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What are the main leadership behaviors exhibited by a Kata coach?

par

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Résumé

Ce mémoire examine les principaux comportements de leadership exhibés par un coach kata et leur contribution au développement des compétences de leadership chez les managers. À travers une recherche qualitative basée sur des entretiens approfondis avec sept professionnels pratiquant le kata de coaching, cette étude vise à établir des liens entre les caractéristiques des leaders Lean et la pratique du kata de coaching, en identifiant les comportements qui en résultent. Elle s'appuie sur le cadre conceptuel de Dombrowski et Mielke (2013), qui met l'accent sur les principes clés du leadership Lean – amélioration continue, auto-développement, qualification, gemba et hoshin kanri – en intégrant également l'intelligence émotionnelle pour explorer comment ces qualités façonnent les comportements de leadership.

L'étude révèle que le kata de coaching, une approche soutenant le kata d'amélioration et enseignant la pensée scientifique, met en évidence certains comportements de leadership exhibés par un coach kata. Elle illustre comment certains composants de l'intelligence émotionnelle, comme l'empathie et la régulation émotionnelle, renforcent les compétences en leadership. Les résultats suggèrent que cette aptitude est liée à la capacité des managers à gérer les dynamiques interpersonnelles, à renforcer la confiance au sein des équipes et à prendre des décisions équilibrées sous pression.

Les résultats corroborent la littérature actuelle sur le leadership Lean et l'intelligence émotionnelle, démontrant que les leaders Lean emploient non seulement les pratiques techniques Lean, mais aussi l'intelligence émotionnelle dans leur prise de décision, leur communication et leur style de leadership. De plus, les résultats de cette étude fournissent une perspective et un angle d'analyse novateurs, qui n'ont pas été largement explorés dans la littérature existante. En résumé, ce mémoire enrichit les connaissances sur le leadership Lean en soulignant le rôle du kata de coaching dans le développement d'attributs comme l'intelligence émotionnelle, conduisant à un leadership de plus haut niveau.

Mots-clés: kata de coaching, Lean, leadership, intelligence émotionnelle, amélioration continue, développement personnel, qualification, gemba, hoshin kanri, recherche qualitative.

Méthodes de recherche: Recherche qualitative avec entretiens semi-structurés.

Abstract

This master's thesis examines the main leadership behaviors exhibited by a Kata coach and their contribution to the development of leadership skills in managers. Through qualitative research based on in-depth interviews with seven professionals practising Coaching Kata, this study aims to establish links between the characteristics of Lean leaders and the practice of Coaching Kata, identifying the resulting behaviors. It relies on the conceptual framework of Dombrowski and Mielke (2013), which emphasizes the key principles of Lean leadership – Continuous Improvement, Self-Development, Qualification, Gemba, and Hoshin Kanri – while also integrating emotional intelligence to explore how these qualities shape leadership behaviors.

The study reveals that Coaching Kata, an approach supporting Improvement Kata and teaching scientific thinking, highlights the main leadership behaviors exhibited by a Kata coach. It illustrates how certain components of emotional intelligence, such as empathy and emotional regulation, enhance leadership skills. The results suggest that this aptitude is linked to managers' ability to manage interpersonal dynamics, build trust within teams, and make balanced decisions under pressure.

The findings corroborate current literature on Lean leadership and emotional intelligence, demonstrating that Lean leaders employ not only Lean technical practices but also emotional intelligence in their decision-making, communication, and leadership style. Additionally, the results of this study provide a novel perspective and analytical angle that have not been widely explored in existing literature. In summary, this thesis enriches the understanding of Lean leadership by highlighting the role of Coaching Kata in developing attributes such as emotional intelligence, leading to higher-level leadership.

Keywords: Coaching Kata, Lean, leadership, emotional intelligence, continuous improvement, self-development, qualification, gemba, hoshin kanri, qualitative research.

Research Methods: Qualitative research with semi-structured interviews.

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Table of Contents

Résumé.....	4
Abstract.....	5
Acknowledgments	6
Table of Contents	7
List of Tables	10
List of Figures	11
Chapter 1: Introduction.....	12
Chapter 2: Literature review	16
2.1. The Learning Organization.....	17
2.1.1. <i>Organizational Structure</i>	<i>19</i>
2.1.2. <i>Organizational Culture</i>	<i>20</i>
2.1.3. <i>Lean Management</i>	<i>24</i>
2.1.4. <i>Leadership</i>	<i>25</i>
2.1.5. <i>Emotional Intelligence.....</i>	<i>34</i>
2.2. Knowledge Management in Organizations	37
2.2.1. <i>Knowledge Creation</i>	<i>37</i>
2.2.2. <i>Knowledge Transfer (Sharing)</i>	<i>38</i>
2.2.3. <i>Organizational Factors in Knowledge Management and Transfer.....</i>	<i>38</i>
2.3. Scientific Thinking and Problem-solving Through Toyota Kata.....	40
2.3.1. <i>The Toyota Way.....</i>	<i>40</i>
2.3.2. <i>Toyota Kata</i>	<i>45</i>
2.3.3. <i>Improvement Kata.....</i>	<i>46</i>
2.3.4. <i>Coaching Kata</i>	<i>50</i>
2.4. Theoretical Framework.....	56
2.5. Links between Toyota Kata and Lean Leadership.....	58
2.5.1. <i>Facilitating Knowledge Transfer through Coaching Kata</i>	<i>58</i>
2.5.2. <i>Developing Lean Leadership through Coaching Kata.....</i>	<i>60</i>
Chapter 3: Methodology	68

3.1. Research Design	68
3.2. Data Collection	68
3.2.1. <i>Method of Data Collection.....</i>	68
3.2.2. <i>Sample Selection and Maintenance Guide.....</i>	69
3.3. Data Preparation	72
3.4. Data Analysis.....	73
3.4.1. <i>Conceptual Framework and Coding Tree.....</i>	75
3.4.2. <i>Coding Method and Tools Used.....</i>	77
3.4.3. <i>Inductive Emergence of Emotional Intelligence</i>	79
3.5. Scientific Validity	80
3.6. Ethical Considerations.....	81
Chapter 4: Findings	82
4.1. Visual Representation of Results & Explanation	87
4.2. Improvement Culture	89
4.2.1. <i>Task Identity.....</i>	89
4.2.2. <i>Feedback and Autonomy.....</i>	92
4.2.3. <i>Belief in Improvement</i>	94
4.2.4. <i>Honesty.....</i>	96
4.3. Self-Development.....	98
4.3.1. <i>Openness to Development</i>	98
4.4. Qualification	100
4.4.1. <i>Support for Employee Development.....</i>	100
4.4.2. <i>Communication and Trust.....</i>	103
4.5. Emotional Intelligence	105
4.5.1. <i>Self-Awareness.....</i>	105
4.5.2. <i>Self-Regulation</i>	107
4.5.3. <i>Internal Motivation</i>	109
4.5.4. <i>Empathy.....</i>	111
4.5.5. <i>Social Skills.....</i>	114

Chapter 5: Discussion of Results	116
5.1. Reflection on the Literature	116
5.2. Reflection on the Research Findings.....	118
Chapter 6: Conclusion	121
6.1. Contributions to the Kata Field	121
6.2. Research Limitations.....	122
6.3. Potential Future Research Topics	124
Bibliography	126
Appendix.....	137
Appendix A – Interview Guide.....	137
Appendix B – Presentation of Results	139

List of Tables

<i>Table 1: Senge's Five Disciplines of Learning Organizations</i>	<i>18</i>
<i>Table 2: Traditional Leadership Styles</i>	<i>27</i>
<i>Table 3: Core Principles of the Toyota Production System</i>	<i>30</i>
<i>Table 4: The 14 Principles of the Toyota Way.....</i>	<i>42</i>
<i>Table 5: The Toyota Way 2001</i>	<i>43</i>
<i>Table 6: Problem-Solving Concepts.....</i>	<i>44</i>
<i>Table 7: Links Between Concepts</i>	<i>56</i>
<i>Table 8: Initial Conceptual Framework</i>	<i>62</i>
<i>Table 9: Improvement Culture Attributes</i>	<i>63</i>
<i>Table 10: Self-Development Attributes.....</i>	<i>64</i>
<i>Table 11: Qualification Attributes</i>	<i>65</i>
<i>Table 12: Gemba Attributes.....</i>	<i>66</i>
<i>Table 13: Hoshin Kanri Attributes</i>	<i>67</i>
<i>Table 14: Interviewee Summary Table</i>	<i>69</i>
<i>Table 15: Two-level Codification Tree.....</i>	<i>76</i>
<i>Table 16: Revised Conceptual Framework.....</i>	<i>83</i>
<i>Table 17: Emotional Intelligence Attributes.....</i>	<i>85</i>
<i>Table 18: Revised Two-level Codification Tree.....</i>	<i>86</i>
<i>Table 19: Practical Applications</i>	<i>120</i>

List of Figures

<i>Figure 1: The Four Steps of the Improvement Kata (Rother 2010).....</i>	<i>48</i>
<i>Figure 2: The Learner's Storyboard</i>	<i>49</i>
<i>Figure 3: Exhibiting Leadership Behaviors Through Coaching Kata</i>	<i>88</i>

Chapter 1: Introduction

Today, knowledge is widely recognized as a cornerstone of organizational success, with Nonaka emphasizing that sustainable competitive advantage stems from an organization's ability to create relevant knowledge (1995). This knowledge is broadly categorized into tacit and explicit forms, as illustrated by Polanyi's iceberg analogy (1967): explicit knowledge, the visible tip, is codifiable and systematic, while tacit knowledge, the submerged body, is deeply rooted in individual experience, values, and context, making it harder to articulate (Nonaka & Konno, 1998). This type of knowledge is anchored in a specific work setting and is often time harder to concretely communicate. In Polanyi's words, while tacit knowledge can be possessed by itself, explicit knowledge must rely on being tacitly understood and applied (Nonaka, 1994). Hence all knowledge is either tacit or rooted in tacit knowledge. Moreover, Warnier (1999) explains that tacit knowledge is situated, analogic, and based on routines and habits (Farnese, Barbieri, Chirumbolo & Patriotta, 2019). Most organizations not only seek ways to extract, collect and communicate this type of knowledge from individuals to gain a competitive advantage and remain a strong competitor to their rivals, but seem to seek to transfer this knowledge through interactions. More than drawing out value for the organization, this process incites collaboration between individuals, leading them to meet their socialization needs and give meaning to their work (Ind, 2013).

According to the literature and building on current business trends, efficient knowledge transfer would support businesses accomplish significant improvements in their performance. However, successful knowledge transfer and reaping the benefits of new collaborations are challenging tasks to execute (Argote, Ingram, Levine & Moreland, 2000). As stated by Argote and Ingram (2000), knowledge transfer in organizations is the process through which one unit (e.g., individual, group, department, division) is affected by the experience of another. It is therefore relevant for organizations to seek and develop strategies that foster knowledge transfer. Implementing these approaches within and between management levels support employees in bridging the gap between knowledge creation and use (Becheikh, Ziam, Idrissi, Castonguay & Landry, 2010). Approaches such as Nonaka's and Takeuchi SECI model have helped reduce this gap by conceptualizing the knowledge transfer and creation processes, and many others gain to be studied to palliate

this issue. In fact, the SECI model has helped reduce the gap by facilitating the dynamic conversion between explicit and tacit knowledge through the processes of socialization, externalization, combination and internalization. By following this cycle continuously, knowledge becomes ingrained, more accessible and easily applied within an organizational context (Nonaka & Takeuchi, 1995).

While organizations might opt for more traditional methods of knowledge transfer and sharing like mentorship, coaching, work shadowing, instructor-led or document-based training, and eLearning, more recent approaches in the organizational context focus on routines of continuous improvement that foster scientific thinking to develop their employees. One that has more recently been adopted by many industries such as healthcare and manufacturing, is Toyota Kata, which was introduced by Mike Rother in the early 2000s. The Kata approach groups two routines: Improvement Kata and Coaching Kata. When combined, these two methodological and reiterative cycles help develop scientific-thinking skills that, when practised, improve problem-solving and coaching abilities, all while facilitating knowledge management (Ferenhof, Da Cunha, Bonamigo & Forcellini, 2018).

To understand how Toyota Kata, especially Coaching Kata, facilitates knowledge transfer between individuals, this thesis examines the key leadership behaviors demonstrated by managers who practice the Coaching Kata. By engaging in the Coaching Kata, managers are equipped with a structured methodology that drives scientific thinking and continuous improvement, which could help foster an organizational environment where collaboration and learning are ingrained within its culture. We argue that this practice not only enhances the operational capabilities of the organization but also cultivates leadership qualities in managers. As they guide their teams through iterative cycles of improvement, we expect managers to embody a coach. This study will delve into the principles of Lean leadership, showing how to integrate tacit knowledge (experience, thinking, competencies) into everyday practices and decision-making processes.

This study consequently explores the relative importance of coaching routines for developing Lean leadership attributes in managers and facilitating their operationalization. The relationship between a coach and their learner during Kata cycles is studied in proper

Kata terminology, along with the intrinsic influences that need to be factored in when measuring the method's success. To achieve this goal, experts practising the Coaching Kata were interviewed. During semi-structured interviews, they were asked about their experience, goals, learnings, and perceived impact, among other things.

In the second chapter, the literature review will delve into several pivotal areas that form the foundation of understanding the main leadership behaviors exhibited by managers who practice the Coaching Kata. The review begins with a brief overview of the conceptual frameworks. Initially, we will discuss organizational structure, considering various models and frameworks that articulate how organizations are arranged and function. This will be followed by an examination of organizational culture, where the shared values, beliefs, and practices that shape the work environment will be presented, with a particular emphasis on Lean management. This section will elucidate how Lean principles are integrated in organizational culture to drive efficiency and continuous improvement. Subsequently, we will delve into organizational behavior, discussing the dynamics of individual and group actions within organizations, with a detailed scrutiny of different leadership styles and their impact on organizational performance. The second section of the literature review will focus on scientific thinking, the basis of the Toyota Kata approach. We will commence with an in-depth analysis of the Improvement Kata, a structured routine for continuous improvement and adaptive challenge responses. This will be followed by an exploration of the Coaching Kata, emphasizing the development of coaching skills to nurture a culture of learning and enhancement. Additionally, we will discuss the Toyota Way, Liker's 4P Model, which encapsulates the principles and practices that have established Toyota as a paragon of operational excellence. In the subsequent section, our attention will turn to the domain of organizational knowledge. It will begin with knowledge management, highlighting strategies for capturing, disseminating, and effectively utilizing organizational knowledge. This will lead to the presentation of other types of knowledge, focusing on the processes through which knowledge is communicated and shared across various organizational levels.

Finally, this section will present a conceptual framework by delineating the connections between Toyota Kata and Lean leadership, demonstrating that the principles underpinning Toyota Kata highlight the main leadership behaviors exhibited by a Kata coach.

Following the literature review, the methodology section will outline the research design employed in this thesis. This will encompass the context and field of research, explaining the setting and scope of the study. A comprehensive discussion of data collection methods will ensue, covering the method of data collection, the creation of the maintenance guide, and the sample and its selection. We will detail the conduct of interviews to provide transparency on how primary data was gathered. Subsequently, data preparation and the data analysis strategy will be elaborated to illustrate the processes involved in managing and interpreting the collected data. This section will also address the criterion of scientific and ethical considerations, ensuring the rigour and integrity of the research.

The presentation of results section will articulate the findings from the research, which will then be thoroughly analyzed in the discussion of results. Here, the implications and significance of the findings will be examined considering existing literature.

The conclusion section will encapsulate the key insights and contributions of the thesis for both the academic and practitioner communities, along with a personal reflection on the process.

Furthermore, I acknowledge the use of artificial intelligence technologies to assist with transcriptions, improve coherence, and address grammatical errors, ensuring the highest quality of my deliverable.

Chapter 2: Literature review

The literature review of this thesis is structured to provide a comprehensive understanding of the foundational elements that underpin the practice of Coaching Kata and highlight the main leadership behaviors exhibited by a Kata coach.

Section 2.1 begins with an exploration of the learning organization, delving into organizational structure, culture, Lean management principles, and leadership. This section sets the stage by highlighting the importance of a conducive organizational environment for fostering continuous improvement and leadership development.

Section 2.2 provides an overview of knowledge-related concepts, covering knowledge management, creation, transfer, and the organizational factors that influence these processes. This section connects to the previous by emphasizing the role of knowledge as a critical asset in Lean organizations and the mechanisms through which it is managed and disseminated.

Section 2.3 transitions into the core concepts of scientific thinking and problem-solving through Toyota Kata, focusing on the Toyota Way, Improvement Kata, and the Coaching Kata. This section builds on the foundation laid by introducing the specific methodologies and practices that drive Lean management and leadership within organizations.

Section 2.4 introduces the theoretical framework guiding this study, drawing on Lean leadership, Improvement Kata, Coaching Kata, and knowledge management. It explains how these concepts and their underlying assumptions inform the research approach and support an integrated view of improvement and leadership development.

Section 2.5 links Toyota Kata to Lean leadership and examines knowledge transfer through the Coaching Kata, along with the key principles that form the conceptual framework. These principles and their attributes, which support the development of essential leadership behaviors, will be further explored in subsections 4.2, 4.3, 4.4, and 4.5.

Together, these sections create a cohesive narrative that underscores the interconnectedness of organizational learning, scientific thinking and knowledge management in cultivating effective Lean leaders through the practice of Coaching Kata.

2.1. The Learning Organization

In this sub-chapter we will explore the definition of organizations, more specifically learning organizations, and will discuss their underlying attributes. This will help contextualize how different organizational approaches influence the implementation and effectiveness of practices such as the Toyota Kata in fostering Lean leadership and continuous improvement. For this study, organizations will be classified into two primary categories: traditional organizations and learning organizations. Traditional organizations are characterized by hierarchical structures with centralized decision-making processes, emphasizing stability and efficiency in their operations (Mintzberg, 1980). Whereas learning organizations are characterized by their ability to adapt and innovate through continuous learning and knowledge creation among employees (Senge, 1990).

Operating in highly volatile and constantly uncertain market conditions, organizations have come to evolve both naturally and by acting to adapt themselves to these unpredictable changes. It is the way that organizations approach this constant transformation that leads them to be classified either as a traditional organization or a learning one. While traditional organizations rather depend on the implementation of known solutions and tools, members of a learning organization collaborate in problem-solving and the generation of hypotheses that get tested through iterative experiments first. The resulting learning is therefore what differentiates learning organizations from traditional ones (Spear & Bowen, 1999).

Argyris (1990) has expressed his views on how critical it is to gain control of the protective patterns that obstruct change and learning. As stated by the author, the ability to learn is a necessity for organizations as it grants them the capacity to redesign themselves by learning from their own experiences and develop and maintain their competitive advantage by adapting to unanticipated situations. Garvin, Edmondson, and Gino's (2008) research on learning organizations underscores the ongoing relevance of Argyris's views, highlighting that mastering the dynamics of learning and change remains a critical factor for organizational success in today's rapidly evolving business environment. According to the knowledge-based view of the firm, it is widespread that the most crucial source of sustainable competitive advantage is an organization's capability to create and utilize knowledge (Zheng, Yang & McLean, 2010). Thus, firms do not simply survive but also improve. Argyris (1990) believes that an organization becomes a learning one when it

supports its members in modifying their way of thinking and learning by constructive reasoning (Argyris 1990; Chouikha, 2016).

In his book *The Fifth Discipline*, Peter Senge (1990) introduced the concept of learning organizations as environments where individuals continuously enhance their abilities to achieve their goals, encourage innovative thinking, unleash collective aspirations, and learn together. To foster such an environment, Senge identified five essential disciplines: systems thinking, personal mastery, mental models, shared vision, and team learning (Table 1).

Table 1: Senge's Five Disciplines of Learning Organizations [Senge (2006), pp. 57–252]

Core discipline	Definition
Systems thinking	This discipline involves understanding the interrelationships and dynamics within complex systems rather than focusing on isolated parts. It emphasizes seeing the whole picture and how different elements within a system interact and influence each other.
Personal mastery	This discipline focuses on individuals continually expanding their abilities to achieve their desired results. It involves a commitment to lifelong learning and the development of personal vision and goals.
Mental models	This discipline groups the deeply ingrained assumptions, generalizations, and beliefs that influence how we understand the world and act within it. It encourages individuals and organizations to challenge and revise their mental models to improve decision-making and problem-solving.
Shared vision	This discipline involves developing a shared understanding of the future and collective goals that inspire and motivate individuals within the organization. It encourages collaboration and alignment toward a common purpose.
Team learning	This discipline emphasizes the importance of collective intelligence and collaborative problem-solving. It involves creating opportunities for teams to learn together, share knowledge, and enhance their capacity to achieve common goals.

By exercising these disciplines, an organization fosters an environment where employees are more aligned and engaged with its mission, are more comfortable in experimenting with new approaches, and have a strengthened sense of collaboration with others. The

leading activities exercised by this type of organization are, according to Senge: systematic problem-solving, experimentation with innovative approaches, learning from the past, learning from the best practices of others, and transferring knowledge. Therefore, a learning organization as defined by Senge could potentially be aligned with Toyota Kata culture (Landry, 2022). While Senge has never drawn a direct comparison with Kata, the Toyota Kata methodology, which emphasizes continuous improvement and adaptive learning, complements the principles of a learning organization. Although both traditional organizations and learning organizations can adopt Kata routines to enhance operational efficiency and foster continuous improvement, learning organizations provide a conducive environment for leaders to develop essential skills more effectively. In an organization where personal mastery, systems thinking, and team learning are encouraged, leaders can engage deeply in Kata. This fosters a culture where experimentation, reflection, and learning from failures are encouraged and supported (Senge, 1990). We posit that leaders in learning organizations are therefore more likely to develop the coaching skills necessary to guide their teams through the routines effectively, facilitating not only process improvement but also leadership development across the organization. Skills are learned abilities that enable individuals to perform tasks effectively and consistently. In coaching and leadership contexts, skills refer to the practical competencies that support effective communication, relationship-building, and developmental support (DiGirolamo & Tkach, 2019).

An outline of organizational behaviors will be conducted in the following section, where the characteristics of the culture and structure of learning organizations and how they evolve will be explored.

2.1.1. Organizational Structure

In learning organizations, hierarchy is not simply seen as a unilateral separation of organizational tiers: both top-down and bottom-up management approaches prevail. This catch-ball mechanism ensures that information, objectives, and feedback are continuously flowing across all levels, and that decision-making is not restricted to top-level executives. For instance, in organizations that have followed the Toyota Production System's (TPS) mindset, shop-floor workers are given the responsibility to approach obstacles and experiment with potential solutions to reach their target (Thun, Drücke, & Grübner, 2010).

Their supervisor can mentor them while they run the experiments, and relay the valuable information, whether the problems that occurred or solutions that were found, to their manager. The manager can then relay the particulars to their supervisor and so forth. This bi-directional approach is therefore effective in making employees of all levels connect with their work and understand how they contribute to the organization's objectives (Thun, Drücke, & Grübner, 2010). In viewing the errors as opportunities for learning instead of an occasion to criticize, the organization can take corrective action and widely disseminate the information company-wide about each incident. Training team members and sharing knowledge, makes learning a continuous activity across the organization (Hoseus & Liker, 2008).

Moreover, this management structure not only helps members develop their capacity to improve their activities, but it also promotes leadership and adds value to the stream. Hoseus and Liker (2008) in Toyota Culture emphasized that individuals further from the value stream, such as upper management, have less direct impact on adding value. Instead, leaders add value by supporting those who are directly involved in the value stream. Consequently, the closer leaders are to the operational level, the more people they are responsible for supporting. An organization where the structure follows these features of trust and leadership between management levels is therefore more capable of learning and improving according to these authors. This continuous improvement process can further be compared to Toyota Kata's improvement routine, which will be discussed in the following chapters.

2.1.2. Organizational Culture

Organizational culture is a mechanism that directs behavior through shared values, norms, and goals (O'Neill, Beauvais & Scholl, 2016), which has been proven to be effective enough to be taught to new members as the proper way to view, think, and feel about external adaptation and internal integration (Schein, 1981). It has also recently been described as the internal personality of the organization, its identity which includes the values and beliefs that are shared by employees (Schermerhorn Jr, Osborn et al., 2011).

Therefore, a culture is generally unique to its organization as the sum of each of its traits is never the same elsewhere. How effective it is to direct and motivate employees to complete their work to achieve set targets or how it affects employee relations and morale are some examples of areas that differ from one firm to the other depending on the culture. As previously noted, personal biases and assumptions are unavoidable. Therefore, having a thorough understanding of one's own culture is essential for making a well-informed transition (Schein, 1983). Thus, to learn, ambitious corporate sustainability actions and strategies must be ingrained in the business culture. Corporate efforts will not influence the core business and are more likely to fail if aspects of sustainable development are not part of the mindset of leaders and members of the corporation (Baumgartner, 2009). An organization's culture is only as strong as the people who live by it.

In learning organizations, a collaborative approach is frequently endorsed because it facilitates the learning and dissemination of best practices, as detailed in the previous subchapter. While there are established frameworks to define organizational cultures, it can be argued that cultures are ultimately shaped by how employees perceive, think, communicate, and feel about their environment. This is what Schein refers to when discussing underlying patterns of assumptions that determine values and behaviors, the three key elements that help define cultures. It is not overt behavior or visible artifacts that one could notice when entering an organization. Rather, assumptions underpin values and affect behavior patterns and apparent artifacts. As each component is distinctive in its impact on individual behavior, the effects of each should be isolated and discussed separately.

- *Artifacts and Behaviors*

Artifacts and behaviors, as described by Schein (1992) encompass the organization's environment, including its architecture, technology, office layout, dress code, visible or audible behavior patterns, and public documents such as charters and staff orientation materials. The drawback of visible artifacts is that we frequently lack understanding of the underlying logic or the "why" of what we witness.

The effect of these artifacts and behaviors on individual behavior is profound. The physical and cultural environment of an organization shapes how employees perceive their roles

and responsibilities. For instance, an open office layout can foster collaboration and spontaneous communication among employees, while a more segmented layout may encourage focus and independent work. Technology and tools provided by the organization can either streamline processes, making employees feel efficient and capable, or they can create frustrations if they are outdated or cumbersome (Ravasi & Schultz, 2006; Tsai, 2011).

Dress codes and visible behavior patterns also send powerful messages about the organizational culture and expectations. A formal dress code might instill a sense of professionalism and seriousness, while a casual dress code can promote a more relaxed and creative atmosphere. Public documents and orientation materials provide newcomers with crucial information about the organization's values and expected behaviors, setting the tone for their integration and alignment with the company culture (Rafaeli & Pratt, 1993; Mishra, 2023).

These artifacts and behaviors do more than just influence day-to-day activities; they play a critical role in shaping employees' attitudes and engagement. When employees understand and align with the visible artifacts and behaviors, they are more likely to feel a sense of belonging and commitment to the organization. Conversely, a disconnect between these visible elements and the underlying values or mission of the organization can lead to confusion, disengagement, and reduced productivity (Ravasi & Schultz, 2006; Odebrecht de Souza et al., 2023).

Artifacts and behaviors within an organization, such as office layout, technology, and dress code, significantly influence employee interactions and productivity. In the context of the TPS, visible artifacts like the use of kanban cards and andon cords are critical. These tools are part of the physical environment and play a crucial role in maintaining workflow and quality control. For example, kanban cards help manage inventory levels and signal when new parts are needed, ensuring a smooth production process (Shah & Ward, 2007). Similarly, andon cords allow workers to signal problems immediately, fostering a culture of continuous improvement and quick problem resolution (Liker, 2004).

- *Norms and Values*

Organizational norms and values significantly influence individual behavior within a company. Norms, the unwritten rules that dictate acceptable behavior, and values, the core beliefs that guide actions and decisions, shape how employees interact, make decisions, and perform their duties. These elements of organizational culture establish a framework within which employees operate, influencing their attitudes, behaviors, and overall performance.

Schein (1983) explains that values initially guide behavior. As this behavior effectively addresses the original problem, the value gradually becomes an unconscious assumption, so ingrained that it is no longer consciously recognized. Values represent the visible and professed aspects of culture. Schein suggests that individuals often cite these values as the justification for their actions or, at the very least, as the explanation they wish to convey. This justification is typically a superficial explanation, while the deeper reasons or hidden functions of the activity remain concealed (Argyris, 1982), making direct observation more difficult, which is a drawback of this element.

Norms and values in an organization dictate acceptable behavior and guide decision-making processes. In TPS, the norm of continuous improvement (kaizen) and the value placed on respect for people are fundamental. These principles encourage employees to constantly seek ways to improve their work processes and to value teamwork and mutual respect. The emphasis on kaizen ensures that employees are always looking for incremental improvements, which is a core aspect of TPS (Imai, 1986). The value of respect for people is evident in practices such as empowering workers to stop the production line if they identify a defect, highlighting the trust and responsibility placed on each employee (Liker & Meier, 2006).

- *Underlying Assumptions*

According to Schein (1992), underlying assumptions are fundamental beliefs and values that shape how leaders and organizations perceive and interact with their environment. These assumptions once espoused as ideals, become ingrained over time, and form cultural paradigms that bind together basic assumptions about human nature, the environment, and

organizational activities (Schein, 1992). To fully understand a culture, it is essential to grasp these paradigms and the patterns of essential assumptions.

The underlying assumptions of an organization significantly influence individual behavior. These deeply rooted beliefs dictate how employees perceive their roles, interact with colleagues, and respond to various situations (Schein, 1992). Spear (2004) gives the example that in an organization like Toyota that emphasizes continuous improvement and employee empowerment, individuals tend to take initiative, engage in problem-solving, and collaborate proactively with peers. These behaviors are driven by a shared understanding that experimentation and learning are critical to organizational success (Spear, 2004). Conversely, in organizations where underlying assumptions prioritize hierarchical control and risk aversion, employees may exhibit behaviors such as deference to authority and hesitancy to propose innovative ideas. These patterns stem from an implicit understanding that deviation from established norms and challenging authority is discouraged (Schein, 1992).

Understanding these assumptions is vital for managers seeking to implement change according to Rother (2010). For instance, the practice of Toyota Kata routines not only requires procedural adjustments but also alignment with underlying assumptions regarding learning and improvement (Rother, 2010). Managers must identify and address any conflicting assumptions that could impede the adoption of new practices. By aligning organizational structures and routines with supportive underlying assumptions, managers could be able to cultivate a culture conducive to Lean leadership and continuous improvement (Spear, 2004). The connection to Lean leadership will be made later.

2.1.3. Lean Management

Lean management, derived from the Toyota Production System, provides a systemic approach to enhancing value through improving processes and identifying and eliminating waste (Muda) (Ohno, 1988). The core principles of Lean management can be captured by the continuous improvement (Kaizen), respect for people, and a focus on customer value. These principles are not only about processes and tools but also about cultivating a specific

organizational culture that supports these objectives. They will be further discussed in the following section.

The implementation of Lean management can impact organizational culture by embedding values of continuous improvement and respect for individuals (Bortolotti, Boscarì & Danese, 2015). Liker (2004) notes that Lean management goes beyond mere operational efficiency – it can transform how employees think, interact, and engage with their work. Such an approach encourages employees at every level to be more accountable for their work, to identify inefficiencies, and to actively participate in finding countermeasures. This shift is essential for fostering Lean leadership, where leaders function as coaches, guiding and supporting their teams in problem-solving and process improvements.

Moreover, Lean management's emphasis on continuous improvement aligns with the concept of learning organizations (Schein, 2010), where they thrive on adaptation and collective learning. In Lean management, learning is defined as an ongoing process, embedded in daily routines and practices. This is displayed in the Toyota Kata routines, which incorporate a pattern of iterative improvement and coaching, reinforcing the culture of adaptability and continuous learning.

The alignment of Lean principles with an organization's culture ensures that Lean management is not just a set of practices but a way of thinking and acting. It cultivates an environment where Lean leadership can flourish, as leaders and employees alike are committed to ongoing development and excellence. This foundation is crucial for sustaining Lean initiatives and achieving long-term success in organizational performance and employee satisfaction.

2.1.4. Leadership

Leadership is a multifaceted concept that involves guiding and influencing others to achieve common goals. It is often defined as the ability to inspire and motivate individuals or groups to work towards a shared vision. According to Northouse (2018), leadership is a process whereby an individual influences a group of individuals to achieve a common goal. Yukl (2013) emphasizes that effective leadership involves not only directing but also supporting and developing team members. Additionally, Bass and Bass (2008) highlight

that leadership encompasses several styles and approaches, each suited to different contexts and challenges.

Recent scholarship has sought to refine these definitions by dissecting leadership into formal and informal dimensions. Deng et al. (2023) argues that conflating these two forms of leadership – formal (institutionally sanctioned) and informal (emergent within groups) – can obscure analytical clarity. He proposes that leadership should be understood through four dimensions: behavioral (what leaders do), asymmetrical (how leaders differ from followers), social (what is being led), and teleological (the direction or purpose of leadership) (Deng et al., 2023).

Moreover, leadership is increasingly viewed not merely as a hierarchical function but as a dynamic social process. This shift reflects a broader trend in management theory that emphasizes distributed leadership, collaboration, and adaptability in complex environments. As such, leadership is no longer confined to positional authority but includes the capacity to influence, inspire, and mobilize others regardless of formal title.

- *Leadership Theories & Styles*

Over the decades, numerous leadership theories have emerged, each offering distinct perspectives on how leaders influence organizational outcomes:

- Trait and Behavioral Theories focus on the personal characteristics and observable actions of leaders.
- Contingency and Situational Theories emphasize the importance of context in determining effective leadership.
- Transformational and Transactional Leadership contrast visionary, change-oriented leadership with performance-based exchanges (Bass & Riggio, 2006).
- Servant and Authentic Leadership prioritize ethical behavior, empathy, and follower development (Greenleaf, 1977; Avolio & Gardner, 2005).

A growing body of research also highlights empathetic leadership as a critical competency in modern organizations. Muss, Tüxen, and Fürstenau (2025) identified empathy as a key driver of employee well-being, trust, and performance, suggesting that empathetic leaders foster psychological safety and inclusive, adaptive cultures.

- *Traditional Leadership Styles*

Leadership styles significantly impact organizational performance, employee satisfaction, and overall efficiency reference. Over the years, various leadership styles have been identified, each with unique characteristics and effects. This literature review delves into several leadership styles, with a particular emphasis on Lean leadership, a style rooted in Lean management principles aimed at fostering continuous improvement and value creation. Lean leadership emphasizes the importance of leaders who actively engage in continuous improvement processes, support their teams, and eliminate waste to enhance organizational efficiency (Aij & Teunissen, 2017). It involves a hands-on approach where leaders are expected to be present on the shop floor, understand the work processes, and facilitate problem-solving (Dombrowski & Mielke, 2013). To further elucidate the diverse landscape of leadership theories, the following table (Table 2) is a recapitulation of definitions for traditional leadership styles.

Table 2: Traditional Leadership Styles

Style	Definition
Autocratic Leadership	Autocratic leadership, also known as authoritarian leadership, is characterized by individual control over all decisions with little input from group members. Leaders make choices based on their judgments and ideas, rarely accepting advice from followers. This style is efficient in decision-making and clear communication but can lead to high employee turnover and dissatisfaction due to its lack of participation and flexibility (Cherry, 2020).
Democratic Leadership	Democratic leadership, or participative leadership, involves team members in the decision-making process. This style values collaboration, feedback, and collective decision-making, fostering high employee satisfaction and creativity. However, it can be time-consuming and may lead to conflicts or slow decision-making processes (Gastil, 1994).
Laissez-Faire Leadership	Laissez-faire leadership offers minimal direction and allows team members considerable freedom. Leaders provide the tools and resources needed but allow employees to work independently. This style can be effective with highly skilled

	and motivated teams but often results in low productivity and confusion when employees lack the necessary knowledge or self-direction (Goodnight, 2011).
Transformational Leadership	Transformational leadership focuses on inspiring and motivating employees to exceed expectations by emphasizing vision, enthusiasm, and passion. Transformational leaders engage with their team, encourage innovation, and create a supportive environment. This style is associated with prominent levels of employee engagement and organizational success (Bass & Riggio, 2006).
Servant Leadership	Servant leadership is a leadership philosophy where the primary goal of the leader is to serve others. This approach emphasizes the well-being and development of team members, fostering a supportive and empowering environment. Greenleaf (1977) introduced the concept, highlighting that servant leaders prioritize the needs of their followers, helping them grow and perform as highly as possible. Spears (1995) further identified key characteristics of servant leadership, such as empathy, listening, and stewardship.

While various traditional leadership styles offer valuable frameworks for guiding organizations, their effectiveness can vary depending on factors such as organizational culture, industry dynamics, and the characteristics of employees. For instance, autocratic leadership may be suitable in crises requiring quick decisions, whereas democratic leadership fosters employee empowerment and creativity in innovative industries. However, Womack & Jones (2003) note that the evolution towards the Lean leadership style suggests a departure from rigid traditional styles.

Recent studies continue to explore these styles in depth. For instance, authoritarian leadership, often associated with rigid control and top-down decision-making, has been re-evaluated considering its nuanced effects on performance. A systematic review by researchers also found that while authoritarian leadership can yield short-term efficiency, it often undermines long-term engagement and adaptability (Muss et al., 2025).

Conversely, transformational and servant leadership styles are consistently linked to positive organizational outcomes. Transformational leaders inspire and motivate employees to exceed expectations, while servant leaders prioritize the growth and well-

being of their teams. These approaches are particularly effective in knowledge-intensive and innovation-driven sectors.

- *Leadership and Organizational Culture*

Leadership is not only about individual traits or styles but also about shaping and sustaining organizational culture. Leaders influence norms, values, and behaviors through both formal mechanisms (e.g., policies, structures) and informal cues (e.g., role modeling, storytelling). Deng et al., (2023) underscores the importance of distinguishing between formal and informal leadership to better understand how influence operates across organizational layers.

Moreover, the integration of emotional intelligence into leadership practice enhances effectiveness, particularly in managing change and fostering trust. Leaders who demonstrate empathy, self-awareness, and social skills are better equipped to navigate the interpersonal complexities of modern workplaces (McCleskey, 2014).

- *Lean Leadership*

The evolution of leadership theory has led to the emergence of Lean leadership, rooted in Lean management principles. This style emphasizes continuous improvement, respect for people, and waste elimination. Lean leaders are expected to be present at the gemba (the actual place of work), support team learning, and model self-development (Dombrowski & Mielke, 2013; Aij & Teunissen, 2017).

Lean leadership aligns with adaptive leadership, which emphasizes flexibility, learning, and responsiveness in complex environments (Heifetz et al., 2009). Both approaches reflect a shift from hierarchical authority to developmental leadership, where leaders act as coaches and mentors, cultivating critical thinking, resilience, and collaborative problem-solving.

Lean leadership emphasizes continuous improvement and waste reduction through engaging employees at all levels in problem-solving and decision-making processes (Womack & Jones, 2003). In learning organizations, leadership encourages a culture of adaptability and knowledge sharing, moving away from hierarchical control to promote innovation and responsiveness (Senge, 1990). These authors therefore recognize that

modern organizational challenges require leaders who can facilitate learning, collaboration, and agility.

Lean leaders are not just managers but also coaches and mentors who guide their teams toward achieving greater efficiency and value creation reference. The following table (Table 3) presents an overview of the core principles of Lean leadership defined by Dombrowski & Mielke (2013), highlighting its foundational concepts and their application in fostering organizational efficiency and continuous improvement. A third column has been added to highlight the main leadership behaviors Lean leaders can exhibit.

Table 3: Core Principles of the Toyota Production System

Core Principle	Definition	Lean Leader Behaviors
Improvement Culture	This principle emphasizes creating a work environment where continuous improvement is a core value. Lean leaders encourage employees to regularly seek out opportunities to enhance processes, reduce waste, and improve quality. The goal is to foster a culture where everyone, regardless of their role, is actively engaged in identifying and solving problems contributing to the organization's overall success (Dombrowski & Mielke, 2013).	Lean leaders foster a culture of continuous improvement by encouraging team members to identify and implement process improvements (Zarbo, 2012).
Self-Development	Lean leadership involves a commitment to personal growth and development. Leaders are expected to model lifelong learning and self-improvement, demonstrating the behaviors they want to see in their teams. This principle encourages leaders to continuously refine their skills and capabilities, as well as to help their employees do the same through coaching, mentoring, and providing learning opportunities (Dombrowski & Mielke, 2013).	Lean leaders prioritize team development and engagement, recognizing that a motivated workforce is essential for achieving Lean objectives (Emiliani, 2003). By developing their team, they develop their leadership skills (Liker & Meier, 2007).

Qualification	This principle focuses on ensuring that employees are adequately trained and equipped to perform their tasks effectively. Lean leaders prioritize the development of their teams by investing in training programs, providing resources, and facilitating skill development. The goal is to build a workforce that is competent, confident, and capable of contributing to continuous improvement initiatives (Dombrowski & Mielke, 2013).	Lean leaders use problem-solving and root cause analysis to address issues systematically (Liker & Convis, 2011).
Gemba	In Lean leadership, gemba is not just about the physical space but also about the mindset of engaging directly with the work. Leaders are expected to immerse themselves in the work environment, understand the challenges faced by employees, and provide support in real-time. This involvement helps in building trust, improving communication, and making informed decisions that are grounded in the reality of day-to-day operations (Dombrowski & Mielke, 2013).	Lean leaders do gemba walks to gain firsthand insights into operations, build trust with employees, and demonstrate commitment to continuous improvement (Mann, 2014).
Hoshin Kanri	Hoshin Kanri, or policy deployment, is a strategic planning process that aligns the organization's goals with its activities (Dombrowski & Mielke, 2013). This process involves regular review and adjustment to stay on course (Jackson & Jones, 1996).	Lean leaders use Hoshin Kanri to set clear objectives, communicate them effectively, and ensure that every level of the organization is working towards the same vision (Akao, 2004).

Studies have shown that organizations adopting Lean leadership principles experience significant improvements in efficiency, quality, and customer satisfaction (Liker, 2004). Lean leadership's focus on continuous improvement and waste elimination leads to enhanced efficiency and productivity. By streamlining processes and encouraging innovation, Lean leaders help organizations achieve higher output with fewer resources

(van Dun, 2016). This approach not only reduces costs but also improves the quality of products and services (Womack & Jones, 1996). Van Dun (2024) emphasizes that effective Lean leadership involves leaders who actively engage with their teams, fostering a culture of continuous improvement and problem-solving. By focusing on delivering value to customers, increased loyalty and long-term business success can be obtained (Liker & Meier, 2006).

Lean leadership enhances employee engagement and morale by involving them in decision-making and recognizing their contributions. According to Mazzetti and Schaufeli (2022), engaging leadership significantly impacts employee engagement and team effectiveness by leveraging personal and team resources. This approach fosters a culture of respect and empowerment, leading to higher levels of employee satisfaction (Ellis, 2024). By involving employees in problem-solving and decision-making, Lean leaders create a sense of ownership and accountability, which is crucial for maintaining employee well-being (Kilroy & Flood, 2021). This involvement not only enhances job satisfaction but also drives motivation and commitment to organizational goals (Emiliani, 2003).

While Lean leadership offers numerous benefits, its implementation is not without challenges. Organizations often encounter resistance to change, a lack of understanding of Lean principles, and difficulties in maintaining continuous improvement efforts. A significant challenge is the resistance to change, as employees and managers used to traditional leadership styles may be hesitant to embrace Lean principles. Effective communication, training, and demonstrating the benefits of Lean leadership are essential to overcoming this resistance (Kotter, 1996). Recent research has identified cultural barriers and a lack of leadership commitment as major obstacles to implementing Lean philosophy and methodology. Maware and Parsley (2022) emphasized that a shift in organizational culture and clear leadership direction is imperative for sustaining Lean practices. Additionally, Khan et al. (2024) found that resistance to change and lack of staff knowledge are common challenges, with cultural barriers and leadership commitment being critical factors. Moreover, Francescatto et al. (2022) highlighted the difficulties in implementing Lean Six Sigma, pointing out issues such as inadequate training, insufficient resources, and a lack of a continuous improvement culture. Kakouris et al. (2022) also noted that successful Lean implementation relies on addressing these barriers through

effective leadership, comprehensive training programs, and fostering a culture of continuous improvement.

Successful implementation of Lean leadership requires a deep understanding of Lean principles and a commitment from all organizational levels. Without this understanding and commitment, Lean initiatives are likely to fail or be short-lived. Continuous education and engagement are essential to build and maintain this commitment (Liker, 2004). Sustaining continuous improvement is another challenge in Lean leadership. While initial improvements may be achieved, maintaining the momentum requires ongoing effort and dedication. Lean leaders must consistently reinforce the principles of continuous improvement and create a supportive environment that encourages ongoing innovation (Emiliani, 2003).

- *Core Principles and Artifacts of Lean Leadership*

The core principles of Lean Leadership serve as the underlying assumptions that guide organizational culture and behavior, while the artifacts represent the visible practices and tools that operationalize these principles in everyday operations (Dombrowski & Mielke, 2013). This dual perspective underscores how Lean Leadership integrates beliefs with practical applications to foster a culture of continuous improvement and employee empowerment.

In Lean Leadership, these assumptions often include a commitment to continuous improvement (Kaizen), respect for people, and a focus on value creation through eliminating waste (Dombrowski & Mielke, 2013). These beliefs drive behaviors and decision-making processes within the organization, influencing how leaders prioritize activities and engage with employees.

Artifacts, on the other hand, are the visible manifestations or outcomes of these underlying assumptions. In Lean Leadership, artifacts may include practices such as visual management systems, daily huddles, and gemba walks, which aim to enhance transparency, communication, and problem-solving capabilities across all levels of the organization (Dombrowski & Mielke, 2013). These practices not only reflect the underlying Lean principles but also serve as tangible tools for implementing and sustaining Lean initiatives.

Understanding these principles and artifacts provides a foundation for exploring the role of emotional intelligence in leadership, which is essential for fostering a supportive and effective organizational culture (McCleskey, 2014).

2.1.5. Emotional Intelligence

Emotional intelligence has become a pivotal topic in both psychological and organizational studies, highlighting its significance in various aspects of personal and professional life. Initially defined by Salovey and Mayer (1990), emotional intelligence encompasses the abilities to recognize, understand, regulate, and manage emotions in oneself and others. Goleman (1995) later expanded on this concept, demonstrating its applicability in leadership and workplace settings, and suggesting that this ability plays a crucial role in achieving success, complementing cognitive intelligence.

- *Dimensions and Frameworks of Emotional Intelligence*

Emotional intelligence has been explored through various dimensions and frameworks, beginning with Salovey and Mayer's (1990) foundational model, which identified four key components: emotion perception, emotional facilitation of thinking, emotional understanding, and emotional management. These components highlight the interplay between cognitive and emotional processes, framing emotional intelligence as a dynamic and interactive concept. Goleman (1995) expanded on this framework by introducing five critical elements: self-awareness, self-regulation, motivation, empathy, and social skills, with a particular focus on their practical applications in leadership and interpersonal relationships.

Further contributing to the field, Bar-On (1997) developed the Emotional Quotient Inventory (EQ-i), which measures emotional intelligence across dimensions such as intrapersonal skills, interpersonal skills, adaptability, stress management, and general mood. This framework underscores emotional intelligence as a multifaceted construct that significantly influences overall well-being and social functioning.

- *Emotional Intelligence and Psychological Well-being*

Numerous research studies have established a link between emotional intelligence and psychological well-being. Mikolajczak, Menil, and Luminet (2007) found that individuals with high emotional intelligence show greater emotional resilience, lower stress levels, and improved mental health. Effective emotion regulation allows individuals to handle challenging situations with greater calm and adaptability (Gross & John, 2003). Moreover, higher emotional intelligence is associated with increased self-esteem, better interpersonal relationships, and greater life satisfaction (Schutte et al., 2002).

- *Emotional Intelligence in the Workplace*

The application of emotional intelligence in the workplace is a primary area of interest, particularly regarding its impact on job performance and organizational effectiveness. Research by Boyatzis, Goleman, and Rhee (2000) indicates that emotional intelligence competencies are strong predictors of workplace success, especially in roles that require interpersonal interaction. Traits like self-regulation and empathy are crucial for conflict resolution and team collaboration (Jordan & Troth, 2004).

Studies suggest that employees with high emotional intelligence perform better, adapt more readily to change, and make better decisions (Lopes et al., 2006). Leaders with high EI create positive work environments, enhance team cohesion, and drive organizational performance (Cherniss, 2001). Additionally, it aids in stress management, allowing employees to remain productive under pressure (van Rooy & Viswesvaran, 2004).

- *Critiques and Challenges*

Despite its growing popularity, it faces critiques concerning its definition and measurement. Landy (2005) argued that broad definitions of emotional intelligence sometimes overlap with personality traits such as agreeableness and extraversion. Furthermore, the validity and reliability of various emotional intelligence assessment tools, including self-report measures, have been questioned (Petrides & Furnham, 2000). Nevertheless, ongoing research continues to refine emotional intelligence frameworks and methodologies, underscoring its uniqueness and practical relevance.

- *Emotional Intelligence as a Leadership Skill*

Emotional intelligence is regarded as a key component of effective leadership. Leaders with high emotional intelligence can inspire, motivate, and guide their teams towards achieving organizational objectives. Leaders with high emotional intelligence tend to have better interpersonal skills, which can enhance their leadership effectiveness (McCleskey, 2014). Goleman (1998) posited that the five components of emotional intelligence – self-awareness, self-regulation, motivation, empathy, and social skills – are crucial for leaders to navigate complex human behaviors and organizational dynamics. Empathy, for instance, helps leaders understand and address their team members' needs, fostering trust and collaboration (Ashkanasy & Daus, 2005).

Additionally, the ability enhances leaders' decision-making by integrating emotional and rational considerations (George, 2000). Leaders who manage their emotions well are better equipped to handle high-pressure situations and maintain composure, setting a positive example for their teams. High emotional intelligence also enables leaders to resolve conflicts effectively, promoting harmony and productivity within the organization (Lopes et al., 2006).

- *Empathy and Emotional Intelligence in Leadership*

Moreover, a growing body of literature highlights the role of emotional intelligence and empathy in effective leadership. Muss, Tüxen, and Fürstenau (2025) conducted a systematic review of 42 studies and identified nine categories through which empathetic leadership affects organizations, including performance, well-being, interpersonal relationships, and leadership practice (Muss, Tüxen, & Fürstenau, 2025). Their findings underscore that empathy is not merely a soft skill but a strategic capability that enhances organizational resilience and employee engagement.

This aligns with earlier work by Goleman (1998), who identified emotional intelligence as a critical component of leadership effectiveness. Leaders who demonstrate empathy are better equipped to navigate the complexities of modern work environments, foster trust, and support employee development.

2.2. Knowledge Management in Organizations

Knowledge is yet again a crucial and underlying component of any organization. It gives individuals the opportunity to gain experience from one another, improve processes, and adapt to changing circumstances (Nonaka & Takeuchi, 1995). Proper control of management, transfer, and sharing of knowledge are critical when it comes to building a culture of continuous improvement (Davenport & Prusak, 1998). In this section, we will explore the various aspects of knowledge, including knowledge management, transfer, sharing, and utilization.

Knowledge management can be defined as a strategic approach that encompasses processes, technologies, and practices aimed at identifying, storing, and disseminating knowledge within an organization (Dalkir, 2011). The main objective is to improve decision-making, innovation, and performance by effectively leveraging intellectual assets (Wiig, 1997). It aims to create an environment in which knowledge is valued, shared, and utilized across every level (Alavi & Leidner, 2001). This multifaceted approach involves various components, each contributing to the overall effectiveness of knowledge management (Nonaka & Takeuchi, 1995).

2.2.1. Knowledge Creation

Knowledge management encompasses the process of knowledge creation and innovation. By fostering experimentation, curiosity, and learning, organizations can encourage individuals to generate innovative ideas, insights, and solutions to address emerging challenges and opportunities (Alavi & Leidner, 2001). Knowledge creation involves the continuous development and refinement of knowledge through research, experimentation, and creative problem-solving. Researchers also link innovation to knowledge creation, as it involves applying new knowledge to develop novel products, services, or processes (Nonaka, 1994). Organizations that prioritize knowledge creation and innovation are better positioned to adapt to changing market conditions, meet customer needs, and maintain a competitive edge (Teece, 1998). To support knowledge creation and innovation, organizations can implement practices such as brainstorming sessions, innovation labs, and

cross-functional project teams that bring together diverse perspectives and expertise (Leonard-Barton, 1995).

2.2.2. Knowledge Transfer (Sharing)

One of the key components of knowledge management is knowledge transfer – or sharing. This involves the exchange of tacit and explicit knowledge among individuals and teams to facilitate learning and problem-solving (Alavi & Leidner, 2001). By encouraging collaboration, communication, and information sharing, organizations can harness the collective expertise of their employees and drive innovation and continuous improvement (Nonaka & von Krogh, 2009).

Knowledge sharing can occur through formal and informal channels. Formal channels include training programs, workshops, and seminars, while informal channels encompass casual conversations, mentorship, and social interactions (Hendriks, 1999). Organizations can enhance knowledge sharing through informal channels by fostering an environment that values open communication and continuous learning, thus enabling employees to share their insights and experiences freely (Cummings, 2004).

Several factors influence the success of knowledge transfer initiatives, including communication channels, organizational culture, leadership support, and technology infrastructure (Alavi & Leidner, 2001). Organizations must invest in creating an environment where knowledge sharing is encouraged, rewarded, and integrated into daily practices. This involves promoting open communication, fostering trust among employees, and recognizing and rewarding knowledge-sharing behaviors. Leadership support is also essential, as leaders set the tone for knowledge-sharing practices and provide the necessary resources and incentives to support these initiatives (Al-Alawi et al., 2007).

2.2.3. Organizational Factors in Knowledge Management and Transfer

Knowledge management and transfer are influenced by various organizational factors, including an organization's culture, structure, and strategy (Nonaka & Takeuchi, 1995).

These factors shape how knowledge is created, shared, and utilized within the organization, impacting its effectiveness and performance.

- *Organizational Culture*

Organizational culture shapes how knowledge is created, shared, and utilized, reflecting values and behavioral norms that guide sense-making processes (De Long & Fahey, 2000). A culture that values knowledge and encourages continuous learning and improvement fosters an environment where employees are motivated to share their insights and expertise.

Conversely, a culture that emphasizes competition and individual achievement may hinder knowledge-sharing efforts, as employees may be reluctant to share their knowledge for fear of losing their competitive edge. To promote a culture conducive to knowledge management and transfer, organizations can implement initiatives such as knowledge-sharing sessions, mentorship, or recognition programs, which reward collaborative behaviors (Davenport & Prusak, 1998). Leaders play a critical role in shaping organizational culture by modelling desired behaviors, communicating the importance of knowledge sharing, and providing the necessary support and resources (Nonaka & Takeuchi, 1995).

- *Organizational Structure*

Organizational structure also plays a key role in knowledge management and transfer. Decentralized structures, characterized by open communication and collaboration, are often conducive to knowledge sharing and transfer (Gold et al., 2001). In such structures, decision-making authority is distributed across various levels, allowing employees to share their insights and contribute to organizational knowledge.

Hierarchical structures, on the other hand, may impede knowledge flow by creating barriers to communication and collaboration (Nonaka & Takeuchi, 1995). In rigid hierarchical organizations, knowledge may be concentrated at the top, limiting the ability of lower-level employees to access and contribute to it (Grant, 1996). To facilitate knowledge management and transfer, organizations can adopt more flexible and decentralized structures that encourage cross-functional collaboration and information sharing (Hedlund, 1994).

- *Organizational Strategy*

Organizational strategy influences knowledge management and transfer initiatives by defining the organization's goals and guiding its interactions with the competitive environment (Daft, 1995). A strategic focus on knowledge management can help organizations capitalize on their intellectual assets and enhance their competitive advantage in the marketplace.

For instance, organizations that prioritize innovation and continuous improvement may invest heavily in knowledge management initiatives to ensure that employees have access to the latest information and best practices (Drucker, 1993). By aligning knowledge management practices with organizational strategy, organizations can ensure that their knowledge assets are leveraged to achieve strategic objectives (Zack, 1999).

2.3. Scientific Thinking and Problem-solving Through Toyota Kata

This section explores two management frameworks related to Toyota's practices: Kata (Improvement Kata and Coaching Kata), which Rother (2010) studied and popularized, and the Toyota Way's 4P model, a representation created by Liker (2021) to structure and explain Toyota's principles. Both frameworks embody the principles of scientific thinking and problem-solving within organizational settings. Each framework provides a distinct perspective and sets of tools for fostering a culture of continuous improvement. They empower individuals and teams to systematically identify, analyze, and address challenges. By exploring the intricacies of these methodologies, organizations can nurture a mindset of curiosity, experimentation, and adaptability, which drives sustainable success and resilience in today's dynamic business landscape (Sahebjamnia et al., 2018).

2.3.1. The Toyota Way

As mentioned, pursuing organizational excellence has long been a goal for businesses worldwide, with various methodologies and philosophies emerging to achieve this objective. Among these, the Toyota Way stands out, epitomizing Toyota's rise to prominence as a global automotive leader. Developed by Jeffrey Liker in his influential work, "The Toyota Way: 14 Management Principles from the World's Greatest

Manufacturer," this management philosophy encompasses a set of guiding principles and practices that have shaped Toyota's culture, operations, and performance. At the heart of the Toyota Way lie core values such as continuous improvement, respect for people, and long-term thinking, which underpin every aspect of the organization's behavior and decision-making. Through a comprehensive framework outlined in Liker's 4P Model – Philosophy, Process, People, and Problem-solving – the Toyota Way offers organizations a blueprint for achieving sustainable excellence, driving innovation, and fostering a culture of continuous improvement and learning.

- *People (Respect for People and Teamwork)*

Toyota has consistently demonstrated its deep commitment to respect for people and teamwork. According to Liker (2021), Toyota recognizes that its employees are its greatest asset and strives to create an environment where individuals feel valued, empowered, and motivated to contribute their best. This emphasis on respect for people extends beyond the workplace to include relationships with customers, suppliers, and the broader community. By fostering a culture of collaboration, trust, and mutual respect, Toyota cultivates a sense of shared purpose and collective accountability, driving innovation and excellence.

- *Process*

Another key component of the Toyota Way is the relentless pursuit of process improvement and waste elimination. The TPS places a strong emphasis on standardizing work processes, identifying and eliminating waste, and continuously seeking opportunities for improvement. By streamlining operations, minimizing variability, and maximizing efficiency, Toyota achieves higher levels of productivity, quality, and customer satisfaction. This process improvement philosophy, often referred to as "Lean thinking," is guided by Liker's 14 Principles of the Toyota Way (2021), as outlined in the table below (Table 4). They serve as the foundation for their system of belief, behavior, or reasoning (Audi, 2011).

Table 4: The 14 Principles of the Toyota Way

Category	Principle	Description
Philosophy	1. Base your management decisions on long-term systems thinking, even at the expense of short-term financial goals	Focus on long-term goals and sustainability rather than short-term gains.
Process	2. Connect people and processes through continuous process flow to bring problems to the surface	Ensure smooth workflow to identify and address issues promptly.
	3. Use "pull" systems to avoid overproduction	Produce only what is needed when it is needed to reduce waste.
	4. Level out the workload (heijunka)	Balance work to prevent overburdening and ensure steady progress.
	5. Work to establish standardized processes as the foundation for continuous improvement	Create consistent processes to facilitate ongoing improvements.
	6. Build a culture of stopping to identify out-of-standard conditions and build in quality	Encourage stopping work to fix problems and ensure quality from the start.
People and Partners	7. Use visual control to support people in decision-making and problem solving	Implement visual tools to make information clear and accessible.
	8. Adopt and adapt technology that supports your people and processes	Use technology that enhances, rather than disrupts, your processes and workforce.
	9. Grow leaders who thoroughly understand the work, live the philosophy, and teach it to others	Develop leaders who embody and promote the company's values and practices.
Problem-solving	10. Develop exceptional people and teams who follow your company's philosophy	Invest in building skilled and dedicated teams aligned with the company's mission.

Category	Principle	Description
	11. Respect your value chain partners by challenging them and helping them improve	Collaborate with and support partners to enhance mutual success.
	12. Observe deeply and learn iteratively (PDCA) to meet each challenge	Use the Plan-Do-Check-Act cycle to continuously learn and improve.
	13. Focus the improvement energy of your people through aligned goals at all levels	Align goals across the organization to harness collective efforts towards improvement.
	14. Learn your way to the future through bold strategy, some large leaps, and many small steps	Combine strategic planning with incremental improvements to achieve long-term success.

These principles of process improvement and waste elimination are deeply ingrained in Toyota's culture and operations. They enable the company to achieve higher levels of efficiency, quality, and customer satisfaction, providing a competitive edge in the automotive industry.

- *Philosophy (Long-Term Thinking)*

Another fundamental principle is long-term thinking, which guides strategic decision-making and behavior. It also explains that Toyota favors sustainable, long-term growth and prosperity over short-term gains. Toyota Motor Corporation's The Toyota Way 2001 defines the core values and business practices that drive its global success. This philosophy emphasizes a commitment to excellence, innovation, and a strong corporate culture, depicted in Table 5.

Table 5: Toyota Way 2001

Principle	Description
Continuous Improvement	Always striving to enhance the business by introducing new ideas and performing to the best of the company's abilities.

Principle	Description
Respect for People	Value all stakeholders and believe that success is driven by individual efforts and effective teamwork.

Retrieved from [TOYOTA MOTOR CORPORATION GLOBAL WEBSITE | Toyota Way 2001](#)

By embracing a philosophy of long-term thinking, an organization can ensure that its decisions and actions are aligned with its core values and objectives. This approach led Toyota to achieve sustainable growth, navigate its challenges and seize opportunities in a fast-paced business environment.

- *Problem-solving (Continuous Improvement and Learning)*

Continuous improvement and learning drive a culture of relentless problem-solving and innovation. Toyota exemplifies this fact, as they encourage their employees at every level to view challenges as opportunities for improvement, to embrace a mindset of curiosity, to experiment and thus be continuously learning. Some aspects of Toyota's problem-solving approach are summarized in the following table (Table 6). They have been thoroughly discussed by John Shook in his work, such as Toyota's Secret: The A3 Report (Shook, 2009).

Table 6: Problem-Solving Approaches

Aspects	Definition
Root cause analysis	This method involves systematically identifying the fundamental causes of a problem rather than merely addressing its symptoms. It includes collecting data, analyzing patterns, and repeatedly asking "why" to uncover the core issue. By targeting the root cause, organizations can implement more effective and lasting solutions (Shook, 2009). Toyota emphasizes the importance of identifying and addressing the root causes of problems rather than merely treating symptoms. Tools like the "5 Whys" technique are used to drill down to the underlying issues, ensuring that solutions are effective and sustainable (Toyota Motor Corporation, n.d.).
PDCA cycle	The PDCA cycle is a continuous improvement process consisting of four steps: Plan, Do, Check, and Act. This

	iterative cycle helps teams plan actions, execute them, evaluate the outcomes, and make necessary adjustments. It is essential for fostering a culture of continuous improvement and ensuring that changes achieve the desired results (Shook, 2009).
A3 problem-solving	The A3 problem-solving process involves documenting problems, analyzes, and solutions on a single sheet of paper (A3 size). This concise format encourages clear thinking, effective communication, and collaborative problem-solving. It also serves as a record of the problem-solving process, facilitating knowledge sharing and learning (Liker, 2004).
Hansei (reflection)	Hansei is a critical practice for continuous improvement that involves deep self-reflection. Individuals and teams honestly assess their performance, acknowledge mistakes, and commit to improvement. This practice fosters a culture of humility, personal responsibility, and relentless pursuit of excellence (Shook, 2009). This introspective process also fosters self-awareness, and a commitment to continuous learning (Shook, 2010).
Knowledge sharing	A structured system for capturing, sharing, and applying learned knowledge ensures that valuable insights are not lost, and continuous improvement is sustained. This involves documenting best practices and lessons learned, fostering an environment where information flows freely across the organization (Shook, 2009). Toyota's collaborative approach to knowledge sharing helps prevent the recurrence of problems and drives collective improvement (Spear, 2004).

Toyota's approach to problem-solving and continuous improvement is grounded in methods like digging deep with the '5 Whys,' cycling through Plan-Do-Check-Act for continuous refinement and using A3 sheets for collaborative and clear solutions. Reflective practices like hansei encourage individual growth, while sharing knowledge ensures everyone benefits from lessons learned. These strategies reflect Toyota's dedication to quality, efficiency, and innovation.

2.3.2. *Toyota Kata*

The concept of kata originates from Japanese martial arts, where it refers to a structured sequence of movements practiced repeatedly until they become second nature. In Lean management, kata has been adapted to describe habitual routines that reinforce desired

behaviors and thinking patterns, particularly in the context of continuous improvement and leadership development (Helmold et al., 2022). This metaphorical use of kata was introduced to the Lean community by Mike Rother in his seminal work *Toyota Kata* (2010), where he formalized two interrelated routines: the Improvement Kata and the Coaching Kata.

The adaptation of kata into organizational practice was formalized by Rother in his influential work *Toyota Kata* (2010), which introduced two interrelated routines: the Improvement Kata and the Coaching Kata. These routines are designed to operationalize the Toyota Production System's underlying principles by embedding scientific thinking into daily work. Rather than relying solely on tools or isolated improvement events, Toyota Kata emphasizes the development of a continuous improvement culture through structured practice and coaching.

Additionally, the Toyota Kata framework provides a meta-routine – a routine for developing routines – that enables individuals and teams to navigate uncertainty, pursue challenging goals, and learn systematically from experimentation. It shifts the focus from reactive problem-solving to proactive capability-building, where improvement becomes a daily habit rather than an occasional initiative. This approach aligns with broader theories of organizational learning and dynamic capabilities, positioning Toyota Kata as both a practical methodology and a strategic enabler of long-term adaptability and innovation.

In the following sections, we will explore the two core components of the Toyota Kata in greater detail. Section 2.3.3 will examine the Improvement Kata, focusing on its structured approach to scientific problem-solving and iterative learning. Section 2.3.4 will then address the Coaching Kata, highlighting its role in leadership development and the cultivation of a continuous improvement mindset through guided practice.

2.3.3. *Improvement Kata*

- *Foundations of Improvement Kata*

The Improvement Kata fosters scientific thinking and experimentation. It draws inspiration from Toyota's culture of continuous improvement, where employees at all levels are

encouraged to identify problems, experiment with countermeasures, and learn from their experiences (Spear & Bowen, 1999). Central to the Improvement Kata is the concept of iterative cycles, where teams set ambitious goals, break them down into smaller targets, and conduct rapid experiments to achieve incremental progress. By embracing a mindset of curiosity, humility, and resilience, organizations can cultivate a culture of continuous improvement that drives innovation and adaptability (Rother, 2010).

The Improvement Kata also plays a significant role in leadership development. Leaders who engage in Coaching Kata cycles learn to guide teams through structured questioning and reflection, rather than providing direct solutions. This approach reinforces scientific thinking and autonomy, aligning with Lean leadership principles that emphasize the role of the leader as a teacher (Odebrecht de Souza et al., 2023).

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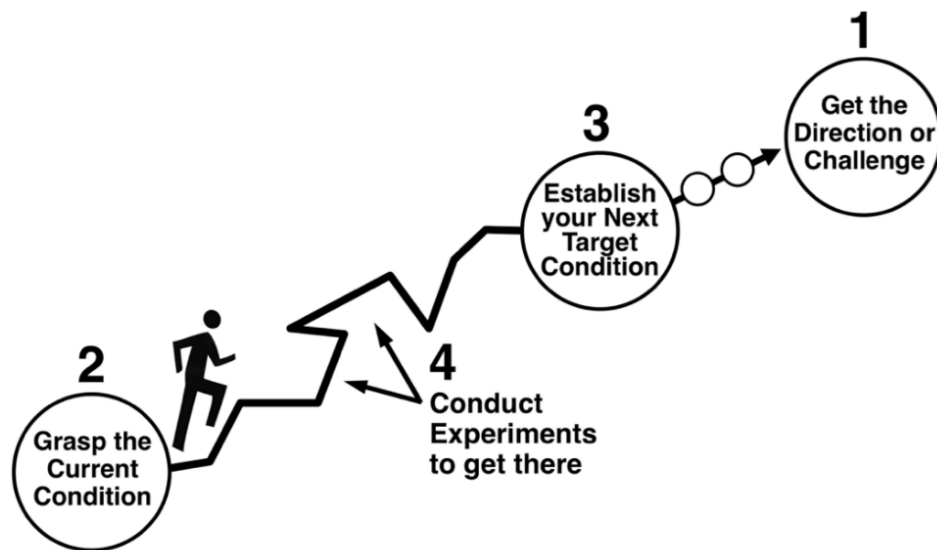
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- *The Four-Step Routine*

The Improvement Kata is a structured method for achieving continuous improvement through scientific thinking and iterative problem-solving. Rooted in the work of Mike Rother, as outlined in his book *Toyota Kata* (2010), this approach provides organizations with a systematic framework for driving change and innovation. It consists of four key steps depicted in Figure 1 (Rother, 2010):

1. Understanding the direction or challenge
2. Grasping the current condition
3. Establishing the next target condition
4. Conducting experiments toward the target condition.

Figure 1: The Four Steps of the Improvement Kata (Rother 2010)



Retrieved from https://public.websites.umich.edu/~jmondisa/TK/The_Improvement_Kata.html

These steps provide a systematic approach to problem-solving, fostering a mindset of scientific thinking and iterative learning. The process begins with management defining the challenge, providing a clear direction for improvement efforts. Next, the current state is examined through the collection and analysis of relevant data. Once the present situation is understood, a target condition is established, aligning with overarching goals. Finally, rapid, iterative experiments are conducted to test ideas, learn from results, and make steady progress toward the target condition (Rother, 2010).

- *The Role of the Storyboard*

In the Improvement Kata framework, learners use a storyboard to document their progress through each step of the improvement process. This visual tool serves as a central reference point, facilitating structured dialogue between the learner and their coach. By systematically recording challenges, experiments, and outcomes, the storyboard enhances clarity and focus during coaching sessions, fostering a scientific approach to learning and

continuous improvement (Rother, 2018). Moreover, the storyboard aids in tracking progress and promotes scientific thinking as learners reflect on their experiences and plan subsequent actions.

Research indicates that using storyboards improves organizational and transitional skills, helping learners to outline main ideas and supporting details, which enhances their ability to structure and communicate complex information effectively (Toister, 2020). The following image (Figure 2), taken from Rother's University of Michigan website, illustrates the storyboard utilized during coaching cycles.

Figure 2: The Learner's Storyboard

Focus Process:		Challenge:
Target Condition Achieve by: _____	Current Condition	Experimenting Record
		Obstacles Parking Lot

Retrieved from https://public.websites.umich.edu/~jmondisa/TK/KATA_Files/Storyboard_Format.pdf

- *Embedding Kata into Organizational Culture*

Recent academic literature emphasizes the Improvement Kata as a foundational routine for embedding continuous improvement and scientific thinking into organizational culture teacher (Odebrecht de Souza, Ribeiro, Ferenhof, & Forcellini, 2023). Helmold et al. (2022) describe it as a behavioral transformation tool that supports Lean management by instilling structured routines that guide employees through uncertainty and change. These routines

are not only technical but also cultural, shaping how individuals think, act, and interact within the organization.

- *Practical Applications*

The Improvement Kata has been effectively applied across various industries, including manufacturing, healthcare, and software development (Landry, 2022). In manufacturing, it has streamlined production processes, reduced waste, and enhanced product quality (Rother, 2010; van Aken et al., 2010). Healthcare organizations have utilized the Improvement Kata to improve workflows, improve patient care, and reduce medical errors (Graban, 2016). In software development, it has increased productivity, improved software quality, and enhanced responsiveness to customer feedback (Staats et al., 2011; Middleton & Joyce, 2012).

Empirical studies have shown that the Improvement Kata contributes to both operational and cultural outcomes. Borges et al. found that its implementation fosters knowledge creation, employee engagement, and waste reduction, while also improving service quality and problem-solving capabilities. These benefits are particularly evident when the Kata is applied consistently and supported by leadership commitment.

2.3.4. *Coaching Kata*

- *Historical and Theoretical Foundations of the Coaching Kata*

The Coaching Kata is drawn from behavioral learning theory and the principles of deliberate practice (Lang, 2017). It is designed to help leaders and managers develop others through structured, repetitive coaching interactions that reinforce scientific thinking. The theoretical underpinning of the Coaching Kata is rooted in the Plan-Do-Check-Act (PDCA) cycle, which emphasizes iterative experimentation and learning. This connection to scientific thinking is central to the Kata methodology, as it encourages structured problem-solving and adaptive learning in daily work routines (Helmold et al., 2022).

By embedding the Coaching Kata into daily routines, organizations aim to create a culture where continuous improvement becomes habitual. The routine is not merely a set of questions but a mechanism for shaping how people think and act in the face of challenges.

It supports the development of metacognitive skills – such as reflection, hypothesis testing, and adaptive reasoning – which are essential for navigating complex systems and driving sustainable change (Odebrecht de Souza et al., 2023).

Furthermore, the Coaching Kata aligns with Vygotsky’s sociocultural theory of learning, particularly the concept of the “zone of proximal development,” where learners advance through guided interaction with a more knowledgeable other. In this context, the coach serves as a facilitator who scaffolds the learner’s development, gradually transferring responsibility as competence grows (Tzuriel, 2021).

- *Coaching Kata Application and Practice*

The Coaching Kata, closely intertwined with the Improvement Kata, represents a structured coaching methodology designed to develop the learner’s scientific mindset. Rooted in Toyota’s coaching culture, this approach emphasizes the pivotal role of managers and leaders in supporting and nurturing their teams (Landry, 2022). Coaching Kata, provides a structured approach to coaching by utilizing five core questions designed to guide the learner through the Improvement Kata process. These questions are (Rother, 2010):

1. What is the target condition?
 - Which clarifies the specific goal or desired future state.
2. What is the actual condition now?
 - Which ensures a clear understanding of the current condition.
 - It also includes a series of sub-questions that reflects on the last step taken.
3. What obstacles do you think are preventing you from reaching the target condition?
Which one are you addressing now?
 - Which focuses on identifying and addressing barriers.
4. What is your next step? What do you expect?
 - Which prompts action and hypothesis formulation.
5. How quickly can we go and see what we have learned from taking that step?
 - Which encourages rapid feedback and iterative learning (Rother, 2010).

By repeatedly asking these questions, and hosting daily coaching cycles, coaches reinforce a scientific, iterative mindset, fostering scientific thinking, experimentation, and continuous improvement within individuals and teams.

The Coaching Kata introduces a systematic coaching routine that empowers managers to facilitate their learners' practice of the Improvement Kata. Managers can use it as a structured approach to guide individuals in achieving long-term goals, fostering a culture of continuous improvement and learning. Central to the Coaching Kata is the principle of asking insightful questions, challenging assumptions, and providing guidance rather than solutions reference. By adopting this coaching mindset, managers can empower their teams to take ownership of improvement efforts and develop their scientific thinking capabilities (Rother, 2018).

In the Coaching Kata, managers assume the role of learners or coaches, but for the study, we will focus on them being coaches. When acting as one, they are responsible for supporting their team members' development and growth. Coaches guide learners through the steps of the Improvement Kata, asking probing questions, providing feedback, and facilitating reflection. It's crucial to emphasize that coaches are expected to empower individuals to think scientifically, experiment, and learn from their experiences, instead of providing answers. By fostering a culture of coaching and mentorship, organizations can cultivate a sense of trust, collaboration, and continuous improvement (Rother, 2010).

Unlike Lean leadership, which encompasses a broader philosophy of leading by example, fostering respect, and aligning organizational goals with continuous improvement, the Coaching Kata focuses specifically on the how of developing these capabilities in others. It provides a repeatable method for leaders to coach team members through the Improvement Kata, using a consistent set of questions to encourage reflection, experimentation, and learning. While Lean leadership emphasizes vision, culture, and strategic alignment, the Coaching Kata offers a tactical mechanism for embedding those values into daily practice. In this way, the Coaching Kata serves as a practical tool that operationalizes the developmental aspects of Lean leadership by making learning and improvement a shared, structured routine.

- *Coaching Kata as a Mechanism for Developing Scientific Thinking and Leadership*

The Coaching Kata serves not only as a tool for reinforcing the Improvement Kata but also as a structured mechanism for cultivating scientific thinking and leadership capabilities

across all levels of an organization (Odebrecht de Souza et al., 2023). Odebrecht de Souza et al. (2023) explain that it operationalizes the principle of “learning by doing” through daily coaching cycles, where leaders guide learners using a consistent set of questions that promote reflection, experimentation, and iterative learning.

Recent literature emphasizes that the Coaching Kata plays a critical role in embedding a culture of continuous improvement by shaping how leaders interact with their teams. Rather than directing or solving problems for others, coaches facilitate learning by asking questions that encourage learners to think critically about their processes and decisions (Odebrecht de Souza et al., 2023). For instance, Lang (2017) demonstrates how the Coaching Kata fosters reflective habits and adaptive behavior in educational settings, reinforcing continuous improvement through structured coaching. Similarly, Karlsen and Berg (2020) highlight how coaching-based leadership enhances self-efficacy and learning, aligning closely with the Coaching Kata’s emphasis on guided discovery over directive management. These studies collectively underscore Kata’s role in cultivating leadership practices that support sustainable, team-driven problem-solving. This shift from directive to developmental leadership aligns with Lean’s emphasis on empowering frontline employees and decentralizing problem-solving (Rother, 2010).

Moreover, the Coaching Kata supports the development of what Rother refers to as meta-skills – the ability to navigate uncertainty, adapt to change, and learn continuously. These skills are increasingly essential in dynamic environments where traditional command-and-control leadership models are insufficient. By engaging in regular coaching routines, leaders not only reinforce scientific thinking in others but also internalize it themselves, creating a feedback loop that strengthens organizational learning (Rother, 2010).

Empirical studies have shown that organizations that implement Coaching Kata alongside the Improvement Kata report higher levels of employee engagement, faster problem resolution, and more sustainable Lean transformations (Odebrecht de Souza et al., 2023). The structured nature of the coaching interaction – centered around the five Kata questions – provides a predictable yet flexible framework that supports both individual development and organizational alignment.

In addition, recent research on executive coaching effectiveness highlights the importance of coach-coachee relationships, coaching structure, and organizational support as key determinants of behavioral change and leadership development (Plotkina & Sri Ramalu, 2024). These findings reinforce the Coaching Kata's value as a leadership development tool, particularly in environments that demand agility and continuous learning.

Furthermore, the Coaching Kata aligns with broader trends in leadership development that emphasize empathy, emotional intelligence, and reflective practice. A systematic review by Ellinger and Kim (2014) found that coaching-based leadership significantly enhances employee engagement and learning outcomes, particularly when leaders adopt a facilitative rather than directive approach. This is echoed in studies on empathetic leadership, which show that leaders who foster trust and psychological safety are more effective in enabling adaptive learning behaviors (Springer, 2024).

In this context, the Coaching Kata plays a role in shaping and sustaining an improvement culture, an environment where continuous learning, experimentation, and reflection are embedded in daily routines. This cultural foundation is essential for realizing the core principle of the Improvement Kata as articulated by Mielke and Dombrowski: the deliberate development of scientific thinking through structured practice (Dombrowski & Mielke, 2013). By engaging in regular coaching cycles, leaders reinforce not only the mechanics of the Kata routines but also the mindset and behaviors that underpin a culture of improvement.

Through this lens, the Coaching Kata could be seen as more than a leadership tool – it is a cultural mechanism that aligns individual development with organizational learning, ensuring that improvement is not a one-time initiative but a sustained way of working.

- *Application of the Coaching Kata in Professional and Personal Life*

Although the Coaching Kata was developed within the context of organizational improvement, its structured approach to learning and development has proven valuable in both professional and personal domains. At its core, the Coaching Kata is a routine for developing scientific thinking through guided questioning, reflection, and iterative learning, skills that are transferable across a wide range of settings.

In professional environments, the Coaching Kata has been applied not only in manufacturing but also in healthcare, education, software development, and public services. Managers and team leaders use the routine to support employee development, foster problem-solving capabilities, and build a culture of continuous improvement. The structured coaching dialogue encourages individuals to take ownership of their learning, while the coach facilitates progress through consistent, non-directive questioning. This approach has been shown to enhance engagement, accountability, and innovation across diverse organizational contexts (Plotkina & Sri Ramalu, 2024).

Beyond the workplace, the Coaching Kata can be adapted for personal development and informal mentoring relationships. For example, individuals may use the five-question routine to coach themselves through personal goals such as habit formation, skill acquisition, or decision-making. Parents, educators, and mentors can also apply Coaching Kata to support others in developing autonomy and reflective thinking. By focusing on learning rather than outcomes, the routine helps individuals build confidence in navigating challenges and embracing experimentation.

The adaptability of the Coaching Kata underscores its value as a mindset and methodology for lifelong learning. Whether applied in professional roles or personal contexts, it fosters a disciplined yet flexible approach to growth, grounded in curiosity, reflection, and continuous improvement.

2.4. Theoretical Framework

In addition to the theory, this section includes a narrative explanation of how I use the concepts elaborated during the literature review and their underlying assumptions to investigate the research problem. This study draws on a comprehensive theoretical framework built upon key concepts in Lean leadership, Improvement Kata, Coaching Kata and knowledge management. Each of these elements can play a role in shaping an integrated approach to organizational improvement, leadership development, and sustainable success.

To further illustrate these connections, the following table (Table 7) demonstrates the links between these concepts and ideas, highlighting their interconnections and mutual reinforcement within the framework.

Table 7: Links Between Concepts

Concept	Lean Leadership	Improvement Kata	Coaching Kata	Knowledge Management
Lean Leadership	Leaders develop people and foster a culture of continuous improvement.	Leaders use Improvement Kata to teach and empower teams through experiment cycles.	Leaders act as coaches, using Coaching Kata to guide learners through the Improvement Kata.	Leaders ensure knowledge is captured, shared through Yokoten (the practice of sharing best practices across teams), and reused to sustain improvements and build capability.
Improvement Kata	Leaders model the Improvement Kata as a structured approach for scientific thinking.	Structured routine for continuous improvement: Plan-Do-Check-Act (PDCA) cycles.	Coaching Kata supports learners in mastering the Improvement Kata routine.	Knowledge is generated through experimentation and reflection, then codified for future use.

Concept	Lean Leadership	Improvement Kata	Coaching Kata	Knowledge Management
Coaching Kata	Leaders develop coaching skills to mentor others in scientific thinking and continuous improvement.	Coaching Kata provides a framework for leaders to guide learners through Improvement Kata.	Structured questions and routines to help learners think scientifically and improve.	Coaching ensures knowledge is transferred effectively and embedded in the organization's practices.
Knowledge Management	Leaders prioritize utilizing approaches that capture, share, and apply knowledge effectively.	Improvement Kata generates new knowledge through experimentation and learning cycles.	Coaching Kata ensures practical knowledge is transferred from coach to learner effectively.	Systematic approach to capturing, storing, and disseminating knowledge to sustain improvements.

Lean leadership is fundamentally intertwined with the Improvement Kata and Coaching Kata, forming a cohesive framework for fostering a culture of continuous improvement and organizational learning. Lean leaders utilize the Improvement Kata as a structured guide to instill a scientific approach to continuous improvement within their teams, modeling and teaching its principles to promote a mindset of experimentation and reflection. Simultaneously, they adopt the role of coaches, employing the Coaching Kata to guide their teams through the Improvement Kata process, thereby developing critical thinking skills. The Coaching Kata serves as the critical process through which leaders ensure the consistent and effective application of the Improvement Kata, helping learners internalize its methodologies and sustain progress. Furthermore, Lean leaders prioritize knowledge management by systematically capturing, sharing, and reusing the lessons learned generated through both the Improvement and Coaching Kata processes. The Improvement Kata, through its iterative cycles of experimentation, produces valuable insight that, when codified and managed, prevents redundant efforts and accelerates organizational learning. Complementing this, Coaching Kata facilitates the effective

transfer of knowledge from coach to learner through repeated cycles, embedding experiential, contextual, cognitive, and behavioral insights into the organization's practices and routines. Together, these elements create a dynamic system where Lean leadership, structured thinking process, and knowledge management converge to drive sustained improvement and build a learning-oriented organizational culture.

2.5. Links between Toyota Kata and Lean Leadership

Toyota Kata emphasizes continuous improvement and coaching routines that support Lean leadership by integrating knowledge sharing into daily operations. Liker and Convis (2011) explain that Lean leadership involves creating an environment where everyone is actively engaged in continuous improvement and problem-solving. Exploring this connection sets the stage for a comprehensive literature review on the interplay between knowledge management, Toyota Kata, and Lean leadership.

2.5.1. Facilitating Knowledge Transfer through Coaching Kata

This section explores how practising the Coaching Kata can help transfer the knowledge of improvement and coaching, providing a straightforward way to learn about continuous improvement steps. It examines how the systematic practice of Coaching Kata routines enhances knowledge management and transfer, driving continuous improvement and Lean leadership behavior development. Additionally, this section will present literature that could demonstrate how the systematic practice of Coaching Kata routines can facilitate knowledge transfer.

- *Structured Learning and Experimentation*

Coaches guide team members through the Improvement Kata cycles thus helping them develop a deeper understanding of scientific learning. This structured approach ensures that knowledge – in competencies terms, is not only transferred but also internalized through practical application. As employees repeatedly practice the Kata routines, they build their skills and confidence in continuous improvement processes (Rother, 2010).

- *Mentorship and Role Modeling*

In the Coaching Kata, managers act as mentors and role models, exemplifying a continuous improvement mindset and the associated behaviors. This mentoring relationship is crucial for effective knowledge transfer as it provides employees with real-time feedback and support (Rother, 2010). By observing and interacting with their coaches, it can be assumed that team members learn the subtleties of Lean leadership and scientific thinking. This hands-on mentorship accelerates the learning process and helps embed this mindset into the organizational culture (Rother, 2010).

- *Feedback Loops and Reflective Practice*

The Coaching Kata routine incorporates regular feedback loops and reflective practice, essential components for knowledge transfer. After each cycle of Improvement Kata, coaches and learners reflect on what was learned, what worked well, and what needs improvement. This reflective practice reinforces learning and ensures that knowledge is continuously refined and adapted to the organization's needs. It also fosters a culture of open communication and continuous learning, where feedback is valued and acted upon (Liker, 2021).

- *Standardization and Best Practices*

Based on the work of Sylvain Landry in *Bringing Scientific Thinking to Life* (2022), the Coaching Kata can be described as a tool that standardizes improvement methodologies and that spreads best practices throughout the organization. This means that the Coaching Kata can create a consistent approach to improvement across the organization. By following a standardized method, employees can learn and apply the same improvement techniques, which helps ensure that best practices are shared and implemented throughout the organization. This leads to more uniform and effective processes, fostering a culture of continuous improvement. As team members engage in the Kata routines, successful strategies and solutions are documented. This approach to standardization ensures that valuable knowledge is not confined to specific teams but is accessible across the entire organization, making it easier for new employees to integrate into the Lean culture (Liker & Meier, 2006).

- *Building a Learning Organization*

Another assumption that could be made is by integrating Coaching Kata into daily operations, organizations can cultivate a learning environment where knowledge transfer is continuous and systematic. The routine practice of the Coaching Kata encourages employees to take ownership of their learning and development by trying to master the Improvement Kata routine. It also promotes cross-functional collaboration, as team members from different departments could work together to solve problems. A collaborative learning environment is essential for sustaining long-term improvement and innovation (Senge, 2006) and Kata could be a way to achieve this long-term goal.

- *Practical Applications*

Further exploration is needed in academic literature regarding case studies that examine how the Coaching Kata facilitates knowledge transfer, but numerous practitioner studies highlight its effectiveness in this area. For instance, companies like Robert Bosch Corp. and Zingerman's have successfully utilized Kata routines to enhance their continuous improvement efforts. These organizations report significant improvements in problem-solving capabilities, employee engagement, and overall operational efficiency. The Coaching Kata has played a crucial role in these successes by offering a structured yet adaptable framework that facilitates continuous learning and effective knowledge transfer. Mike Rother also discusses Bosch's use of Toyota Kata on his YouTube channel, providing further insights into its application (Rother, 2010; Hedlund et al., 2016; Fumagali, 2019).

2.5.2. Developing Lean Leadership through Coaching Kata

I built upon the conceptual model of Dombrowski and Mielke (2013) to develop the criteria for entering the fieldwork. Specifically, I link Lean leadership concepts with the attributes and behaviors managers exhibit when practising Coaching Kata. By utilizing these specific attributes, my research aims to identify the main leadership traits exhibited by a Kata coach (Table 8). The principles of Lean leadership depicted in the following paragraphs and in tables 9, 10, 11, 12 and 13, encompass various attributes that could enable leaders to foster a culture of continuous improvement and operational excellence. As mentioned, this study

is to bring forth that the practice of Coaching Kata routine is a practical approach for developing these Lean leadership qualities.

To better understand the foundations of effective coaching within the Coaching Kata framework, it is important to distinguish between several key concepts that shape a coach's mindset and actions. Dombrowski and Mielke (2013) propose a conceptual foundation grounded in these key concepts: principles, which serve as guiding values; attributes, which reflect the coach's personal qualities; and behaviors, which are the observable actions that bring those values and qualities to life in practice.

- Principles

In leadership and organizational development literature, principles are described as foundational truths or values that guide consistent behavior and decision-making across diverse contexts (Passmore & Lai, 2019). They are not rigid rules but enduring commitments—such as respect for people, continuous improvement, or integrity—that shape culture and align actions with long-term goals. These principles serve as a compass for both individuals and organizations, helping maintain alignment with core values (Maxwell, 2013).

- Attributes

Attributes, often discussed in coaching psychology and leadership studies, refer to the personal qualities that influence how a coach interacts with learners (Karlsen & Berg, 2020). Within the Coaching Kata, key attributes include humility, patience, empathy, and curiosity—traits that foster psychological safety and encourage reflective learning. These characteristics are widely recognized as differentiators of effective leadership (Kurec, 2016).

- Behaviors

Behavioral expressions of coaching, such as asking reflective questions, conducting regular Kata cycles, and reinforcing learner autonomy, are central to the Coaching Kata methodology (Passmore, Peterson, & Freire, 2013). These observable actions reflect a coach's commitment to developmental leadership and continuous improvement. They are

essential for embedding a learning culture and align with leadership models that prioritize support over control (Rother, 2010; Kurec, 2016).

Table 8: Initial Conceptual Framework

	Principle	Observable Elements
Practising Coaching Kata as a manager	Improvement Culture (IMP.C)	Task identity, feedback, autonomy, belief in improvement, and honesty were the core attributes of leaders who successfully implemented an improvement culture.
	Self-Development (S-DEV.)	Successful Lean leaders are open to developing their own competencies and skills.
	Qualification (QUAL.)	Empowerment, trust, communication, clarify, governance and consistency, and fit for purpose. These attributes enable leaders to support employees' development, both individually and collectively.
	Gemba (GEM.)	The Lean leader retains the gemba as the place of learning and action and performs regular gemba walks publicly with care, recognition, engagement, a focus on leader-employee relationships, communication, and fairness. The leader gains trust of employees by demonstrating engagement and showing himself to be honest, benevolent, and express well-intentioned behavior.
	Hoshin Kanri (HO.KA.)	The Lean leader is responsible for implementing the strategic planning method that is Hoshin Kanri in the organization. Leadership attributes associated with Hoshin Kanri were defined and provide value; demonstrate principles of Lean; communication; and role adaptation.

- *Improvement Culture (IMP.C)*

Attributes: Task identity, feedback & autonomy, belief in improvement, and honesty

The Coaching Kata routine inherently promotes a culture of continuous improvement by embedding scientific thinking and iterative learning into daily practices. As leaders coach their teams through Improvement Kata cycles, they encourage a keen sense of task identity, ensuring that team members understand the significance of their roles in achieving the organization's goals. Regular feedback is a core component of the Coaching Kata,

facilitating honest and transparent communication about performance and improvement opportunities. This feedback loop not only bolsters autonomy by empowering employees to take initiative but also reinforces the belief in improvement by demonstrating tangible progress through systematic experimentation and reflection (Rother, 2010).

Table 9: Improvement Culture Attributes

Attribute	Definition
Task identity	Task Identity refers to the degree to which a job requires completion of a whole and identifiable piece of work (Hackman and Oldham, 1976). According to Hackman's and Oldham's model, task identity is crucial for enhancing job satisfaction and motivation, as it allows employees to see the tangible results of their efforts. It involves seeing a task through from beginning to end with a visible outcome.
Feedback & autonomy	Feedback & Autonomy refers to the degree to which individuals receive constructive feedback and have the freedom to make decisions and take action independently. Hackman and Oldham (1976) emphasize that feedback offers employees insights into their performance, which is vital for ongoing learning and improvement. Autonomy, on the other hand, empowers employees to make decisions and take action independently, thereby enhancing their sense of responsibility and intrinsic motivation. Furthermore, Deci and Ryan (2000) underscore that autonomy is a vital element of self-determination theory, which suggests that individuals are more motivated and perform better when they experience a sense of autonomy and competence.
Belief in improvement	Belief in Improvement refers to the conviction that continuous improvement is possible and beneficial. Scholars like Deming (1986) and Juran (1988) have extensively written about the importance of a continuous improvement mindset, which aligns closely with the idea of believing in the potential and benefits of ongoing improvement. This belief drives individuals and organizations to persistently seek better ways of working.
Honesty	Honesty involves being truthful and transparent in both communication and actions. It includes admitting mistakes,

	being open about uncertainties, and offering sincere feedback (International Center for Academic Integrity, 2021).
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- *Self-Development (S-DEV.)*

Attributes: Openness to developing competencies and skills

The Coaching Kata framework emphasizes personal growth and skill development through deliberate practice and continuous learning. By guiding their teams through the Improvement Kata, Lean leaders cultivate a learning environment where employees are encouraged to develop their scientific thinking capabilities and Lean competencies. The repetitive nature of the Kata routines fosters mastery and confidence in Lean methodologies. Additionally, leaders themselves engage in self-development as they refine their coaching skills and deepen their understanding of Lean principles through real-time applications and feedback (Rother, 2010). This attribute is essential for Lean leaders as it ensures they remain flexible and responsive to changing conditions, thereby enhancing their ability to lead effectively.

Table 10: Self-Development Attributes

Attribute		Definition
Openness	to	Openness to development is a second-level coding attribute under the broader principle of Self-Development. It refers to an individual's willingness to embrace new learning opportunities, seek feedback, and adapt their behaviors and strategies based on new insights. For example, Boyatzis (2006) emphasizes that self-directed learning entails individuals proactively diagnosing their learning needs, setting goals, identifying resources, and assessing learning outcomes. This process aligns with the notion of adapting behaviors and strategies based on new insights.
Development		

- *Qualification (QUAL.)*

Attributes: Support for employee development and Communication & trust

Practising Coaching Kata empowers employees by involving them actively in the problem-solving process and decision-making. This empowerment is underpinned by trust, as

leaders demonstrate confidence in their teams' abilities to identify and solve problems. Effective support and communication are critical in the Coaching Kata, when leaders and team members engage in regular dialogues to share insights, provide feedback, and clarify objectives. This structured communication fosters clarity and alignment across the organization. Consistent processes are maintained through the standardized routines of the Kata, ensuring that Lean practices are uniformly applied and sustained over time (Liker & Meier, 2006). Supporting the development of employees ensures they are continuously improving their skills and capabilities, which in turn could enhance the overall performance and adaptability of the organization. Moreover, high levels of trust and communication could also ensure that employees feel valued, understood, and supported, sequentially enhancing their engagement and performance.

Table 11: Qualification Attributes

Attribute	Definition
Support for employee development	Support for employee development refers to the actions and behaviors that leaders engage in to facilitate the growth and development of their team members. For instance, Mazzetti and Schaufeli (2022) highlight that engaging leadership behaviors, including offering performance feedback, building trust, and promoting participation in decision-making, play a crucial role in fostering employee growth and development.
Communication & trust	Communication and trust are linked to the establishment of open, honest, and effective communication channels and the building of trust between leaders and their team members (Rothouse, 2020).

- *Gemba (GEM.)*

Attributes: Engagement, recognition, relationships

The concept of gemba, the place where value is created, is central to Lean thinking. Lean leaders practising the Coaching Kata regularly engage with their teams at the gemba, demonstrating care and recognition for their contributions. These gemba walks enhance leader-employee relationships by fostering direct communication and mutual

understanding. Through this engagement, leaders gain valuable insights into operational challenges and employee perspectives, reinforcing a culture of fairness and inclusivity. The Coaching Kata ensures that leaders are not distant managers but active participants in the continuous improvement journey, thus building trust and demonstrating well-intentioned behavior (Liker, 2004).

Table 12: Gemba Attributes

Attribute	Definition
Engagement	Engagement in the context of Lean and Gemba involves leaders actively participating with their teams at the place where value is created. This hands-on involvement is crucial for understanding and addressing operational challenges and fostering a culture of continuous improvement. Leaders who engage at the gemba demonstrate their commitment and support, which enhances employee motivation and performance (Rother, 2009).
Recognition	Recognition in Lean practices refers to acknowledging and valuing the contributions of employees during gemba walks. This attribute is essential for creating a positive work environment where employees feel appreciated and motivated. Recognizing employees' efforts and achievements helps reinforce desired behaviors and promotes a culture of excellence (Liker, 2004).
Building relationships	Building relationships at the gemba is about fostering strong, positive connections between leaders and employees. These relationships are built through direct communication, mutual respect, and understanding. Strong relationships enhance teamwork, trust, and collaboration, which are vital for the successful implementation of Lean practices (Schein, 2010).

- *Hoshin Kanri (HO.KA.)*

Attributes: Defining alignment, providing value, demonstrating Lean principles

Hoshin Kanri, or policy deployment, aligns organizational objectives with operational activities. Lean leaders using Coaching Kata play a crucial role in implementing Hoshin

Kanri by translating strategic goals into actionable improvement targets. Through the Coaching Kata, leaders demonstrate Lean principles in action, guiding their teams to experiment and learn towards achieving the defined objectives. This practice necessitates clear and consistent communication to ensure that everyone understands the direction and their role in it. Additionally, leaders must adapt their roles as coaches, facilitators, and problem-solvers, embodying the principles of Lean in their day-to-day interactions and decision-making (Rother, 2010).

Table 13: Hoshin Kanri Attributes

Attribute	Definition
Defining alignment	Defining alignment in the context of Hoshin Kanri involves ensuring that the strategic goals of the organization are clearly communicated and understood at all levels. This alignment is crucial for coordinating efforts and resources towards common objectives, thereby enhancing organizational coherence and effectiveness (Rother, 2010).
Providing value	Providing value refers to the focus on activities that directly contribute to the organization's goals and customer satisfaction. In Lean practices, this means eliminating waste and optimizing processes to deliver maximum value to the customer. Leaders guide their teams to identify and implement value-adding activities through continuous improvement (Ohno, 1988).
Demonstrating Lean principles	Demonstrating Lean principles involves embodying the core tenets of Lean thinking, such as respect for people, continuous improvement, and waste reduction. Leaders practising Hoshin Kanri use the Coaching Kata to instill these principles in their teams, fostering a culture of learning and adaptability (Liker, 2004).

Chapter 3: Methodology

This research design explores the main leadership behaviors exhibited by a Kata coach. To this end, a qualitative research design was chosen.

3.1. Research Design

The research design for this dissertation employs a qualitative methodology to explore the main leadership behaviors exhibited by managers who practice the Coaching Kata. A qualitative research design is justified as it allows for an in-depth exploration of the complex and nuanced processes involved in the main leadership behaviors manifested by a coach.

3.2. Data Collection

This research explores the application of Coaching Kata by individuals practising it themselves or within their organization. It focuses on those who have adopted a continuous improvement mindset and methodologies in their careers and are actively engaging in the practice to develop their skills and their team. Details about the data source are provided in the following section.

3.2.1. Method of Data Collection

Data for this study was collected through semi-structured interviews with managers who have extensive experience and training in practising Coaching Kata.

This engaging method allows for in-depth exploration of participants' experiences and perceptions, providing rich qualitative data through dialogues that is essential for understanding the transformation process (Poupart, 1997). The interviews were designed to elicit detailed narratives about the main leadership behaviors exhibited by a manager and their influence on their leadership practices.

The semi-structured interview offers researchers direct access to individual's experiences, which is particularly useful for exploring complex phenomena and understanding the meanings that individuals ascribe to their experiences" (Know & Burkard, 2009). The

semi-structured interview method enables the exploration of lived experiences as narrated by the interviewees, in relation to theoretical variables of interest (Galletta, 2013). However, this approach has limitations, as it heavily relies on subjective experiences, which can impact the credibility and generalizability of the data collected (Galletta, 2013; Kallio et al., 2016). To address this, I ensured the respondents felt comfortable and rephrased some questions to confirm my understanding of their answers (Savoie-Zajc, 2004).

3.2.2. *Sample Selection and Maintenance Guide*

The sample for this study consists of seven individuals, five consultants and two working in an organization, which practice Coaching Kata as part of their professional development. A convenient selection of participants, each with over a decade of experience in the continuous improvement field and Coaching Kata, was chosen based on the recommendations and personal connections of my thesis director. Our goal was to select participants who can offer valuable and pertinent insights into the research question. As Rubin and Rubin (2012) emphasize, qualitative interviewing involves not only understanding a topic but also identifying what is significant to the individuals being studied.

At the beginning of each interview, I reminded the interviewee of the research objectives and topic to provide context. The following table (Table 14) presents the interviewees and provides relevant descriptive information about their background.

Table 14: Interviewee Summary Table

Interviewee	Role	Professional Experience	Kata Experience	Relevance of Background for Research
I1	Director in a healthcare organization	Former Director of Process Improvement	Practising since 2015; Internal Kata coach	Provides insight into the application of Kata in a healthcare setting, demonstrating its

				impact on leadership in a high-stakes, regulated environment.
I2	Consultant	Background in Toyota-style coaching; Influenced by Toyota-trained professionals	Started in 2010 after reading Toyota Kata; Early adopter	Shows the evolution of Coaching Kata in leadership development, particularly how early adopters adapted and structured the methodology for teaching leaders how to coach.
I3	IT Consultant, Trainer	Teaches and consults on Kata; Previously traveled for Kata conferences	Practising since 2012; Conducts training and volunteer coaching	Demonstrates the application of Kata in non-manufacturing sectors, highlighting its adaptability and role in leadership development beyond traditional industries.
I4	Independent Kata Coach, Former Executive Director	Extensive experience in coaching and training Kata	Practising since 2009; Coaches individuals and organizations	Shows the role of Coaching Kata in community-building and leadership development within organizations, reinforcing the idea of structured Kata learning communities.
I5	Consultant	Coaches clients one-on-one and in teams; over 20 years of experience in CI roles	Practising since 2020; Participant in a community for Kata practitioners	Demonstrates how Coaching Kata is applied at both individual and team levels, illustrating how structured coaching routines contribute to

				leadership behavior development.
I6	Warehouse Manager	Uses Kata for workforce development and scientific thinking training	Practising since 2015; Co-founded a community for practising Kata	Provides insight into how Kata is used in frontline operations to develop scientific thinking and leadership skills among employees, reinforcing its role in decentralized leadership development.
I7	Consultant, Kata Dojo Facilitator	Developed a Kata-based personal planning system; Extensive coaching and training experience	Practising since 2007; extensive experience in Kata Dojo sessions	Highlights the use of Kata in personal and leadership development, demonstrating how structured routines contribute to self-improvement and management development.

A maintenance guide was created to ensure consistency and reliability in the data collection process. The guide includes the interview protocol, a set of predefined questions aligned with the conceptual framework, and instructions for conducting the interviews. It also outlines procedures for recording, transcribing, and storing the interview data to maintain data integrity and confidentiality. The interview guide is in the Appendix section.

The interview guide was initially designed for exploratory data collection without specific questions related to the studied themes, focusing on knowledge transfer processes. This design choice allowed for a broader exploration of the participants' experiences without constraining them to predefined topics. However, due to time constraints, the scope of these interviews was adjusted. Instead of conducting additional rounds of data collection, the existing interviews were repurposed to directly address my research question. This

approach ensured that valuable insights were still gathered within the limited timeframe, requiring a more flexible interpretation of the data to align with the research objectives.

To avoid imposing specific themes on the interviewees, the interview guide focused on aspects of the Coaching Kata rather than direct questions tied to predefined principles and attributes. This approach assumed that the dimensions would naturally emerge through the interviewees' responses, allowing for an authentic exploration of these themes based on their own experiences and language. Through their perspectives, we aimed to gain a nuanced understanding of the main leadership behaviors exhibited by a manager and how these behaviors enable leaders to embody and instill the principles of Lean leadership.

3.2.3. Conduction of Interviews

The interviews were conducted via video conferencing, depending on the participants' availability and preferences. Each interview lasted between 30 to 60 minutes and was audio-recorded with the participant's consent. The interviews were conducted during the Summer of 2022, over the course of twelve weeks. They were guided by predefined questions but remain flexible to allow participants to elaborate on their experiences and provide additional insights. During the interviews, notes were taken to highlight elements which seemed important either to the interviewer or to the interviewee.

3.3. Data Preparation

Once the interviews were conducted, the audio recordings were transcribed verbatim to ensure that all details were accurately captured. This process is crucial for maintaining the integrity of the data and allowing for a thorough analysis (Kvale, 2007). The transcriptions were then meticulously reviewed and edited for accuracy, ensuring that any errors or omissions were corrected. To protect the participants' identities, the data was anonymized by removing any identifying information and assigning each transcript a unique identifier. This step is essential for maintaining confidentiality and adhering to ethical research standards (Saunders, Kitzinger, & Kitzinger, 2015). The anonymized and transcribed data was then organized and stored securely in a digital format, ensuring that it is readily

accessible for analysis while safeguarding against unauthorized access (Stam & Diaz, 2023). Proper data management practices, including secure storage and systematic organization, are vital for the credibility and reliability of the research findings (Gibbs, 2007).

3.4. Data Analysis

The study was first structured around a conceptual framework by Dombrowski and Mielke (2013) and represented as a coding tree, which organizes the fundamental principles of Lean leadership into five concepts: Improvement Culture, Self-Development, Qualification, Gemba, and Hoshin Kanri. This framework guided the initial deductive qualitative analysis of transcriptions obtained from semi-structured interviews (Miles & Huberman, 1994). It was subsequently revised to better align with the findings and to incorporate my contribution.

By using semi-structured interviews, it is possible to extract the subjective experiences and contextual factors that influence the main leadership behaviors exhibited by a Kata coach, providing detailed insights into how these behaviors manifest in real-world leadership development. Additionally, a critique of data saturation to ensure comprehensive and reliable findings will be added at the end (Guest, Bunce, & Johnson, 2006).

The conceptual framework offers an organized perspective for understanding the main leadership behaviors.

For each interview, all passages that aligned with a principle or with a specific attribute or attributes were highlighted. More concepts that could be observed will be further discussed to properly validate the study. Codification at two levels of transcripts is an effective method in qualitative research because it allows for a comprehensive analysis of both surface-level themes and deeper, underlying patterns. By coding at the first level, I identified specific instances where managers engaged in practices related to the Mielke and Dombrowski's framework. The second level of coding then enables the identification of broader themes and connections, such as the development of Lean leadership attributes (task identity, feedback, ..., social skills. This dual-layered approach ensures that the conclusion – that the main leadership behaviors exhibited by a Kata coach are integral to

Lean leadership – is grounded in both detailed evidence and a holistic understanding of the data. I therefore aim to define abstract concepts in concrete terms, allowing researchers to accurately observe, measure, and analyze phenomena (Trochim, 2006).

The data analysis followed a systematic process aligned with predetermined categories based on the literature: Continuous Improvement, Self-Development, Qualification, Gemba, and Hoshin Kanri. By focusing on these predetermined categories, the analysis provided a structured and insightful understanding of the participants' experiences with Coaching Kata and Lean leadership. This approach ensured that the analysis was focused and relevant to the research objectives, while also aiming to extend the existing theory of Mielke and Dombrowski.

- *Deductive phase*

Framework Identification (Level 1): The initial step involved identifying the principles of Lean leadership as outlined by Dombrowski & Mielke (2013). These principles provided a foundational framework for guiding the analysis of the interview transcriptions.

Attributes Coding (Level 2): The interview transcriptions were reviewed to identify statements and examples that corresponded to the predetermined attributes of Lean leadership. For instance, discussions about team communication improvements were coded under "continuous improvement," reflecting efforts to foster collaboration and ongoing enhancement (Dombrowski & Mielke, 2013). This approach aligns with the deductive coding method, where predefined codes based on existing theory are applied to the data (Bingham & Witkowsky, 2022).

Category Analysis and Narrative Construction: The coded data were analyzed to explore how the identified attributes manifested in the participants' experiences. This analysis was integrated into a cohesive narrative explaining the main leadership behaviors exhibited by a coach, highlighting consistent themes and examples that illustrated the development of essential leadership attributes. This process aligns with the structuring specific relations tactic of theory elaboration, which helps in developing a nuanced understanding of theoretical constructs (Fisher & Aguinis, 2017). Additionally, qualitative content analysis methods, such as those described by Kuckartz (2019), emphasize the

importance of systematically forming and analyzing categories to uncover patterns and relationships in qualitative data.

- *Inductive Phase: Refinement And Expansion*

During this phase, a new category was identified based on emerging data. "Emotional intelligence" was added to capture the participants' ability to manage their own emotions and understand others' emotions, which is crucial for effective leadership (Collins & Cooper, 2014). This step reflects the new construct specification tactic of theory elaboration, where new constructs are introduced to enhance the theoretical framework (Fisher & Aguinis, 2017).

3.4.1. Conceptual Framework and Coding Tree

As mentioned, the conceptual framework of Dombrowski & Mielke (2013) serves as the backbone of this study, structured into five main concepts that are essential to Lean leadership development:

- **Improvement Culture (IMP.C):** This dimension examines the core attributes of leaders who have successfully implemented a culture of continuous improvement. The indicators include task identity, feedback, autonomy, belief in improvement, and honesty (Aij & Teunissen, 2017).
- **Self-Development (S-DEV):** Focuses on the willingness and openness of Lean leaders to develop their competencies and skills (Dombrowski & Mielke, 2013).
- **Qualification (QUAL):** Investigates how leaders support employees' development through empowerment, trust, and communication (Liker & Meier, 2006; Dombrowski & Mielke, 2013).
- **Gemba (GEM):** Emphasizes the importance of leaders' direct involvement at the site of work to observe processes, understand challenges, and engage with employees. Indicators include presence at the gemba, active listening, and problem-solving based on firsthand observations (Liker & Meier, 2006; Rother, 2010).
- **Hoshin Kanri (HO.KA.):** Focuses on aligning organizational objectives with daily activities through strategic planning and execution. Attributes include goal setting,

cascading objectives, and ensuring alignment between strategy and operations (Akao, 2004; Dombrowski & Mielke, 2013).

An initial analysis was conducted to classify the passages for level one coding. Subsequently, each passage was categorized into its level two codification (Table 15).

Table 15: Two-level Codification Tree

	Principle (Level 1)	Observable Attributes (Level 2)
Practising Coach Kata as a manager	Improvement Culture (IMP.C)	Task Identity (IMP.C-TI)
		Feedback, and Autonomy (IMP.C-FA)
		Belief in Improvement (IMP.C-BI)
		Honesty (IMP.C-H)
	Self-Development (S-DEV.)	Openness to Development (S-DEV-OD)
	Qualification (QUAL.)	Support for Employee Development (QUAL-SED)
		Communication and Trust (QUAL-CT)
	Gemba (GEM.)	Engagement (GEM-ENG)
		Recognition (GEM-REC)
		Relationship-building (GEM-RB)
	Hoshin Kanri (HO.KA.)	Defining Alignment (HO.KA-DA)
		Providing Value (HO.KA-PV)
		Demonstrating Principles of Lean (HO.KA-DPL)

3.4.2. Coding Method and Tools Used

To further develop on my method, this section provides a detailed explanation of the manual coding process used to analyze the interview data, building on the conceptual framework introduced in Section 3.4.

The coding process was conducted manually and followed a structured, two-level approach based on the conceptual framework of Dombrowski and Mielke (2013). Rather than using automated software, I engaged directly with the interview transcripts by reading through each one carefully and highlighting all passages and citations that corresponded to the predefined codes.

To facilitate the transcription and coding process of the qualitative data, a combination of digital tools was employed. Zoom was used to conduct and record the interviews, providing high-quality audio and video files essential for accurate transcription. The recordings were then transcribed and analyzed using Microsoft Word, which served as the primary platform for organizing, annotating, and coding the data. Word's built-in functionalities, such as comments, highlighting, and track changes, enabled systematic identification of themes, patterns, and relevant segments across the transcripts. This approach allowed for a structured yet flexible method of qualitative analysis, ensuring transparency and traceability in the coding process.

Step 1: Color-Coding by Core Principles

The first level of coding involved identifying and highlighting all text segments that reflected one of the five core principles of Lean leadership:

- Improvement Culture
- Self-Development
- Qualification
- Gemba
- Hoshin Kanri

Each principle was assigned a distinct color, allowing for a visual differentiation of themes across the transcripts. This color-coding strategy facilitated a clear and immediate understanding of how frequently and where each principle appeared in the data.

Step 2: Classification by Attributes

After the initial color-coded highlighting, I conducted a second round of analysis to classify the highlighted passages according to the specific observable attributes associated with each principle. For example, within the Improvement Culture category, passages were further classified under attributes such as task identity, feedback and autonomy, belief in improvement, and honesty.

These classifications were systematically organized into a codification table (see Table 15), which served as a matrix for comparing how each attribute was represented across different interviews. This structure supported the identification of patterns and the development of a coherent analytical narrative.

Step 3: Revisiting the Framework – Adding Emotional Intelligence

Following the initial coding and analysis, I revisited the conceptual framework to ensure it fully captured the complexity of the data. During this reflective phase, a new principle – Emotional Intelligence – was added. This addition was based on recurring themes in the interviews that emphasized the importance of leaders' ability to manage their own emotions and empathize with others.

The new principle was also color-coded and integrated into the coding process. Its associated attributes included:

- Self-awareness
- Empathy
- Emotional regulation
- Interpersonal sensitivity

These attributes were applied to relevant passages and incorporated into the codification table alongside the original five principles.

• Manual and Iterative Process

This manual coding method was both iterative and interpretive. It allowed for deep engagement with the data and ensured that the coding was sensitive to both the explicit content and the underlying meaning of participants' responses. By combining visual coding

(through color) with systematic classification (through tabular organization), this method ensured analytical rigor while remaining open to theoretical refinement.

3.4.3. Inductive Emergence of Emotional Intelligence

While the initial coding process was guided by the five core principles of Lean leadership outlined by Dombrowski and Mielke (2013), the iterative nature of qualitative analysis allowed for the identification of additional themes that were not captured by the original framework. One such theme, Emotional Intelligence, emerged strongly and consistently across the interview data.

During the inductive phase of the analysis, I identified 62 citations across multiple interviews that referenced elements of emotional awareness, empathy, emotional regulation, and interpersonal sensitivity. These citations were not incidental; they appeared in a wide range of contexts, including discussions about coaching practices, conflict resolution, team motivation, and communication. Participants frequently emphasized the importance of understanding others' emotions, managing their own reactions, and building trust-based relationships – behaviors that are central to effective leadership but not explicitly addressed in the original framework.

The recurrence and depth of these references provided strong justification for expanding the conceptual model. As a result, Emotional Intelligence was added as a sixth principle, with the mentioned observable attributes.

This addition reflects a theory elaboration process (Fisher & Aguinis, 2017), where new constructs are introduced to enhance the explanatory power of an existing framework. By integrating Emotional Intelligence into the coding structure, the revised framework more accurately captures the full range of leadership behaviors exhibited by Kata coaches in real-world settings.

This inductive refinement not only strengthens the theoretical contribution of the study but also aligns with the dynamic and human-centered nature of Lean leadership, where emotional competence plays a critical role in sustaining continuous improvement and team engagement.

3.5. Scientific Validity

Furthermore, to ensure the scientific validity of the research, several criteria are addressed (Bourgeois, 2021):

- **Internal Validity (Credibility):** During the interview, I allowed the interviewees to confirm or clarify the interpretations drawn from their responses. This step ensures that the findings genuinely reflect the participants' perspectives, thereby increasing the trustworthiness of your data (Lincoln & Guba, 1985). Additionally, I employed peer debriefing, where peers reviewed and provided feedback on my interpretations and findings. This process helped to identify and minimize potential biases, further enhancing the credibility and validity of the research.
- **External Validity (Transferability):** To support the transferability of my research, I provided detailed descriptions of the research context, including the setting, the background of the participants, and the specifics of their experiences with Coaching Kata. These rich, contextual details allow readers to assess whether the findings of my study could be applicable to other settings or groups. By offering this depth of information, I enable others to determine how my findings might relate to their own contexts or environments (Lincoln & Guba, 1985).
- **Dependability:** I documented my research process, including the design, maintenance guide, data collection, and analysis phases. This thorough documentation allows other researchers to replicate the study. By maintaining a clear and detailed record of my methodology, I demonstrate that my research process is consistent and could be reliably followed by others, thus supporting the robustness of my findings (Lincoln & Guba, 1985).
- **Confirmability:** I kept a journal throughout the research process, which helped me remain aware of my own biases and perspectives, allowing me to reflect critically on how these might influence my interpretations. By incorporating these measures, I strengthened the objectivity of my research outcomes (Lincoln & Guba, 1985).

The limitations of this study are further discussed in the Conclusion section.

3.6. Ethical Considerations

Ethical considerations are paramount in this research. Participants were provided with informed consent forms outlining the study's purpose, procedures, and questions. Every solicited individual agreed to be interviewed and recorded. As mentioned, confidentiality was maintained by anonymizing the data and ensuring that the information is used solely for my academic purposes (British Educational Research Association, 2018). Participants were also given the option to withdraw from the study at any time. Ethical approval was obtained from the relevant institutional review board before commencing the study (American Psychological Association, 2020). The research design was approved by HEC Montréal's Research Ethics Board (REB).

Chapter 4: Findings

In this section, we present part of the findings from seven in-depth interviews conducted with seasoned practitioners in Coaching Kata along with my interpretation of them. These are the citations that are deemed most adequate to represent each attribute. These individuals, who have been practising Kata routines for numerous years, bring experience not only in this structured coaching methodology but also in the broader field of continuous improvement, in which many have dedicated significant portions of their careers. Their insights reveal the main leadership behaviors exhibited and demonstrate that the disciplined practice of Coaching Kata can potentially foster the development of Lean leadership qualities. The complete list of citations can be found in the Appendix B.

The initial conceptual framework was adapted to the qualitative approach I selected to pursue (Table 16). I studied the three principles that were most demonstrated by the participants: Improvement Culture, Self-Development and Qualification. To the three principles developed by Dombrowski and Mielke, a fourth principle was added as my contribution to the framework: Emotional Intelligence (Table 17). To further develop the first three attributes and allow for the introduction of a new principle and attributes as part of my contribution to the research domain, the principles Gemba and Hoshin Kanri were removed from the section of the transcripts' analysis.

This decision was not based on a lack of observational data, as direct observation was not part of the data collection process. Rather, it was grounded in the absence of meaningful references to these principles in participants' narratives. Specifically, the interviewees did not spontaneously describe behaviors or experiences that aligned with the core attributes typically associated with Gemba (e.g., presence on the shop floor, direct observation, problem-solving at the source) or Hoshin Kanri (e.g., strategic alignment, cascading objectives, policy deployment). The few mentions that did arise were either vague, peripheral, or lacked sufficient depth to support meaningful analysis. Additionally, the virtual nature of the interviews limited the possibility of exploring these principles in context, as I was not physically present to assess the environment alongside the interviewee.

This strategic adjustment enables a more focused enhancement of the initial attributes while providing the necessary space to innovate and expand the research framework with a novel attribute. It also reflects a commitment to data-driven theory elaboration, ensuring that the revised framework remains grounded in the lived experiences of the participants. This decision opens the possibility for future studies to explore Gemba and Hoshin Kanri in greater depth, should they become more pertinent to the evolving research landscape.

The new framework and codification tree are reflected below, by Table 16 as mentioned and Table 18. Thus, the results are structured around those key principles and their underlying patterns, highlighting the main dimensions of Lean leadership being examined. Each principle captures how Kata practice influences leaders' mindsets and behaviors.

Table 16: Revised Conceptual Framework

	Principle	Observable Attributes
Practising Coach Kata as a manager	Improvement Culture (IMP.C)	Task identity, feedback, autonomy, belief in improvement, and honesty were the core attributes of leaders who successfully implemented an improvement culture.
	Self-Development (S-DEV.)	Successful Lean leaders are open to developing their own competencies and skills.
	Qualification (QUAL.)	Empowerment, trust, communication, clarify, governance and consistency, and fit for purpose. These attributes enable leaders to support employees' development, both individually and collectively.
	Emotional Intelligence (EM.INT)	Lean leaders display emotional intelligence through various attributes that enhance their leadership effectiveness and foster a positive work environment (Goleman et al., 2002; Boyatzis et al., 2013). Those attributes are self-awareness, self-regulation, internal motivation, empathy, and social skills.

- *Emotional Intelligence (EM.INT.)*

Attributes: Self-Awareness, Self-Regulation, Internal Motivation, Empathy and Social Skills

Emotional intelligence is a crucial addition to the Lean leadership principles introduced by Mielke and Dombrowski. Through my analysis, it became evident that emotional intelligence enhances a leader's ability to understand and manage their own emotions, as well as those of their team members. This understanding fosters a more collaborative and empathetic work environment, which is essential for the successful implementation of Lean principles. Expanding on the previously established concept of emotional intelligence, this complex construct encompasses several essential elements: self-awareness, self-regulation, intrinsic motivation, empathy, and social skills, attributes notably brought forth by Salovey & Mayer (1990), Goleman (1995) and Bar-On (1997). This analysis forms the basis of my contribution to their framework, integrating emotional intelligence to help managers develop their leadership skills.

Building on these foundational ideas, Goleman et al. (2002) introduced the concept of primal leadership, which emphasizes the role of emotional intelligence in creating resonance – a positive emotional climate within teams and organizations. Leaders with high emotional intelligence are better equipped to cultivate environments that foster collaboration, innovation, and alignment with shared goals. Boyatzis et al. (2013) argue that emotional intelligence is not an innate trait, but a skill set that can be developed through intentional practices such as coaching and reflective learning. By developing these skills, leaders enhance their ability to manage interpersonal relationships, motivate their teams, and address organizational challenges effectively.

Academic research also supports the role of emotional intelligence in coaching and leadership development. For instance, emotionally intelligent coaches can establish strong, trust-based relationships with the individuals they mentor, which facilitates meaningful personal and professional growth (Boyatzis et al., 2013). These relationships are built on empathy, authenticity, and effective communication, all of which are hallmarks of emotional intelligence. Furthermore, Goleman et al. (2002) emphasize that emotionally intelligent leaders inspire and mobilize their teams by fostering emotional resonance. This

ability to align team emotions with organizational objectives contributes to improved morale, performance, and adaptability. Collectively, these insights underscore the critical role of emotional intelligence in fostering effective leadership, improving workplace dynamics, and supporting organizational success.

Self-awareness allows Lean leaders to reflect on their actions, understand their impact on others, and make informed decisions, fostering personal growth and continuous improvement in leadership skills (Goleman, 1995). Coupled with self-regulation, leaders can respond to challenges and setbacks with resilience and adaptability, creating a stable and supportive environment for their teams (Houghton, 2006). Internal motivation drives a deep commitment to continuous improvement and personal development, which in turn inspires and energizes their teams (Beale, 2007). Practising empathy enables leaders to understand the needs and perspectives of their team members, leading to more effective coaching and development (Muss et al., 2025). Additionally, strong social skills are crucial for fostering a collaborative and supportive work environment, facilitating teamwork, and driving continuous improvement (van Dun et al., 2017). By developing these skills, leaders can effectively engage with their teams, build trust, and lead by example.

Table 17: Emotional Intelligence Attributes

Attribute	Definition
Self-awareness	Self-awareness pertains to the ability to recognize and understand one's own emotions, strengths, weaknesses, and values. Additionally, Goleman (1995) describes self-awareness as knowing one's internal states, preferences, resources, and intuitions.
Self-regulation	Self-regulation alludes to the ability to manage and control one's emotions, impulses, and behaviors in various situations and to achieve long-term goals (Baumeister & Heatherton, 1996). This attribute is essential for Lean leaders as it allows them to remain calm, focused, and effective under pressure.
Internal motivation	Internal motivation refers to the drive to achieve goals and pursue excellence based on internal rewards such as personal

	satisfaction, growth, and fulfillment, rather than external rewards like money or recognition (Deci & Ryan, 2000).
Empathy	Empathy pertains to the ability to understand and share the feelings of others (Decety & Jackson, 2004). Empathy involves recognizing and being sensitive to the emotions, thoughts, and experiences of others, which helps in building strong, supportive relationships.
Social skills	Social skills allude to the abilities used to communicate, interact, and build relationships with others effectively (Riggio, 2014). Riggio further develops that social skills include active listening, clear communication, conflict resolution, and the ability to influence and inspire others.

Table 18: Revised Two-level Codification Tree

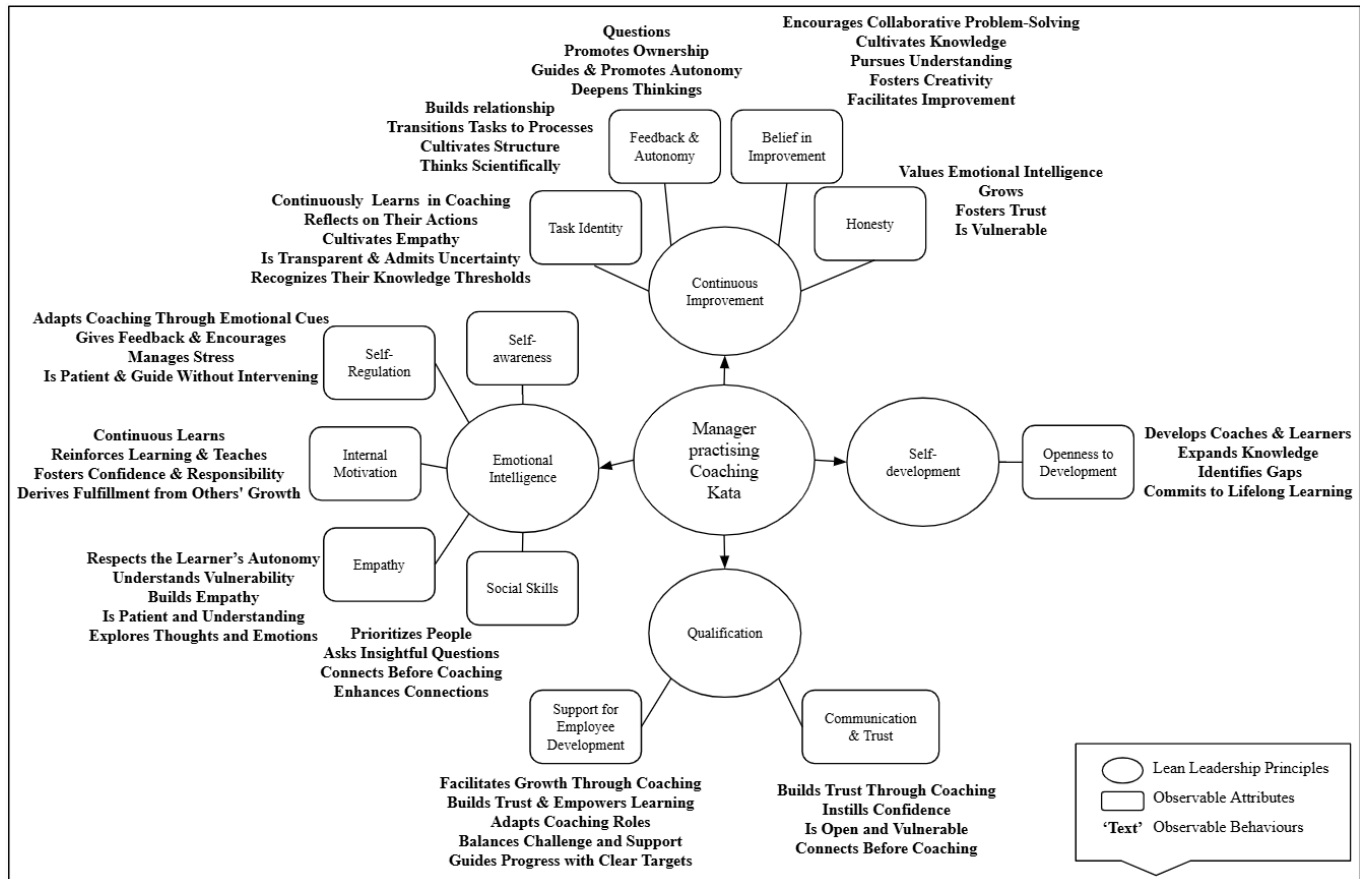
	Principle (Level 1)	Observable Attributes (Level 2)
Practising Coach Kata as a manager	Improvement Culture (IMP.C)	Task Identity (IMP.C-TI)
		Feedback, and Autonomy (IMP.C-FA)
		Belief in Improvement (IMP.C-BI)
		Honesty (IMP.C-H)
	Self-Development (S-DEV.)	Openness to Development (S-DEV-OD)
	Qualification (QUAL.)	Support for Employee Development (QUAL-SED)
		Communication and Trust (QUAL-CT)
	Emotional Intelligence (EM.INT)	Self-Awareness (EM.INT-SA)
		Self-Regulation (EM.INT-SR)
		Internal Motivation (EM.INT-IM)
		Empathy (EM.INT-EMP)
		Social Skills (EM.INT-SS)

The following subsection provides a detailed examination of the behaviors exhibited by interviewees, highlighting the main leadership behaviors demonstrated by those who practice the Coaching Kata. By addressing the research question, "What are the main leadership behaviors exhibited by a Kata coach?", this analysis aims to offer a nuanced understanding of the practical applications and benefits of the Coaching Kata in fostering leadership. First, an overview of the findings will be presented, followed by a detailed data presentation. This presentation will aim to establish links between Lean leader characteristics and the practice of Coaching Kata, examining whether these characteristics are present and identifying the behaviors that manifest as a result.

4.1. Visual Representation of Results & Explanation

The following diagram (Figure 3) visually represents the relationship between Lean leadership principles, observable attributes and behaviors, and the leadership traits exhibited by managers who practice the Coaching Kata. At its center is the manager practising Coaching Kata, encapsulating all the actions individuals reported during interviews about their coaching experiences. Through a detailed examination of their discourse, specific behaviors were identified and linked to lean leadership principles and attributes. Each component is interconnected to bring forth these key behaviors, providing a clear and comprehensive overview of the research findings.

Figure 3: Exhibiting Leadership Behaviors Through Coaching Kata



- **Lean Leadership Principles (Dombrowski & Mielke, 2013)**

At the foundation of the diagram are the Lean leadership principles established by Dombrowski and Mielke (2013). These principles provide the theoretical framework for understanding leadership within a Lean context. They serve as the guiding values and practices that influence managerial behavior and development.

- **Observable Attributes**

Connected to the Lean leadership principles are the observable attributes. These attributes are inherent qualities or traits that managers exhibit when practising the Coaching Kata. Examples of these attributes believing in improvement, being opened to development, supporting employees and being self-aware. The diagram shows how these attributes are derived from and aligned with the Lean leadership principles.

- **Observable Behaviors**

Building on the observable attributes are the observable behaviors. These behaviors are specific actions or practices that managers display, such as giving constructive feedback, setting clear goals, thinking scientifically and engaging in continuous improvement activities. The diagram illustrates how these behaviors are manifestations of the underlying attributes and are directly influenced by the practice of Coaching Kata.

- **Development of Leadership Skills**

At the outcome level of the diagram is the exhibition of leadership behaviors, which represents the objective of the research – identifying the main leadership behaviors exhibited by managers who practice the Coaching Kata. The diagram illustrates the flow from Lean leadership principles to observable attributes, then to observable behaviors, culminating in the exhibition of leadership skills. This flow demonstrates the contribution of the Coaching Kata to the development of these key leadership behaviors.

4.2. Improvement Culture

The first level of coding focuses on the theme of Improvement Culture, a core principle of the Toyota Production System. This principle emphasizes continuous improvement and the development of a culture where all employees are engaged in identifying and solving problems.

4.2.1. Task Identity

The interviews revealed that practising the Coaching Kata significantly enhances managers' sense of task identity by involving them in holistic, structured processes with clear outcomes. Participants described how adhering to and evolving the Starter Kata framework provided a comprehensive and methodical pathway, allowing them to witness not only the learner's development but also their own growth as coaches. Setting clear challenges and defining target conditions were highlighted as crucial elements that framed the start-to-finish process. This approach not only clarified goals but also created tangible milestones that offered a sense of accomplishment. Furthermore, the emphasis on modeling

and practising the Kata reinforced the value of seeing tasks through to completion, whether by adhering to the scientific framework of the Improvement Kata or by adapting methods to meet the unique needs of learners. By enabling managers to experience ownership and accountability, the Coaching Kata aligns with Hackman and Oldham's (1976) concept of task identity, which suggests that individuals derive satisfaction and motivation from perceiving their work as a complete, identifiable process with visible outcomes. Overall, the Coaching Kata fosters a deeper connection to their roles by integrating developmental goals with clear, actionable results.

The Lean leader Enhances Task Identity Through Relationship Building

1. *"It's gone from a very task-oriented just asking the questions to a very relationship-building into this person so that I can learn about them, learn about their step, about their issues and their obstacles so that I can help them move forward in a way that they would receive my help in my coaching." (I1)*
 - This shift from a task-oriented approach to relationship-building coaching underscores a holistic method. By focusing on the entire development process of the learner, the Lean leader reinforces the sense of task identity. This means that the learner can see how their individual tasks contribute to the broader goals and processes of the organization. The relationship-building approach allows the Lean leader to understand the learner's challenges and obstacles better, addressing these issues in a way that highlights the significance of their role within the larger context. This comprehensive understanding helps the learner see the direct impact of their efforts on the overall process, thereby enhancing their motivation and engagement in continuous improvement.

The Lean Leader Transitions from Tasks to Processes

1. *"When I started practising it, it was just about getting through the questions and getting the learner to do the right documentation." (I4)*

- This passage illustrates the progression from merely completing isolated tasks to engaging in a more comprehensive process. Initially focused on documentation, the practice evolves to involve the learner in a holistic journey, fostering a deeper connection to the task and allowing both coach and learner to see tangible outcomes of their efforts.

The Lean Leader Cultivates Discipline Through Structure

1. *“We follow the starter Kata ‘to the T’ so when you’re first learning it’s very disciplined very rigorous.” (I6)*
 - Adhering to and evolving the standard practices of the Starter Kata reinforces task identity by providing a complete structured framework that allows the learner to see their progress and involvement. Starting with strict adherence to the framework establishes a clear and complete structure for learning, while gradually personalizing it to suit the coach’s and learner’s styles reflects an improvement culture and enhances the sense of accomplishment.

The Lean Leader Embraces Scientific Thinking

1. *“The improvement Kata is not a starting point, it’s a model...it’s a model for a more scientific way of working.” (I7)*
 - By presenting the Improvement Kata as a structured, end-to-end framework for continuous improvement, it enables practitioners to engage in a systematic process of experimentation, reflection, and adaptation, allowing them to see tangible outcomes and the impact of their efforts. By involving individuals in all phases of the process, from planning to refinement, it reinforces their connection to the task and enhances their sense of accomplishment.

4.2.2. Feedback and Autonomy

The interviews display how the Coaching Kata cultivates feedback and autonomy by striking a balance between structured guidance and independent decision-making. Participants emphasized the critical role of constructive feedback in deepening learners' understanding. For instance, tailoring questions to align with learners' skills and using probing follow-ups to encourage autonomous thinking emerged as key practices. Frameworks like the Starter Kata, Coaching questions and the PDSA template provided a consistent structure for feedback while simultaneously empowering learners to practice independently and take ownership of their progress. Moreover, coaches reported adjusting their methods to suit individual learners' needs, ensuring feedback remained relevant and impactful. Fostering accountability – such as requiring learners to present data or identify gaps – further reinforced autonomy by encouraging learners to take initiative. These findings align with Hackman and Oldham's (1976) and Deci and Ryan's (2000) theories, which highlight the intrinsic motivation derived from meaningful feedback and a sense of autonomy. The Coaching Kata equips managers with the tools to establish a developmental environment where feedback and autonomy intersect, fostering competence, self-determination, and continuous improvement.

The Lean Leader Adapts Through Dynamic Questioning

1. *“The coaching conversation is quite dynamic and so you have to ask questions in between the questions if you don't get a perfect answer or an answer that matches your reference for what you're expecting.” (I3)*
 - In this passage, feedback is an iterative and dynamic process where coaches adapt their questioning to meet the learner's responses. By not imposing answers and instead encouraging exploration, the coach nurtures autonomous thinking. This approach aligns with the principles of autonomy in decision-making while also providing targeted feedback to improve the learner's critical thinking and problem-solving skills.

The Lean Leader Promotes Ownership Through Data

1. *“I asked them to get facts and data. So, I ask them to show me.” (I5)*
 - Encouraging learners to gather and present data promotes autonomy by delegating this responsibility to the learner. It fosters a sense of ownership and accountability in the learning process. Simultaneously, it creates an opportunity for feedback when the learner showcases their findings, as the coach can validate or challenge their work, reinforcing both competence and independence.

The Lean Leader Balances Guidance and Autonomy

1. *“If it looks like they can carry on, they are probably not at the threshold of knowledge.” (I6)*
 - The coach’s ability to assess when a learner is ready to proceed independently is crucial, as it will foster autonomy by gradually reducing guidance. The feedback loop here is nuanced, as it involves monitoring the learner’s progress and confidence levels to determine readiness. By stepping back at the right moment, the coach empowers the learner while ensuring they are still equipped with the necessary knowledge.

The Lean Leader Deepens Thinking with Follow-Up Questions

1. *“A not-so-experienced improver will answer to ‘What do you learn from last step?’; ‘It worked.’ That shows me the thinking and then I can follow up with deepening questions.” (I7)*
 - Using follow-up questions to deepen understanding provides constructive feedback and encourages autonomous thinking. It illustrates feedback as a method to reveal and refine a learner's thought process. The coach uses follow-up questions to challenge surface-level answers, prompting the learner to think more critically and independently. This approach nurtures

autonomy by encouraging learners to reflect deeply and develop their analytical capabilities.

4.2.3. *Belief in Improvement*

The interviews highlighted a shared belief in improvement as a core tenet of the Coaching Kata practice. Participants described systematic problem-solving as essential to fostering a mindset of continuous exploration and innovation. For example, emphasizing the need to ask questions and address obstacles demonstrated a conviction that progress is achievable through scientific thinking and collaborative effort. Additionally, recognizing ignorance as the root cause of many challenges underscored the importance of learning and understanding as foundational to improvement. This aligns closely with the Lean philosophy, which prioritizes iterative learning and problem-solving. Furthermore, participants noted that creativity and scientific thinking are not mutually exclusive; rather, structured methods pave the way for novel solutions and innovative thinking. Active engagement in knowledge creation – viewed as an ongoing and initiative-taking endeavor – was another recurring theme, reflecting the belief that improvement requires consistent curiosity and effort. Collectively, these insights illustrate how the Coaching Kata fosters a culture of relentless pursuit of better ways of working.

The Lean Leader Encourages Collaborative Problem-Solving

1. *“It’s asking the questions “What are we getting? Why are we getting the results we are? What’s in the way of making this happen... I want to bring in flow what’s in the way of making this work go smoothly but were not interrupting, we’re not stopping, we’re not trying to drop everything to go deal with something there or whatever the major disruption to flow is” and framing it that way as a desired outcome. It’s being willing to say “OK this is what’s happening. Anybody got any ideas?”. (I2)*
 - This reflects the systematic approach to improvement through thoughtful questioning and problem-solving. The emphasis on uncovering obstacles

and collaboratively seeking solutions demonstrates a strong belief that every challenge has a path to improvement if approached methodically. It also highlights the collaborative aspect, reinforcing trust in collective efforts for better results.

The Lean Leader Cultivates Knowledge to Solve Problems

1. *“One of my favorite quotes about this business from Stephen Spear is “The root cause of all problems is ignorance”. We don’t know or something we don’t understand and by getting enough understanding the solution will become apparent”. (I2)*
 - The foundational belief that understanding and knowledge solve problems and improve processes is key. It aligns with the idea that improvement is continuous and achievable if individuals and teams persist in deepening their understanding.

The Lean Leader Pursues Understanding to Overcome Ignorance

1. *“So, I think it does that a huge amount, because I think scientific thinking really cultivates creativity and, you know, creating knowledge and information...” (I5)*
 - The link between scientific thinking and creativity reflects a belief in structured yet innovative approaches to improvement. This highlights that continuous improvement is not merely about fixing problems but also about fostering a culture where new knowledge and solutions emerge organically.

The Lean Leader Fosters Creativity Through Scientific Thinking

1. *“Creating knowledge – we’re thinking of new ideas all the time because we’re thinking scientifically.” (I6)*
 - This quote captures the iterative nature of improvement driven by scientific thinking. It underscores the belief that improvement is an ongoing process

fueled by a mindset open to learning and innovation, emphasizing the proactive creation of opportunities for better outcomes.

The Lean Leader Facilitates Improvement Through Scientific Thinking

1. *“Coaching Kata is a very good opportunity for organizations to change the way they work with teams. [...] Toyota Kata is about enabling teams by developing a meta skill. It is about mindset and behavior, so it’s not so much about implementing a tool.” (I7)*
 - Viewing the Coaching Kata as an opportunity for organizational change reflects a belief in its potential for improvement. Emphasizing mindset and behavior over tools highlights the focus on developing foundational aspects of work and fostering a culture of continuous learning and innovation.

4.2.4. Honesty

Honesty emerged as a critical attribute in the practice of the Coaching Kata, as participants emphasized transparency and accountability as key to fostering trust and growth. Acknowledging mistakes and being willing to change course were identified as hallmarks of effective leadership, with one participant noting the importance of taking responsibility for one’s actions to build credibility. Transparency in the learning process – such as revealing one’s thought process during coaching – was also highlighted as a means of reinforcing collective improvement. Additionally, demonstrating vulnerability by admitting a lack of knowledge was seen as a powerful way to foster a culture of openness and collaboration. Reflective coaching practices, such as adapting feedback strategies while maintaining motivation, underscored the importance of balancing honesty with encouragement. Together, these behaviors illustrate how honesty strengthens relationships, builds trust, and supports learners in overcoming challenges.

The Lean Leader Values Emotional Intelligence

1. *“[...] kind of an awareness of how important emotional intelligence and soft skills are when trying to coach people.” (I1)*
 - This quote highlights the importance of emotional intelligence and soft skills, which are essential for honest and effective coaching.

The Lean Leader Grows Through Self-Awareness

1. *“So, I think that and then I had that humbling moment when I realized I was really leaving a wake of destruction in some cases. And so, I had to really reassess the way I went about it (coaching), and I think that was the breakthrough for me a few years ago.” (I2)*
 - This passage highlights a profound moment of self-awareness and honesty, acknowledging the unintended consequences of one's actions. The willingness to reassess and change reflects a strong commitment to truthfulness and personal growth, critical for fostering trust and improvement in leadership practices.

The Lean Leader Fosters Trust Through Vulnerability

1. *“I think when you're a learner you understand – I'm going to call it the vulnerability of being the learner, but basically to stand in front of someone and say, 'I'm not sure what I'm doing' or to honestly show people your thinking process knowing that they're judging your thinking process.” (I3)*
 - Embracing vulnerability and being honest about one's learning process fosters a culture of transparency and trust. This statement emphasizes the importance of transparency in the learning process. By framing the concealment of one's thoughts as failure, it underscores that honesty is foundational for effective coaching, learning, and the trust necessary in Lean leadership.

The Lean Leader Builds Credibility with Honesty

1. *“It also allowed me to practice saying, ‘I don’t know,’ and that is really powerful for frontline people to hear their boss say that.” (I6)*
 - Admitting uncertainty openly demonstrates humility and builds credibility. This practice fosters a culture where honesty is valued, encouraging team members to acknowledge their own gaps in knowledge, creating a safe environment for learning and growth.

4.3. Self-Development

Self-Development is also a fundamental principle of the TPS, emphasizing the continuous improvement of individuals’ skills, knowledge, and abilities. This principle is rooted in the belief that personal growth is essential for organizational success. In the context of Lean leadership, self-development is crucial as it fosters a culture of learning and adaptability, enabling leaders to effectively guide their teams through continuous improvement processes.

4.3.1. Openness to Development

The results indicated a strong alignment between openness to development and the experiences shared by interviewees. Participants consistently highlighted the importance of continuous learning, self-reflection, and adaptability as central to their growth as Lean leaders. Recognizing learning gaps during coaching cycles or acknowledging the ongoing nature of learning were seen as critical to fostering a growth mindset. This openness not only supported personal development but also enhanced participants’ ability to guide and develop others effectively. By embracing feedback and new insights, participants demonstrated the flexibility and responsiveness required to navigate the dynamic demands of Lean leadership. Openness to development was shown to be a foundational attribute for leaders seeking to remain effective and adaptable in their roles.

The Lean Leader Develops Coaches and Learners Simultaneously

1. *“...in addition to advancing our learners’ skills with the Coaching Kata, we also were trying to develop our coaches and our second coaches and the way we Kata’d Kata if that makes sense.” (I1)*
 - This highlights the dual focus on developing both learners and coaches. It demonstrates openness to development by showing a commitment to continuous improvement and skill enhancement for all individuals involved in the coaching process.

The Lean Leader Expands Knowledge Through New Methods

1. *“Having to use the new process analysis expanded my knowledge on how to grasp the current condition...” (I4)*
 - This reflects the value of new tools and methods in expanding one’s knowledge, demonstrating openness to development through continuous learning. This showcases the progression of coaching practices throughout time, embodying openness to development through adaptability.

The Lean Leader Identifies Gaps for Continuous Growth

1. *“There’s never just one. Every coaching cycle that you are in shows me as a coach where my ‘holes’ are in my learning or in my way of communicating with.” (I6)*
 - This quote exemplifies Openness to Development through the coach’s recognition of their own learning gaps and the humility to acknowledge these areas of improvement. By observing that every coaching cycle reveals new deficiencies, the individual demonstrates a mindset of continuous self-assessment and reflection, which is a cornerstone of growth. Additionally, by linking this learning to their communication skills, the passage highlights the adaptability required to refine their interactions with others. This

openness ensures that the coach not only grows personally but also fosters a more effective learning environment for those they guide.

The Lean Leader Embodies a Commitment to Lifelong Learning

1. *“It’s not an ending learning path; it’s continuous learning. There’s still lots more I have to learn.” (I7)*

- It conveys an understanding that personal and professional growth is an ongoing process, rather than a finite achievement. This perspective highlights humility and a commitment to self-improvement, traits critical for a Lean leader who must remain responsive to evolving conditions. Moreover, the willingness to admit there is "still lots more to learn" underscores a growth mindset that fosters adaptability, resilience, and a readiness to embrace new challenges and opportunities.

4.4. Qualification

Qualification is another core principle, emphasizing the importance of equipping employees with the necessary skills and knowledge to perform their roles effectively. This principle is rooted in the belief that a well-qualified workforce is essential for achieving high levels of performance and continuous improvement. In the context of Lean leadership, this principle involves not only the initial training and education of employees but also their ongoing development and skill enhancement. By ensuring that employees are properly qualified, organizations can foster a culture of excellence and adaptability, enabling them to respond effectively to challenges and opportunities. It underscores the commitment to investing in people as a key driver of organizational success.

4.4.1. Support for Employee Development

The interviews illustrated how leaders actively engage in supporting employee development through guidance, trust-building, and creating safe environments for learning. Participants emphasized the importance of providing structured opportunities for

improvement while being flexible in their coaching strategies. For instance, adapting approaches to balance challenges with support was identified as a key behavior that fostered growth. Additionally, ensuring appropriately calibrated learning experiences helped employees progress at a manageable pace, reinforcing their confidence and competence. These actions align with principles outlined by Mazzetti and Schaufeli (2022), highlighting the role of leaders in cultivating a culture of continuous skill enhancement and organizational adaptability. Together, these insights demonstrate a leader's commitment to creating a nurturing environment where employees can thrive and grow.

The Lean Leader Facilitates Growth Through Peer Coaching

1. *"...so, there will be some conversations prior to the coaching cycle to try to help develop that coach and then for the second coach to give them some tips and tricks and suggestions and then they would then go have the coaching cycle." (I1)*
 - This quote reflects a structured and collaborative approach to employee development. By facilitating preparatory conversations and enabling peer-to-peer coaching, leaders ensure that employees receive guidance and practical strategies to improve their skills, demonstrating active support for their growth.

The Lean Leader Builds Trust to Empower Learning

1. *"I think for most manager's trust. Trusting people giving people enough room to learn from small mistakes..." (I3)*
 - This highlights the importance of creating a trusting environment where employees feel empowered to take risks and learn from their errors. Such trust fosters a safe space for growth and development, aligning closely with the behaviors of leaders who support their teams' advancement.

The Lean Leader Adapts Coaching Roles for Individual Needs

1. *“During the coaching cycle I move those three hats around as necessary to help my learners.” (I4)*
 - This citation reflects a flexible and adaptive approach to coaching, which is a key component of supporting employee development. By "moving the three hats around," the coach adjusts their role – whether as a mentor, facilitator, or observer – based on the needs of the learners at various stages of the coaching cycle. This demonstrates the coach’s ability to tailor their support to individual learning styles and needs, ensuring that learners receive the appropriate guidance and resources for their development. This adaptability in coaching roles helps learners grow by addressing their specific challenges and fostering a more personalized learning experience, which is crucial for effective employee development.

The Lean Leader Balances Challenge and Support

1. *“We’re trying to push the learners just enough so that they’re learning, not too much that they’re overwhelmed.” (I6)*
 - This emphasizes the importance of balance in the learning process. In employee development, it is essential for leaders to challenge learners enough to stimulate growth while ensuring they are not overwhelmed by the complexity or pace of the tasks. By carefully managing this balance, the coach supports the learner's development at an optimal rate, avoiding burnout or frustration that could hinder progress. This approach exemplifies a leader’s role in providing the right level of challenge and support, which encourages continuous learning and confidence-building without causing unnecessary stress. Such a balanced approach is central to fostering a culture of steady and sustainable workforce development.

The Lean Leader Guides Progress with Clear Targets

1. *“You monitor your learners’ progress by setting very specific target conditions, then measuring against that.” (I7)*
 - This demonstrates a commitment to structured employee development by setting clear expectations and tracking progress. Regular monitoring helps identify areas for improvement, ensuring employees stay on a path of continuous learning and growth.

4.4.2. Communication and Trust

The interviews reinforced the importance of communication and trust as foundational elements of effective coaching and leadership. Participants described how building strong relationships, adapting communication styles to individual needs, and fostering openness were critical for enhancing employee development. For example, prioritizing connection and understanding before initiating coaching allowed leaders to establish trust and rapport. Leaders who emphasized transparent and adaptive communication created environments where employees felt valued, understood, and supported. This, in turn, enhanced engagement, collaboration, and performance. These findings underscore how communication and trust work together to strengthen the leader-employee dynamic, enabling more effective guidance and continuous improvement.

The Lean Leader Builds Trust Through Relationship-focused Coaching

1. *“...we’ve really evolved our coaching into more job relations building and building you know a good trustworthy relationship so that we can help the learner improve their work even quicker.” (I1)*
 - The shift from task-oriented coaching to relationship-building focuses on trust as a central component of the coaching process. By fostering a trustworthy relationship, leaders create an open and honest communication environment where learners feel valued and supported. This trust accelerates the learning process, as learners are more willing to engage,

make mistakes, and ask questions in an atmosphere of mutual respect and understanding. Thus, the quote demonstrates how building trust enhances communication and ultimately supports the learner's development.

The Lean Leader Instills Confidence with Personalized Guidance

1. *“There are the fundamentals, but at some point, your instructor has to sign off and say, “You’re ready to fly solo” and there isn’t a fixed number of hours for that to happen. And he’s watching you, watching your confidence and when he believes you’re ready, then he will say so.” (I2)*
 - This highlights the instructor’s role in observing the learner’s readiness to work independently. The phrase “You’re ready to fly solo” signals the instructor’s trust in the learner’s abilities, reinforcing their confidence. The lack of a fixed timeline shows a personalized approach, where communication is adapted to the learner's individual progress. These build trust by acknowledging the learner’s pace and needs, making them feel supported and valued in their development.

The Lean Leader Fosters Trust Through Openness and Vulnerability

1. *“I think being open and literally be vulnerable enough to share what you really think...” (I3)*
 - This quote emphasized the significance of openness and vulnerability in communication, which are essential for building trust. When leaders openly share their thoughts and feelings, it creates a culture of transparency, where employees feel more comfortable expressing their own ideas and concerns. This openness fosters a deeper level of trust, as employees see their leaders as approachable and genuinely invested in their development. Such communication is key to building strong, trusting relationships that promote effective teamwork and learning.

The Lean Leader Connects Before Coaching

1. *“Another standard that I follow is that I have a philosophy wherein every coaching cycle I connect first and coach second.” (I4)*
 - This underscores the importance of prioritizing connection before coaching, a key aspect of building trust. By ensuring that the learner feels valued and understood before engaging in the coaching process, the coach establishes a foundation of open and honest communication. This approach helps create a safe environment for the learner, fostering trust in both the coach and the coaching process, which is essential for effective communication and learning.

4.5. Emotional Intelligence

Enhances the effectiveness of coaching by enabling individuals to cultivate meaningful relationships and strengthen their leadership skills (Goleman et al., 2002; Boyatzis et al., 2013). It encompasses skills such as self-awareness, self-regulation, motivation, empathy, and social skills. In the context of Lean leadership, emotional intelligence is crucial as it enables leaders to create a positive work environment, foster strong relationships, and effectively manage change and conflict. By developing emotional intelligence, Lean leaders can enhance their ability to guide their teams through continuous improvement processes, ensuring both personal and organizational growth (Tan, Voon, & Ngui, 2023).

4.5.1. Self-Awareness

Self-awareness emerged as a key attribute of effective Lean leadership, as participants reflected on their growth and development through coaching experiences. Several interviewees acknowledged the continuous learning involved in transitioning from learner to coach, emphasizing the need for ongoing self-reflection. Recognizing past mistakes and adjusting future actions were identified as critical practices for personal and professional growth. Empathy also played a significant role, with participants noting how understanding the learner's perspective enhanced their ability to connect and guide effectively.

Additionally, the willingness to admit limitations, such as not having all the answers, demonstrated humility and transparency. Collectively, these behaviors illustrate how self-awareness enables leaders to grow, adapt, and create supportive environments that foster development for themselves and their teams.

The Lean Leader Embraces Continuous Learning in Coaching

1. *“So, transitioning from learner to coach, I feel like I learn every single day. Even if you know the current Kata that we have going on, yes, I’m trying to coach these high-level leaders but I’m learning so much every day still.” (I1)*
 - The interviewee recognizes their continuous learning process, even in a leadership role. It shows self-awareness in acknowledging the ongoing development that comes with coaching others, emphasizing the importance of understanding one's own growth.

The Lean Leader Reflects to Refine Their Actions

1. *“Mostly by just self-reflection. ‘So, it didn’t work, OK where did that go off the rails for me?’ and try again better next time.” (I2)*
 - Here, the interviewee demonstrates self-awareness by actively engaging in self-reflection to improve their actions. Recognizing what went wrong and seeking ways to improve in future situations illustrates the leader’s ability to assess their own behavior and make informed decisions.

The Lean Leader Cultivates Empathy Through Shared Experiences

1. *“It has given me more empathy. I know what it feels like to be a learner...” (I4)*
 - The interviewee connects their own experiences with learning to a deeper understanding of their learners’ experiences. This empathy arises from

recognizing their past vulnerabilities, which enhances their effectiveness in coaching others.

The Lean Leader Models Transparency Through Admitting Uncertainty

1. *“It also allowed me to practice saying, ‘I don’t know,’ and that is really powerful for frontline people to hear their boss say that.” (I6)*
 - This demonstrates self-awareness by acknowledging the value in admitting when one does not know something. Recognizing the impact of this vulnerability on team dynamics reflects the interviewee's understanding of their own limitations and the positive effect of transparency in leadership.

The Lean Leader Recognizes Their Knowledge Thresholds

1. *“Self-awareness as a coach means knowing when you’re at your knowledge threshold and being comfortable admitting it.” (I7)*
 - This emphasizes the importance of self-awareness in recognizing and admitting one’s own knowledge limits. As a coach, being able to communicate this to a learner showcases vulnerability and strength, while demonstrating that learning is a continuous process.

4.5.2. Self-Regulation

The interviews highlighted self-regulation as a crucial skill for Lean leadership, particularly in managing emotions, impulses, and expectations. Participants described how staying calm in challenging situations allowed them to maintain focus and clarity during coaching. Others emphasized the importance of resisting the urge to immediately provide solutions, instead allowing learners to discover answers independently. Controlled communication, such as dialing back expectations and adopting a calm tone, was another example of self-regulation in action. By managing their emotions and adjusting their responses, leaders were able to create supportive environments that encouraged

independent thinking and learning. These findings demonstrate how self-regulation enables Lean leaders to promote growth and maintain productive relationships.

The Lean Leader Adapts Coaching Approaches Through Emotional Cues

1. *“...and when they were ready to be pushed is what I felt like and so I picked up on some emotional intelligence clues to where I was reading them and reading their body language and their behavior...” (I1)*
 - This demonstrates self-regulation through the interviewee's awareness of their own emotional responses and their ability to adjust their coaching approach based on the emotional state and readiness of their learners. Rather than acting on an impulse to push forward regardless of the learner's condition, they manage their own reactions by reading emotional cues and adapting their behavior accordingly. This skill is crucial for maintaining a positive, productive coaching environment where learners are challenged at the right level, avoiding frustration or disengagement.

The Lean Leader Balances Feedback to Foster Encouragement

1. *“I have given up trying to correct everything, because that just pushes them back. But what I want is, I want them to think they overall did well, but just one thing to tweak...” (I2)*
 - This passage highlights self-regulation in managing the impulse to correct every mistake or offer constant feedback. The interviewee consciously chooses to provide constructive feedback in a measured way, focusing on one improvement at a time rather than overwhelming the learner. This approach requires emotional control and patience, as it involves regulating the urge to correct immediately and instead fostering an environment where learners feel encouraged and capable. By doing so, they maintain a balance that supports the learner's development without discouragement,

illustrating the leader's ability to control their own reactions and prioritize long-term progress over short-term fixes.

The Lean Leader Manages Stress to Enhance Focus and Effectiveness

1. *"I used to get stressed when I started asking these questions... but now I've learned to manage that anxiety." (I7)*
 - The coach acknowledges their ability to recognize their emotional reactions (stress) and develop strategies to manage it. This self-awareness and control over anxiety are key components of self-regulation, which helps maintain focus and effectiveness under pressure.

The Lean Leader Exercises Patience by Guiding Without Intervening

1. *"Coaches must guide their learners without providing answers, controlling their own impulses to jump in with solutions." (I7)*
 - This reflects self-regulation by emphasizing the control over the impulse to intervene immediately. The coach manages their instinct to provide answers, allowing learners to develop their own solutions, which fosters independence and promotes a more effective coaching process.

4.5.3. Internal Motivation

The interviews revealed that internal motivation drives Lean leaders to prioritize personal growth, continuous learning, and the development of others. Participants described the intrinsic satisfaction of transitioning from hands-on work to coaching, emphasizing a commitment to fostering growth without relying on external rewards. For example, applying new knowledge immediately and using teaching as a reinforcement mechanism highlighted the value of self-driven improvement. Observing others grow and take responsibility was another source of fulfillment, reflecting the deep-seated motivation to inspire and support team development. These insights illustrate how internal motivation

fuels Lean leadership by fostering a deep commitment to personal mastery and the long-term success of the team.

The Lean Leader Embraces Continuous Learning

1. *“I started trying to use the Coaching Kata structure as soon as I finished reading the original book the first time in May 2010. ... that was the big AH-HA moment. It came to me from reading the book ‘Here it is, here’s the fundamental structure.’”*

(I2)

- This reflects internal motivation sparked by a personal moment of insight, driven by the excitement of new learning. The immediate application of knowledge after a significant learning experience demonstrates an intrinsic drive for improvement and mastery. The interviewee’s motivation is not based on external validation, but rather on personal growth and the desire to enhance their coaching practice, showing how internal motivation fuels ongoing development and learning.

The Lean Leader Reinforces Learning Through Teaching

1. *“I only say the best way to learn is to teach and that’s what I was doing.”* (I2)

- This passage illustrates internal motivation through the interviewee’s recognition that teaching others reinforces their own learning. The satisfaction and personal growth derived from teaching demonstrate a deep intrinsic drive to improve and master new skills. The interviewee’s motivation to teach is not for external rewards but stems from the fulfillment gained by sharing knowledge and facilitating the learning of others.

The Lean Leader Fosters Confidence and Responsibility

1. *“They get more self-confident, they take action, and you can see how they really enjoy taking responsibility.”* (I7)

- This highlights the internal satisfaction and motivation learners develop that comes from gaining confidence and taking responsibility, driven by personal growth and satisfaction.

The Lean Leader Derives Fulfillment from Others' Growth

1. *“Seeing people grow and gain confidence in their abilities is a great motivator.”*
(17)

- This citation demonstrates internal motivation through the satisfaction the interviewee derives from observing others' growth. The joy and fulfillment they experience in seeing people develop confidence and competence illustrate how internal rewards – such as the sense of accomplishment in fostering others' growth – drive their ongoing commitment to coaching and leadership. Their motivation comes from the intrinsic satisfaction of contributing to others' success rather than from external recognition or rewards.

4.5.4. Empathy

Empathy emerged as a central theme in effective Lean leadership and coaching, as participants emphasized the importance of understanding and responding to the needs of others. For example, recognizing the emotional and cognitive states of learners allowed leaders to adjust their coaching methods and foster stronger connections. Multiple participants noted that experiencing the learner's perspective first helped them cultivate curiosity and empathy, enhancing their ability to support others. Asking questions to understand mental and emotional patterns further demonstrated a commitment to addressing fears and concerns while creating a safe, supportive environment. These findings underscore how empathy enables leaders to build trust, encourage open communication, and guide teams effectively through challenges and learning opportunities.

The Lean Leader Respects the Learner's Autonomy

1. *"...the learners have the autonomy in the ideas that they have to see if it works. It's not someone telling you to go try and do something it's what do you think would help eliminate that what do you want to try next..." (I1)*
 - Empathy is showcased here by recognizing the learners' autonomy and respecting their ideas. The Lean leader fosters a supportive environment where the learners feel heard and understood, empowering them to take initiative and responsibility for their learning process. This aligns with empathy, as it focuses on understanding the needs and perspectives of others and creating a collaborative, trust-based atmosphere.

The Lean Leader Understands Vulnerability

1. *"I think you understand the vulnerability and maybe the feelings the learner might have at the board more than anything..." (I3)*
 - This citation represents the leader's awareness of the vulnerability and emotional state of the learner. Empathy involves recognizing the emotional states of others, and this quote shows that the leader is attuned to the feelings of the learner, which enables them to offer appropriate support and guidance during a challenging moment.

The Lean Leader Builds Empathy Through Personal Experience

1. *"It (being a learner before becoming a coach) makes you empathetic, it makes you curious, and that builds good relationships with people, so it makes you a good coach." (I6)*
 - The interviewee explains how they have developed themselves through the experience of being a learner, which fosters curiosity and the ability to understand others. By reflecting on their own learning journey, the leader gains a deeper understanding of the challenges and emotions that learners

face. This increased empathy enhances their ability to build strong relationships, an essential foundation for effective coaching. The leader's curiosity enables them to engage with others at a deeper level, seeking to understand their perspectives and feelings, rather than simply dictating solutions. This approach nurtures an environment of trust and collaboration; key elements of empathy that help individuals feel supported and valued.

The Lean Leader Practices Patience and Understanding

1. *"I'm definitely more patient with people and understanding of where they are or at least I'm aware of wanting to understand where they're at." (I6)*
 - This demonstrates empathy through the leader's patience and active effort to understand the individuals they are coaching. The leader is conscious of where others are in their journey and strives to meet them where they are, which is a key component of empathy: recognizing and responding to the emotional and developmental needs of others.

The Lean Leader Explores Thoughts and Emotions

1. *"You ask the questions because you want to understand how they're thinking, what their approach is, you want to understand the mental patterns and their emotional patterns, their fears, or concerns and then your knowledge threshold moves." (I7)*
 - This quote vividly illustrates empathy by emphasizing the leader's active effort to understand not only the thoughts and processes of the individual but also their emotions, fears, and concerns. The leader is not only focused on the technical aspects of a situation but is deeply engaged with the emotional state and mental patterns of the person they are coaching. By asking questions, the leader shows a commitment to understanding the learner's perspective, which is the essence of empathy. This approach goes beyond surface-level engagement and demonstrates a willingness to explore the emotional and cognitive dimensions of the learner's experience.

Recognizing and addressing these emotional patterns helps create a more supportive and trusting environment, where the learner feels heard and understood. This also leads to the leader's personal growth, as they expand their own knowledge by gaining insight into the learner's mindset, further enhancing their ability to offer guidance.

4.5.5. Social Skills

The interviews demonstrated the significance of social skills in Lean leadership, particularly in fostering collaboration, communication, and relationship-building. Participants described how modeling behavior and adapting communication styles allowed them to guide and influence others effectively. Asking insightful questions was highlighted as a key strategy for facilitating learning and strengthening relationships. Moreover, prioritizing connection and rapport before coaching created a foundation of trust and mutual understanding. These insights suggest that strong social skills enable Lean leaders to engage with their teams, build trust, and create an environment conducive to continuous improvement.

The Lean Leader Prioritizes People

1. *“It’s the people-first aspect, but that has to be deliberate because it’s really easy to coach purely based on outcomes.” (I2)*
 - This emphasizes the significance of prioritizing people and relationships over just outcomes, demonstrating strong social skills in leadership. By focusing on people first, Lean leaders build trust and foster a collaborative environment, making it easier to engage with team members on a deeper level beyond performance metrics.

The Lean Leader Asks Insightful Questions

1. *“Also, people who are ready to be coaches always ask really good questions...” (I3)*

- This highlights how asking insightful questions is key, which is an important social skill for effective communication and coaching. Asking thoughtful questions helps leaders understand the perspectives and needs of others, enabling them to provide tailored support and guidance.

The Lean Leader Connects Before Coaching

1. *“I have a philosophy wherein every coaching cycle I connect first and coach second.” (I4)*

- This reflects the importance of building a connection before coaching, which is a crucial social skill for establishing trust and rapport. By prioritizing relationships, leaders create an environment where team members feel heard and supported, leading to more effective coaching and development.

The Lean Leader Enhances Connections Through Continuous Improvement

1. *“...even just in every relationship I have; I think it’s (practising Kata) changed the way I interact with people.” (I5)*

- This demonstrates the broader impact of social skills on all relationships, emphasizing the importance of effective communication and interaction. The ability to engage with others in a thoughtful and supportive manner enhances collaboration and contributes to personal and professional growth.

Chapter 5: Discussion of Results

The findings of this study reveal a connection between practicing the Coaching Kata and the development of Lean leadership. The Coaching Kata emphasizes scientific thinking, continuous improvement, and structured coaching cycles, making it a practical approach for cultivating key Lean leadership behaviors. Specifically, managers exhibit behaviors such as encouraging scientific thinking, facilitating growth through coaching, building trust through openness and vulnerability, adapting their coaching to their team's needs, recognizing their knowledge threshold, asking insightful questions, committing to lifelong learning, and practicing understanding. Through iterative improvement cycles, dynamic questioning, and fostering autonomy, leaders not only enhance their ability to guide teams but also develop critical attributes such as emotional intelligence, self-awareness, and empathy. This aligns well with the research question: *What are the main leadership behaviors exhibited by a Kata coach?* The results suggest that the disciplined practice of Coaching Kata principles enables leaders to internalize Lean thinking, create a culture of continuous improvement, and simultaneously develop their own leadership capabilities.

5.1. Reflection on the Literature

The conceptual model by Dombrowski and Mielke (2013) provided a valuable framework for understanding Lean leadership principles, which were reflected in the findings of this study. This model underscores the interconnection between these elements in fostering a culture of continuous improvement within organizations. Improvement Culture is positioned as the foundation, where leaders cultivate an environment that encourages ongoing learning and development. Self-Development and Qualification are essential for leaders to effectively support and guide teams, equipping them with the necessary skills and knowledge to drive change. Emotional Intelligence plays a critical role in enabling leaders to navigate complex interpersonal dynamics, manage their own emotions, and foster collaboration and trust within teams. The alignment between these principles and the study's results highlighted the crucial role these four principles played in fostering a culture of continuous improvement.

The concept of Coaching Kata, as outlined by Rother (2009), offers a systematic approach to cultivating leadership behaviors through repetitive practice and feedback. This method positions leaders as coaches who guide their teams using scientific thinking and structured problem-solving routines. Coaching Kata aligns with Lean leadership principles by promoting a culture of continuous improvement and learning. Research indicates that implementing Coaching Kata can lead to notable enhancements in team performance and organizational outcomes (Hedlund et al., 2016; Rother, 2014). By incorporating Coaching Kata into their leadership practices, managers can better support team development, foster innovation, and build a resilient organizational culture (University of Michigan, 2021). The findings of this study affirm that Coaching Kata is an effective tool for developing essential leadership behaviors, such as adaptability, empathy, and strategic thinking, which are crucial for fostering a culture of continuous improvement.

The findings of this study are also aligned with existing research on emotional intelligence, reinforcing its vital role in personal well-being and professional success. Studies by Boyatzis, Goleman, and Rhee (2000), Jordan and Troth (2004), and other scholars highlight the importance of emotional intelligence competencies in job performance, particularly in leadership roles. This study affirms that self-regulation and empathy, as identified by Jordan and Troth (2004), are essential for conflict resolution and team collaboration – key aspects of effective Lean leadership.

Additionally, the importance of emotional regulation in decision-making, as discussed by George (2000) and Lopes et al. (2006), is echoed in the themes emerging from the study's findings. Leaders with high levels of emotional intelligence are better equipped to handle pressure and maintain composure, which is crucial when navigating the challenges associated with Lean transformations and continuous improvement initiatives. The study suggests that leaders who demonstrate emotional intelligence not only manage their own emotions effectively but also create an environment that promotes collaboration and productivity, reinforcing Lopes et al. (2006) on the significance of conflict resolution in maintaining team harmony.

Furthermore, this research highlights the integration of emotional and rational elements in decision-making, which aligns with George's (2000) perspective that effective leaders

balance both aspects. The ability of leaders to use emotional intelligence to guide teams through high-pressure situations and foster a positive team dynamic is a crucial element in developing managers into Lean leaders, as evidenced by the interview responses in this study.

In conclusion, the findings of this study support and expand existing literature regarding the role of emotional intelligence in leadership and organizational effectiveness, particularly within Lean management contexts. By emphasizing the importance of emotional intelligence competencies in addressing complex leadership challenges, this research contributes to the growing body of knowledge on how this attribute can develop individuals and enable them to guide teams through continuous improvement processes with empathy, emotional regulation, and effective decision-making skills.

5.2. Reflection on the Research Findings

The findings of this study hold significant practical and theoretical implications, particularly for understanding the critical attributes developed by managers who practice the Coaching Kata, such as task identity, feedback and autonomy, empathy, self-awareness, and social skills. These attributes, closely aligned with the components of emotional intelligence, underscore the integral role of it in effective management and Lean leadership.

From a practical standpoint, the development of these attributes through the Coaching Kata has implications for managerial practices in Lean organizations. Lean management, with its focus on fostering continuous improvement, teamwork, and respect for people, necessitates leaders who can navigate complex interpersonal dynamics and empower teams to achieve collective goals. Attributes such as empathy and self-awareness are foundational to building trust, improving communication, and fostering a collaborative environment, all of which are essential for sustaining Lean transformations (Mann, 2014).

Moreover, feedback and autonomy, attributes reinforced through the Coaching Kata, play a vital role in enhancing intrinsic motivation and fostering a sense of ownership among team members. The theoretical contributions of this study link these findings to Deci and Ryan's Self-determination Theory (2000), which posits that autonomy, competence, and

relatedness are essential for psychological growth and motivation. By integrating these principles into daily coaching routines, Lean leaders can create an environment where team members feel both supported and empowered to take initiative, thereby driving continuous improvement and innovation.

The emphasis on task identity aligns with Hackman and Oldham's job Characteristics Model (1976), which highlights the motivational power of seeing work as a complete, meaningful process. This study's findings reinforce that practising the Coaching Kata enables managers to engage in holistic, start-to-finish processes that enhance their sense of purpose and satisfaction. This not only benefits the individual manager but also contributes to the broader organizational culture by embedding practices that prioritize both results and relationships.

Theoretically, this research contributes to the growing body of knowledge at the intersection of Lean leadership and emotional intelligence. While much of the existing literature emphasizes technical tools and methodologies, this study highlights the human-centered aspects of Lean leadership. Emotional intelligence attributes such as self-regulation, empathy, and social skills are shown to be not just complementary but essential to effective Lean practices. For example, Goleman (1998) emphasizes that emotional intelligence is a stronger predictor of leadership success than cognitive ability or technical expertise alone. The insights from this study provide a nuanced understanding of how emotional intelligence related attributes are cultivated through specific practices like the Coaching Kata, bridging a small gap in the literature.

In summary, this study underscores the importance of Improvement Culture, Self-Development, Qualification and Emotional Intelligence in Lean leadership and provides actionable insights for practitioners seeking to develop these attributes (Table 19). By fostering task identity, feedback and autonomy, and other emotional intelligence related attributes, the Coaching Kata equips leaders with the skills needed to navigate the complexities of Lean management effectively and become better managers. Future research could further explore how these findings generalize across different organizational contexts and how they might inform the development of training programs for Lean leaders.

- **Practical Applications for Professionals**

The following table highlights the actionable insights which managers and Lean practitioners can implement to enhance their leadership effectiveness through the Coaching Kata.

Table 19: Practical Applications

Enhancing Emotional Intelligence	By illustrating the development of critical emotional intelligence attributes like self-awareness, empathy, and self-regulation through Coaching Kata, professionals can use these insights to design targeted leadership development programs. Managers can deliberately practice the Kata routines to improve their ability to connect with team members, foster trust, and manage workplace emotions effectively.
Building Feedback-Driven and Autonomous Teams	The emphasis on constructive feedback and fostering autonomy offers a practical framework for managers to create environments where employees feel both supported and empowered. This can improve employee engagement, intrinsic motivation, and team productivity.
Strengthening Task Identity and Motivation	The research highlights the importance of clear goals, holistic task ownership, and structured learning cycles. Managers can use this framework to make employees feel more connected to their work, thereby increasing job satisfaction and reducing turnover.
Developing Continuous Improvement Cultures	By practising these routines, organizations can embed a culture of continuous learning and adaptability, essential for sustaining Lean transformations.

Chapter 6: Conclusion

The findings of this study highlight the developmental potential of the Coaching Kata in cultivating Lean leadership qualities, particularly in the context of emotional intelligence and continuous improvement. By integrating structured scientific thinking with human-centric leadership development, the Coaching Kata serves as a practical approach for fostering both technical and interpersonal competencies. This research illustrates how the iterative nature of the Kata methodology supports process improvements while also nurturing essential leadership attributes such as self-awareness, empathy, and self-regulation.

6.1. Contributions to the Kata Field

This research contributes to the Kata field by expanding its scope beyond process improvement to include the development of leadership attributes, particularly emotional intelligence. While the Coaching Kata has traditionally been associated with fostering scientific thinking and structured steps for improvement, this study suggests its potential to cultivate emotional intelligence attributes such as self-awareness, empathy, and self-regulation. By exploring the connection between the Kata methodology and emotional intelligence, the findings indicate that the Coaching Kata can serve as a process improvement methodology for leadership development.

The study also offers insights into the leadership capabilities developed by managers who practice the Coaching Kata, particularly those relevant to Lean initiatives. Through analysis of interview data, the research shows that engaging with the Kata routines may help leaders improve their ability to provide constructive feedback, foster autonomy, and maintain a sense of task identity. This not only aligns with the methodology's effectiveness in achieving process outcomes but also points to its potential impact on individual and team dynamics, adding to the existing body of knowledge on the Kata.

Additionally, the study connects the Coaching Kata to broader motivational and organizational behavior frameworks, such as Hackman and Oldham's (1976) theory on task identity and Deci and Ryan's (2000) self-determination theory. This integration helps to contextualize how structured practices like the Kata can promote intrinsic motivation

and a sense of ownership among leaders. By linking the Kata methodology to these established frameworks, the research strengthens its theoretical foundation and positions it as a practical tool for leadership development.

Finally, this work provides practical guidance for Lean practitioners and managers, suggesting ways to use the Coaching Kata to strengthen leadership behaviors while supporting Lean initiatives. By highlighting the methodology's role in enhancing interpersonal skills alongside technical competencies, the study broadens its relevance and applicability, contributing to the ongoing evolution of the Kata field.

In addition to its theoretical contributions, this research offers concrete implications for practice. The insights drawn from the interviews and the refined conceptual framework highlight how the Coaching Kata can be leveraged not only as a tool for continuous improvement but also as a structured approach to leadership development. By emphasizing the role of emotional intelligence and interpersonal dynamics, the study underscores the importance of soft skills in sustaining Lean transformations. These findings provide a foundation for translating abstract leadership principles into actionable strategies that can be applied in real organizational contexts.

6.2. Research Limitations

Upon objectively reviewing the interviews conducted, the research does not achieve full saturation. Achieving full saturation of both manifest and latent content in transcript analysis is challenging due to the complexity of data, the subjective nature of interpreting latent content, and the evolving understanding of themes. Another primary limitation arises from the sampling process. The study was constrained to seven interviews, despite the existence of more potential participants within the Toyota Kata community. This decision was influenced by practical considerations, including the study's narrow focus and the feasibility of conducting extensive research alongside full-time employment.

It is also important to note that most participants were consultants rather than internal managers. While consultants often possess deep expertise in Lean methodologies and broad exposure to various organizational contexts, their perspectives may differ from those

of managers embedded within a single organization. As such, the findings may reflect a more external, advisory viewpoint on the application of Coaching Kata, potentially limiting the generalizability of the results to in-house leadership development practices.

While the material gathered provides a valuable overview of the benefits of practising Coaching Kata routines, the limited sample size compromises the study's validity and the generalizability of its findings. Another potential limitation stems from the researcher's biases, including efforts to establish rapport and trust with interviewees and the ease with which personal subjects were discussed. Additionally, social desirability bias may have influenced participants' responses, as interviewees might have provided answers they perceived as favorable or aligned with expected norms, rather than fully reflecting their true thoughts or behaviors. This could affect the accuracy and depth of the data collected, particularly when discussing sensitive topics such as emotional intelligence, self-awareness, or leadership challenges. These interpersonal dynamics may have influenced the depth and quality of responses.

Additionally, the iterative nature of qualitative research poses challenges in coding and categorization. Interview responses often overlapped multiple conceptual areas, leading to shifts in coding as new qualitative data were analyzed. This iterative process, combined with the personal and unique nature of each interviewee's experiences, suggests that theoretical saturation was not fully achieved. Each interview contributed new insights and introduced novel influencing factors, indicating that additional interviews could have enriched the dataset and improved the robustness of the findings.

Furthermore, the subjective nature of professional development presents inherent challenges, as growth and learning experiences vary significantly from one individual to another, making it difficult to establish universal standards or benchmarks for measuring leadership development. A broader dataset would allow for a more nuanced understanding of these unique journeys and could lead to the identification of subtopics within the predefined categories.

The timing of the research, conducted during the pandemic, adds another layer of complexity. The crisis influenced how Coaching Kata routines were practiced, but the full

extent of these repercussions remains unclear. Additional interviews could have captured variations in practice brought about by this context and further refined the coding schema. Finally, the predefined categories used for analysis, while effective for identifying overarching trends, were not mutually exclusive or collectively exhaustive. Their broad scope left room for the creation of subcodes and higher-level classifications, which could have emerged with more comprehensive data collection. While these categories facilitated an understanding of the key competencies developed through the Coaching Kata, they also highlight the need for further refinement and exploration.

In summary, while the study successfully identifies recurring trends and highlights four main concepts, it falls short of achieving data saturation. Expanding the sample size and incorporating additional interviews would enhance the validity of the findings, allowing for deeper insights and more precise categorizations. Additionally, the decision to exclude principles such as Gemba and Hoshin Kanri from the analysis, while necessary to maintain focus on the Coaching Kata and emotional intelligence, may have limited the study's scope. Future research could explore how these principles intersect with the Coaching Kata to provide a more comprehensive understanding of Lean leadership development. This limitation underscores the need for future studies to build on these initial findings and further explore the potential of the Coaching Kata in leadership development.

6.3. Potential Future Research Topics

Building on the findings of this study, future research could delve deeper into various areas to enhance our understanding of the Coaching Kata and its broader implications. A critical avenue of exploration is the generalizability of these findings across different organizational contexts. By examining how the Coaching Kata routines influence managers in diverse industries and organizational structures, researchers could provide insights into tailoring these routines to meet varying needs. Such studies could also inform the design and development of more targeted training programs for Lean leaders, ensuring that they effectively address unique organizational challenges.

Additionally, future research could reintroduce and analyze the two attributes, Gemba and Hoshin Kanri, that were excluded from the data analysis. Gemba, the practice of observing

work where it happens, offers a practical lens for understanding how managers' physical presence influences team dynamics, decision-making, and continuous improvement efforts. Exploring how the Coaching Kata aligns with and enhances gemba practices could provide insights into how direct engagement in the workplace fosters Lean leadership. Similarly, Hoshin Kanri, the strategic planning process that aligns organizational goals with daily activities, represents a vital area of research. Investigating the interplay between Coaching Kata routines and Hoshin Kanri could illuminate how strategic alignment impacts leadership behaviors and organizational outcomes.

By examining these additional dimension, future studies could contribute to refining the Coaching Kata and expanding its applicability. Identifying the most effective and efficient ways to embed these routines into organizational culture would support managers in their development into Lean leaders while broadening the methodology's utility in diverse contexts.

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Appendix

Appendix A – Interview Guide

Background questions

1. How long have you been practising the Coaching Kata?
2. How do you practise Kata as a consultant?
 - a. *What standard(s) do you follow?*
 - b. *To what extent do you follow the Starter Kata?*
 - c. *How have you improved your Starter Kata?*

Subject questions

1. What is an example of a recent Kata cycle you've done that challenged you?
(*Ex.: the learner was not motivated, the learner had trouble communicating, the learner had reached their knowledge threshold, you had reached your own knowledge threshold*)
 - a. *How has your coaching routines evolved since the first time you practise them?*
2. What is an example of a recent Coaching Kata you've done that led you to push your coaching skills?
 - a. *How did you realise you had learned something new?*
 - b. *What did you learn or gain from this experience?*
3. How do you recognize when you have reached your knowledge threshold?
 - a. *What do you do to push your knowledge threshold?*
4. How do you recognize when your learner has reached their knowledge threshold?
 - a. *What do you do to support them in pushing their knowledge threshold?*
5. How is the transition from learner to coach made?
 - a. *How did you feel when you first started taking on the role of a coach during the routines?*
 - b. *How can we identify the learners making the transition?*
 - i. *How do you support them?*

6. How has being a learner impacted you as a coach?
7. In what ways do you feel like you have become a better leader by practising the Coaching Kata?
 - a. *What competences has practising the coaching routine allowed you to develop?*
 - b. *What values does the coaching routine help reinforce? (Ex.: trust, honesty, team spirit, support, etc.)*
8. How do you monitor your learner's progress?
9. How do you monitor your own progress?
 - a. *To whom do you ask for coaching? (Ex.: second coach, supervisor, colleague)*
 - b. *How does your coach still help you improve as a learner?*
10. How do you think practising Kata facilitates knowledge transfer?
11. How do you think practising Kata facilitates knowledge creation?
12. Given your experience and passion for Kata, what is your burning question that you wish researchers like me would address?

Appendix B – Presentation of Results

1. Improvement Culture	The first level of coding focuses on the overarching theme of “Improvement Culture,” a core principle of the Toyota Production System. This principle emphasizes continuous improvement and the development of a culture where all employees are engaged in identifying and solving problems. Through the semi-structured interviews, several patterns and specific instances emerged that highlight the leadership behaviors exhibited by managers who practice the Coaching Kata.
1.1 Task Identity	Task Identity refers to the degree to which a job requires completion of a whole and identifiable piece of work (Hackman and Oldham, 1976). According to Hackman’s and Oldham’s model, task identity is crucial for enhancing job satisfaction and motivation, as it allows employees to see the tangible results of their efforts. It involves seeing a task through from beginning to end with a visible outcome. The interviews revealed that practising the Coaching Kata enhances managers’ sense of task identity by involving them deeply in the coaching process and the development of their teams.
	Interviewee 1:
	1. “...and so we were trying to advance our learners from novice to competent and we’re trying to advance our coaches from competent to proficient and you know we wanted to have this many boards and challenges...”
	This quote illustrates the progression and development goals within the coaching process, highlighting the complete journey from novice to proficient, which enhances task identity.
	2. “It’s gone from a very task-oriented just asking the questions to a very relationship-building into this person so that I can learn about them, learn about their step, about their issues and their obstacles so that I can help them move forward in a way that they would receive my help in my coaching.”

	This shift from task-oriented to relationship-building coaching underscores the holistic approach, reinforcing the sense of task identity by focusing on the entire development process of the learner.
	Interviewee 2:
	1. "We've been trying to coach and we knew we had to coach leaders or to learn to coach, we need new leaders to be coaches, but we never knew how to teach them to be coaches."
	This statement reflects the challenge and the complete process of developing new leaders into effective coaches, emphasizing the comprehensive nature of the task.
	2. "I feel a lot of times it's just overall continuous improvement and part of it is just going in and starting to work with them and while I'm doing that you know there's what they want and then there's what they need and those are often almost always different."
	This highlights the ongoing nature of improvement and the need to address both immediate and underlying needs, reinforcing the concept of task identity through continuous engagement.
	Interviewee 3:
	1. "I try to model very closely the Starter Kata because at least we assume people will do what they experience, and they extrapolate too. If you do something different, they really think that this is OK for them to do."
	Modeling the Starter Kata provides a clear, complete example for others to follow, enhancing task identity by demonstrating the entire process.
	2. "In the book, one of them is changing some of the phrasing of the words. So, the classic question is 'How quickly can we go and see what you have learned from taking that step?' and for about a year now I've been saying 'How quickly can we go and see what you are learning from taking that step?'"

	This change in phrasing emphasizes the ongoing learning process, reinforcing the idea of task identity by focusing on continuous improvement and reflection.
	3. “So, for the challenge for example you know a date a reason why it’s important how they will know what they’re trying to achieve what does it look like when they get there.”
	Setting clear challenges with specific goals and outcomes enhances task identity by providing a clear end-to-end process.
	4. “So, I had been kind of babying him so it was really good to say OK now you’re an adult you make your choice you do your decisions, and I will help you take the steps to be in a position to know what you want to do.”
	Empowering individuals to take ownership of their decisions and actions reinforces task identity by involving them in the complete process of their development.
	Interviewee 4:
	1. “When I started practising it, it was just about getting through the questions and getting the learner to do the right documentation.”
	Initially focusing on task completion, this approach evolves to encompass the entire coaching process, enhancing task identity.
	2. “I follow the standard of the Starter Kata which used to be the seven questions now it has grown into the ten questions.”
	Adhering to and evolving the standard practices of the Starter Kata reinforces task identity by providing a structured, complete framework.
	3. “As they grow their skills and capability you can stop doing the ‘teaching moment’ a bit.”

	Allowing learners to take more responsibility as they develop their skills enhances task identity by involving them in the full scope of their learning journey.
	Interviewee 5:
	1. “I also sometimes use the framework and parts of the Coaching Kata with teams of people who are also clients. I also do voluntary work, quite a lot of voluntary coaching...”
	Applying the Coaching Kata in various contexts, including voluntary work, highlights the comprehensive nature of the task and reinforces task identity.
	2. “I’ve developed three more that sit on top of that so, I’ve created another three, another four sorry, and two of them I’ve also translated so, the process analysis steps, and the target condition steps I’ve translated into language that’s more accessible to people who are not in manufacturing.”
	Expanding and adapting the Coaching Kata framework to different contexts and languages enhances task identity by involving a complete and adaptable process.
	Interviewee 6:
	1. “We follow the starter Kata to the T so when you’re first learning it’s very disciplined very rigorous.”
	Strict adherence to the Starter Kata framework reinforces task identity by providing a clear, complete structure for learning.
	2. “The paper storyboard has five questions. Some may add questions to it, and everybody brings their own coaching style to its framework.”
	Customizing the framework to fit individual coaching styles while maintaining the core structure enhances task identity by involving a complete and personalized process.

	3. “The biggest scorecard is ‘am I ready for that?’ Right now, there’s that, and I’m trying to think what else is here that keeps me like accountable.”
	Using scorecards to measure readiness and accountability reinforces task identity by providing clear milestones and outcomes.
	4. “In the very beginning, it’s verbatim, word for word, and always the same until we feel comfortable with the questions.”
	Starting with a verbatim approach and gradually adapting as comfort increases enhances task identity by involving a complete learning process.
	Interviewee 7:
	1. “The goal setting is like a target condition. Rather than setting personal goals, you set target conditions towards your longer-term goals.”
	Setting target conditions as part of goal setting reinforces task identity by providing clear, long-term objectives.
	2. “When we talk about Toyota Kata, we usually talk about two Kata which is the Coaching Kata and improvement Kata. The Coaching Kata is a starting point for a person that wants to learn how to coach in that special way; it’s a recipe.”
	Viewing the Coaching Kata as a starting point and a recipe for learning enhances task identity by providing a clear, structured approach.
	3. “For the two major groups, they are driven either by them already having some experience with Toyota Kata and then they feel like it makes sense, but we struggle to do good coaching.”
	Recognizing the challenges and experiences of different groups reinforces task identity by involving a complete understanding of the coaching process.

	4. “The improvement Kata is not a starting point, it’s a model... it’s a model for a more scientific way of working.”
	Viewing the Improvement Kata as a model for scientific working enhances task identity by providing a comprehensive framework for continuous improvement.
1.2 Feedback and Autonomy	Feedback & Autonomy refers to the degree to which individuals receive constructive feedback and have the freedom to make decisions and take actions independently. Hackman and Oldham (1976) emphasize that feedback offers employees insights into their performance, which is vital for ongoing learning and improvement. Autonomy, on the other hand, empowers employees to make decisions and take actions independently, thereby enhancing their sense of responsibility and intrinsic motivation. Furthermore, Deci and Ryan (2000) underscore that autonomy is a vital element of self-determination theory, which suggests that individuals are more motivated and perform better when they experience a sense of autonomy and competence. The interviews revealed that practising the Coaching Kata enhances managers’ ability to provide effective feedback and foster autonomy among their teams.
	Interviewee 1:
	1. “Therefore, new learners’ kind of have a guide as to try deepening their thinking...”
	This quote highlights the role of feedback in guiding new learners to deepen their thinking, which is crucial for developing autonomy.
	2. “...we have a PDSA template that we really want our learners to be practising and our coaches to be coaching the learner too right.”
	The use of a PDSA (Plan-Do-Study-Act) template provides a structured framework for feedback and encourages learners to practice autonomously.

	Interviewee 2:
	1. “At the end of the day it’s about the culture and it’s about the path. Not what the individuals do but the patterns of interaction between individuals and between small groups of individuals which is what defines the culture.”
	This statement emphasizes the importance of feedback and interaction patterns in shaping a culture of autonomy and continuous improvement.
	Interviewee 3:
	1. “The coaching conversation is quite dynamic and so you have to ask questions in between the questions if you don’t get a perfect answer or an answer that matches your reference for what you’re expecting.”
	Dynamic coaching conversations that involve asking probing questions provide immediate feedback and encourage autonomous thinking.
	2. “The Kata really leads you to be open to curiosity and surprise you know? If you’ve been 10 years in the same position...the Kata teaches you to be quiet and see what happens.”
	The Kata fosters a mindset of curiosity and openness, which supports autonomous learning and decision-making.
	3. “Another thing I do is I use different cards. So, there are many cards...I’ll use the card that matches kind of like the skills and expectations of the learner.”
	Tailoring feedback tools to match the learner’s skills and expectations enhances the effectiveness of feedback and supports autonomy.
	4. “The best part about that was I had to stop being his mom and be his coach so I couldn’t nag him, and we agreed we would only talk about it at the storyboard so only once a day for 20 minutes.”

	Establishing clear boundaries for feedback sessions promotes autonomy by allowing learners to take ownership of their progress.
	Interviewee 4:
	1. “I utilize the Coaching Kata planning and executing face questions.”
	Using structured questions during planning and execution phases provides consistent feedback and supports autonomous decision-making.
	2. “I believe in using the Starter Kata as a foundation.”
	The Starter Kata serves as a foundational tool for providing feedback and fostering autonomy in the learning process.
	3. “It’s important for me as a coach to know what’s going on with them because I will adjust myself to them...”
	Adjusting coaching methods based on the learner’s needs ensures that feedback is relevant and supports their autonomy.
	Interviewee 5:
	1. “I’m dramatically different so, from, you know, the first time I did this it was very clunky. It felt very robotic, you know, I’m just asking questions from a card.”
	Reflecting on the evolution of coaching style highlights the importance of personalized feedback and the development of autonomy.
	2. “I make sure they’re really clear on why I spent so long laboring a point or why I pushed them or poked them, you know.”
	Providing clear explanations for feedback helps learners understand its purpose and fosters autonomous improvement.

	3. “I asked them to get facts and data. So, ask them to show me.”
	Encouraging learners to gather and present data promotes autonomy by involving them in the feedback process.
	Interviewee 6:
	1. “The coaches provide unbiased opinions. I’m biased, but they provide a better look into my coaching skills.”
	Receiving unbiased feedback from coaches helps individuals improve their skills and supports autonomous development.
	2. “If it looks like they can carry on, they are probably not at the threshold of knowledge.”
	Recognizing when learners are ready to proceed independently is crucial for fostering autonomy.
	3. “The fact that it’s going to it shows me what I have yet to learn, and that could be challenging.”
	Identifying learning gaps through feedback encourages continuous improvement and autonomous learning.
	4. “I investigate, get curious, and if it’s something that I may not want to do or am leery to do, because sometimes work can be hard, then you tell somebody you’re going to do it so that you’re accountable.”
	Promoting accountability through feedback supports autonomous decision-making and action.
	Interviewee 7:
	1. “Everybody that wants to become a coach should practice improvement Kata first and be coached. Learn it by doing.”
	Practising the Improvement Kata and receiving coaching fosters a culture of feedback and autonomy.

	2. “A not-so-experienced improver will answer to ‘What do you learn from last step?’; ‘It worked.’ That shows me the thinking and then I can follow up with deepening questions.”
	Using follow-up questions to deepen understanding provides constructive feedback and encourages autonomous thinking.
	3. “Once a set of questions is published, it doesn’t go down well with people if you say we’ve learned something from it.”
	Adapting feedback based on new learnings supports continuous improvement and autonomy.
1.3 Belief in Improvement	Belief in Improvement refers to the conviction that continuous improvement is possible and beneficial. Scholars like Deming (1986) and Juran (1988) have extensively written about the importance of a continuous improvement mindset, which aligns closely with the idea of believing in the potential and benefits of ongoing improvement. This belief drives individuals and organizations to persistently seek better ways of working. The interviews revealed that practising the Coaching Kata fosters a strong belief in improvement among managers, which is crucial for developing Lean leadership qualities.
	Interviewee 1:
	1. “That will really just allow me the creative ability to try to lead our people forward in improving our work in Toyota Kata in TWI and GM all those Jr methodologies or idea systems...”
	This quote highlights the creative drive and leadership in fostering improvement through various methodologies, showcasing a strong belief in continuous improvement.
	2. “...and so along the way we’ve really evolved our coaching into more job relations building and building you know a good trustworthy relationship so that we can help the learner improve their work even quicker.”

	Evolving coaching practices to build relationships and trust underscores the belief in improvement by enhancing the effectiveness of the coaching process.
	Interviewee 2:
	1. “I ask much better follow-up questions and work to seamlessly blend teaching, technical advice and coaching into the conversation.”
	The integration of teaching, technical advice, and coaching reflects a commitment to continuous improvement in communication and learning.
	2. “In the course of helping them narrow their message and do a better job with it, I learned a lot with that.”
	This statement shows a reciprocal learning process, emphasizing the belief that improvement is a continuous, mutual journey.
	3. “I think it’s it is much more emphasis on developing people skills and developing new organizations’ interactions and less about the physical manifestation of how the process works or the outcomes that we’re getting.”
	Focusing on people skills and interactions over physical outcomes highlights the belief in improving the underlying processes and relationships.
	4. “It’s asking the questions “What are we getting? Why are we getting the results we are? What’s in the way of making this happen... I want to bring in flow what’s in the way of making this work go smoothly but were not interrupting we’re not stopping we’re not trying to drop everything to go deal with something there or whatever the major disruption to flow is” and framing it that way as a desired outcome and is being willing to say “OK this is what’s happening. Anybody got any ideas?”.
	This approach to questioning and problem-solving demonstrates a strong belief in continuous improvement

	by seeking to understand and address obstacles systematically.
	5. “One of my favorite quotes about this business from Stephen Spear is “The root cause of all problems is ignorance”. We don’t know or something we don’t understand and by getting enough understanding the solution will become apparent”.
	Emphasizing the importance of understanding as a path to improvement reflects a deep belief in the power of knowledge and learning.
	6. “Because if I just tell them the answers like you know here’s this big old algebra question and the answer is 4 it doesn’t help you learn algebra”.
	This quote underscores the belief that true improvement comes from understanding and learning, not just from being given answers.
	7. “It’s the people first aspect but that has to be deliberate because it’s really easy to coach purely based on outcomes”.
	Prioritizing people over outcomes reflects a belief in improving the foundational aspects of work and relationships.
	8. “It doesn’t transfer knowledge so much as gains it people develop a much deeper understanding of what they’re already doing and why it works or doesn’t work, rather than just accepting it.”
	This statement highlights the belief in improvement through deep understanding and continuous learning.
	9. “Here’s what you know. What did we learn right?” That’s a great question and so he teaches that back and the organization then has a shot at that knowledge becoming more generally known. I mean there’s no guarantee, but at least he said it to somebody and written it down.”

	Sharing and documenting learnings reflects a belief in the collective improvement of the organization.
	10. “And so, we would take ideas, get ideas and we would test them to learn if they were good or actually learn if they were better. And our boss, the Colonel, had really good insight “Is it better than what?” and so “Just because it works. OK great we know Toyota Kata works.”
	Testing and validating ideas to ensure they lead to improvement demonstrates a strong belief in continuous enhancement.
	Interviewee 3:
	1. “Well like everybody else in the very beginning I just read the card and tried to get some stuff on the board. In the beginning I didn’t understand the responsibility or the power of the deepening questions.”
	This quote reflects the initial learning curve and the eventual realization of the importance of deepening questions for improvement.
	2. “So, I have got this kind of beta learning tracker that I’m working with...I would want to see people independently being able to do steps of process analysis and current condition.”
	Developing tools to track learning and process analysis shows a commitment to continuous improvement.
	3. “And how else do I practice? As an IT consultant. I work in the Coaching Kata Dojo Master Class...and I do a lot of volunteer work.”
	Engaging in various practices and volunteer work reflects a belief in continuous personal and professional improvement.
	4. “So, I think relying on the Improvement Kata steps to work to yield results I think that is one of the things that a coach can do at the knowledge threshold to be sure the

	learner isn't moving away from the path to the target condition."
	Trusting the Improvement Kata steps to guide learners towards their goals demonstrates a belief in the structured approach to improvement.
	Interviewee 4:
	1. "Now I'm much more focused on if my learner is learning, thinking scientifically, how they are feeling about their practice."
	Focusing on scientific thinking and learner feelings reflects a belief in improving the learning process itself.
	2. "I coach differently today than I coached back in 2009."
	This statement highlights the evolution and continuous improvement of coaching practices over time.
	Interviewee 5:
	1. "I think in just so many ways, and not just the Coaching Kata, but also by understanding the Improvement Kata..."
	Understanding both the Coaching Kata and Improvement Kata reflects a comprehensive belief in continuous improvement methodologies.
	2. "So, I think it does that a huge amount, because I think scientific thinking really cultivates creativity and, you know, creating knowledge and information..."
	Believing in the power of scientific thinking to foster creativity and knowledge creation underscores the commitment to continuous improvement.
	Interviewee 6:
	1. "It puts you in a space of learning so right then your brain is in a different space."

	Emphasizing the mental shift towards learning reflects a belief in the importance of continuous improvement.
	2. “Anybody can do Kata, so it empowers everybody, which makes opportunities available for all.”
	Believing in the accessibility of Kata for everyone highlights the inclusive nature of continuous improvement.
	3. “Creating knowledge, we’re thinking of new ideas all the time because we’re thinking scientifically.”
	Continuous creation of knowledge through scientific thinking demonstrates a strong belief in improvement.
	4. “That’s how the routine allows you to develop this.”
	Trusting the routine of Kata to foster development reflects a belief in structured improvement processes.
	Interviewee 7:
	1. “Coaching Kata is a very good opportunity for organizations to change the way they work with teams.”
	Viewing the Coaching Kata as an opportunity for organizational change reflects a belief in its potential for improvement.
	2. “Toyota Kata is about enabling teams by developing a meta skill. It is about mindset and behavior, so it’s not so much about implementing a tool.”
	Emphasizing mindset and behavior over tools highlights the belief in improving foundational aspects of work.
	3. “The knowledge is transferred to the coach every day with every coaching cycle you learn.”
	Continuous knowledge transfer through coaching cycles reflects a belief in ongoing improvement.

	4. “It follows four steps of the improvement which makes for very effective communication at high frequency.”
	Trusting the structured steps of improvement for effective communication demonstrates a belief in systematic improvement.
1.4 Honesty	Honesty refers to the practice of being truthful and transparent in communication and actions. It involves acknowledging mistakes, being open about uncertainties, and providing genuine feedback. The interviews revealed that practising the Coaching Kata fosters a culture of honesty among managers, which is crucial for developing Lean leadership qualities.
	Interviewee 1:
	1. “And so really just kind of an awareness of how important emotional intelligence and soft skills are when trying to coach people.”
	This quote highlights the importance of emotional intelligence and soft skills, which are essential for honest and effective coaching.
	2. “...that would lead to questioning the details questioning the steps and could lead to some possibly really good standard work.”
	Honest questioning of details and steps can lead to significant improvements and standard work, showcasing the value of transparency in the process.
	Interviewee 2:
	1. “Now, I always sometimes have the “Oh, that didn’t work.”
	Acknowledging when things don’t work reflects honesty and a willingness to learn from mistakes.
	2. “And so that’s probably my greatest, I’m going to say my biggest blind spot is. I tend to see things pretty quickly

	and I kind of assume other people do, even if I'm in an unfamiliar factory."
	Recognizing and admitting personal blind spots demonstrates honesty and self-awareness.
	3. "Mostly by just self-reflection. "So, it didn't work OK where did that go off the rails for me?" and try again better next time. It's really not much more not anything more profound than that one question".
	Honest self-reflection and the willingness to try again are key aspects of continuous improvement.
	4. "So, I think that and then I had that humbling moment when I realized I was really leaving a wake of destruction in some cases. And so, I had to really reassess the way I went about it, and I think that was the breakthrough for me a few years ago."
	This humbling moment of realization and reassessment highlights the importance of honesty in personal and professional growth.
	Interviewee 3:
	1. "I think when you're a learner you understand I'm going to call it the vulnerability of being the learner but basically to stand in front of someone and say, 'I'm not sure what I'm doing' or to honestly show people your thinking process knowing that they're judging your thinking process."
	Embracing vulnerability and being honest about one's learning process fosters a culture of transparency and trust.
	2. "Somebody asked me, and I did a teaching a little presentation once about how you can fail as a Kata learner, and I said that the only real way to fail is to hide your thinking."

	This quote underscores the importance of honesty in the learning process, as hiding one's thinking is seen as a failure.
	3. "And so, I think agreeing on how we would measure these intangible things really was an interesting pushing of coaching skills and us arriving so that we understood they meant the same thing which is really important."
	Honest discussions and agreements on measurement criteria enhance mutual understanding and coaching effectiveness.
	4. "I might think I know how the step will go but you have to really remain open to hearing that little piece that didn't go the way you thought or the way the learner thought."
	Remaining open to unexpected outcomes and being honest about them is crucial for continuous improvement.
	Interviewee 4:
	1. "I have a philosophy wherein every coaching cycle I connect first and coach second."
	Prioritizing connection before coaching reflects an honest approach to building trust and rapport.
	2. "I coach differently today than I coached back in 2009."
	Acknowledging changes and improvements in coaching style over time demonstrates honesty and a commitment to growth.
	Interviewee 5:
	1. "I guess I was surprised you know when they sort of said 'Look, I'm having a reaction when you ask me "What do you expect"' and at first, I wasn't sure how to respond..."

	Being open to feedback and admitting uncertainty in responses reflects honesty and a willingness to learn.
	2. “So, I think respect is the one, for me that’s highest, because again, it’s not about you jumping in and telling somebody how to do something.”
	Respecting others’ perspectives and avoiding prescriptive advice highlights an honest and respectful coaching approach.
	Interviewee 6:
	1. “I ask a little bit more about the why. They keep me on the corridor of learning.”
	Asking deeper questions and staying curious reflects an honest pursuit of understanding and improvement.
	2. “It also allowed me to practice saying, ‘I don’t know,’ and that is really powerful for frontline people to hear their boss say that.”
	Admitting when one doesn’t know something is a powerful demonstration of honesty and humility.
	3. “So recently I was coaching a woman who gave me that experience where I was continually having to go back to the last step and try to figure out how to coach her in a way that was still motivational while totally slowing her down.”
	Honest reflection on coaching challenges and adapting strategies to meet learners’ needs is crucial for effective coaching.
	4. “I don’t know, not easily and never straightforward.”
	Acknowledging the complexity and difficulty of certain tasks reflects honesty and realism.
	Interviewee 7:

	1. “If you ask the improver where the knowledge threshold is it’s concerning the process or the topic the person is working on.”
	Honest assessment of knowledge thresholds helps identify areas for improvement and learning.
	2. “It’s not a tool; it’s a mindset and a behavior change which has implications on the change management side.”
	Emphasizing mindset and behavior change over tools reflects an honest approach to improvement.
	3. “You are not always at the threshold of knowledge but then during the coaching cycle, you might realize ‘Oh interesting. I don’t really know what this person or why this person is thinking.’”
	Recognizing and admitting gaps in understanding during coaching cycles demonstrates honesty and a commitment to learning.
2. Self-Development	Self-development is a fundamental principle of the Toyota Production System, emphasizing the continuous improvement of individuals’ skills, knowledge, and abilities. This principle is rooted in the belief that personal growth is essential for organizational success. In the context of Lean leadership, self-development is crucial as it fosters a culture of learning and adaptability, enabling leaders to effectively guide their teams through continuous improvement processes.
2.1 Openness to Development	Openness to development is a second-level coding attribute under the broader principle of self-development. It refers to an individual’s willingness to embrace new learning opportunities, seek feedback, and adapt their behaviors and strategies based on new insights. For example, Boyatzis (2006) emphasizes that self-directed learning entails individuals proactively diagnosing their learning needs, setting goals, identifying resources, and assessing learning outcomes. This process aligns with the notion of adapting behaviors and strategies based on new insights. This attribute is essential for Lean leaders as it ensures they remain flexible and responsive to changing

	conditions, thereby enhancing their ability to lead effectively.
	Interviewee 1:
	1. "...in addition to advancing our learners' skills with the Coaching Kata we also were trying to develop our coaches and our second coaches and the way we Kata'd Kata if that makes sense."
	This highlights the dual focus on developing both learners and coaches. It demonstrates openness to development by showing a commitment to continuous improvement and skill enhancement for all involved in the coaching process.
	2. "...so, I think just having that coach even though I may be the most proficient in my organization, but I do have other resources available to me which I'm very thankful for that I can Lean on and ask for my own development."
	This reflects an openness to development by acknowledging the value of external resources and support for personal growth, even for those who are already highly skilled.
	3. "...being a coach and trying to coach someone becomes more difficult because you know you're kind of out of the hands-on typically in our world sometimes you're both together but you're really coaching the individual."
	This illustrates the challenges of coaching and the need for continuous learning and adaptation, embodying the attribute of openness to development.
	4. "...having those tools at my fingertips it allowed me to move the team forward quicker and advanced kind of their thinking and push them a little bit to using some of our other improvement tools that sync up so good with Kata."

	This shows how access to the right tools can facilitate development and improvement, reflecting an openness to leveraging new methods for better outcomes.
	Interviewee 2:
	1. "We've been trying to coach, and we knew we had to coach leaders or to learn to coach, we need new leaders to be coaches, but we never knew how to teach them to be coaches."
	This underscores the importance of developing coaching skills among leaders, highlighting the ongoing learning process and the openness to finding effective teaching methods.
	2. "I'm working on it. It doesn't come naturally, so it's a, that's a limitation I have."
	This reflects self-awareness and a willingness to improve despite challenges, embodying openness to development.
	3. "I have taken a class really early on and that was very helpful to finally understand, you know, grasp the current condition steps, but it was more technical, and I haven't had the opportunity to have somebody working side-by-side with me who was, you know, I would say a qualified expert."
	This highlights the value of formal education and the need for hands-on experience with experts, demonstrating a proactive approach to development.
	4. "I only say the best way to learn is to teach and that's what I was doing."
	This reflects the belief that teaching others is a powerful way to reinforce one's own learning, showcasing openness to development through active engagement in teaching.
	5. "But once they were able later on to let go of that and just use what's on the coaching card that again, that first

	engagement where I was basically in the deep end of the pool learning to swim is where I got a lot of skill.”
	This illustrates the process of learning through practice and the willingness to embrace challenging situations, embodying openness to development.
	6. “...all the things I’ve learned I suppose overtime (...) the difference between practising perfectly and perfect practice is they don’t have to get it perfectly; they have to be practising.”
	This emphasizes the importance of continuous practice and improvement, reflecting an openness to development through iterative learning.
	7. “So, I think that and then I had that humbling moment when I realized I was really leaving a wake of destruction in some cases. And so, I had to really reassess the way I went about it, and I think that was the breakthrough for me a few years ago.”
	This highlights the importance of self-reflection and the willingness to change one’s approach based on new insights, demonstrating openness to development.
	8. “What I basically did was dial back my expectations. (...) I’ll use the word chill as I can in these conversations and kind of letting things roll over me rather than pushing back really hard on something that I didn’t think was quite right.”
	This reflects a shift towards a more flexible and adaptive leadership style, embodying openness to development.
	9. “So, I think it’s about and trying to better leader a gentler one I suppose would be a good way to sum it up rather than insisting things be done a certain way.”
	This underscores the importance of adaptability and a gentle approach in leadership, reflecting openness to development.

	10. “Seven and eight years of competencies. Mainly framing things less in terms of what you’ve accomplished more in terms of what people are learning.”
	This highlights the shift from focusing on achievements to emphasizing learning and development, embodying openness to development.
	11. “Allowing them to arrive at that place by study and understanding.”
	This reflects the importance of guiding others through their own learning process, demonstrating openness to development.
	12. “And the same thing, the second question is a little more in scope, whether a fixed practice routine of asking these questions actually develops solid coaching skills?”
	This highlights the need for structured practice in developing coaching skills, reflecting openness to development through systematic learning.
	13. “Now what does that mean? That’s an expert coach who is able to let go of the routine and just be a coach.”
	This underscores the importance of flexibility and adaptability in coaching, embodying openness to development.
	Interviewee 3:
	1. “When you’re a learner you understand I’m going to call it the vulnerability of being the learner...”
	This reflects the recognition of vulnerability in the learning process, demonstrating openness to development through self-awareness.
	2. “I think trusting the process to get the result for sure is something that you learn from the Kata...”

	This highlights the importance of trust in the learning process, embodying openness to development through faith in established methods.
	3. “Well, I guess like everybody else if I’m at the knowledge threshold I take a step to find out more you know?”
	This reflects a proactive approach to learning and development, demonstrating openness to development through continuous inquiry.
	4. “I think you understand the vulnerability and maybe the feelings the learner might have at the board more than anything...”
	This underscores the importance of empathy and understanding in the learning process, embodying openness to development.
	Interviewee 4:
	1. “Having to use the new process analysis expanded my knowledge on how to grasp the current condition...”
	This reflects the value of new tools and methods in expanding one’s knowledge, demonstrating openness to development through continuous learning.
	2. “It definitely morphed through the years; I coach differently today than I coached back in 2009.”
	This highlights the evolution of coaching practices over time, embodying openness to development through adaptability.
	3. “I love to be in that place as it grows my own skills as well. I’m in the learning zone...”
	This reflects a passion for learning and personal growth, demonstrating openness to development.

	4. “Through inquiry through deepening questions. I will ask learners more questions to clarify their own objectives...”
	This underscores the importance of inquiry and deep questioning in the learning process, embodying openness to development.
	Interviewee 5:
	1. “So, there’s seven, I don’t know how much you know about them, but there’s seven original Starter Kata in the book. I’ve developed three more that sit on top of that...”
	This reflects the continuous development and enhancement of existing methods, demonstrating openness to development through innovation.
	2. “Get facts and data.”
	This underscores the importance of evidence-based decision-making, embodying openness to development through a focus on data.
	3. “...because I think to keep your skills kind of really honed in the Improvement Kata, you have to keep doing all three.”
	This highlights the need for continuous practice to maintain and improve skills, demonstrating openness to development.
	4. “All the time, because the coach is there to help you think and act, or to teach you to think and act scientifically...”
	This emphasizes the role of the coach in fostering scientific thinking and acting, reflecting openness to development through the application of structured methodologies.
	5. “So, I have a coach, and I have a second coach. They’re the same person actually...”

	This highlights the importance of having multiple layers of coaching support, demonstrating openness to development through the utilization of diverse coaching resources.
	Interviewee 6:
	1. “There’s never just one. Every coaching cycle that you are in shows me as a coach where my ‘holes’ are in my learning or in my way of communicating with.”
	This reflects the continuous identification of learning gaps and the need for ongoing improvement, embodying openness to development.
	2. “I investigate, get curious, and if it’s something that I may not want to do or am leery to do, because sometimes work can be hard, then you tell somebody you’re going to do it so that you’re accountable.”
	This highlights the importance of curiosity and accountability in the learning process, demonstrating openness to development.
	3. Do I want to get up every day and spend 8 hours looking at where the holes in my learning are?”
	This underscores the commitment to continuous self-assessment and improvement, reflecting openness to development.
	4. “It starts showing up in your day today.”
	This illustrates how continuous learning and development become integrated into daily activities, embodying openness to development.
	5. “So, there’s a physical reaction, and then if I’m on my game, it’s followed by a very quick brain action that’s like ‘It’s going to be OK.’”
	This reflects the importance of maintaining a positive mindset and resilience in the face of challenges, demonstrating openness to development.

	Interviewee 7:
	1. “You must guide your improver through the planning phase, which is a lot about how to grasp current conditions.”
	This highlights the importance of guiding others through the learning process, reflecting openness to development through effective coaching.
	2. “I’m permanently at my knowledge threshold, that’s why I asked the question.”
	This reflects a continuous pursuit of knowledge and understanding, embodying openness to development.
	3. “If you can’t find the solution, zoom in on the details.”
	This underscores the importance of detailed analysis and problem-solving, demonstrating openness to development through meticulous inquiry.
	4. “You start as a learner, improver, and practice that.”
	This highlights the iterative nature of learning and improvement, reflecting openness to development through continuous practice.
	5. “I think one interesting research direction is what we call the minimum viable Kata... Can we find the minimum viable intervention we can introduce into an organization?”
	This reflects the pursuit of efficient and effective learning interventions, demonstrating openness to development through innovative approaches.
	6. “It’s not an ending learning path; it’s continuous learning. There’s still lots more I have to learn.”
	This emphasizes the ongoing nature of learning and development, embodying openness to development.

	7. “You monitor your own progress by setting a target condition for yourself but it’s biased. You need feedback.”
	This highlights the importance of setting goals and seeking feedback, demonstrating openness to development through self-assessment and external input.
	8. “The challenge was that I’ve never seen the line, I couldn’t go there, and it was all online which is very difficult... it needs a very open improver.”
	This reflects the challenges of remote learning and the need for adaptability, embodying openness to development.
3. Qualification	Qualification is a core principle of the Toyota Production System (TPS), emphasizing the importance of equipping employees with the necessary skills and knowledge to perform their roles effectively. This principle is rooted in the belief that a well-qualified workforce is essential for achieving high levels of performance and continuous improvement. In the context of Lean leadership, qualification involves not only the initial training and education of employees but also their ongoing development and skill enhancement. By ensuring that employees are properly qualified, organizations can foster a culture of excellence and adaptability, enabling them to respond effectively to challenges and opportunities. This principle underscores the commitment to investing in people as a key driver of organizational success.
3.1 Support for Employee Development	Support for employee development refers to the actions and behaviors that leaders engage in to facilitate the growth and development of their team members. For instance, Mazzetti and Schaufeli (2022) highlight that engaging leadership behaviors, including offering performance feedback, building trust, and promoting participation in decision-making, play a crucial role in fostering employee growth and development. This attribute is essential for Lean leaders as it ensures that employees are continuously improving their skills and

	capabilities, which in turn enhances the overall performance and adaptability of the organization.
	Interviewee 1:
	1. "...and so, we were trying to advance our learners from novice to competent and we're trying to advance our coaches from competent to proficient..."
	This highlights the focus on progressing both learners and coaches through different levels of proficiency, demonstrating a commitment to supporting employee development.
	2. "...so, there will be some conversations prior to the coaching cycle to try to help develop that coach and then for the second coach to give them some tips and tricks and suggestions and then they would then go have the coaching cycle."
	This reflects the structured approach to developing coaches through preparatory conversations and ongoing support, embodying support for employee development.
	Interviewee 2:
	1. "I am not saying anything that contradicts what people read there."
	This indicates a consistency in communication and expectations, which supports employee development by providing clear and reliable guidance.
	2. "At the end of the day it's about the culture and it's about the path. Not what the individuals do but the patterns of interaction between individuals and between small groups of individuals which is what defines the culture."
	This emphasizes the importance of creating a supportive culture that fosters development through positive interactions and collaboration.

	3. “So, I backed off on the Kata thing and just started developing their CI manager as a really good problem solver and then developing him as a coach and bringing the questions in but not from the card but just in general the problem-solving process.”
	This shows a tailored approach to development, focusing on individual needs and strengths, which supports employee development.
	4. “I liked some of the things they do better, but they used it as a training tool, and we went through a lot of iterations of it, and I was helping them coach it and so that really was just getting a lot of reps and watching how people responded.”
	This highlights the iterative process of training and coaching, demonstrating support for employee development through continuous practice and feedback.
	5. “I assume, is they explain to me what they know. So, if the explanation is superficial or if they gloss over something, my first assumption is that’s likely their knowledge threshold. I’ll ask them some follow up questions and I’ll watch for a pause, or I’ll watch for an “Uh” and that will tell me I pushed them to a point where they really don’t know the answer or they’re making something up. So, I think that answered the question.”
	This reflects a methodical approach to identifying and addressing knowledge gaps, supporting employee development through targeted questioning and feedback.
	6. “There are tools out there, but mostly it’s about the quality of the board and the quality of their answers to the questions and most of it is just kind of boiling all that down to “OK here’s where they are, this is where it’s not working right now.”
	This emphasizes the importance of quality in both tools and responses, supporting employee development by ensuring high standards and continuous improvement.

	Interviewee 3:
	1. “I think for most manager’s trust. Trusting people giving people enough room to learn from small mistakes...”
	This highlights the importance of trust in supporting employee development, allowing individuals the space to learn and grow from their experiences.
	2. “In order to be a coach like you asked me that before but I would want to see people independently being able to do steps...”
	This reflects the goal of developing independent capabilities in employees, supporting their development by encouraging autonomy and self-reliance.
	3. “I wanted to have that individual clarity with each person so that I didn’t mix it up in my brain...”
	This emphasizes the importance of clear and individualized communication in supporting employee development.
	4. “Trusting the process to get the result for sure is something that you learn from the Kata...”
	This highlights the role of trust in the process as a key component of supporting employee development.
	Interviewee 4:
	1. “If I have a learner with whom I’ve worked with before and I’ve assessed their level to be capable or higher...”
	This reflects the importance of assessing and recognizing individual capabilities in supporting employee development.
	2. “My style is very conversational and depends on the level of the learner.”

	This highlights the adaptability of coaching styles to meet the needs of different learners, supporting their development through personalized approaches.
	3. “During the coaching cycle I move those three hats around as necessary to help my learners.”
	This demonstrates flexibility in coaching roles to best support the development of learners.
	Interviewee 5:
	1. “So, for every coaching cycle I have with someone I record, I’ll fill in a coaching record, one of these...”
	This reflects the importance of documentation and tracking progress in supporting employee development.
	2. “I think and I’m doing this at the moment with a couple of learners, where I know they want to be coaches...”
	This highlights the proactive identification and support of potential coaches, demonstrating a commitment to employee development.
	3. “So, I think, you know, I strongly believe that to be a coach you have to have been a learner...”
	This emphasizes the importance of experiential learning in developing coaching skills, supporting employee development through hands-on experience.
	Interviewee 6:
	1. “It’s the same as any transitions. We’re trying to push the learners just enough so that they’re learning, not too much that they’re overwhelmed.”
	This reflects the balance needed in supporting employee development, ensuring that learners are challenged but not overwhelmed.
	2. “Just giving them space they need but also not allowing them to have too much space.”

	This highlights the importance of providing the right amount of support and autonomy in employee development.
	3. “If it looks like they can carry on, they are probably not at the threshold of knowledge.”
	This emphasizes the need to recognize and address knowledge thresholds in supporting employee development.
	4. “I’m going to relate; I’m going to talk about how I might react when I reach my own threshold.”
	This reflects the importance of sharing personal experiences to support the development of others.
	5. “We use a storyboard, a typical tool of Kata, and then most recently we started using micro learnings and we document those now.”
	This highlights the use of various tools and methods to support employee development.
	Interviewee 7:
	1. “A good second coach always being there, giving you feedback, making sure there is no collateral damage.”
	This emphasizes the importance of continuous feedback and support in employee development.
	2. “You can really see how people grow and that’s a great motivation.”
	This highlights the motivational aspect of supporting employee development by recognizing and celebrating growth.
	3. “You learn something about the content. The coach is the person that is learning the most because it’s all new.”

	This reflects the reciprocal nature of learning in the coaching process, supporting employee development through shared experiences.
	4. “So, knowledge creation that’s easy. There is knowledge created all along the way; that is the definition of experimenting beyond the threshold of knowledge.”
	This emphasizes the continuous creation of knowledge as a key component of supporting employee development.
	5. “You monitor your learners’ progress by setting very specific target conditions, then measuring against that.”
	This highlights the importance of setting and measuring specific goals in supporting employee development.
	6. “You start on a project with a good second coach always being there, giving you feedback, making sure there is no collateral damage.”
	This reiterates the importance of feedback and support in the development process.
	7. “The second is more on the soft skill side. They should be sure ‘I know how to do this.’ That’s a good starting point.”
	This reflects the importance of developing both technical and soft skills in supporting employee development.
	8. “Coaches need to develop better listening, observation, and empathy to create a safe environment for learners.”
	This highlights the importance of soft skills in creating a supportive environment for employee development.
3.2 Communication and Trust	Communication and trust are linked to the establishment of open, honest, and effective communication channels and the building of trust between leaders and their team members (Rothouse, 2020). This attribute is essential for Lean leaders as it ensures that employees feel valued, understood, and supported, which in turn enhances their engagement and performance.

	Interviewee 1:
	1. "...we've really evolved our coaching into more job relations building and building you know a good trustworthy relationship so that we can help the learner improve their work even quicker."
	This highlights the shift from task-oriented coaching to relationship-building, emphasizing the importance of trust in improving work performance.
	2. "...so, it's gone from a very task oriented just asking the questions to a very relationship building into this person..."
	This reflects the transition to a more relational approach in coaching, underscoring the role of communication and trust in effective coaching.
	Interviewee 2:
	1. "I will probably be asking some form of the coaching questions, but it will be a lot it'll be a lot looser until they reach a point when they're wanting to develop their own capability."
	This indicates a flexible approach to coaching that adapts to the learner's readiness, fostering trust and open communication.
	2. "I feel a lot of times it's just overall continuous improvement and part of it is just going in and starting to work with them and while I'm doing that you know there's what they want and then there's what they need and those are often almost always different."
	This highlights the importance of understanding and addressing both the expressed and underlying needs of employees, building trust through attentive communication.
	3. "Can't see what they see, what I can't do is demonstrate how to dissect a process in their mind in a

	dial block diagram for example. From a teaching standpoint this is still challenging.”
	This reflects the challenges in communication and the need for trust in the teaching process.
	4. “Well, it’s “OK, so what do we need to learn here?” is a fundamental question and that’s kind of a hint towards their next step. And one of the things is soon as I bump into it really, we’re at “What’s your next step?” and that’s kind of the purpose, right.”
	This emphasizes the importance of guiding questions in fostering open communication and trust in the learning process.
	5. “There are the fundamentals, but at some point, your instructor has to sign off and say, “You’re ready to fly solo” and there isn’t a fixed number of hours for that to happen. And he’s watching your cape, watching your confidence and when he believes you’re ready, then he will say so.”
	This highlights the role of trust in the instructor-learner relationship, where the instructor’s confidence in the learner’s readiness is crucial.
	6. “In a way that I’m going to put it, I have given up trying to correct everything, ‘cause that just pushes them back. But what I want is, I want them to think they overall did well, but just one thing to tweak, let’s try this a little more next time. And to try to read how willing they are to try something new. Some people are very uncomfortable looking incompetent, so we gotta go slow with them.”
	This reflects the importance of building trust by providing constructive feedback and understanding individual comfort levels.
	Interviewee 3:
	1. “I think being open and literally be vulnerable enough to share what you really think...”

	This highlights the importance of openness and vulnerability in building trust and effective communication.
	2. “So, I have got this kind of beta learning tracker that I’m working with...”
	This indicates the use of tools to facilitate communication and track learning progress, fostering trust through transparency.
	3. “Also, people who are ready to be coaches always ask really good questions...”
	This underscores the role of inquisitiveness and effective questioning in building trust and communication.
	Interviewee 4:
	1. “I ask them why they did it this way put them in the teaching mode.”
	This reflects the use of questioning to foster communication and trust by encouraging learners to explain their thought processes.
	2. “Another standard that I follow is that I have a philosophy wherein every coaching cycle I connect first and coach second.”
	This emphasizes the importance of establishing a connection before coaching, building trust and effective communication.
	Interviewee 5:
	1. “...for me that’s the sign of a really good leader, rather than somebody who tells you what to do and you know takes the credit for it.”
	This highlights the importance of humility and giving credit to others in building trust and effective communication.

	2. "So, I think respect is the one, for me that's highest..."
	This underscores the role of respect in fostering trust and open communication.
	Interviewee 6:
	N/A.
	Interviewee 7:
	1. "If you explain that to people, they are usually more OK with practising on a simple process."
	This reflects the importance of clear communication in building trust and facilitating learning.
	2. "To be able to see that you must be very proficient in the coaching mechanics."
	This highlights the need for proficiency in coaching to build trust and effective communication.
	3. "We had an aligned background. I've worked a lot with sales teams and R&D teams measuring cycle time."
	This indicates the importance of shared experiences, alignment and understanding in building trust and communication.
	4. "The knowledge is transferred to the coach every day with every coaching cycle you learn."
	This reflects the continuous transfer of knowledge through the coaching process.
	5. "Language will transfer well. If people are coached, they will start using a similar pattern if the coaching is good."
	This highlights the role of consistent communication patterns in building trust and effective coaching.

4. Emotional Intelligence	Emotional intelligence is the ability to recognize, understand, and manage our own emotions, as well as the emotions of others. It encompasses skills such as self-awareness, self-regulation, motivation, empathy, and social skills. In the context of Lean leadership, emotional intelligence is crucial as it enables leaders to create a positive work environment, foster strong relationships, and effectively manage change and conflict. By developing emotional intelligence, Lean leaders can enhance their ability to guide their teams through continuous improvement processes, ensuring both personal and organizational growth.
4.1 Self-Awareness	Self-awareness pertains to the ability to recognize and understand one's own emotions, strengths, weaknesses, and values. Additionally, Goleman (1995) describes self-awareness as knowing one's internal states, preferences, resources, and intuitions. This attribute is essential for Lean leaders as it allows them to reflect on their actions, understand their impact on others, and make informed decisions. Self-awareness also fosters personal growth and development, enabling leaders to continuously improve their leadership skills.
	Interviewee 1:
	1. "I was able to pick up on if they were ready to kind of go to the next level and go a little bit deeper."
	This highlights the ability to assess the readiness of others, demonstrating self-awareness in recognizing the appropriate timing for deeper engagement.
	2. "So, transitioning from learner to coach I feel like I learn every single day even in you know the current Kata that we have going on yes I'm trying to coach these high-level leaders but I'm learning so much every day still."
	This reflects ongoing self-awareness in recognizing the continuous learning process involved in transitioning roles and coaching others.
	Interviewee 2:

	1. "I can't see what they see and that's a challenge. ... from a teaching standpoint that is, that's still challenging."
	This acknowledges the limitations in perspective, demonstrating self-awareness in recognizing the challenges of teaching and understanding others' viewpoints.
	2. "I only say the best way to best way to learn is to teach and that's what I was doing."
	This highlights the self-awareness involved in recognizing teaching as a powerful learning tool.
	3. "Mostly by just self-reflection. 'So, it didn't work, OK where did that go off the rails for me?' and try again better next time."
	This emphasizes the role of self-reflection in developing self-awareness and improving future actions.
	Interviewee 3:
	1. "I think when you're a learner you understand I'm going to call it the vulnerability of being the learner..."
	This reflects self-awareness in recognizing the vulnerability associated with the learning process.
	2. "I actually thought it was going to be really annoying that they asked you the same thing every day..."
	This demonstrates self-awareness in acknowledging initial reactions and perceptions about repetitive questioning.
	Interviewee 4:
	1. "It has given me more empathy. I know what it feels like to be a learner..."
	This highlights the development of empathy through self-awareness, understanding the learner's perspective.

	2. "I'm in the learning zone but need to stay two steps ahead of my learner."
	This reflects self-awareness in recognizing the need to stay ahead in the learning process to effectively coach others.
	Interviewee 5:
	1. "So similar answer really, but it's those things around, you know, asking questions, not jumping to solutions, listening..."
	This emphasizes the importance of self-awareness in practising effective communication and problem-solving techniques.
	2. "So, often I will have a second coach who's working with me, who's, you know, doing a similar thing with me looking at what I'm doing well and what I'm doing not so well..."
	This reflects self-awareness in seeking feedback and recognizing areas for improvement.
	Interviewee 5:
	N/A.
	Interviewee 6:
	1. "There's a scientific thinking for sure, logical links between processes, skills that make you look at the bigger picture."
	This highlights the role of self-awareness in understanding the broader context and logical connections in processes.
	2. "There's always a physical reaction to learning something new."

	This acknowledges the physical aspect of learning, demonstrating self-awareness in recognizing bodily responses to new information.
	3. “It also allowed me to practice saying, ‘I don’t know,’ and that is really powerful for frontline people to hear their boss say that.”
	This reflects self-awareness in admitting knowledge gaps and the impact of such admissions on team dynamics.
	4. “I think I’d rather be curious than critical, and I used to be more critical.”
	This demonstrates self-awareness in recognizing and shifting from a critical to a curious mindset.
	Interviewee 7:
	1. “To be able to see that, you must be very proficient in the coaching mechanics.”
	This highlights the importance of self-awareness in mastering coaching techniques.
	2. “You ask the questions because you want to understand how they’re thinking, what their approach is; you want to understand the mental patterns and their emotional patterns, their fears or concerns.”
	This reflects self-awareness in recognizing the need to understand others’ thought and emotional processes.
	3. “If you observe someone using vague words like ‘maybe’ or ‘probably,’ it can indicate they’ve reached their knowledge threshold.”
	This demonstrates self-awareness in identifying signs of uncertainty and knowledge limits in others.
	4. “Self-awareness as a coach means knowing when you’re at your knowledge threshold and being comfortable admitting it.”

	This emphasizes the importance of self-awareness in recognizing and admitting one's own knowledge limits.
4.2 Self-Regulation	Self-regulation alludes to the ability to manage and control one's emotions, impulses, and behaviors in various situations and to achieve long-term goals (Baumeister & Heatherton, 1996). This attribute is essential for Lean leaders as it allows them to remain calm, focused, and effective under pressure. Self-regulation also helps leaders to respond to challenges and setbacks with resilience and adaptability, fostering a stable and supportive environment for their teams.
	Interviewee 1:
	1. "I really relied on you know my coach. I've had a coach I have a couple coaches: Skip Stewart is one Brandon Brown is another that I Lean on for: 'OK I'm struggling with this you know. What are your thoughts?'"
	This highlights the use of external support to manage emotions and challenges, demonstrating self-regulation through seeking guidance and maintaining composure.
	2. "...and when they were ready to be pushed is what I felt like and so I picked up on some emotional intelligence clues to where I was reading them and reading their body language and their behavior..."
	This reflects the ability to read and respond to others' emotional cues, demonstrating self-regulation in managing interactions and pushing others appropriately.
	Interviewee 2:
	1. "What I basically did was dial back my expectations. ... I worked on was what Chris Voss calls the late-night FM DJ voice being as ... chill as I can in these conversations..."
	This emphasizes the practice of calming techniques to manage expectations and maintain a composed demeanor, demonstrating self-regulation.

	2. “I have given up trying to correct everything, 'cause that just pushes them back. But what I want is, I want them to think they overall did well, but just one thing to tweak...”
	This reflects the ability to control the impulse to correct everything, focusing instead on constructive feedback, demonstrating self-regulation.
	Interviewees 3-6:
	N/A.
	Interviewee 7:
	1. “I used to get stressed when I started asking these questions... but now I’ve learned to manage that anxiety.”
	This highlights the development of techniques to manage stress and anxiety, demonstrating self-regulation.
	2. “Coaches must guide their learners without providing answers, controlling their own impulses to jump in with solutions.”
	This reflects the ability to control the impulse to provide answers, allowing learners to find solutions themselves, demonstrating self-regulation.
	3. “If a person doesn’t know how to solve an obstacle, what do you do?”
	This emphasizes the importance of guiding learners through problem-solving without taking over, demonstrating self-regulation.
	4. “I’m permanently at my knowledge threshold, that’s why I asked the question.”
	This reflects self-awareness and the ability to manage one’s own limitations, demonstrating self-regulation.
4.3 Internal Motivation	Internal motivation refers to the drive to achieve goals and pursue excellence based on internal rewards such as personal satisfaction, growth, and fulfillment, rather than

	external rewards like money or recognition (Deci & Ryan, 2000). This attribute is essential for Lean leaders as it fosters a deep commitment to continuous improvement and personal development, which in turn inspires and motivates their teams.
	Interviewee 1:
	1. "Being a coach and trying to coach someone becomes more difficult because you know you're kind of out of the hands-on typically in our world sometimes you're both together but you're really coaching the individual."
	This highlights the internal motivation required to transition from hands-on work to coaching, driven by the desire to develop others and improve their skills.
	Interviewee 2:
	1. "I started trying to use the Coaching Kata structure as soon as I finished reading the original book the first time in May 2010. ... that was the big AH-HA moment. It came to me from reading the book 'Here it is, here's the fundamental structure.'"
	This reflects the internal motivation sparked by a significant learning moment, driving the individual to immediately apply new knowledge and improve their coaching practice.
	2. "I only say the best way to best way to learn is to teach and that's what I was doing."
	This demonstrates internal motivation through the recognition that teaching others is a powerful way to reinforce one's own learning and development.
	3. "I think it's ... much more emphasis on developing people skills and developing new organizations' interactions and less about the physical manifestation of how the process works or the outcomes that we're getting."
	This highlights the internal motivation to focus on personal and organizational development rather than just

	outcomes, driven by a commitment to continuous improvement.
	4. “Mainly framing things less in terms of what you’ve accomplished, more in terms of what people are learning 'cause I have to have faith that if they learn the right things that they will accomplish what needs to be done.”
	This reflects internal motivation by emphasizing the importance of learning and development over mere accomplishments, driven by a belief in the long-term benefits of skill acquisition.
	5. “Asking the questions ‘What are we getting? Why are we getting the results we are? What’s in the way of making this... work go smoothly.’”
	This demonstrates internal motivation through a continuous inquiry into processes and outcomes, driven by a desire to understand and improve.
	Interviewee 3-6:
	N/A.
	Interviewee 7:
	1. “They get more self-confident, they take action, and you can see how they really enjoy taking responsibility.”
	This highlights the internal motivation that comes from gaining confidence and taking responsibility, driven by personal growth and satisfaction.
	2. “It’s very relieving because you don’t have to have better expertise; you just have to ask the right questions.”
	This reflects internal motivation by emphasizing the importance of asking the right questions to facilitate learning and improvement, driven by a desire to support others’ development.
	3. “Seeing people grow and gain confidence in their abilities is a great motivator.”

	This demonstrates internal motivation through the satisfaction and fulfillment derived from witnessing others' growth and development.
4.4 Empathy	Empathy pertains to the ability to understand and share the feelings of others (Decety & Jackson, 2004). Empathy involves recognizing and being sensitive to the emotions, thoughts, and experiences of others, which helps in building strong, supportive relationships. For Lean leaders, empathy is crucial as it fosters a collaborative and trusting environment, enabling effective communication and teamwork. By practising empathy, leaders can better understand the needs and perspectives of their team members, leading to more effective coaching and development.
	Interviewee 1:
	1. "...the learners have the autonomy in the ideas that they have to see if it works. It's not someone telling you to go try and do something it's what do you think would help eliminate that what do you want to try next..."
	This highlights empathy by allowing learners to have autonomy and respecting their ideas, which fosters a supportive and trusting environment.
	Interviewee 2:
	1. "It's just the way I'm wired. So, if it's really obvious yeah, but it's going to be mostly verbal for me."
	This reflects empathy by acknowledging personal communication preferences and adapting to verbal cues to understand others better.
	2. "Well, it's 'OK, so what do we need to learn here?' ... and one of the things is soon as I bump into it really, we're at 'What's your next step?'"
	This demonstrates empathy by focusing on the learner's needs and guiding them through their next steps with understanding and support.

	Interviewee 3:
	1. “I think you understand the vulnerability and maybe the feelings the learner might have at the board more than anything...”
	This highlights empathy by recognizing and understanding the vulnerability and emotions of learners during the learning process.
	Interviewee 4:
	1. “It’s important for me as a coach to know what’s going on with them because I will adjust myself to them...”
	This reflects empathy by showing a willingness to adjust coaching methods based on the learner’s current situation and needs.
	Interviewee 5:
	1. “So, I think respect is the one, for me that’s highest, because again, it’s not about you jumping in and telling somebody how to do something.”
	This demonstrates empathy by emphasizing respect and understanding in the coaching process, rather than dictating actions.
	2. “OK. I think and I’m doing this at the moment with a couple of learners, where I know they want to be coaches...”
	This highlights empathy by recognizing and supporting the aspirations of learners who want to become coaches.
	Interviewee 6:
	1. “It makes you empathetic, it makes you curious, and that builds good relationships with people, so it makes you a good coach.”
	This reflects empathy by emphasizing the importance of curiosity and relationship-building in effective coaching.

	2. “That often sets people at ease.”
	This highlights empathy by recognizing the impact of empathetic behavior in making others feel comfortable and at ease.
	3. “I’m definitely more patient with people and understanding of where they are or at least I’m aware of wanting to understand where they’re at.”
	This demonstrates empathy by showing patience and a desire to understand others’ perspectives and situations.
	4. “It makes you think things are possible and that’s powerful.”
	This reflects empathy by fostering a positive and supportive mindset that encourages others to believe in their potential.
	Interviewee 7:
	1. “Better listening, better observation, and better empathy... to make a person feel comfortable or safe.”
	This highlights empathy by emphasizing the importance of listening, observing, and understanding to create a safe and comfortable environment for others.
	2. “Understanding their mental and emotional patterns, their fears, or concerns.”
	This demonstrates empathy by recognizing and addressing the mental and emotional states of others, which helps in providing effective support and guidance.
4.5 Social Skills	Social skills allude to the abilities used to communicate, interact, and build relationships with others effectively (Riggio, 2014). Riggio further develops that social skills include active listening, clear communication, conflict resolution, and the ability to influence and inspire others. For Lean leaders, social skills are crucial as they enable leaders to foster a collaborative and supportive work environment, facilitate teamwork, and drive continuous

	improvement. By developing strong social skills, leaders can effectively engage with their teams, build trust, and lead by example.
	Interviewee 1:
	N/A.
	Interviewee 2:
	1. "I try to model very closely the Starter Kata because at least we assume people will do what they experience, and they extrapolate too. If you do something different, they really think that this is OK for them to do."
	This highlights the importance of modeling behavior and setting examples, which are key aspects of social skills in influencing and guiding others.
	2. "In the book, one of them is changing some of the phrasing of the words. So, the classic question is 'How quickly can we go and see what you have learned from taking that step?' and for about a year now I've been saying 'How quickly can we go and see what you are learning from taking that step?'"
	This demonstrates the use of effective communication and adaptability in phrasing questions to better engage and motivate learners.
	3. "So, for the challenge for example you know a date a reason why it's important how they will know what they're trying to achieve what does it look like when they get there."
	This reflects the ability to clearly communicate goals and expectations, which is essential for effective leadership and team alignment.
	4. "So, I had been kind of babying him so it was really good to say OK now you're an adult you make your choice you do your decisions, and I will help you take the steps to be in a position to know what you want to do."

	This highlights the social skill of empowering others and supporting their decision-making process.
	5. “I think it’s largely a judgment. ... And honestly you know in the business, I mean the people who call me are rank beginners.”
	This reflects the ability to assess and understand the needs of others, which is crucial for providing appropriate support and guidance.
	6. “It’s the people-first aspect, but that has to be deliberate because it’s really easy to coach purely based on outcomes.”
	This emphasizes the importance of prioritizing people and relationships over just outcomes, demonstrating strong social skills in leadership.
	Interviewee 3:
	1. “Also, people who are ready to be coaches always ask really good questions...”
	This highlights the importance of asking insightful questions, which is a key social skill for effective communication and coaching.
	2. “I could also call Mike Rother if I want to but Mike’s more of a theorist than a coach so you know I would ask other coaches...”
	This demonstrates the social skill of networking and seeking advice from others to enhance one’s own coaching abilities.
	Interviewee 4:
	1. “I have a philosophy wherein every coaching cycle I connect first and coach second.”
	This reflects the importance of building a connection before coaching, which is a crucial social skill for establishing trust and rapport.

	Interviewee 5:
	1. “So, I think this is when I notice that I’m making assumptions and sometimes I’m using language like “I think” or “I believe” because it’s not that I know something...”
	This highlights the social skill of self-awareness in communication, recognizing the impact of language on interactions.
	2. “...even just in every relationship I have; I think it’s changed the way I interact with people.”
	This demonstrates the broader impact of social skills on all relationships, emphasizing the importance of effective communication and interaction.
	Interviewees 6-7:
	N/A.