

CONTINUOUS QUALITY IMPROVEMENT IN MODERN ORGANIZATIONS TROUGH KAIZEN MANAGEMENT

**Tîtu Mihail Aurel¹,
Răulea Andreea
Simina¹, Tîtu Stefan²**

¹ Lucian Blaga
University of Sibiu,
Sibiu, Romania

² University of Medicine
and Pharmacy “Iuliu
Hatieganu”, Cluj
Napoca, Romania

Keywords:

quality, quality
management, continuous
improvement, Kaizen
management

Conference paper

SUMMARY

Currently, the issue of the quality is one of the most debated. The most important theme is represented by the way in which organizations are able to build a competitive strategy based on quality products and services in the circumstances of the increasing pace of competition. This scientific paper proposes to bring into question the continuous improvement of the quality, productivity, profitability and speed of response to each job, processes and organizations as a whole, taking permanently into account the operational excellence, obtained by increasing the added value and by loss elimination that can be achieved by addressing the concept of Kaizen and Kaizen management as well. The main objective of this paper is to emphasize the importance of implementing a Kaizen management for organizations that are oriented towards quality and continuous improvement given the fact that in order to succeed organizations have to implement and maintain this kind of practices.

Paper received:

27.04.2015

Paper accepted:

20.05.2015.

1. INTRODUCTION

Kaizen is a philosophy with the origins in the mid-twentieth century. In his book entitled “Kaizen: The key to Japanese Competitive Advantage” Masaaki Imai refers to the term Kaizen having possible origin in Toyota Motor [1, 2]. The documentation referred to Kaizen as abundant, and there are several researches with different case studies reporting some benefits. For example, in a research in Japanese manufacturing plants, Cheser [3] concluded that Kaizen generated an increase in motivation and positive change in employee’s attitude. According to Aoki [4], it is feasible to expand the Kaizen philosophy to other countries with a different culture from the Japanese but, in order to have success, companies must implement the basic principles of Kaizen, namely: customer focus, continuous improvements, open acknowledgment of the problem, creation of teams works, development of self-discipline, provision of constant feedback to employees and promotion of employee development. Due to its reported benefits, Kaizen philosophy was

applied by a large number of entrepreneur managers; however, despite its popularity, Kaizen implementations in companies had little success [5]. For example, in a survey with U.S. manufacturers, Rink [6] reported that 90 % of the 3,000 industrial organizations implementing continuous improvement projects, but only 10 % felt they were achieving the desired results.

The present paper approaches a field to which the interest of practitioners has increased constantly since it appeared. Created based on the evolution of the quality concept and in the favourable context of the appearance and development of organizational culture, national culture and intercultural management concepts, Kaizen management is considered to be the most performing management system in the world. Same can be said about the Toyota Production System that has been lauded as the pinnacle of flexible, just-in-time manufacturing and design and the founder of “lean work” systems, which claim to improve product quality and employee productivity. Japanese production management became a dominant influence in the field of

operations management when knowledge of its main elements became known worldwide. Those elements – quick set-up, small lots, cells, KANBAN, and so on – are well known. Lean techniques are widely used throughout the manufacturing industry to provide just in time delivery of product and ultimately to create value for the consumer using the least resources. These techniques have particular relevance to the current learning organizations that are oriented towards quality [7].

The importance of the research theme relies on the fact that in order to survive in a more and more competitive world, companies must adopt an approach of continuous improvement without resisting changes.

The main objective of this paper is to emphasize the benefits and the problems faced while implementing Kaizen management.

2. METHODS, PRACTICES AND TECHNIQUES OF KAIZEN MANAGEMENT

Made out of two characters: KAI ('change', 'continuous', 'ocean') and ZEN ('good', 'improvement', 'wisdom', 'harmony') Kaizen means continuous improvement. Although it is known more as a management system, the Kaizen concept represents a philosophy in itself, a lifestyle, a state of mind and an attitude model because of the principles it is built on and the values it promotes.

What recommends the Kaizen concept as a life philosophy and management system is its general purpose to bring improvements in all aspects of life, starting with the personal level (Kaizen Individual), continuing with the group

level (Kaizen focusing on Groups) and (Kaizen Management) and finishing with the social level and the natural environment (Kaizen Social®).

The general scope of the Kaizen management is aimed at two directions: keeping processes and products and services quality and their continuous improvement. Keeping refers to the activities that are in accordance with the technological, managerial and functioning standards, as well as complying with them through training and discipline. Improvement refers to optimizing standards in order to eliminate losses of any kind [8].

As opposed to the European and American management styles, focused on innovation through significant costs, Kaizen management promotes the continuous improvement in 'small steps', day after day, with minimal investments, the entire activity being done by active participation of all employees in the improvement process. According to Professor's Masaaki Imai plastic formulation 'one step forward made by a hundred people is more valuable than a hundred steps made forward by their leader' [9]. Based on a solid structure, with very clear principles, the Kaizen management system represents the perfect balance between adaptability, continuous improvement through change and reliability.

Kaizen covers most of the Japanese practices that have acquired fame all over the world. The scope of these techniques, practices and methods (Table 1) is to improve the work environment, productivity and the total quality of products and services but also the people and the work relationships.

Table 1. Techniques and practices used in implementing the management system

<i>Techniques for making the production processes more efficient</i>	<i>Techniques for organizing the work space and reducing losses or defects</i>	<i>Tools for identifying the problem causes and their analysis</i>	<i>Employee motivation methods</i>
CWQM (TQM) – Total Quality Management	The 3M	Analysis 5 “Why?”	Teian - the suggestion system
TFM – Total Flow Management	Eliminating the 7 classes of muda	4W1H Method	
TPM- Total Productive Maintenance	The 3K	The 7 classical tools	
VSM – Value Stream Mapping	The 5S method	The 7 modern tools	
TSM – Total Service Management	Visual management		
	Kanban		
	Poka-Yoke		

Regarding the techniques for making the production processes more efficient, CWQM (TQM) – Total Quality Management keeps under control quality starting with identifying the quality demands of consumers and ends only after the product has reached the consumer and the he is satisfied; TFM – Total Flow Management visualizes, measures and analyses the performance of the material flow of a process; TPM- Total Productive Maintenance maximizes the efficiency of the equipment during its entire working life; VSM – Value Stream Mapping reduces losses with production and diminishes the price asked by the buyer and TSM – Total Service Management fallows client satisfaction by continuously improving the employees.

Regarding the techniques for organizing the work space and reducing losses or defects, the 3M refers to eliminating loss, irregularity, stress (muda, mura, muri). Eliminating the 7 classes of muda (losses) refers to over-production, stock, defects, wasted movement, processing, waiting and transport; The 3K refers to eliminating kiken (dangerous), kitanai (dirty) and kitsui (stressful); The 5S method represent a method of maintaining and improving the work place in 5 steps: seiri (sorting), seiton (systematization), seiso (glow), seiketsu (standardization) and shitsuke (support); Visual management is a rapid method to supply clear and clear information to all employees, at the same time, through a simple visualization; it also helps at identifying abnormalities through graphs, photos and drawings, maintenance plans, performance indicators, panels, markings, indicators, intermittent lights etc.; Kanban in a nutshell refers to a label attached to a product lot or pieces from the production line with delivery instructions in requested quantities, at the requested term and with the adequate resources; Poka-Yoke goal is to eliminate defects at manual operations by using the configuration rules and the simple surveillance equipment of the error sources.

3. KAIZEN BENEFITS

Improvement begins with the belief that every organization has opportunities for change and improvement. The traditional wisdom holds that “If it isn’t broke, don’t fix it.” However, the Kaizen philosophy takes the view that every process can be improved and therefore even if you think “It isn’t broke, fix it anyway.”

Because Kaizen is more a philosophy than a specific tool, its approach is found in many different process improvement methods. Under Kaizen, all employees are responsible for identifying the gaps and inefficiencies and everyone, at every level in the organization, suggests where improvement can take place and because all the people are implied when it comes to Kaizen management benefits can be viewed as long term improvements.

Among the main benefits of implementing a Kaizen management are: immediate results, waste reduction, *improvement in all areas, decreasing the general production and services costs, reducing the productive threshold, sustainable improvement of quality, of the delivery deadlines and of the working conditions, motivation and involvement of employees in the continuous improvement of the company’s performance, ensuring discipline and standardization*. Kaizen does not focus on large and intensive capital improvements but it concentrates on investments which can continually solve problems creatively. Large, capital projects and major changes will still be needed, and Kaizen will also improve the capital projects process, but the real power of Kaizen is in the on-going process of continually making small improvements that improve processes and reduce waste. Also, an important aspect of Kaizen management refers to waste reduction in areas such as inventory, waiting times, transportation, worker motion, employee skills, over production, excess quality and in processes. When it comes to Kaizen benefits we have to mention improvements in space utilization, product quality, use of capital, communications, production capacity and employee retention. These continuous small improvements add up to major benefits. They result in improved productivity, improved quality, better safety, faster delivery, lower costs, and greater customer satisfaction. On top of these benefits to the company, employees working in Kaizen-based companies generally find work to be easier and more enjoyable.

An example of an organization that consistently makes the highest-quality cars with the fewest defects of any competing manufacturer, while using fewer man-hours, less on-hand inventory, and half the floor space of its competitors is Toyota and all is due to Kaizen and zero defects management. At Toyota, every business processes is improved by eliminating wasted time and resources, building quality into

workplace systems, finding low-cost but reliable alternatives to expensive new technology, producing in small quantities, and turning every employee into a quality control inspector.

4. PROBLEMS OF KAIZEN IMPLEMENTATION

According to the above paragraphs, it is clear that despite the benefits of Kaizen benefits not all the companies succeed and many of them are facing problems. Among the main critical problems in Kaizen implementation are: the absence of a real culture, general resistance to change, lack of momentum, no sense of ownership, short term visions, failure to identify problems, lack of resources,.

Because Kaizen is seen just as another process, there is no action aimed at changing employee's behaviours or value system and even worse: actions and behaviours inconsistent with the Kaizen culture are not argued back. There is no clear desired state and there is no noble cause behind the Kaizen initiative. Existing and prevalent culture and processes will also prevent Kaizen, especially if there is a culture of 'you cannot touch that', 'this is the way we've always done it', or 'this is not my/your duty'.

People are told to improve, but then there is not enough communication, no visibility, no energy, no metrics, no process, no training, and no support and the most important, there is no clear follow-up.

Another issue is that not everyone is involved in the Kaizen initiative and that way people will feel that Kaizen is just another burden thrown at them. People won't be able to talk back to managers, make decisions, or, metaphorically speaking, stop the line. Sometimes, a symptom of no real ownership and empowerment can be identified when 'Kaizen circles' or 'Kaizen squads' are created at management levels instead of enrolling everyone into the Kaizen initiative. In some cases Kaizen is not a real priority. Some companies suffers from short-sighted vision, so financial goals and project delivery dates are considered more important than Kaizen initiatives or, in other cases, Kaizen is seen as a short-term project with an end date.

When it comes to identify root causes, some companies, apply shortcuts and workarounds, but are unable to reveal the real problem causes that are hidden and in some case remained never solved. As the original causes are not solved,

sometimes the same cause can span different problems in an unpredictable way.

Implementing Kaizen management can be a problem forms the point of view of the resources because managers don't have enough time nor skills to approach Kaizen in a productive way so they will not analyze, reflect and plan for improvement in a productive way.

There are solutions to overcome each obstacle presented before. For most of them, change is the best engine. However, we are talking more about a change in the paradigms of thinking and less of one that annuls the individual identity and suppresses the potential of the human capital. The occurrence and development of uncertainty, of risk and obstacles previously mentioned [10] only appear when the potential of change of bringing improvements in the total quality is not fully understood and exploited.

Without a long term consistent investment in the human capital and without the development of an environment in which employees are trained, respected, appreciated for what they are and what they can offer, encouraged to bring their input, ensured that this will not have a negative impact on their position in the company and rewarded based on the results they bring, the operational and financial performances aimed at by applying the Kaizen management cannot be reached [11].

This happens because the employee does not believe in a system which, although seems to be built for him, in fact, follows its own purpose [12]. And he believes even less in a system delivered as an obligation and less as a group of improvement solutions of his and the company's situation. Therefore, he will act accordingly.

When the Kaizen management system is applied without being fully understood, clearly conveyed and supported accordingly, the results obtained are for weaker compared to the expected ones. Therefore, again, one turns to the mentality "this will work just as fine" and the mistrust in the Kaizen management system thus confirming the initial misconceptions.

However, there are organizations in which Kaizen, the heart of lean manufacturing also known as the Toyota Production System, represents the way that the things are done. An example is Takata Romania, a company that develops seat belts for automobiles, airbags, child restraint systems and additional safety products. To prevent the rise in the number of accidents accompanying the progress of motorization, Takata has worked to achieve its

dream of “a society with zero fatalities from traffic accidents” by improving automotive safety systems using a Kaizen Management.

5. CONCLUSIONS

Changing processes and redesigning work are just part of the Kaizen management. The real essence of Kaizen lies in its ability to change cultures and attitudes. Changing the way that the things are done is one of the biggest challenges because breaking old habits implies to forget the old concept and to find more creative ways of doing things. This is the essence of change. Even if it is well known the human tendency to resist change those who are implied in Kaizen management must accept the fact that change represent the way things are going to be done in order to improve.

As a consequence, the first recommendation to increase the speed of change of the personnel's mentality, to reduce the change resistance and to use accordingly the cultural diversity is organizing seminars and courses destined to instruct top management and mid management. This stage is indispensable for building the competences and credibility of management in order to send accordingly the vision of the Kaizen management to the company's employees but also to acquire the ability to make the necessary adaptations. It is vital for management to be able to manage both employees and the activities supported by the employees. And even more, to convey the behavioural models expected from the employees. When management expects commitment, results, adherence to the organizational culture values and the newly implemented management system without giving a personal example of supporting the

desired model, employees' attitude is in accordance with the delivered behaviour.

The second recommendation regards the improvement of communication and facilitating the know-how transfer within the organization. The best way of keeping the experience and know-how gathered by the company, as well as to communicate internally between the departments and externally with third parties in an efficient manner is by drawing up standards regarding the manner in which employees work, accompanied by their implementation, compliance and improvement.

Regarding implementation and functionality of the Kaizen management, we have to point out that everything starts in the mentality. As long as the interest, openness and the cultural diversity is seen as an advantage, through proper training, practice and personal example, the necessary expertise for implementing and supporting the system in any company and in any field can be learned.

Kaizen means innovative evolution under a frame solid enough to face changes but at the same time, flexible enough to adapt rapidly thus obtaining competitive advantage. In the Kaizen Management customer, company, employees, the natural environment and society are equally important. That is why Kaizen Management offers a managerial model in which internal demands (of the company, employees and management) and external (of customers, suppliers, partners, etc.) are met by means of the techniques and practices used, supported by employees from all levels.

Kaizen management system follows the constant improvement of the organization, starting with the staff, continuing with the processes and closing with the products and post-sales services.

6. REFERENCES

- [1] Imai, M.: *KAIZEN: the key to Japan's competitive success*, Editorial CECSA, Mexico. In Spanish, 1996.
- [2] Nemoto, M.: *Total quality control for management. Strategies and techniques from Toyota and Toyoda Gosei*, Prentice-Hall, Englewood Cliffs, NJ, 1987.
- [3] Cheser, R.: *The effect of Japanese KAIZEN on employee motivation in US manufacturing*, Int J Org Anal 6(3):197–217, 1998.
- [4] Aoki, K.: *Transferring Japanese KAIZEN activities to overseas plants in China*, Int J Oper Prod Manag 28(6):518–539, 2008.
- [5] Tanner, C.; Roncarti, J.: *KAIZEN leads to breakthroughs in responsiveness and the Shingo prize at Critikon*, Natl Prod Rev 13(4):517–531, 1994.
- [6] Rink, J.: *Lean can save American manufacturing. Reliable plant*. <http://www.reliableplant.com/Read/330/lean-manufacturing-save>. Accessed at 14 April 2014.

- [7] Tîtu, M.; Oprean, C.; Boroîu, Al.: *Cercetarea experimentală aplicată în creșterea calității produselor și serviciilor*, Editura AGIR, ISBN 978-973-720-362-5, București, 2011.
- [8] Imai, M.: *Gemba KAIZEN – o abordare practică, cu costuri reduse, a managementului*, FINMEDIA, Publishing House, 3rd Edition, 2006.
- [9] Imai, M.: *KAIZEN, the Key to Japan's Competitive Success*, McGraw-Hill Publishing Company, 1986.
- [10] Oprean, C.; Tîtu, M.; Bucur, V.: *Managementul global al organizației bazată pe cunoștințe*, Editura AGIR, 2011.
- [11] Oprean, C.; Tîtu, M.: *Managementul calității în economia și organizația bazate pe cunoștințe*, Editura AGIR, ISBN 978-973-720-167-6, București, 2008.
- [12] Tîtu, M.: *Managementul calității în organizațiile industriale moderne*, Doctorat Thesis, Universitatea Lucian Blaga din Sibiu, 2007.

Corresponding author:

Tîtu Mihail Aurel

Lucian Blaga University of Sibiu

Sibiu, Romania

e-mail: mihail.titu@ulbsibiu.ro