA and SDCA) revolve regularly to spread a culture of continuous improvement as a standard practice within an organization. This indicates an organizationshould never stick to a status quo.

## **2. Hard data versus hunches and feelings**

As mentioned, Kaizen is seen as a problem-solving process. Relevant hard data must be gathered and made available for analysis in order to solve a problem effectively and efficiently. It does not come to just hunches and feelings. It has viewed this requirement as an imperative for continuous improvement.

## **3. Putting quality first**

Kaizen also talks about improving performance in terms of three dimensions which are quality, cost, and delivery (QCD). Quality is usually among the most important criteria customers use to make the purchase. Quality is usually customer-defined and referred to as the perceived characteristics and features of a product. This includes the quality of processes that go into it.

Cost is usually looked at from the manufacturer's perspective, as the overall cost of making and selling a product. An important factor, here, is the elimination of waste in many aspects of work, for example, production, inventory, repair, rejects, motion, processing and so on.

Delivery refers to delivering the required quantity of products in the right place at the right time. The company may offer better prices (through reduced cost) and attractive delivery terms. But this does not guarantee competitiveness if the quality of goods and services falls short of consumer expectations. Some cost-oriented managers do not resist the temptation of cutting cost at the expense of quality. This could work well in the short run,

but would likely to jeopardize not only profitability, but also image and market position of the product in the long run.

#### **4. The next process is the customer**

Kaizen views the whole work in a specific organization as a series of interrelated processes where each consists of a supplier and a customer. The supplier provides the process with inputs such as materials and/or information. The supplier can be another process within the organization or someone outside the organization. Same goes to the customer, the customer is either someone in the organization (internal customer) or the final customer out in the market (external customer). The customer receives (or deals with) the output of the process. Having this in mind, all individuals within an organization deal with customers – either internal or external ones. That is, the next process is always regarded as a customer. The model will gradually lead to a commitment that employees never provide inaccurate information or defective materials to those in the next process, particularly when the organization has a strong commitment to consumer satisfaction. Through this, Kaizen tries to establish a natural commitment to on-going process improvement throughout the organization to ensure that external customers will always receive high quality products. Bradley and Willett (2004) stated that a study found that Kaizen was the reason for substantial improvement in process performance

#### **5. Implementation**

The Toyota Production System, famous for its Kaizen. All line personnel of the system are expected to stop their moving production line in case of any

abnormality and, along with their supervisor, suggest an improvement to resolve the abnormality which may initiate a kaizen.

The PDCA cycle

The cycle of kaizen activity can be defined as:

Standardize an operation and activities.

Measure the operation (find cycle time and amount of in-process inventory)

Gauge measurements against requirements

Innovate to meet requirements and increase productivity

Standardize the new, improved operations

Continue cycle ad infinitum

### **III. Objectives of the study**

1. To determine the effects of Kaizen on the productivity in the automotive industry.
2. To seek the benefits of Kaizen that can be brought to the productivity of the automotive industry.
3. To analyse the effects of daily improvement emphasis on an organization.
4. To determine the significance of the implementation of the Kaizen related cycles on the organizations in the automotive industry.



5. To determine the relationship between the application of Kaizen and the rate of improvement of the automotive industry.

#### **IV. Methodology**

As said above, this is a conceptual paper and done by doing referencing and reading of many research papers of the past. Research was done according to the many observations and articles come up by experts and researchers on Kaizen and its effects on organizations and basically industries. After going through various articles and media to Kaizen and the world's automotive industry, an assessment and conclusion is made regarding Kaizen's contribution and main uses.

#### **V. Discussion**

There were many empirical studies conducted to indicate the effectiveness of Kaizen and results were very supportive towards its significance. Several studies were done to determine the benefits of Kaizen in one of its biggest user, the Toyota Motor Corp., focusing on the success of the "Toyota Way." Their findings indicated that the company was able to leverage the power of the visual factory, eliminate waste, and establish a strong corporate culture of continuous improvement in its overall business operations. Another study done Toyota Motor Europe stated that Kaizen helped Toyota improve its retailing network business throughout Europe in the Czech Republic (Ciferri, 2007).

A case study of Dieselco, a multi-national engineering firm making diesel engines in United Kingdom, reported that the implementation of the Kaizen strategy in 1990, created real improvements in the firm. The firm managed

to cut cost by £2 million in about three years, substantially improving its competitive position in the market and reaching targets easily (Malloch, 1997). However, the study indicated that the implementation of Kaizen required a redistribution of power between managers and workers and between managers themselves.

Brazilian leading automotive parts manufacture, Monroe Autopecas introduced Kaizen in 1996 after years of suffering competitive problems. Result claimed that productivity increased by 30%, line work reduced by 10% and they freed 25% worth of floor space without any layoff (Chase, 1998).

## **VI. Conclusion**

Although having its number flaws, we can never deny the abundant benefits of the Kaizen towards not only the automotive industry, but the whole management world. The Kaizen model appeared to impress many scholar and experts all over the globe. Nevertheless, some studies were critical about the contribution of the model outside the Japanese culture, while others' studies focused on the barriers to its effective implementation on various managements.

From the view of the many researches done, we can be sure that Kaizen has indeed become a major factor in the success of many Japanese business (and also many which are not). Clearly, this indicates an overwhelming support for Kaizen as a business philosophy as it can fit into everyday management practices in organizations.

To conclude this, the inspiring theme of Kaizen is that “ there is always a room for improvement” has clearly made its point. That is to never be satisfied with status quo and what is already established. In a highly competitive business environment, this theme can put an organization in the industry ahead of competition. Kaizen has indeed contributed in improving productivity for many firms in the automotive industry and is believed to help the industry to continue growing.

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