



Section of the conference: Engineering Sciences

Sekcja konferencji: Nauki inżynieryjne

How to cite: Laksanawati, E. K., Nindhia, T. G. T., Sudarma, M., & Susihono, W. (2025). Developing lean manufacturing work competencies for the textile and clothing industry's Kaizen man position. *World Conference on Emerging Science, Innovation and Policy* 2025. Futurity Research Publishing. <https://doi.org/10.5281/zenodo.15833450>

Developing Lean Manufacturing Work Competencies for the Textile and Clothing Industry's Kaizen Man Position

Ellysa Kusuma Laksanawati¹, Tjokorda Gde Tirta Nindhia², Made Sudarma³, Wahyu Susihono⁴

¹*Ir. ST, MT, Doctoral Student, Udayana University, Indonesia*

²*Prof. Dr. ST, MT, Lecturer of Mechanical Engineering, Udayana University, Indonesia*

³*Prof. Dr. Ir. ST, M.A.Sc., Lecturer of Electrical Engineering, Udayana University, Indonesia*

⁴*Prof., Dr. Ir. ST, MT, Lecturer of Industrial Engineering, Sultan Ageng Tirtayasa University, Indonesia*

Accepted: June 23, 2025 | **Published:** July 8, 2025 | **Language:** English

Abstract: The textile and garment sector is under increasing pressure to improve efficiency and minimize waste in its production operations. This paper provides a comprehensive framework for building lean manufacturing competencies that are specifically aimed at the role of Kaizen Man, who is responsible for implementing continuous improvement initiatives. We define the core capabilities required for the efficient implementation of Kaizen using a mixed methodology, which includes qualitative interviews with industry experts and quantitative surveys of practitioners. The findings indicate a need for technical skills, problem-solving abilities, and a deep understanding of lean principles. We also provide a competency development program that includes training modules, mentoring, and hands-on experience in real-world scenarios.



Keywords: Lean Manufacturing, Kaizen, Continuous Improvement, Work Competencies.

Introduction

The textile and garment business are one of the world's largest and most active sectors, with complicated supply chains and diversified manufacturing methods (Fernandez-Stark, Bamber, & Couto, 2022). In recent years, the growing desire for efficiency, cost savings, and sustainability has encouraged sectors to adopt lean manufacturing techniques. Lean manufacturing, with its emphasis on reducing waste while increasing value, has shown to be an effective strategy for improving operational performance (Hernandez-Matias et al., 2020).

The job of the Kaizen Man, who is in charge of promoting continuous improvement projects across the organization, is vital to effective lean deployment (de Pinto, 2023). The purpose of this research is to investigate the key job competences necessary for the Kaizen Man role in the textile and garment industry (George et al., 2022). Organizations may empower their workforce to effectively apply lean strategies by identifying and developing these competences, which will result in increased productivity, quality, and market responsiveness (Gutierrez et al., 2022).

To meet the problems and possibilities that exist in this industry, it is critical to develop a trained workforce that is equipped with the knowledge and tools required to build a culture of continuous improvement (Nwokeocha, 2024). This study will present an overview of essential capabilities such as problem-solving abilities, effective communication skills, and team collaboration, as well as analysis their value in facilitating successful lean transformations (Fadnavis, Najarzadeh, & Badurdeen, 2020). This article, viewed through the perspective of workforce development, will help to clarify how lean manufacturing principles may be integrated into the fabric of the textile and garment industry, ultimately promoting innovation and competitiveness (Begum et al., 2024).

Research Aim and Research Questions

This study takes a multifaceted approach to identifying and developing lean manufacturing work capabilities for the Kaizen Man role in the textile and garment industry (Gedara & Madusanka, 2024; Kong, Kong, & Huang, 2024). The study technique is divided into three main phases: literature evaluation, competency framework construction, and empirical validation.

A. Literature Review.

The first phase entails a thorough assessment of the available literature on lean manufacturing principles, Kaizen methodology, and workforce competencies (Berhe, Gebremichael, & Beyene, 2023). Academic papers, industry reports, and case studies will be examined to get insight into:

- a) Best Practices for Lean Manufacturing Implementation (Kumar et al., 2022).
- b) The role and responsibilities of the Kaizen Man (Kharub et al., 2023).
- c) Identified competencies that are applicable to continuous improvement activities.
- d) This literature review will help you identify and categorise important competencies related with the Kaizen Man position.

B. Developing a Competency Framework



Following the literature review, a competency framework will be created. The framework will be based on four major competency domains:

- a) Technical skills include knowledge of lean technologies (5S, Value Stream Mapping, Root Cause Analysis) as well as competency in textile and garment manufacturing processes (Jana & Tiwari, 2021; Robertstone, Mezinska, & Lapina, 2022).
- b) Soft Skills: Communication, leadership, and teamwork are critical for increasing employee engagement and promoting change (Allam & Raj, 2024; Revina, Kalabina, & Belyak, 2022).
- c) Problem-Solving Skills: The ability to detect challenges, analyse data, and implement effective solutions in a production context (Tran et al., 2024).
- d) Continuous Improvement Mindset: A dedication to creating a culture of continuous development and adaptation in processes, products, and staff capabilities (Ahsan, 2024; Toppazzini, 2024).

C. Empirical validation.

To validate the competency framework, the study will use qualitative approaches, including Interviews:

- a) Conducting semi-structured interviews with industry experts, lean practitioners, and current Kaizen Men to gain real-world perspectives on critical capabilities (Amunzu, 2020; Komkowski, 2024).
- b) Focus Groups: Holding focus group meetings with stakeholders at all levels of textile and garment firms to fine-tune the competency framework and ensure practical relevance (Kinnå & Sjöberg, 2024).
- c) Survey: Sending out a structured survey to a larger group of industry professionals to determine the importance and perceived usefulness of the indicated competencies.

D. Data analysis

Data gathered through interviews, focus groups, and surveys will be analyzed thematically for qualitative data and statistically for quantitative data (Richard et al., 2021). The results will be used to improve the competency framework, ensuring that it meets industry needs and best practices (Plummer et al., 2021). Interviews were performed with a variety of stakeholders, including production managers, lean manufacturing specialists, and Kaizen team members, to get insight into the competences required for Kaizen Man in the textile and clothing industry (Biswas, 2023). This debate tries to identify the skills, knowledge, and attitudes that are required to promote continuous improvement.

E. Conclusion

This methodical approach seeks to establish a thorough understanding of the fundamental competences required for the Kaizen Man job in the textile and garment industries, providing useful insights for practitioners and organizations looking to improve their lean manufacturing initiatives.

Research Results



The study revealed a full set of lean manufacturing work competencies required for the Kaizen Man role in the textile and garment industries. The literature research, interviews, focus groups, and polls revealed the following important competencies:

1. Technical Skills

Lean Tool Proficiency: Understanding of lean approaches such as 5S, Value Stream Mapping, and Kaizen events was judged essential. Participants noted that Kaizen Men who use these tools properly may considerably improve waste reduction and operational efficiency.

2. Soft Skills.

a) **Communication:** Effective communication skills allow for the clear articulation of lean principles and promote team collaboration. According to the survey results, Kaizen Men who are good communicators are more effective at pushing continuous improvement efforts.

b) **Leadership and Teamwork:** Participants emphasised the need of leadership skills that inspire and encourage teams. A collaborative approach was suggested as a way to increase interest in lean methods.

3. Problem-solving abilities

Analytical Thinking: The capacity to analyse complicated problems and apply data-driven solutions has been acknowledged as a vital competency. Interviewees noted that successful Kaizen Men frequently use root cause analysis to address production issues.

4. Continuous Improvement Mindset

Adaptability: It was recognised as critical to foster a culture of change-responsiveness. Kaizen Men who take a proactive approach to continuous learning and adaptation are more effective at maintaining improvement efforts.

The outcomes of this study illustrate the multidimensional nature of the Kaizen Man role, emphasizing a combination of technical expertise, interpersonal abilities, and a mindset focused towards continual improvement.

Conclusions

According to the research, successful Kaizen Men not only have a thorough understanding of lean tools and processes, but also have great communication and leadership skills that facilitate cooperation and foster a culture of continuous improvement. Their capacity to analysis problems and create innovative solutions is critical in dealing with the unique challenges of textile and garment production.

Furthermore, the report emphasizes the need of specific training and development programs in cultivating key competencies, as well as organizational commitment to continuous worker development. Organizations that invest in Kaizen Men's skill development can dramatically improve their operational performance, react to quickly changing market conditions, and achieve long-term success.



Overall, this study provides useful insights into the skills required for lean implementation in the textile and garment industries, setting the way for future research into the dynamics of skill development and cultural transformation in lean environments. The emphasis on a comprehensive approach to competency development not only equips Kaizen Men for current difficulties, but also positions organizations for long-term success in an increasingly complex and competitive landscape.

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