

NGUYEN DAT MINH
 NGUYEN THI HANH QUYEN

Human resources quality improvement from the perspective of Kaizen practices

1. Introduction

Human being or human resource is defined as an organization's most valued assets of the people working there who contribute to the achievement of its objectives (Amstrong, 2008). Therefore, managers pay more attention to human resource development to achieve sustainability. Human resource helps organizations develop their workforce through employee training and career development which improves organizational effectiveness and performance (Wilson, 2005). The core factor of human resources quality improvement is the growth or realization of a person's ability and thinking, through conscious or unconscious learning. Development programs usually include elements of planned study and experience and are frequently supported by a coaching or counseling facility (Wilson, 2005).

In Japanese, Kaizen means "small, incremental, continuous improvement" (Prosic, 2011). Kaizen or Continuous Improvement (CI) is a means of continuous improvement in personal life, home life, social life, and working life. At the workplace, Kaizen means continuing improvement

Nguyen Dat Minh, Ph.D.,
 Faculty of Industrial and Energy
 Management, Electric Power
 University, Hanoi, Vietnam,
 ORCID: 0000-0002-2267-4917.

Nguyen Thi Hanh Quyen, Msc,
 Center for Vietnam Science and
 Technology Internationalization
 Promotion, Ministry of Science and
 Technology, Vietnam,
 ORCID: 000-0002-0828-6213.

involving everyone – managers and workers alike (Masaaki, 1986). Kaizen is a philosophy in the Lean system that focuses both on the process and the results. It is a process that, when done correctly, humanizes the workplace, eliminates unnecessarily hard work (both mental and physical), teaches people how to do rapid experiments using scientific methods, and how to eliminate waste in business processes (Prosic, 2011). The Kaizen methodology is a system for communicating ideas throughout the company hierarchy, encouraging everyone to seek and exploit new opportunities and dismantling barriers to information flow (Rosak Szyrocka, 2017). Kaizen involves setting standards and then continually improving those standards. To support the higher standards, Kaizen also involves providing the training, materials, and supervision that is needed for employees to achieve higher standards and maintain their ability to meet those standards on an on-going basis (Prosic, 2011). Kaizen promotes small improvements, not big improvements to make rapid change. This mindset helps enterprises achieve their goals by gradual improvements from solving small problems to create bigger improvements. Meanwhile, it is a long-term process of human development; and it is a continuous process to enhance human abilities (Liker, 2004; Masaaki, 1986).

Therefore, Kaizen's philosophy is an effective method to develop human resources (Farris, Van Aken, Doolen, & Worley, 2009; Glover, Farris, Van Aken, & Doolen, 2011). Previous studies recognized the importance of the human aspect of a Lean system in general, considering both the management and the workforce (Arezes, Dinis-Carvalho, & Alves, 2015; Gaiardelli, Resta, & Dotti, 2019). However, while Lean proponents argue that lean workers show an intrinsically motivated behavior and appear more productive, leading to improved operational performance (Gaiardelli et al., 2019), Lean opponents suggest that workers operate in limiting and alienating conditions that create a dependent and deskilled workforce (De Treville & Antonakis, 2006). Besides, most of the research focusing on the relationship between Lean and human aspects (Gaiardelli et al., 2019), human resource management to conducting Lean practices (Vukadinovic, Macuzic, Djapan, & Milosevic, 2019), whereas human development aspects during Lean implementation are often neglected or partially considered (Yang, Yeh, & Yang, 2012).

Therefore, to fill the gap of linking between Kaizen practices, performance improvement, and operational workers development, this paper presents a new approach to human resources quality improvement orientation under the Kaizen practices to improve work performance through day-by-day Kaizen implementing.

2. Literature review

2.1. Kaizen – Continuous Improvement

Kaizen is a strategy normally adopted by a company where teams of employees at various levels through the cross-functional effort with collective talents within the company work together proactively on improving specific areas within the company (Maarof & Mahmud, 2016). Everyone is encouraged to come up with small improvement suggestions on a regular basis (Masaaki, 1986; Prosic, 2011; Suárez-Barraza, Ramis-Pujol, & Kerbache, 2011).

According to (Masaaki, 1986), Kaizen is a continuous improvement process involving everyone, managers and workers alike. Broadly defined, Kaizen is a strategy to include concepts, systems and tools within the bigger picture of leadership involving and people culture, all driven by the customer. Womack and Jones refer to Kaizen as a lean thinking and lay out a systematic approach to help organizations systematically to reduce waste. They describe waste as any human activity that absorbs resources but creates or adds no value to the process (Womack & Jones, 2003).

Kaizen concept uses the Lean Management approach to eliminate non-value-added processes as well as promotes creating good change (Rosak Szyrocka, 2017). Kaizen practices have been widely reported to produce positive changes in business results and human resource outcomes (Glover et al., 2011). Kaizen is an ongoing methodology and philosophy for challenging and empowering everyone in the organization to use their creative ideas to improve their daily work and this approach did not focus on the big change in a short time, but it is a small, low-cost, low-risk improvement that can be easily implemented (Lolidis, 2006). Kaizen is a method and philosophy to promote and empower everyone in the organization to use their creative ideas to improve their daily work (Rosak Szyrocka, 2017). Kaizen results in improved productivity and quality, better safety, faster delivery, lower costs, and greater customer satisfaction. Furthermore, employees find work to be easier and more enjoyable resulting in higher employee morale and lower turnover (Prosic, 2011). The overviews and principles in promoting Kaizen are:

- changes and improvements are continuous and long-term,
- there are no bad ideas and all ideas are well-received,
- all decisions are made based on actual production and knowledge,
- everyone thinks, learns, and changes together,
- it is necessary to establish a general rule for an effective workplace,
- it is necessary to build team spirit and cultures of cooperation.

In essence, Kaizen mainly focuses on changing people's habits to achieve the following results: (1) Promoting human creative thinking to find new approaches, (2) Career skills development, (3) Discipline and principle compliance, (4) Problem-solving ability, and (5) Teamwork skills and information sharing (Liker, 2004; Masaaki, 1986; Ohno, 1988; Rosak Szyrocka, 2017; Skrzypek, 2010). These processes have been continuously carried out on the whole enterprise long enough to form an organizational culture - Kaizen culture. Thus, Kaizen is one of the best methods to improve both operational performance, employee outcomes (Gaiardelli et al., 2019). Besides, Kaizen creates an atmosphere conducive to problem-solving through collaboration (Rosak Szyrocka, 2017), this leads to the sustainable improvement of human resources.

2.2. Kaizen practice and human resources quality improvement

Human resource can be viewed as encompassing and we can defining human resource in the organization as concerns the increasing decentralization or devolution of practices related to obtaining, training, developing, maintaining, and sustaining a competent workforce (Jørgensen, Laugen, & Boer, 2007). There is various research in the literature that links Kaizen practices and human improvement that focus on the human resource policies and the impact that Kaizen implementation has on employees behavior and their operational performance (Conti, Angelis, Cooper, Faragher, & Gill, 2006; Martínez-Jurado, Moyano-Fuentes, & Jerez-Gómez, 2014).

From the perspective of Lean production, human improvement and Kaizen practice have a very close linkage (Farris et al., 2009; Glover et al., 2011; Jørgensen et al., 2007; Malloch, 1997; Martínez-Jurado et al., 2014; Prosic, 2011; Rosak Szyrocka, 2017). The linking between human improvement in the context of Kaizen practice, such as selection, training, appraisal, compensation, job design, and employee involvement, lead to increasing job motivation, commitment, cooperation, involvement, flexibility, organizational citizenship, reduced turnover, and absenteeism (Jørgensen et al., 2007).

The Kaizen characteristics are group design, task force design, continuous problem solving, day-by-day improvement, creative thinking, information sharing, and work discipline (Farris et al., 2009; Glover et al., 2011). The Kaizen characteristics that may impact Kaizen practices outcome were measured goal clarity, team functional, management support, and continuous thinking. As a result, the Kaizen practice outcome can lead to human improvement which

measured work expertise and experience, creative thinking, planning capability, project controlling, learning behavior, changing acceptance, and awareness enhancement (Gibb, 2016; Glover et al., 2011; Jørgensen et al., 2007).

Human resource development is related to the concepts of education, training, and development. These elements of human resource development are closely related to learning at work (Gibb, 2016). Human skills and thinking often come after a period of practice and then transfer into knowledge. In other words, human development and knowledge development follow the rule “from vivid intuition to abstract thinking” (Armstrong, 2008; Gibb, 2016; Jørgensen et al., 2007; Martínez-Jurado et al., 2014). Besides, human resource development relates to theoretical education (Armstrong & Taylor, 2020; Gibb, 2016), on-the-job training - OJT (Jain, 1999), and work experience accumulation (Armstrong & Taylor, 2020; Garavan, Morley, Gunnigle, & Collins, 2001). OJT as an informal type of training given at the employee’s workplace, where the trainer plays the role of the immediate supervisor of the employee (Siele, 1990) and OJT was claimed to be the most common, the most widely accepted, and the most necessary method of training employees in the skills essential for acceptable performance (Jain, 1999). The purpose of OJT is to improve the employee’s working skills, efficiency, and productivity through day-by-day practice (Siele, 1990). Therefore, the purpose of OJT can be achieved from the perspectives of Kaizen.

In summary, although much of research indicated the positive relationship between Lean/Kaizen practices and human resources quality improvement, most of these studies are focusing on the impact of human resource development on Lean/Kaizen practice outcome (Conti et al., 2006; Prosic, 2011; Suárez-Barraza et al., 2011; Wilson, 2005). This paper aims at exploring the impact of Kaizen practices through day-by-day Kaizen implementing on human resources quality improvement, considering both team members and team managers in the case study.

Based on these mentioned, the following research hypotheses are:

- Kaizen practices have a direct relationship to operational outcome,
- Kaizen practices have a direct relationship to human resource quality outcome.

3. Research methodology

3.1. Data collection

This paper is based on an in-depth exploratory case study conducted in six Vietnamese manufacturing enterprises. All the private-owned case companies

are small and medium enterprises (SMEs) and operating in the plastic industry. The multiple case studies are considered to build a more robust theory (Yin, 2013). Indeed, by using multiple case studies, it is possible for researchers to learn more about cause and effect relationships and make connections in a clearer manner (Gaiardelli et al., 2019; Yin, 2013). The present study uses a qualitative method included open-end interview, observation, participant observation, and analysis of responses to open-end items on the questionnaire (Kaplan & Duchon, 1988).

The qualitative data provides a deep understanding of survey responses and provides a detailed assessment of patterns of responses. Moreover, a process approach was adopted to trace the changes in human capacity development and operational performance. In particular, two time periods were identified: (1) the first phase of Kaizen project implementation and (2) after Kaizen project conducted.

The authors conducted research on each enterprise in a Kaizen project over a period of four to eight months through the method of interview, observing and participant observation in Kaizen groups in the enterprise. All the group members who experience all the Kaizen projects were included in sample and evaluated the human development changes before and after participated Kaizen projects. Besides, all Kaizen projects from six case company are conducted in the same way to ensure the significance of study results, including:

1. Declare the establishment of Kaizen improvement team and identify members' missions.
2. Training to Kaizen team members on ideas and steps to implement a Kaizen project in the same way.
3. Conduct field investigation and collect data at selected production areas.
4. Have daily meeting among term members and weekly meeting to report to superiors and high-level leaders.
5. All project information is visualized in the Kaizen room, everyone can see and read the situation and progress.

Evaluation criteria for human resources quality improvement through Kaizen are selected and summarized based on the results of previous research on Kaizen and human resources development (Gibb, 2016; Liker, 2004; Masaaki, 1986; Rosak Szyrocka, 2017; Skrzypek, 2010). Accordingly, six criteria belonging to two groups related to capability development and awareness development are developed by the authors as shown in table 1 below.

Table 1. Evaluation criteria for human development from Kaizen approach

Dimension	Criteria
Capability development	1. Expertise improvement
	2. Management capability and job assignment improvement
	3. Problem solving abilities
Awareness and personality development	4. Creative thinking and idea suggestion abilities
	5. Discipline and rules compliance
	6. Cooperation and information sharing skills

Source: the authors summarized and selected from several research

Evaluation of human development is based on 5-point scale with performances as shown in table 2 below.

Table 2. 5-point scale for human development assessment from Kaizen approaching

No.	Criteria	Score				
		1	2	3	4	5
1	Expertise improvement	Cannot operate the job independently	Can operate the job under supervision	Understand and can operate the job independently	Understand, operate independently, and cooperate within the processes	Understand, operate independently, cooperate, and training to other members
2	Management capability and job assignment improvement	Inability to manage the tasks in the team	Can manage the tasks under instruction	Can manage the tasks but cannot assign the tasks within team	Can manage and assign the tasks within team	Can manage, assign the tasks, and make consensus within team
3	Problem solving abilities	Inability to solve the problems occur during the project	Can solve the problems under instruction	Can solve the problems follow the process	Proactive and flexible in problem solving	Proactive, flexible, and can propose better processes

4	Creative thinking and idea suggestion abilities	Have no any idea and proposal	Capability to do the ideas but not propose ideas yet	Can propose some good ideas	Can propose good and creative ideas	Can propose good and creative ideas regularly and share to others
5	Discipline and rules compliance	No discipline and rules compliance	Discipline and rules compliance under control and supervision	Discipline and rules compliance	Discipline and rules compliance proactively	Proactive in discipline, rules compliance, and prompt other members
6	Cooperation and information sharing skills	No cooperation and share the information	Cooperation if required, no information sharing	Cooperation and share the information within team	Cooperation and share the information proactively	Cooperation and share the information proactively and clearly

Source: the authors developed from (Amstrong, 2008; Farris et al., 2009; Jørgensen et al., 2007; Liker, 2004; Masaaki, 1986; Ohno, 1988; Prosic, 2011; Rosak Szyrocka, 2017; Skrzypek, 2010; Wilson, 2005)

3.2. Data analysis

During the study, all the documents from manager interviews and team observation were used to analyze the data. The data analysis is to identify how Kaizen projects impact operational performance and human development.

A total of 28 operational workers and 5 Kaizen team leaders from six companies participated in the study. Most of the study participants came from production department and training team belongs to HR department, they had a normal 8 working hours per shift from Monday to Saturday. The average age of participants is under 31 years old, ranged between 20 and 41 years old. The job experience of the respondents ranged between 2 and 10 years. A total of 30 percent of the participants has university degree and above. Table 3 presents case study profile, demographic and job characteristics of the participants.

Table 3. Case study profile and participants information

Company profile			
	Main products	No. of employee	Duration of Kaizen participated
Hanoi plastic	Automotive plastic parts	180	From 4.2019 to 11.2019
Haplast	Plastic bags and package	125	From 6.2020 to 9.2020
TuanHuyen	Plastic bags and food wraps	25	From 11.2020 to 3.2021
TayDo Plastics	Construction plastic materials, plastic pipes	160	From 4.2020 to 9.2020
VietDuc	Plastic bags	156	From 8.2020 to 12.2020
DucHieu	Plastic packages	135	From 4.2020 to 7.2020
Demographic and job characteristics			
		No.	Percentage
<i>Gender</i>			
	Male	21	64%
	Female	12	36%
<i>Age</i>			
	Under 20	0	0%
	20 - 30	15	45%
	31 - 40	16	48%
	41 - 50	2	7%
<i>Job experience</i>			
	Under 3 years	6	18%
	3 - 5 years	13	39%
	Higher 5 years	14	43%
<i>Qualification</i>			
	High school	7	21%
	College	16	48%
	University and higher	10	31%
<i>Department</i>			
	Production	18	54%
	HR	10	31%
	Logistics and warehouse	0	0%
	Other	5	15%
<i>Kaizen experience</i>			
	Yes	18	55%
	No	15	45%

Source: own study

To analyze the data from documents, the open-end interview has first been conducted with Kaizen project managers to explore the baseline of team members capability. Observing and participant observation conducted during the Kaizen projects occurs from the kick-off meeting to final report meeting in each case company to take a note of human capability improvement between team members. For each item was mentioned in table 2, responses were analyzed using mean-score values. The achieved results from observation combined with findings from interview were used to explore the relationship between human factors improvement and the Kaizen practices and their impacts on operational performance.

4. Results

4.1. Operational outcome

The results outcome of Kaizen is explained by four main criteria, including: (1) Productivity, (2) Quality, (3) Cost, and (4) Delivery. These criteria are considered as the most important outcomes to determine that the implementing Kaizen (Pascal, 2007; Womack & Jones, 2003). The results are summarized as shown in table 4 below.

Table 4. Kaizen results from case companies

Case company	Kaizen outcome criteria			
	Productivity	Quality	Cost	Delivery
Hanoi plastic	Reduce manpower in Production line No.1 from 6 workers to 5 workers	Reduce 32% of defective	Reduce lead time from 1087 sec to 970 sec	Improve on-time delivery to next processed to 94%
Haplast	Production efficiency increased from 73.7% to 89.2%	n.a	Reduce W.I.P from 15 pieces to 5 pieces	n.a
TuanHuyen	Increase production volume from 300 kg PE per shift to 420 kg PE per shift	Reduce 100% defectives related to product weight after setup Poka-yoke	Reduce production lot size from 250 kg (10 packages) to 50 kg (2 packages)	n.a

TayDo Plastics	Reduce manpower in cutting process from 3 workers to 2 workers while keep production volume	Reduce defects in print process from 510 m/order to 306 m/order	Reduce model-change time from 69 minutes to 42 minutes	Reduce process distance from 3451.9 m/shift to 429.66 m/shift
VietDuc	Increase 15% production volume after change the die-change method	Eliminate wrong product grade in packing process after conducted visualize and 5S	n.a	n.a
DucHieu	Improve OEE from 16% to 49% in Cutting line.	Reduce NG ratio from 2.4% to 1.65%	Reduce lead time from 1143 sec to 748 sec (Product No.H572-1) Reduce energy consumption 320 USD/month	Reduce material supply time from 4 minutes/lot to 2.9 minutes/lot

Source: own study

The results showed positive improvements in all of the selected enterprises after the Kaizen projects ended. With regard to Hanoi Plastics, the most striking result is a reduction in important resources like human resources and lead time although production output did not grow up (keeping the same output of 400 products/line per day). Haplast and TuanHuyen had better results with a rise in productivity and production efficiency, but a decline in the number of employees and lead time. The Kaizen project of TayDo was successful in decreasing model change and defective ratio, while still increasing productivity. For Export VietDuc, the good result was recorded on criteria for die-change and mistake-proofing, but the result of production cost and delivery were not calculated due to an enormous variety of products in the selected production line and a change in the production schedule. DucHieu is the most successful and all the criteria were fully recorded. The OEE (Overall Equipment Effective) increase from 16% to 49% in the cutting line, while reducing NG (not good) ratio, lead time, delivery time, and energy consumption.

In conclusion, all the values reported in table 4 are positive, demonstrating that Kaizen contributes to achieving production performance, although the level of improvement is different between cases.

4.2. Human resources quality improvement

With the aim of evaluating changes in terms of human development, the evaluation criteria for team members in six case studies are carried out during the whole time of Kaizen projects from the beginning to the end. The authors attended all meetings of the Kaizen improvement teams and recorded data carefully. The capability assessment results (scores of team members were calculated on average) were categorized into levels of the job titles, including assembly supervisor, team leaders, team members as illustrated in figure 1.

As reported from figure 1 to figure 6, during the Kaizen conducting, in the first month, the human outcome assessment seems worse. However, after completed the projects most of the criteria had increased.

Firstly, Hanoi Plastics established the Kaizen team include 6 members and 1 manager. The average score of six human factors improvement after conducted the Kaizen project was increased (Expertise mean score +0.6 from 3.0 to 3.6; Management capability and job assignment improvement mean score + 1.0 from 2.1 to 3.1; Problem-solving ability mean score + 0.9 from 2.4 to 3.3; Creative thinking and idea suggestion ability mean score +1.1 from 2.3 to 3.4; Discipline and rules compliance mean score + 1.7 from 1.4 to 3.1; Cooperation and information sharing skills mean score + 0.9 from 1.7 to 2.6).

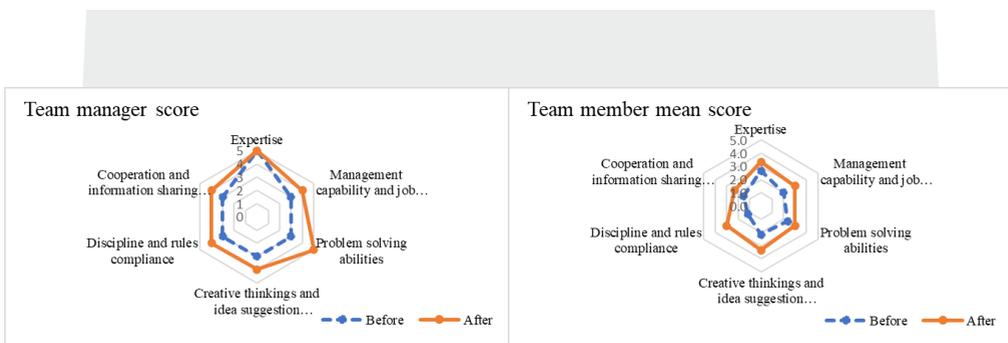


Figure 1. Human development in Hanoi Plastics

Source: own study

Secondly, Kaizen team in Haplast has started from the first day of June 2020 to conduct the Kaizen project for the production line. A production supervisor and 5 team leaders are selected to join the task. The average score of six human factors improvement after conducted the Kaizen project was significant increased (Expertise mean score +0.6 from 2.2 to 2.8; Management capability and job assignment improvement mean score + 1.3 from 2.0 to 3.3; Problem-solving ability mean score + 0.8 from 3.0 to 3.8; Creative thinking and idea suggestion ability mean score +1.5 from 3.0 to 4.5; Discipline and rules compliance mean score + 1.3 from 2.0 to 3.3; Cooperation and information sharing skills mean score + 0.6 from 3.2 to 3.8).

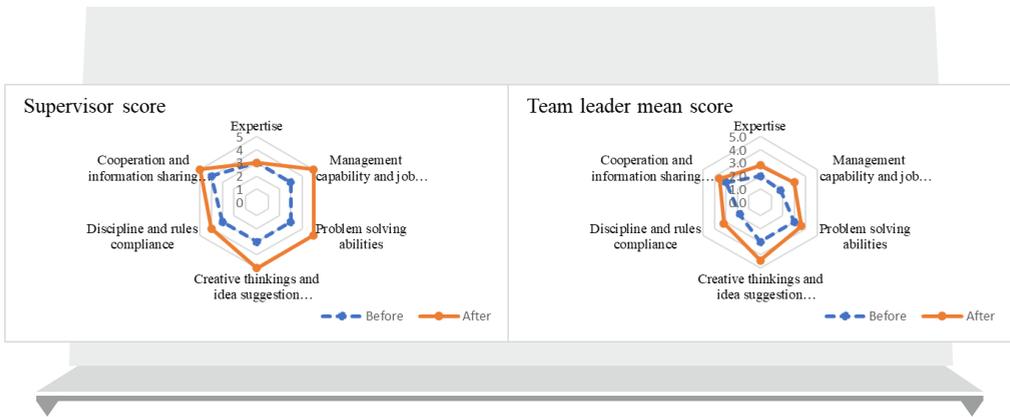


Figure 2. Human development in Haplast

Source: own study

Thirdly, TuanHuyen company has assigned 4 workers join the Kaizen team under the leadership of director directly. The average score had recorded from 11/2020 to 1/2021 are following (Expertise mean score +0.6 from 3.0 to 3.6; Management capability and job assignment improvement mean score + 1.0 from 2.2 to 3.2; Problem-solving ability mean score + 0.6 from 2.6 to 3.2; Creative thinking and idea suggestion ability mean score +1.8 from 1.6 to 3.4; Discipline and rules compliance mean score + 2.0 from 1.8 to 3.8; Cooperation and information sharing skills mean score + 1.2 from 1.6 to 2.8).

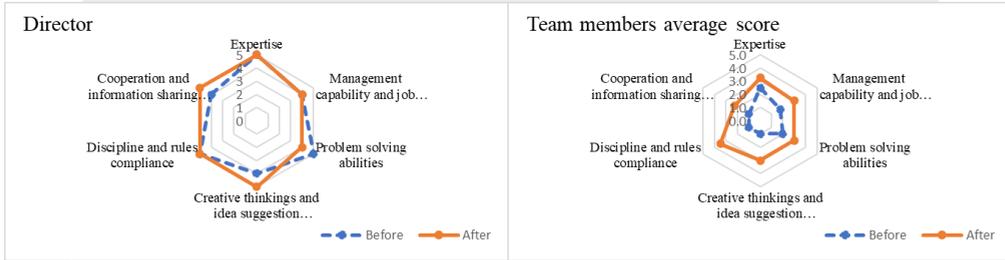


Figure 3. Human development in TuanHuyen

Source: own study

Fourthly, TayDo top management has assigned one Group leader and 4 team members involved in Kaizen projects in the whole company. After scored six indicators one by one, the “Discipline and rules compliance” factor got the highest change with +1.2 from 2.4 to 3.6; next is “Management capability and job assignment improvement”, “Problem solving ability”, and “Cooperation and information sharing skills” with +0.8 score. The factor “Expertise” and “Creative thinking and idea suggestion ability” got +0.6 and +0.4 from 3.2 to 3.6 and 2.4 to 3.0.

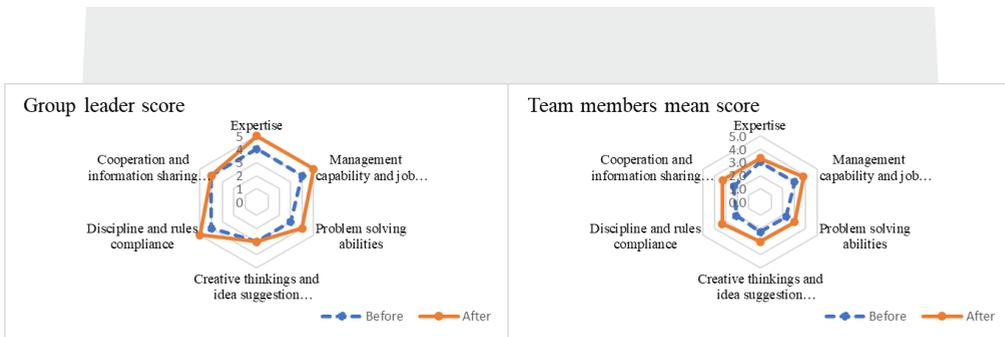


Figure 4. Human development in TayDo plastics

Source: own study

Fifthly, All of Kaizen team in DucHieu plastics come from Lean department and most of them have experience in Kaizen. Therefore, during the Kaizen project occurs, all six indicators of human development are better. The detailed score is shown in figure 5.

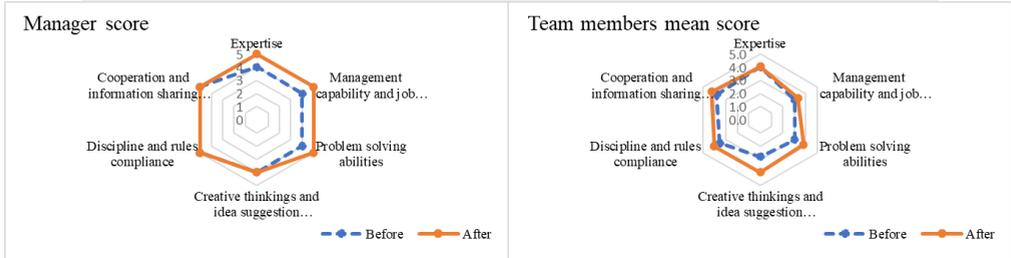


Figure 5. Human development in DucHieu

Source: own study

Finally, VietDuc has got a little change of production performance as shown in table 4. The Kaizen projects conducted in this study are the first Lean/Kaizen activity within company. Therefore, few criteria remained unchanged after the projects ended.

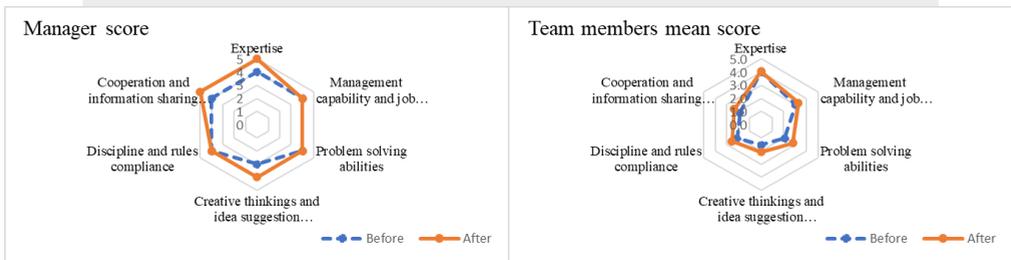


Figure 6. Human development in VietDuc

Source: own study

5. Discussion

The evaluation results shown in figure 1 to figure 6 show that in six case companies the Kaizen team members' capabilities were improved in most of the criteria. In particular, "Creative thinking" and "Idea suggestion abilities" are assessed the best change among these criteria in all three levels in six cases. Meanwhile, "Expertise" did not show significant positive changes for most of the case companies. The remaining criteria achieved higher scores. It means that team members performed better capabilities since they participated in the Kaizen projects. Consequently, the research results from six case companies are similar to the previous hypothesis that developing human resources in accordance with Kaizen philosophy is totally suitable for the manufacturing sector (De Treville & Antonakis, 2006; Gaiardelli et al., 2019; Garavan et al., 2001; Jørgensen et al., 2007; Maarof & Mahmud, 2016; Malloch, 1997; Martínez-Jurado et al., 2014).

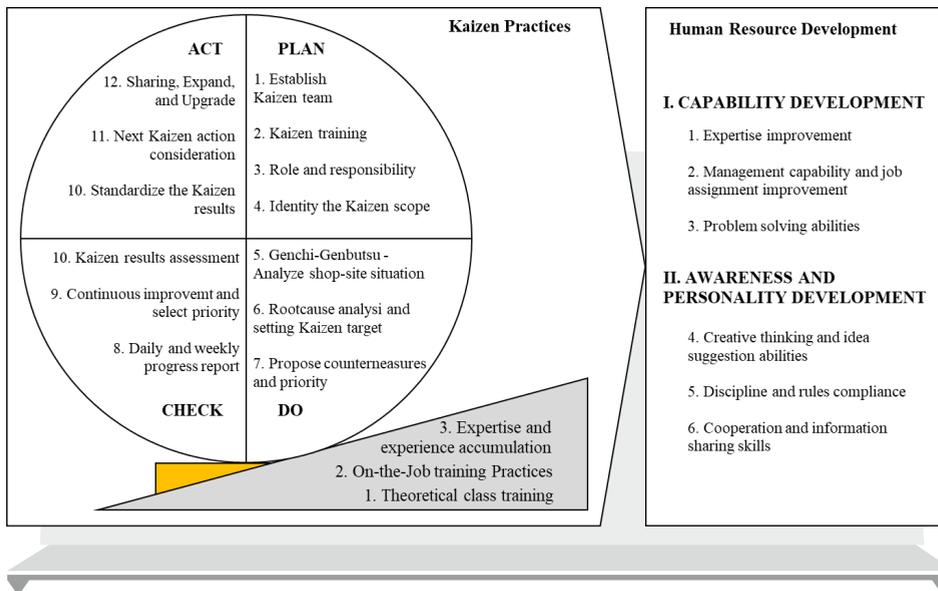


Figure 7. Framework of Kaizen practice impacts on Human resources quality improvement

Source: own study

From Kaizen implementation and capability assessment results in reality, this paper proposes that Kaizen process needs to be more consistent and develop in accordance with Gibb's human learning capability process to achieve more success (Gibb, 2016). On that basis, the authors propose an appropriate approach to implementing Kaizen to achieve the best human resources development results as shown in figure 7. To achieve the human resource quality improvement based on Gibb's human learning, we need to continuous practice 12 steps of Kaizen deployment under PDCA circle. Besides, theoretical class training, on-job training, and experience accumulation are three pillars that ensure for success when conducting Kaizen. The result of the Kaizen practice processes as proposed in figure 7 are also supported by previous research (Garavan et al., 2001; Liker, 2004; Masaaki, 1986; Ohno, 1988; Pascal, 2007).

6. Conclusion

This paper presented human resources quality improvement from a viewpoint of continuous improvement - Kaizen. Through continuous training and practice of a real activity on Kaizen principle of Genchi-Genbutsu (site-visit), employees will achieve a higher level of skills and capabilities. From a higher perspective, promoting Kaizen helps not only develop individual capabilities but also form and develop a culture of cooperation and continuous improvement. Based on theoretical research on the capability development and practical tests in six case companies, this paper proposed a human resources development framework in accordance with Kaizen principles and process. Accordingly, twelve fundamental activities of Kaizen in three proposed phases (as shown in figure 7) are consistent with the Kaizen roadmap on previous studies (Liker, 2004; Masaaki, 1986; Ohno, 1988; Skrzypek, 2010) and the components of human development (Amstrong, 2008; Gibb, 2016; Jain, 1999). Further research should also focus on analyzing and deeply testing the impact of Kaizen on each stage of human development in figure 7 in the context of industry 4.0.

Abstract

Kaizen has long been known as an improvement philosophy that starts with small frequent changes to make larger changes in production. These changes come from the ideas and creative thinking of employees to ensure that the production conditions

and processes are continuously improved. However, Kaizen not only helps motivate employees to think creatively with effective methods and skills, but it also helps them develop their capabilities, personality, and good work habits. The purpose of this paper is to show a new approach to human resources quality improvement through the Kaizen philosophy as a sustainable and active strategy to improve work performance. With analytical research on the relationship between Kaizen implementation, human resources quality improvement, and production efficiency and exploratory research on particular cases in manufacturing enterprises in Vietnam, the authors point out changes in production efficiency and human capacity before and after implementing improvement (Kaizen) projects. The paper finds significant changes of employee capability (Kaizen practitioners) after evaluating the human resource development process on the basis of six indicators of two groups (namely capacity development, personality development) and a set of criteria using a 5-point scale. In addition, the paper proposes a PDCA based framework with 12 contents corresponding to stages of the human resource development. This paper extends theories related to Lean Manufacturing or Kaizen, highlighting how philosophy of Kaizen has hard and soft impacts on the improvement of performance and human resources.

Keywords: *Kaizen Practices, Human factors, Human resources quality, Operational performance, Lean manufacturing.*

JEL

Classification: D2, D24, L23, M11, M54

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