

Transitioning To an Effective Lean Culture: Case Study Based On an Apparel Company in Sri Lanka

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Abstract

Lean manufacturing represents a transformative methodology across multiple industries, enhancing efficiency and minimizing waste. In the Sri Lankan apparel sector, Lean practices are critical for sustaining competitiveness while maintaining product quality. Despite widespread adoption, many organizations encounter challenges in sustaining Lean improvements, often due to an overemphasis on technical tools. This study seeks to identify the factors, processes, and actions that support the development and maintenance of a robust Lean culture. A qualitative, single-case study design within an interpretivist framework was used to investigate Lean culture transformation at ABC Group of Companies in Sri Lanka's apparel industry. Data collection involved semi-structured interviews with eight stakeholders directly engaged in Lean implementation. Thematic analysis, facilitated by NVivo software, identified five core themes and six critical factors necessary for sustaining Lean culture. Results underscore the importance of the social environment, particularly respect and teamwork, in embedding Lean values. The study is consistent with the Toyota Way model, emphasizing the integration of social and physical environments. This research advances Lean literature by demonstrating that enduring success requires a cultural transformation that integrates human values with operational excellence.

Key Words: Lean Culture, Social Environment, Physical Environment, Team Work, Respect.

1. Introduction

Lean Manufacturing, which began with the Toyota Production System (TPS) during the 1970s and 1980s, has had a profound impact on operational performance and is closely aligned with key manufacturing objectives (Kumar et al., 2022). The effectiveness of Lean is evident in Toyota's achievement as Japan's most profitable company in 2004 (Liker and Hoseus, 2008). Therefore, incorporating Lean principles is vital for achieving sustainable success and maintaining long-term competitiveness (Andini and Yudoko, 2024).

Although Lean Manufacturing is widely recognized for promoting organizational improvement, its implementation frequently fails because the human factor is often overlooked (Coetzee et al., 2019). The success of Toyota demonstrates the importance of integrating the 4P Model Philosophy, Process, People/Partners, and Problem-Solving in a balanced way (Liker & Hoseus, 2008). Successful Lean initiatives not only align with business objectives but also depend on robust processes and accountable leadership (Womack, 2003).

Toyota's organizational achievements are attributed to a Lean culture that integrates process efficiency with a focus on human resources, based on the principles of Continuous Improvement and Respect for People (Liker & Hoseus, 2008). The Toyota Way model, which serves as the conceptual foundation of this study, illustrates the interdependence of technical and social dimensions within Lean management. In addition, prior research underscores the significance of workforce engagement in maintaining Lean practices (Costa et al., 2019) and demonstrates the impact of social practices on technical outcomes (Sahoo, 2019).

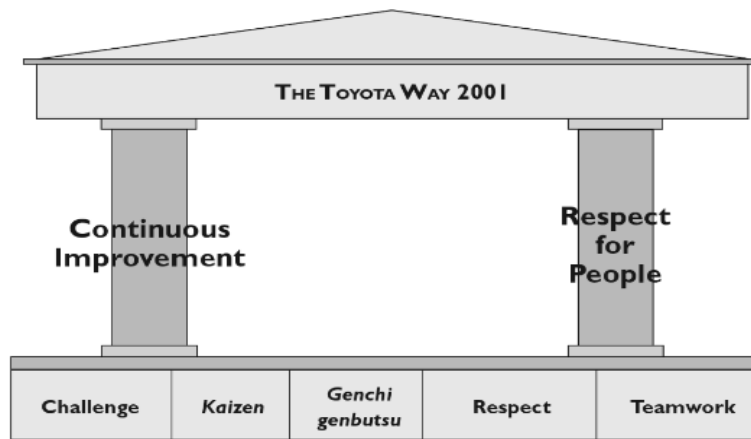


Figure 1 - The Toyota Way 2001
Source: The Toyota Way 2011

While Lean Manufacturing has gained traction globally, sustaining employee engagement remains a persistent challenge. Research indicates that motivating employees to internalize Lean principles beyond mere compliance with standard procedures; it demands cultural alignment and effective engagement strategies (Weerasooriya & Chamaru, 2017). However, Lean methodologies, rooted in the cultural context of the Toyota Production System, may not translate seamlessly across diverse industrial or national settings (Netland et al., 2016). This is particularly evident in labour-intensive sectors like Sri Lankan apparel manufacturing, where organizational hierarchies and resistance to change often undermine Lean efforts (Jadhav et al., 2014).

A study by Gamage et al. (2019) analyzed the impact of Lean practices on the operational performance of Sri Lankan apparel companies, revealing positive correlations with improvements in quality, delivery times, and cost reduction. Nevertheless, despite these advancements, the apparel industry in Sri Lanka has not yet fully capitalized on the potential benefits of this change initiative (Fernando and Ratnayake, 2021).

Despite the growing interest in Lean transformations, there is still a significant gap in our understanding of how to effectively integrate human-centric values, especially in developing contexts. In Sri Lanka, current Lean models inadequately address how respect for people and teamwork can be operationalized to foster employee ownership and continuous improvement. This study addresses this theoretical gap by applying the Toyota Way model to explore how organizations can cultivate a Lean culture that integrates both social and technical elements within the Sri Lankan apparel sector. In this context, this study aims to identify the factors that influence the development of an effective lean culture and the processes and actions that sustain a strong lean culture through respect and teamwork.

2. Research methodology

2.1 Research Philosophy

This study is grounded in the interpretivist paradigm, which allows researchers to gain deeper insights by exploring experiences and perceptions within specific social environments. According to Moustakas (1994), interpretivist epistemology investigates the relationship between the researcher and the subjects, emphasizing the meanings, voices, positions, experiences, thoughts, and feelings of individuals. Accordingly, this study adopts an interpretivist philosophy to understand how particular social groups or individuals construct and interpret their realities within ABC Company.

2.2 Research Approach

Inductive reasoning, often referred to as "bottom-up" logic, involves deriving general conclusions or principles from specific observations to better understand the data. Aligned with this approach, this study employs an inductive methodology, beginning with individual observations and progressing toward broader generalizations. This approach is particularly suited to exploring the unique perspectives and experiences within the social context of ABC Company, enabling the development of insights into lean culture and its integration with interpersonal values.

2.3 Research Strategy

The study adopts a single-case study design to explore the process of organizational culture change toward Lean at ABC Company. A case study approach, as Yin (2014) suggests, is valuable when investigating a contemporary event in the context where the boundaries between context and case are often indistinct. This design is suitable for answering "why," "what," and "how" questions, making it ideal for analyzing the cultural transformation in an organization. The single-case design enables an in-depth examination of dynamics during the Lean transformation process within the company.

2.4 Research Choice

Qualitative methods aim to comprehend the experiences, meanings, and viewpoints of the participants. Therefore, this study is exclusively qualitative, focusing on capturing the detailed experiences and perceptions of participants.

2.5 Time Horizon

The study examines the transition to Lean culture over a defined period, focusing on activities, transformations, and changes that occurred during the implementation phase. A cross-sectional approach was employed to capture a snapshot of Lean culture within the organization during this period, facilitating an understanding of its current impact and challenges.

2.6 Data Collection

To gain an in-depth understanding of the Lean transformation at ABC Company, this study employed a qualitative research approach using semi-structured interviews as the primary data collection method. This approach allowed for flexibility in questioning, enabling additional probing based on interviewee responses, ensuring a deeper exploration of participants' perspectives on Lean culture, respect, and teamwork dynamics.

2.6.1 Primary Data Collection: Semi-Structured Interviews

Semi-structured interviews were conducted with key stakeholders involved in the Lean transformation, including General Managers, managers, supervisors, and frontline employees, as well as shop floor workers. Semi-structured interviews allowed for flexibility in questioning, enabling additional probing based on interviewee responses (Yin, 2014).

2.6.2 Instrument Design and Administration

The interview guide was thematically structured to capture key dimensions of Lean transformation, including demographics, perceptions of Lean culture, influencing factors, respect, and teamwork. This ensured systematic data collection across organizational levels. A combination of open-ended and probing questions enabled participants to share detailed insights into their experiences and challenges, enhancing data richness and reliability. This approach facilitated a deeper understanding of how Lean principles interact with workplace dynamics.

2.6.3 Population, Sampling Procedure and Data Collection Process

The study employed eight purposely selected participants, including general managers, supervisors, and shop-floor employees. The interview guide was pilot-tested and refined for clarity and relevance.

Interviews were conducted through a mix of face-to-face and virtual meetings, with durations ranging from 30 to 60 minutes. The diverse participant pool ensured that multiple perspectives across different levels of the organization were captured, providing a holistic view of how Lean principles are integrated and sustained in ABC Company.

Ethical protocols included informed consent, confidentiality, and data security. Company and participant identities were anonymized. Due to organizational restrictions, no photographs or observational data were collected; instead, detailed verbal accounts supplemented contextual understanding.

2.7 Data Analysis Method

For this study, thematic analysis was employed to analyze the data collected from the semi-structured interviews. Thematic analysis is a widely used qualitative data analysis method that involves identifying, analyzing, and reporting patterns or themes within data. The analysis followed a structured and systematic process to ensure coherence and transparency in how the data was examined. Thematic analysis is nevertheless an incredibly straightforward method for finding patterns in qualitative data and developing themes that explain them (Kiger and Varpio, 2020).

Qualitative data analysis was conducted using the following steps:

Familiarization with the Data: This allowed for a deep understanding of the content and provided a sense of the overall themes emerging from the participants' responses. This initial phase ensured that no significant insights or details were overlooked.

Coding: After familiarization with the data, the next step was to generate initial codes. Transcripts and notes were analyzed to generate coded themes related to Lean practices and cultural adjustments. These codes were short phrases or labels that identified significant features of the data related to the research questions. The coding process was open and iterative, meaning that new codes were added as patterns emerged during the analysis. Codes were generated manually to ensure an in-depth understanding of the data at the micro level. This step allowed for the identification of specific data segments that related to the key concepts of Lean culture, teamwork, respect, and collaborative work environment.

Sorting: Once the initial codes were generated, the next step was to group the codes into potential themes. This involved sorting and collating the various codes into broader categories that reflected significant patterns or concepts within the data. Codes were organized into categories related to different Lean transformation aspects. NVivo software facilitated data sorting, as recommended for qualitative research. These themes were carefully considered to ensure that they accurately represented the data and aligned with the research objectives related to the sustainable lean culture.

Synthesizing: Identified relationships and patterns enabled an in-depth analysis of Lean culture implementation. The identified themes were reviewed and refined in this step to ensure that they were distinct, coherent, and well-supported by the data. Some themes were combined, while others were split into more specific subthemes. The review process was iterative, ensuring that the final themes were comprehensive and representative of the participants' experiences and perspectives. This also involved checking that the themes provided a comprehensive understanding of how Lean practices and cultural values intersect at ABC Company.

Theorizing: Patterns in the data were used to explore the factors and processes for create sustainable lean culture from multiple perspectives. After finalizing the themes, each one was clearly defined, and relevant subthemes were named. This step involved ensuring that each theme was well-explained in relation to the research questions and objectives. The names of the themes were selected to reflect the essence of the data they represented, making them both meaningful and easy to understand.

2.8 Quality Assurance

Credibility: Credibility in this study was enhanced through triangulation by using data collected solely through semi-structured interviews with employees at various levels of ABC Company. These interviews provided an in-depth perspective on Lean culture and allowed for a nuanced understanding of how respect, teamwork, and technical Lean tools are integrated.

Transferability: While the research centers on ABC Company, the findings are applicable to other organizations in the apparel manufacturing sector seeking to implement or strengthen their Lean culture. The detailed documentation of Lean practices, especially the integration of interpersonal values like respect and

teamwork with technical Lean tools, supports the transferability of insights to similar organizational contexts where Lean transformation is underway.

Dependability: The study ensures dependability by providing a clear and detailed description of the research design, data collection processes, and analysis procedures. This transparency enables the replication of the study in other organizations, particularly within the apparel industry, to explore how Lean practices and culture can be cultivated effectively. The comprehensive audit trail also contributes to the reliability of the findings and their relevance to similar Lean culture development initiatives

3. Results and Discussion

3.1 Factors Influencing the Development of Strong Lean Culture

Table 1: Thematic Framework for the Factors Influencing the Development of Strong Lean Culture at ABC Apparel Company.

Theme	Sub-Theme	Code	Example Interview Insights
Social Environment	Collaborative Work Environment	<ul style="list-style-type: none"> ● Team work ● Respect ● Open Communication ● Shared problem solving 	<p><i>“To sustain a lean approach, we need to focus on building both physical and social environments”.</i> (Assistant Manager - Organization Development)</p>
	Knowledge Sharing		<p><i>“Before introducing lean we knew nothing about it. Understanding lean is even more important”.</i> (Junior Executive – Cutting)</p>
	Top Management Support	<ul style="list-style-type: none"> ● Demand from the top management 	<p><i>“When both the training we provide and the expectations of top management align, the foundation for sustaining lean practices will be established”.</i> (Manager – Human Resource)</p>
	Employee Engagement	<ul style="list-style-type: none"> ● Employee’s Accountability ● Experiencing Benefits 	<p><i>“My experience has proven to me that individuals change once they see the results. People in any culture change after experiencing a benefit”.</i> (Assistant Manager - Organization Development)</p>
	Opportunity for growth		<p><i>“In lean cultures, it's important to move beyond job specialization. We should foster a multi-skilled workforce and establish mechanisms for systematic rotation of these multi-skilled workers”.</i> (Senior executive – Organization Development)</p>
Physical Environment	Work Standardization		<p><i>“The physical environment refers to the infrastructure, which should ensure 100% machine availability and essential to implement Standard Work (SW) procedures and guarantee that all necessary materials align with the processes”.</i> (Data Entry Operator– Stores)</p>

Source: Compiled by the Author based on Interviews (2024)

As shown in Table 1, two key themes: physical environment and social environment emerged as critical to sustaining a Lean culture. Among these, the social environment proved especially influential, encompassing sub-themes such as collaboration, employee engagement, knowledge sharing, growth opportunities, and top management support. These elements collectively reinforce the cultural foundation necessary for Lean sustainability.

One respondent remarked,

“We need to start with the social environment. For example, when implementing 5S award ceremonies, some factories in our industry often achieve initial success within one or two months. At first, everything looks great, but after three to four months, the effectiveness of 5S often diminishes. This decline occurs because companies focus on building the physical environment rather than fostering the right mindset among their employees”.

(Assistant Manager - Organization Development)

This perspective aligns with existing literature, which emphasizes that Lean tools alone are insufficient without leadership commitment, employee engagement, and a culture of continuous improvement (Henrique et al., 2020). Netland (2016) argues that many organizations prioritize technical aspects of Lean while neglecting the cultural mindset required for sustained transformation. Similarly, Bhasin (2013) notes that focusing solely on physical tools, such as workplace organization, often results in superficial change. A people-centric approach is essential to embed Lean principles into daily operations and ensure long-term success.

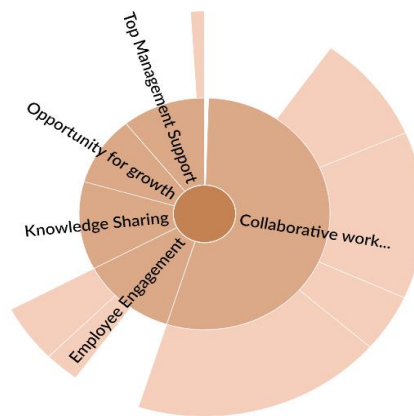


Figure 2 - Comparison of Social Environment Sub-Themes by Coding References

Source: Generated in NVivo by Author

As shown in Figure 2, the hierarchy chart indicates that the collaborative work environment received the highest number of references. The analysis identifies four core factors contributing to Lean culture: teamwork, respect, open communication, and shared problem solving.

Teamwork enables individuals to achieve more collectively than they could alone. Respondents emphasized that peak performance is closely tied to team synergy, which is essential for sustaining Lean practices. This aligns with Liker (2004), who highlights teamwork as vital for continuous improvement and goal alignment in Lean systems. Galeazzo et al. (2021) also note that balancing employee participation with managerial oversight strengthens operational performance and supports Lean sustainability. Furthermore, a respectful culture strengthens employee commitment and supports continuous improvement. Respondents

noted that ABC Company actively promotes respect, enhancing employee value and willingness to contribute. Research supports that respect fosters trust, collaboration, and a psychologically safe work environment (Liker & Hoseus, 2008). Erazo-Rondinel et al. (2024) further emphasize that “respect for people” is fundamental for sustaining collaboration and continuous improvement in Lean initiatives.

The literature strongly supports the role of teamwork and respect in sustaining a Lean culture. Liker and Hoseus, (2008) describe the Toyota Way as a framework built on continuous improvement and respect for people, integrating efficient processes with people-centered management. However, replicating this cultural model outside Toyota remains challenging. Coetzee et al. (2019) emphasize that respect-driven employee empowerment enhances collaboration and long-term improvement. Similarly, Erazo-Rondinel et al. (2024) affirm the role of respect in continuous improvement within lean construction, though sustainability can vary by industry context.

Furthermore, establishment of a robust Lean culture is predicated upon several interrelated organizational factors that collectively facilitate its adoption and sustainability. Employee engagement constitutes a critical component, as individuals who are emotionally invested in their work demonstrate heightened levels of innovation, accountability, and commitment to continuous improvement, even in the presence of systemic challenges. Indicators of such engagement include a strong sense of responsibility, pride in work quality, and a deep connection to organizational outcomes. Furthermore, the dissemination of knowledge is essential for contextualizing Lean principles within specific operational environments. Effective knowledge sharing not only clarifies the practical application of Lean methodologies but also mitigates resistance to change and fosters alignment between individual actions and strategic objectives. The role of top management is equally indispensable; leadership must exemplify Lean behaviors, articulate a coherent strategic vision, and ensure the provision of adequate resources to sustain transformational efforts. Lastly, the availability of structured opportunities for professional development underpins the continuous improvement ethos central to Lean culture. Through targeted learning and skill enhancement initiatives, employees are better equipped to adapt to evolving methodological demands, thereby reinforcing the cultural shift toward operational excellence.

The physical environment acts in concert with social factors by enabling efficient workflows. The successful implementation of Lean principles necessitates an infrastructure designed to minimize waste, reduce process friction, and promote visual management alongside smooth task flow. When complemented by an engaged workforce, physical systems serve as facilitators of Lean discipline and reliability.

Together, these environments reinforce the central theoretical premise: Lean is not merely a technical system but rather a socio-technical transformation that requires the synchronized development of both people and systems (Liker, 2004). Organizations that align structural efficiency with human capability are more favorably positioned to sustain Lean practices over time.

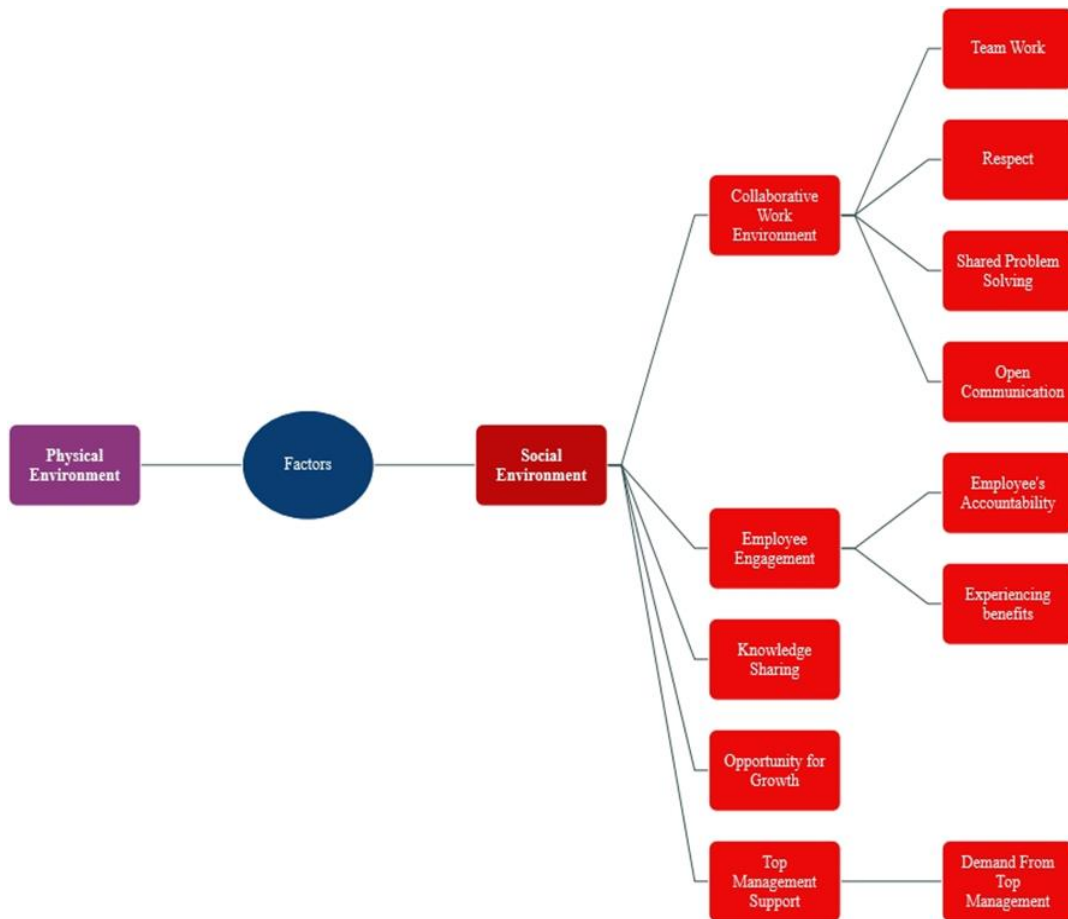


Figure 3 - Key Themes and Sub-Themes Influencing a Strong Lean Culture
 Source: Generated in NVivo by Author

Themes of social and physical Environment shown in Figure 3 align closely with existing literature. Hines et al. (2004) used the iceberg model to illustrate those visible elements like Lean tools and techniques represent only 20% of successful implementation. The remaining 80% lies beneath the surface, encompassing factors such as leadership, strategic alignment, employee engagement, and culture (Bortolotti et al., 2015). These underlying elements, as reflected in ABC Company's experience, are crucial for sustaining a Lean transformation.

3.2 Processes and Actions for Sustaining a Lean Culture

Table 2: Thematic Framework for the Factors Influencing the Development of Strong Lean Culture at ABC Apparel Company

Theme	Sub-Theme	Codes/Key Actions	Example Interview Insights
Driving Cultural Transformation	Cultural Shift	<ul style="list-style-type: none"> Adapting organizational culture to embrace teamwork. 	<p>“We've shifted from a controlling culture to a supportive one, focusing on empowering our machine operators”.</p> <p><i>(Manager – Human Resource)</i></p>
Empowering Teams	Allowing Project Ownership	<ul style="list-style-type: none"> Empowering employees to take responsibility for projects. 	<p>“In Lean projects, the concept of a ‘project champion’ allows ownership of the project to sit with the respective department”.</p> <p><i>(Assistant Manager - Organization Development)</i></p>
	Healthy Competitions	<ul style="list-style-type: none"> Encouraging healthy competition among teams. 	<p>“Our main mechanism for fostering teamwork is an annual competition that selects the best-performing company. We also recognize the top-performing department with substantial cash prizes for the winners”.</p> <p><i>(Senior executive – Organization Development)</i></p>
	Team-Based Reward System	<ul style="list-style-type: none"> Recognizing and rewarding collective efforts. 	<p>“Our incentive program is structured to reward team performance rather than individual achievements”.</p> <p><i>(Indirect Operator – Trim Stores)</i></p>
	Lean KPI Achievement Follow-Up	<ul style="list-style-type: none"> Tracking progress on lean KPIs. 	<p>“We assign targets based on their carder. They cannot meet the department's goals unless they collaborate”.</p> <p><i>(Manager – Operations)</i></p>
	Department Meetings	<ul style="list-style-type: none"> Regular team meetings to align and coordinate efforts. 	<p>“Our opportunity collection meetings play a crucial role in driving continuous improvement. Every week, we review challenges as a team and encourage everyone to suggest solutions”.</p> <p><i>(Assistant Manager - Organization Development)</i></p>
Fostering Respect	Promoting Non-Blame	<ul style="list-style-type: none"> Focusing on problem-solving rather than 	<p>“We have made a commitment to a "no-blame" culture in order to maintain respect at all</p>

	Culture	assigning blame.	levels. <i>(Manager – Human Resource)</i>
	Encourage Open Communication	<ul style="list-style-type: none"> • Creating channels for transparent dialogue. 	<p>“Now decision-making is decentralized. Everyone contributes to the decision-making process.”</p> <p><i>(Manager – Human Resource)</i></p>
	Listening to Employees	<ul style="list-style-type: none"> • Actively seeking and considering employee feedback. 	<p>“A big part of showing respect here involves listening to employee ideas and valuing their input”.</p> <p><i>(Assistant Manager - Organization Development)</i></p>
	Recognition Programme	<ul style="list-style-type: none"> • Celebrating employee achievements and contributions. 	<p>“We hold a reward ceremony to show our appreciation. During this ceremony, we give out gratitude certificates to recognize their hard work”.</p> <p><i>(Senior executive – Organization Development)</i></p>
	Surveys	<ul style="list-style-type: none"> • Gathering employee opinions and insights regularly. 	<p>“Our “Happiness Survey” annually assesses how valued and comfortable employees feel in their roles.”</p> <p><i>(Machine Operator)</i></p>

Source: Compiled by the Author based on Interviews (2024)

As illustrated in Table 2, this analysis identifies three foundational themes Driving Cultural Transformation, Empowering Teams, and Fostering Respect as central to sustaining a Lean culture. These themes promote teamwork and respect, which are critical for long-term Lean success (Liker & Hoseus, 2008).

The rigid organizational culture at ABC Company often constrained creativity and innovation. Recognizing this challenge, the company prioritized cultural change as a foundation before implementing lean practices.

The literature reinforces that organizational structure plays a pivotal role in the effectiveness of Lean implementation. Hardcopf, Liu, and Shah (2021) argue that hierarchical structures are less conducive to Lean transformation due to rigid control and centralized decision-making, which can hinder flexibility and responsiveness. Similarly, Sisson and Elshennawy (2015) highlight that such hierarchical structures often restrict cross-functional collaboration and limit employee empowerment, both of which are essential for a successful Lean transformation. The shift at ABC Company reflects the broader understanding that fostering a more flexible, decentralized, and collaborative organizational culture is key to supporting Lean principles and ensuring their long-term success.

The analysis identified five sub-themes that constitute processes and actions aimed at empowering teams. These include Allowing Project Ownership, Fostering Healthy Competition, implementing a Team-Based Reward System, Conducting Lean KPI Achievement Follow-Ups, and Holding Department Meetings. Through these initiatives, encourage employees to take ownership of their projects, promote healthy competition among teams, recognize and reward collective efforts, monitor progress on lean KPIs, and ensure regular team meetings for alignment and coordination.



Figure 4 - Comparative Analysis of Coding References on Empowering Teams

Source: Generated in NVivo by Author

Allowing project ownership provides employees with greater autonomy in their work, fostering a collaborative team environment where everyone shares responsibility for achieving goals. Literature supports this approach, highlighting those empowering employees to make decisions fosters a culture of continuous improvement (Netland, 2016). By giving employees the responsibility for project ownership,

ABC Company ensures that the principles of Lean are not just enforced from above but are deeply embedded within teams, encouraging accountability and continuous development.

Healthy competition is essential for driving improvements. In a lean culture, continuous improvement is a core aspect of the overall framework. ABC Company has implemented annual competition that selects the best-performing company in a way that promotes teamwork. This aligns with Lean principles, where competition is used not just to measure individual performance but to inspire collective achievement, improving overall team dynamics.

When rewards are tied to individual performance, employees tend to focus solely on their own targets. While this may lead to achieving personal goals, it can also result in a lack of support for one another. To address this issue, ABC Company has implemented a team-based reward system to promote collaboration and teamwork. This approach is consistent with Lean thinking, which emphasizes the collective effort in achieving Lean goals. By aligning rewards with team outcomes, ABC Company strengthens collaboration, ensuring that employees focus on the success of the whole team rather than solely on individual accomplishments.

Changing habits is not an easy task. After establishing a lean culture, it is essential to ensure that these lean principles become ingrained in individuals. This focus on KPI achievement ensures that Lean practices are consistently reinforced and that teams remain aligned with organizational objectives. It also creates a mechanism for accountability and continuous improvement.

Department meetings at ABC Company foster employee relationships by bringing coworkers together each week to discuss identified challenges. Everyone actively participates in finding solutions, which creates a supportive atmosphere. This collaborative environment gradually strengthens teamwork. This aligns with literature emphasizing the importance of participation in maintaining Lean practices. Gamage et al. (2019) note that transitioning from a traditional "command and control" management style to a more participatory approach is essential for Lean's long-term sustainability. This indicates that training programs and regular collaborative opportunities, such as department meetings, should not only focus on technical Lean tools but also foster a deeper understanding of Lean thinking, encouraging employees to take ownership of Lean practices and work together to solve challenges.

The analysis revealed five sub-themes that represent processes and actions designed to cultivate a culture of respect for others. These include Promoting a Non-Blame Culture, Encouraging Open Communication, Actively Listening to Employees, implementing a Recognition Program, and Conducting Surveys. Through these initiatives, ABC Company aims to achieve Focusing on problem-solving rather than assigning blame, creating channels for transparent dialogue, actively seeking and considering employee feedback, Celebrating employee achievements and contributions.

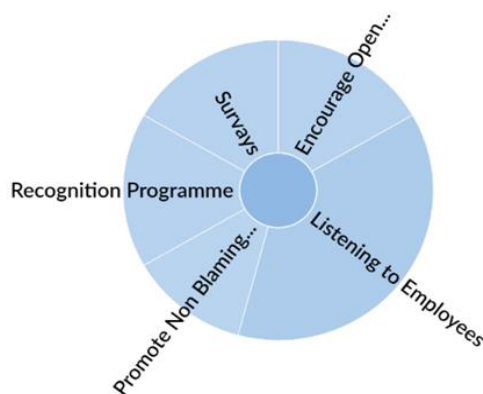


Figure 5 – Comparative Analysis of Coding References on Fostering Respect

The way individuals communicate is an important way of demonstrating respect. Promoting a non-blaming culture encourages mutual support and reinforces respect for everyone's efforts. The literature reinforces the importance of maintaining a non-blame culture. Pearce and Pons (2013) note that a blame culture, which stifles open communication and continuous improvement, can significantly hinder the success of Lean practices. By creating a supportive environment where mistakes are viewed as opportunities for learning, ABC Company aligns with Lean principles of fostering transparency and collective problem-solving.

Encouraging open communication allows employees to feel that their ideas are important, thereby fostering respect at all levels of the organization and creating an environment conducive to Lean practices, where feedback and improvement suggestions are continuously encouraged. Active listening is essential as it shows genuine concern for others' thoughts and ideas. It is important to value everyone's input by truly listening, regardless of hierarchy. This approach fosters a more inclusive and respectful environment.

Recognizing and appreciating employees' efforts is a powerful way to foster respect within the organization. This recognition program is consistent with the findings of Barclay et al. (2021), who emphasize that celebrating everyday achievements at all organizational levels plays a crucial role in promoting a Lean culture. By acknowledging employees' contributions, ABC Company reinforces a respectful and supportive environment, further enhancing the sustainability of Lean practices.

It is crucial to ensure that cultural values are maintained by employees. Therefore, ABC Company is conducting surveys to confirm that the implemented processes are on the right track. Protzman, Whiton, and Kerpchar (2022) emphasize the importance of standard work audits, comprehensive training, and Lean Practitioner certification, Hoshin planning for strategic alignment, Lean leadership development, and effective meeting practices in maintaining a Lean culture. These elements contribute to the continuous monitoring and improvement of organizational processes, aligning with the culture of respect promoted at ABC Company. Similarly, Henrique et al. (2020) highlight that Lean audit tools, visual management boards, and Kaizen events play a critical role in fostering transparency, continuous monitoring, and incremental improvements. These tools ensure that Lean principles are consistently adhered to, creating a foundation for respect and collaboration within the workplace.

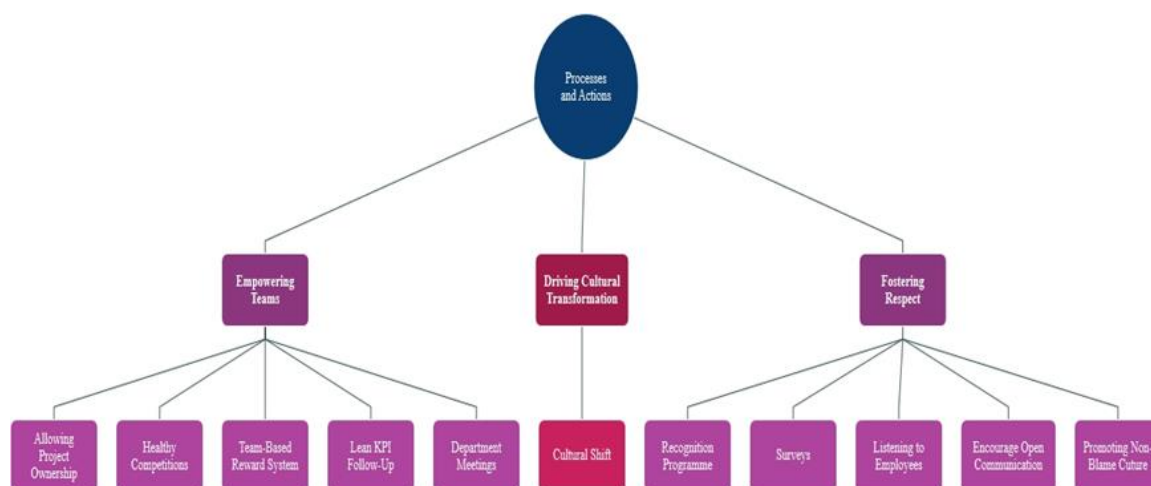


Figure 5 - Themes and Sub-Themes in Actions and Processes
Source: Generated in NVivo by Author

4. Conclusion

This research aims to identify the key factors and processes that contribute to the development of an effective lean culture, wherein lean implementation evolves into a sustainable cultural transformation.

Through an analysis of the organizational culture at ABC Company, two major factors were identified: the social environment and the physical environment. Among these, the social environment emerged as the most prominent factor in sustaining a lean culture. Notably, respect and teamwork were found to be significant contributors, as they facilitate the integration of lean principles into employee behavior and attitudes. Furthermore, the physical environment plays an integral role in supporting lean culture by enabling the effective functioning of lean initiatives.

Practically, the study offers actionable insights for organizations seeking to cultivate and sustain a Lean culture. Tailoring Lean strategies to align with specific industrial and cultural conditions is essential. Initiatives that promote teamwork, transparent communication, and employee recognition can mitigate resistance and foster cultural alignment. Encouraging project ownership, facilitating inclusive decision-making, and conducting regular team-based evaluations are vital for embedding Lean principles into everyday operations. Ultimately, a structured integration of social and physical dimensions is imperative for Lean to become an enduring component of organizational practice.

The findings corroborate and extend The Toyota Way framework (Liker, 2004), highlighting the necessity of balancing technical excellence with social environment. By emphasizing the role of interpersonal dynamics and localized cultural practices, the research contributes to a more comprehensive understanding of Lean implementation beyond its traditional industrial contexts.

Nevertheless, several methodological constraints warrant acknowledgment. The single-site focus limits generalizability across organizational contexts, while ethical considerations precluded the collection of visual data that might have enriched observational findings. Future research should address these limitations through multi-site comparative studies, extended longitudinal engagement, and multimodal data collection methods that incorporate diverse organizational and cultural contexts

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