

A Combined Approach to Define Kaizen International Transferability

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Abstract

This research paper aimed to answer the question of what are the internal and external factors affecting the transferability and implementation of Kaizen in a non-Japanese culture? This study contributes to the limited literature of Kaizen practices and increases awareness of its efficacy on firm-level productivity for the developing country. A comprehensive systematic literature review and a questionnaire with industry experts have been used to define these factors. The study showed that top management commitment, employee participation, organizational culture, management enforcement (monitoring and control), employee personal initiative, management support, employees discipline and eagerness, organization structure and national culture and traditions are the most important factors in descending order. These factors should help an organization in the least developed countries to understand how to adopt and manage the Kaizen philosophy, and where to direct their effort and attention to improve productivity and minimize cost.

Keywords

Kaizen, Transferability, non-Japanese culture, Process Optimization Tool

1. Introduction

In recent years, global markets and business environments are characterized by intense competitive pressure and sophisticated customers need who always demand innovative and valuable products and services. To succeed in these fast-changing environments, companies still have to search for continuous improvement tools that should involve all levels, including both managers and workers. Furthermore, in most cases, these companies do not have the required resources to tune to automation nor the level of integration needed for such efforts to improve their processes. On the other hand, companies are looking for continuous improvement tools that could minimize variability and improve throughput. For this reasons and others, different tools have been customized as requested to minimize cost, increase productivity without affecting quality such as Lean, Six Sigma, Lean and Six Sigma, Total Quality Management (TQM) and others (Mandahawi et al. 2019, 2017, 2012; and Shurrab et al. 2018). Lean tools have been used to supply the customers with exactly what the customer wants when they need it, without waste, through continuous improvement (Mandahawi et al. 2012, 2011). When implemented as a comprehensive

manufacturing strategy, Just-in-time (JIT), Toyota Production System (TPS), and lean tools will sustain a competitive advantage and will result in increasing overall returns to stakeholders.

Toyota Motor cooperation, with annual sales of more than 9 million cars and trucks, used JIT and TPS as continuous improvement tools for its growth (Heizer et al., 2020). By highlighting areas that need improvement, lean systems lead to continuous improvement in productivity without affecting quality; the Japanese term for this approach is Kaizen. The concept of Kaizen has become an interesting topic to study during the past few decades. Imai (1986) argued that Kaizen is the key to Japan's competitive success; several studies have emphasized the importance of Kaizen on Japanese manufacturing techniques, the Toyota production system, or lean production (Liker, 2003; Womack and Jones, 1996; and Womack et al. 1990). Toyota Production System (TPS) was initially practiced and implemented during the 1950s, but there is a paucity of knowledge sharing in the Kaizen domain.

Historically the manufacturing sector played a key role in Japan's economic development. Lean and Kaizen played an essential role in this contribution due to its low-cost approach (Aamer et al. 2019, 2018, 2017; and Ohno et al. 2009). Some researchers have attempted to address the transferability of Kaizen management philosophy to countries other than Japan such as Yokozawa and Steenhuis (2013) in the Netherland, Aoki (2008) in China and Anh et al. (2015) in Vietnam; however, there is still a lack of a comprehensive list with prioritized transferability success factors for the international market. The objective of this research is to explore the significant factors affecting the transferability and adoption of the Japanese management philosophy (Kaizen) for international cultures.

2. Research Methodology

To define and prioritize Kaizen transferability success factors, two methods were used. The first one was derived using a comprehensive systematic literature review from different reputable databases such as Emerald, Springer, Taylor & Francis, Scopus (Elsevier), and Google Scholar using several Kaizen aspects such as critical success factors, implementation, transferability, conceptual framework, and models. The second method based on a survey with industry experts. The experts covered a wide range of businesses such as automotive, pharmaceutical, IT equipment and services, heavy industry, industrial pumping company, electrochemical solutions industry, nuclear fuel industry, construction machinery, and medical device company.

3. RESULTS, ANALYSIS and DISCUSSION

Based upon the above two methods, ten Kaizen international transferability factors were devised from the surveyed literature and experts from the field. The identified ten factors included Employee participation, Employee personal Initiative, Employee discipline, Employee eagerness, Top management commitment, Management support, Management enforcement, Organization structure, Organization culture, and National culture and traditions. Table 1 summarizes the Kaizen transferability factors identified from the surveyed literature and the experts' rating for the importance of each factor.

Table 1: Kaizen Transferability factors

Kaizen Factors	References	Experts Rating (very important)
F1. Employee participation	(Aoki, 2008; Conca et al. 2004; Cua et al. 2001; Farris et al. 2009; and Tari et al. 2007; Yokozawa et al., 2012)	93.8%
F2. Employee personal initiative	(Aoki, 2008; Farris et al. 2009; Yokozawa et al. 2012; Yokozawa and Steenhuis, 2013)	81.3%
F3. Employees discipline	(Aoki, 2008; Farris et al. 2009; Pirraglia et al. 2009; Yokozawa et al. 2012; Yokozawa and Steenhuis, 2013)	75%
F4. Employee eagerness	(Brunet and New, 2003; Yokozawa and Steenhuis, 2013)	75%

F5. Top management commitment	(Boer et al., 2017; Cua et al., 2001; Farris et al., 2009; García et al., 2014; Oropesa Vento et al., 2016; Suarez Barraza et al., 2009; Yokozawa and Steenhuis, 2013)	100%
F6. Management support	(Aoki, 2008; Cua et al., 2001; Farris et al., 2009; Flynn and Saladin, 2002; García et al., 2014; Oki, 2012)	81.2%
F7. Management enforcement (monitoring and control)	(Marksberry et al., 2010)	87.5%
F8. Organization structure	(Aoki, 1988; Cole, 2018; Yokozawa et al., 2012)	62.5%
F9. Organizational culture	(Aoki, 2008; Wakamatsu, 2007; White, 1983; Yokozawa et al., 2012)	93.6%
F10. National culture & traditions	(Aoki, 2008; Flynn and Saladin, 2002; Smeds et al., 2001; Yokozawa et al., 2012)	31.3%

The results of this study help organizations in least developed countries in understanding how to adapt and manage the Kaizen philosophy implementation by addressing the critical transferability factors devised in this study. Decision-makers will have a better understanding of where to place more emphasis on implementing Kaizen as a continuous improvement tool. The study showed that the most critical kaizen factors in descending order are: top management commitment, employee participation, organizational culture, management enforcement (monitoring and control), employee personal initiative, management support, employees discipline and eagerness, organization structure and the least important factor is the national culture and traditions. The study showed that employees would like to participate in the ongoing improvement projects; they are ready to listen and follow the role of the instruction. Management, on the other hand, should take advantage of the employee's eagerness to learn through creating a Kaizen culture environment by providing the required training, guidance, and resources. Furthermore, the Kaizen journey requires a special organization culture that encourages open communication between shop floor operators and top management in addition to a well-structured performance management system.

4. Conclusion

The major contribution of this research was to develop an understanding of the Kaizen transferability success factors in non-Japanese culture using a comprehensive systematic literature review and a questionnaire with industry experts. The study showed that the success of the Kaizen continuous improvement journey is based upon the employee, management, organization, and national tradition. Employee participation and discipline, employee personal initiative, the eagerness of employees are the main factors related to employee participation, top management support and commitment in addition to management monitoring and control performance management system are the main factors under the management responsibilities organization structure, organization structure and national traditions are the remaining factors to succeed. These factors will help the least developed countries to adopt the Kaizen journey. A follow-up study will be conducted in the future to analyze and prioritize the identified Kaizen transferability success factors and generate preference among them. The recommended analysis will help managers and decision-makers to have a better understanding of where to direct their effort and attention to implement the Kaizen management philosophy to improve firm-level productivity.

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