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CONTINUOUS IMPROVEMENT IN THE COMPANY UNDER CONDITIONS OF UNSTABLE EMPLOYMENT – THE PERSPECTIVE OF PRODUCTION DIRECTORS

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Purpose: The paper aims to identify the effects of unstable employment in the context of applying continuous improvement (CI) idea in manufacturing companies and the actions that are taken in such a situation.
Design/methodology/approach: To achieve the purpose of this paper, qualitative research was conducted, using the case study method. Production directors of three manufacturing companies were interviewed. The subject of the research was the realization of continuous improvement in conditions of unstable employment.
Findings: As a result of the research, it was established that:
- In the surveyed companies, employee departures and rotation are affecting the continuity of improvement activities.
- Companies apply various measures to secure the continuity of improvement activities, often also reacting *ad hoc*.
- The biggest and most frequently reported dilemma was whether to invest – or not – in employee development in CI area, knowing the risk of their departure.
- Employment instability accelerated the implementation of automation, robotization, and digitization. This creates a need to perform CI in new ways.

Research limitations/implications: Limiting the research to three case studies restricts the ability to generalize conclusions. The research conducted was of a pilot nature and the presented conclusions and observations apply to the studied group of manufacturing companies. It would be justified and cognitively interesting to conduct research in a broader sample of manufacturing companies, as well as exploring other sectors such as services or trade.
Practical implications: The paper examines the manifestations and effects of the impact of unstable employment on the application of CI and how companies deal with it. Attempt was made to determine whether this situation may imply any changes in the realization of continuous improvement in the near future. The obtained research results can help managers implement continuous improvement in such conditions.
Originality/value: The article explores how employment instability affects the CI process and the continuity of CI activities. A review of existing literature reveals a research gap in this area that warrants further investigation.
Keywords: continuous improvement, *kaizen*, employment instability.
Category of the paper: Research paper, case study.

1. Introduction

In recent scientific studies, much attention has been devoted to issues related to employment instability (e.g., Bąk-Grabowska, Grzesik, 2019; Bieńkowska 2014; Marciniak 2016) – caused by mass layoffs, the development of flexible forms of employment – as consequences of corporate restructuring, undertaking various optimization actions (such as cost reduction, including personnel costs) often being the result of various trends and phenomena occurring at the micro- and macroeconomic level. These analyzes often take the perspective of employees, and as a result, attention is paid to protecting their interests, satisfying their needs for security and development, the employee's well-being, caring for their psychophysical condition and support in the event of a job change.

Significantly less attention is paid to the perspective of companies, which currently struggle with employment variability and related problems and challenges such as: loss of employees, loss of human resources and production capacity, disruption or interruption of business continuity, the need to hire and train new employees.

Employment instability may have a greater impact on the functioning of enterprises implementing long-term strategies, ideas, concepts, and management methods whose application and maintenance require substantial investments in human capital. An example of such an idea is the continuous improvement (CI, Japanese: *kaizen*) "embedded" in such management concepts and methods as Lean Management, Total Quality Management, Six Sigma, Process Management, Project Management. A key role in the implementation of improvement activities is assigned to the "human factor," so employment instability can have a significant impact on the CI system and the continuity of these activities. This raises the question of what are the manifestations and effects of this impact and how do companies cope with it? Does this situation imply any changes in the implementation of continuous improvement in the near future? A review of existing literature reveals a research gap in this area that is worth a closer look and should be filled.

The aim of this paper is to identify the effects of unstable employment in the context of applying continuous improvement idea in manufacturing companies and the actions that are taken in such a situation. Moreover, the author hopes that through empirical research it will also be possible to learn about the dilemmas faced by management practitioners and the opportunities they see in such situations. The article is based on the results of interviews with production directors of three selected manufacturing companies. These studies should be regarded as pilot studies.

The paper consists of the following parts: introduction, the role of the employees in realizing continuous improvement, methodology of own research and characteristics of the surveyed companies, presentation of own research results, and the summary.

2. The Role of Employees in Continuous Improvement

The goal of continuous improvement is to optimize enterprise activities, improve efficiency, enhance the value delivered to the customer, and increase competitiveness. *Kaizen* assumes a never-ending process of improvements in various aspects of the organization's operations carried out by the joint efforts of employees and executives at various levels of management.

Continuous improvement was popularized by Toyota, which incorporated *kaizen* into its TPS (Toyota Production System), which has become an inspiration for many companies to follow. However, solutions typical for the Japanese cultural circle must be adapted to local cultural conditions and labor market situations. Research results on the effectiveness of continuous improvement implementations show that the "human factor" belongs to the group of "key success factors for CI implementation" (e.g., Arnaiz et al., 2022; Brajer-Marczak 2021; Formento et al., 2013; Gonzalez Aleu, Van Aken, 2016; Jørgensen et al., 2007; Walentynowicz 2013).

Continuous improvement is carried out with and by people – thanks to their engagement, loyalty, and competencies they possess, it is possible to improve activities, processes, and products in the organization. CI needs employees who know the company and its processes well, care about improving the organization, understand customer needs, are familiar with CI methods and techniques, share common goals and values, want to develop, and believe that what they do makes sense. Developing the competencies, attitudes and behaviors needed for CI implementation, assimilating desired values and norms of *kaizen* culture by employees requires time, patience, investment in human capital and supporting systems. In the situation of employment instability, improvement activities initiated by predecessors must be realized in new, often different conditions.

In the continuous improvement, it is important to be consistent, not actionable, because without consistency in action it is difficult to maintain CI process, and the effects do not always appear immediately. How to deal with the negative effects of employment instability (as well as how to take advantage of its potential positive effects) while applying continuous improvement idea?

3. Methodology

To achieve the paper's objective, the author conducted own research to diagnose ways of applying continuous improvement idea in companies facing variable employment conditions. Because the phenomenon under study is complex and multifaceted, the author decided to conduct qualitative research that allows for a deeper understanding of the issue. The research

used the technique of structured interviews, in which production directors from three manufacturing companies participated. Limiting the research to three case studies restricts the inference possibilities and the ability to generalize conclusions. As noted in the introduction, conducted studies were of a pilot nature.

To achieve the research goal, detailed research questions were posed (cited in the next section containing research results) – they concerned, among others, reasons, manifestations, and effects of unstable employment with particular emphasis on their impact on continuous improvement. The questionnaire was sent to respondents a few days before the scheduled interview date to allow them to think about the issues raised and prepare for the conversations, which were conducted at the beginning of 2024.

Three manufacturing companies that have been pursuing the idea of continuous improvement for many years were selected for the study. The respondents asked for the anonymity of the companies, so for the purposes of the study they are identified as company X, Y and Z. Below is a brief description of the surveyed companies:

- Company X is a company with foreign capital operating in the food industry – the first production plant was established in the 1940s; the company currently employs approximately 400 people and has been practicing CI for 13 years.
- Company Y is a company with foreign capital from the automotive industry – established in the 1950s, employs approximately 1500 people, has adopted CI over 20 years ago.
- Company Z is a company with foreign capital, also from the automotive industry – founded in 2006, employs over 350 people, has been applying CI since the beginning.

4. Results of Own Research

Each respondent provided answers to all research questions included in the interview questionnaire.

4.1. Who (and for what reasons) leaves the production department and what are the consequences for the realization of CI?

In the companies studied, the highest turnover concerns the group of operators. Very often, these are employees from temporary work agencies. Respondents reported that it is currently difficult to find in their area a new employee for the position of operator who would be interested in working on a permanent basis. The reasons for operators leaving were most often higher wages and greater development opportunities offered by nearby companies. Newly hired employees often lack basic knowledge about lean, or this knowledge is very weak, and they need to be trained. This disrupts the continuity of improvement actions, "you often have to take two steps back, to initial training and standardization, in order to move forward again".

"New employees are interested in doing their job from-to, i.e. what is within their responsibilities and nothing more - they do not care about optimization". "Without working out the basics with a new employee, there is no possibility of implementing CI". In companies X and Y, there is a rotation of operators on production lines. This sometimes creates a sense of temporariness of work in a new place, which according to respondents can result in decreased productivity and less engagement.

In companies X and Y, technologists, laboratory technicians, and specialists leave less frequently – if anything, the reasons for their departures were mostly financial issues and development opportunities. In company Z, several process engineers left, but their departures were probably not due to financial reasons – "I suspect that these departures were caused by perhaps too rapid promotion of some process engineers to the position of production manager. Then there was a problem with the formal authority of the new boss, and I think there may have been a suppression of the initiatives of the production engineers for fear of losing their own position". These employees left looking for greater development opportunities elsewhere. Their departures caused a disruption in the continuity of CI "because when a process engineer leaves, it's [then] firefighting – rather than process improvement".

4.2. Did the CI manager or HR Business Partner (HRBP) leave (and for what reasons) and what were the consequences for the implementation of CI?

In company X, there was a change in the position of CI manager (due to maternity leave) – her duties were temporarily taken over by the plant manager, who carried out his previous tasks in parallel. As a result, the company "somewhat stopped developing in terms of CI implementation" – the deputy mainly implemented plans created by his predecessor, and there was a lack of new development activities. Upon her return, the CI manager took charge of "opening" large, strategic projects related to, for example, the digitalization of processes. The HRBP also left – "Perhaps we did not find the person we were looking for. The HRBP did not contribute much" – this position was not recreated, recruitment tasks were taken over by one of the specialists from the HR department, and training was handled by the CI manager.

Company Y did not record any departures from these positions, but it applies a tactic of rotating people in managerial positions so that they can look at the implementation of processes from the perspective of another department. Recently, the *kaizen manager* moved to the position of production area manager, and his position was taken over by the current technologist. The result is that he focuses more on technological solutions, those that "are closer to him in terms of skills, experience and knowledge". *Kaizen* workshops or problem-solving sessions are conducted to a lesser extent than before.

In company Z, the CI manager left recently. "It was connected with the departure of process engineers, i.e., employees with whom he most often implemented *kaizen* projects". After his departure, his position was not recreated; his duties were taken over by employees he had

previously trained. Continuous improvement is still being implemented, but in a more decentralized way – “we see that there is a lack of coordination of improvement actions”.

4.3. What "safeguards" are used in the company to ensure continuity of improvement activities?

Respondents from the companies studied listed similar “safeguards”: standards, procedures, competence matrices, substitution grids, mentoring. The director of company X added – “it is not a lean approach, but during recruitment we create buffers. It is an expensive solution, but it helps us minimize the risk of employees’ shortage and ensure continuity of actions, including improvement activities”.

The director of Z added: "the solutions we use are designed to eliminate the 'one man job' approach, there is always a person who is able to take over at least 50% of the employee's responsibilities in the event of greater turnover or departure". "After the increased turnover of production engineers, we have developed knowledge management: knowledge codification, knowledge location, risk analyzes and action simulations, e.g. in the event of engineers leaving".

4.4. How (with what) to retain departing employees?

The respondents replied that operators could be retained by offering higher remuneration, but this only works for a brief time and pay ranges do not always allow for this. Directors from companies X and Y, where more than half of the employees are 40+, replied: “Older employees care about job security and stability more than money. Maybe the competition will pay a little more, but here they can be sure of peace of mind, stability, understanding of their needs, and they can count on respect. They do not want to take risks”. “Belonging, peace of mind and a sense of security are important for employees with longer experience. We try to provide that for them, but maybe a seniority bonus could be introduced”. “We see that the shorter the tenure and the younger the employee, the weaker the bond with the organization”.

In the companies surveyed, young employees are offered better employment conditions in the development area: participation in projects, implementation of new processes, work on modern technologies, trips to fairs, training in robotics, automation – “young people know that this is the future”. Respondents emphasized that it is important to take care of the atmosphere in the group because potential conflicts with colleagues or with a superior can incline an employee to leave.

4.5. What is the biggest problem, threat in terms of employment instability and its consequences for the implementation of CI?

The respondent from company X cited the macroeconomic situation and competition as the biggest risks. New companies in the area have a large development potential, offer better wages, better positions – so there is a substantial risk of losing an employee in whom a lot has been invested.

The biggest problem, in the opinion of the respondent of company Y, is the loss of valuable people who are key to the implementation of CI. "It depends on many things; various factors can influence it; it's not so black and white". "If I lose people who had key knowledge in management, processes, continuous improvement, I will also lose time to rebuild that knowledge". "If I don't pass on knowledge to successors, I will lose it along with departing employees".

According to a respondent from company Z, the biggest threat to the continuity of improvement actions is the departure of process engineers. "They are closest to CI, closest to the product and process and they have the knowledge that significantly affects the implementation of continuous improvement in production and delivering value for the customer".

4.6. What dilemmas regarding the implementation of CI arise in connection with unstable employment?

A significant dilemma for the director from company X is whether to invest time and money in employee development or not? The respondent follows an "internal compass". He only sends people with a long tenure – and who are known within the organization – to studies and trainings, agrees to finance specialized polytechnic or technical studies – then he has greater certainty that the employee will not leave for 3-4 years. The director usually does not agree to finance training that results in obtaining qualifications (certificates), e.g., for the welder or the gas technician. "I am convinced that such an employee will leave after obtaining the certificate. I would rather use an external company's service than risk an employee leaving".

The dilemma for the director from company Y is "whether to send a new employee to trainings immediately or wait a bit and see if he doesn't resign and then you will have to train someone else". "This dilemma can be dealt with by sending two or three people for training in the same area and creating a safety buffer". "If training concerns less valuable knowledge, then you have to bear the risk of an employee leaving". "It's a risk that needs to be calculated".

For a respondent from company Z, the biggest dilemma also relates to investment in training: "what if we train a young engineer and he leaves? We train at the risk of him leaving". The company decides to finance studies or additional training if an employee has at least two years of tenure and shows so-called "development potential" (showing willingness to develop, to continue learning).

In case of financing employees' studies, all companies protect themselves by signing so-called loyalty agreements with those employes.

4.7. In the situation of variable employment, are there any benefits perceived, or novel solutions being developed for CI implementation?

At company X, "We are now moving more towards the development of automation, digitization, robotization. What was once done by an employee can now be exported to modern solutions". "Companies providing such services are very open to cooperation, often offering free training". "Now we put more emphasis on technical training, machine operation, because we have less knowledge in this area". "Now it is harder to convince young people to follow lean activities like brainstorming, workshops, but they willingly go to trade fairs related to robotization or digitalization, etc. They know that this is the future".

The respondent from company Y sees the following benefits: "When you have been doing something for an exceedingly long time, you do not notice certain errors and limitations. The arrival of a new employee can revitalize existing solutions, e.g., when someone new says that something can be done in a different way". "Maybe you can give up certain things, and the company will not suffer, even though something has been done for years?" "Also, in the situation of an employee leaving, you can ask yourself whether it is still necessary to maintain (recreate) the position he held? And if so, whether we can save something in this situation? There should also be lean thinking here".

At company Z, departures and rotations of employees led to the development of competence matrices and procedure improvements, introduction of knowledge management and enhanced remote work system. The arrival of new employees also brought a "breath of fresh air" into continuous improvement, a new perspective, and fresh solutions. Employment instability during the pandemic accelerated automation and robotization of production. For example, company deployed mobile robots that replaced often departing employees at the position of "milkman" delivering parts on a forklift to production lines. Previous attempts to optimize this process over three years brought minimal improvement, so the decision was made to purchase three mobile robots that work on five lines in a three-shift system.

Respondents from all companies believe that "The world and people are changing, so to some extent the culture of *kaizen* and ways of implementing CI must also evolve", "You must do certain things differently with young people; they lean more towards individualism than collectivism; you must look for other solutions". Such changes have already occurred in the surveyed companies. For example, *kaizen* training using a smartphone was introduced (the training ends with questions in the form of a quiz); on-the-job trainings are conducted using a video recorded on a private YouTube channel (everyone has access to it via a QR code); less formal meetings over coffee – which employees greatly appreciate (they do not like to participate in e.g. *kaizen* workshops because "they are too formal") – result in many new improvements; breaks are organized for the so-called *kaizen time*; in production areas, canteens

and social rooms electronic kiosks were introduced that allow users to log in to a dedicated application and submit *kaizen* proposals as part of the employee suggestion program.

In conclusions, the following statements appeared: "In the current situation, it is necessary to reconcile the interests of different groups and adapt to the labor market". "People want to work less and less hard. You must take a lean approach and get as much as you can out of these resources what you have". "It is necessary to constantly develop and change, and we take advantage of various opportunities to do so".

5. Summary

Amid employment instability, companies face the dilemma of simultaneously maintaining the status quo and changing (continuity vs. change). This situation creates challenges, risks, as well as new opportunities for the implementation of continuous improvement (CI). The research conducted in three manufacturing companies practicing continuous improvement allowed for the achievement of the paper's goal and led to the following observations and conclusions:

- In the surveyed companies, employee departures (i.e., due to salaries and lack of development opportunities) as well as rotations and replacements occur, in each case somehow affecting the continuity of improvement activities.
- Companies apply various, sometimes costly, measures to secure the continuity of improvement activities, often also reacting ad hoc. Increased employee mobility stimulates the development of knowledge management.
- To retain an employee, if possible, higher remuneration as well as development opportunities are offered.
- The most frequently reported problems and threats are the loss of valuable human resources, loss of time to recreate those resources, and competition offering better working conditions.
- The biggest and most frequently reported dilemma was whether to invest – or not – in employee development, knowing the risk of their departure. In this case, various safeguards are applied, but sometimes companies bear this risk.
- The benefits of employment instability mentioned were the arrival of new employees with a new perspective and innovative ideas; and sometimes the resignation from recreating the positions from which employees left.
- Hiring new, young employees results in the need to find and develop new ways to implement continuous improvement.

– Employment instability in the studied companies accelerated the implementation of automation, robotization, and digitization. This creates a need to perform improvement activities in an environment with an increasing share of machines and devices and a smaller share of human participants.

The conclusions and observations presented in the article relate specifically to the studied group of manufacturing companies and should be considered as pilot studies. Conducting the research in a broader sample of production enterprises, as well as exploring other sectors such as services or trade, would be both valid and intellectually stimulating.

As mentioned in the introduction, operating under conditions of employment uncertainty is difficult for both employees and company managers. Job instability affecting employees may cause anxiety and job dissatisfaction, which in turn may result in a decrease in work commitment and reduced work efficiency. On the other hand, companies struggling with employee departures and generational exchange face the problem of destabilization and disruption of continuity of activities (including improvement processes). Such situations create a need for managers to seek new ways of acting that consider the interests of various parties - this allows the company to increase its ability to adapt and change while maintaining business continuity.

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