

Kata Coaching and Organizational Factors for Engagement and Performance: A Literature Review

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Abstract: Organizational environments undergoing cultural transformation require not only the support of managers and leaders, but also the active involvement of various stakeholders, such as employees, customers, and suppliers. In this context, kata coaching emerges as an effective approach for developing an organizational culture focused on learning and continuous improvement, reinforcing the role of leadership as a facilitator of transformation and strategic decisions. However, there is a gap in research on how specific kata coaching approaches interact with organizational factors to promote greater team engagement and performance. This study seeks to answer the research question: Which kata coaching leadership competencies influence the environmental factors that promote employee engagement and performance? To fill this gap, a systematic literature review was conducted, following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) methodology. The review was conducted by screening five large academic databases. From an initial total of six hundred and eight articles, thirty-five were selected based on the defined inclusion criteria and four additional studies were incorporated to enrich the analysis. The results indicate that performance and engagement are influenced by both leadership competencies and environmental factors. Leadership competencies from kata coaching are often associated with improved engagement, and performance supervision includes analytical ability, coaching, active listening, interpersonal relationship, communication, appreciation of employees' physical and mental well-being. Key organizational factors include transparent information sharing, psychological safety, recognition, and encouraging open communication. This study contributes to the literature by specifically addressing how leadership competencies from kata coaching and specific workplace dynamics jointly shape employee outcomes. Furthermore, it highlights the reciprocal nature of the influence of leadership and environmental context on team success. The results of this study can inform leadership development programs and strategic initiatives aimed at creating adaptive and high-performance organizational cultures—especially in the context of the accelerated transformation brought about by Industry 4.0.

Keywords: Kata coaching, Leadership development, Organizational change, Employee engagement, PRISMA

1. Introduction

The leadership competencies of kata coaching and the factors of the organizational environment are considered essential elements related to employee engagement and performance (Chirinos et al., 2025). Specifically, when evaluating these competencies, it becomes evident that they are fundamental to organizational change processes, being described either as a condition for success or, conversely, as a factor in failure. Moreover, they are deemed essential for fostering an environment conducive to learning (Holmemo; Ingvasden; Powell, 2023). Investing in the development of these competencies serves as a cornerstone for managers to influence their team members through interactions and attitudes, promoting involvement and engagement in the organization's continuous improvement processes, as well as enhancing team performance (Netland; Powell; Hines, 2020).

Thus, leaders who develop competencies associated with kata coaching can contribute to the creation of an environment that fosters employee engagement and, consequently, enhances organizational performance. Engagement is understood as the active participation of individuals in organizational processes, with autonomy to identify and solve challenges independently (Netland; Powell; Hines, 2020). For this to occur, employees must feel motivated and see themselves as integral parts of the work environment, carrying out their tasks to the best of their abilities. Performance, in turn, refers to the ability to execute tasks with speed and quality, directly linked to goal achievement and the pursuit of operational excellence. It is believed that certain organizational environment factors also significantly impact the development of a context that fosters engagement and high performance. For example, in organizations that adopt a culture of continuous improvement, it is common for managers to adopt a coaching-based leadership style, encouraging their team members to face challenges that stimulate reflection (Kristensen; Saabye; Edmondson, 2022).

About Toyota Kata methodology, Masri and Matkó (2022, p.42) argue: "One of the key factors for sustainable continuous improvement and organizational success is to consider and influence the behavioral and habitual aspects of managers and employees, which can be improved through the application of Toyota Kata." Thus, the Lean methodology and the Toyota Kata methodology differ in their focus: while Lean aims at reducing waste in

processes, Toyota Kata is oriented toward creating routines that support problem-solving and achieving results, allowing and encouraging the participation of all team members and learning through experimentation. However, it is important to emphasize that both methods pursue continuous improvement.

Masri and Matkó (2022) further note that the Improvement Kata and the Coaching Kata can be crucial for developing critical thinking and problem-solving skills in all members of the organization, through learning processes that involve direct observations and constant “checks” on the theories formulated and later tested, as in the Plan-Do-Check-Act (PDCA) method. In this context, Figure 1 establishes and differentiates the relationship between the Improvement Kata and the Coaching Kata. In the Improvement Kata, the routine to be followed to achieve a common objective is established (four steps shown in the figure below), while the Coaching Kata accompanies these steps, ensuring that the method is applied correctly and assisting in its implementation. From this perspective, Tortorella et al. (2021) suggest in their study that there is difficulty in replicating Toyota methodologies in other companies due to differences in organizational cultures and types of leadership.

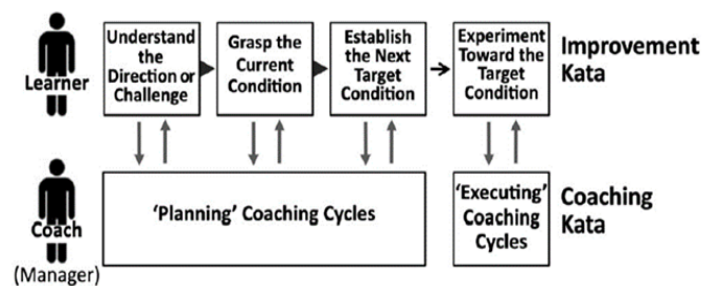


Figure 1: Relationship between Improvement Kata and Coaching Kata. Source: Michels, Forcellini and Fumagali (2019)

In this context, using a systematic literature review (SLR), this research aims to fill the existing gap regarding how specific kata coaching approaches interact with organizational factors to promote greater team engagement and performance. The guiding research question is: Which kata coaching leadership competencies influence the environmental factors that promote employee engagement and performance? Figure 2 presents the objective of this research.

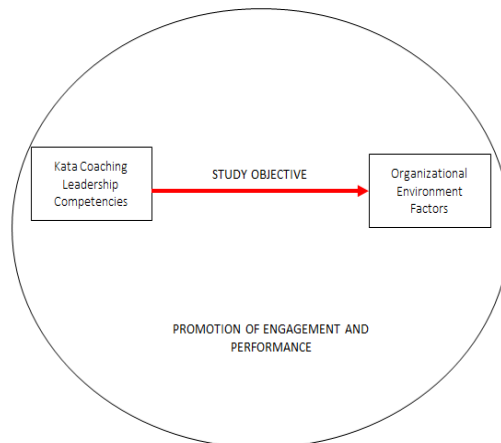


Figure 2: Research objective. Source: The authors

Given this, identifying kata coaching leadership competencies in organizational leaders becomes essential for understanding their influence on aspects such as team engagement, employee performance, and support for organizational transformation. This investigation aims to assess which competencies are strongly associated with the organizational factors that, according to the literature, influence the formation of engaged, high-performing teams. In this way, the results of this study are expected to contribute to the formulation of a leadership persona to be tested in different sectors and adapted according to the needs and goals of each organization. Furthermore, organizations may direct investments toward training and methodologies aimed at developing and enhancing leadership competencies in kata coaching, especially those associated with organizational environments that promote engagement and high performance.

2. Methodology

The methodology adopted in this study was the Systematic Literature Review (SLR), which is seen as a way to present what already exists in the literature on the researched topic, as well as to identify existing gaps (Cauchick-Miguel, 2019). For the construction of the SLR, the data sources used were the Emerald, Web of Science (WoS), Scopus, and CAPES databases, in order to include studies from different countries and contexts. Once the databases were defined, the selected keywords for the search were “Coaching Kata,” “Toyota Kata,” “Continuous Improvement,” “Lean Leadership,” and “Culture.” These terms were searched throughout the entire text of the documents.

The selection criteria included articles published between 2019 and 2024, open access articles, and fully published studies. This ensured the evaluation of recent content in its entirety. This step resulted in the identification of 65 articles. After importing the data into Mendeley software, 11 duplicate articles were excluded. Subsequently, the reference database was converted to a .xslm format and transferred to Excel to facilitate the reading of titles and abstracts. This enabled a preliminary analysis, followed by a full reading of the articles, resulting in 24 articles being selected for the construction of the literature review.

After reading and analyzing the selected articles, the research theme was further defined. As a result, it became necessary to conduct a new search for articles that could complement and encompass the new topics to be addressed. In this context, a combination of several keywords was used based on the study’s objective, and the following search string was determined: {"Coaching Kata" OR "Kata") AND ("skills") AND ("Engagement") AND ("Leaders" OR "Led") AND ("Team")}. For this new search stage, the CAPES, Emerald, and Science Direct databases were chosen. Initially, 94 articles were found; after applying a filter limiting the search to the period between 2019 and 2025, 69 articles remained for evaluation.

Next, the articles were exported to Mendeley software, where 4 duplicates were identified in relation to the previous dataset. After removing these duplicates, the titles and abstracts of the selected studies were analyzed, and 16 articles were selected for full analysis. Of these, 11 were found to be directly related to the present study, and an additional 4 complementary studies were added. These were selected through the reading of related articles that contributed to deepening and expanding the understanding of the research subject. Figure 3 illustrates this process.

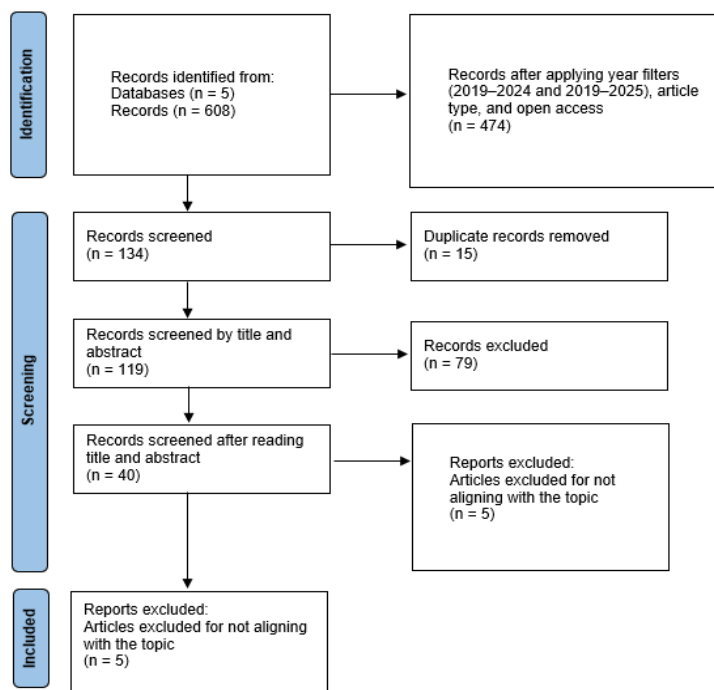


Figure 3: Data from the systematic literature review. Source: Adapted from PRISMA

After analyzing the literature, the study aimed to identify the kata coaching competencies and the organizational environment factors that influence team engagement and performance through content analysis. Subsequently, a semantic analysis was conducted based on the description of each keyword identified as a kata coaching competency or a factor influencing engagement and performance. By understanding the meaning and context

of each keyword, the study sought to correlate them, forming organizational contexts that could justify the relationships found. Finally, a mind map was created to better visualize the relationships identified.

3. Results and Analysis

3.1 Kata Coaching Leadership Competencies That Affect Engagement and Performance

Kata coaching leadership competencies are essential for inspiring followers through a relationship built on respect and trust (Mangaroo-Pillay; Coetzee, 2020; Leite; Radnor; Bateman, 2022). Such leaders can be compared to those in religious practices, since, according to some authors, religious and organizational leaders share common characteristics, such as passion, motivation, and attentiveness to the needs of others (Hines et al., 2022). Studies indicate that the leader's behavior exerts a direct influence on the team: while a positive attitude strengthens the work environment, a hostile and aggressive temperament can cause physical and emotional stress, negatively impacting the performance of followers (Ljungblom; Lennerfors, 2021; Castillo, 2022).

To promote a work environment conducive to the development of high-performance teams, it is essential that leaders act as facilitators of learning. For this, they must demonstrate humility, vulnerability, and ask strategic questions to guide employees in developing problem-solving skills (Saabye; Kristensen; Wæhrens, 2022; Tan; Van Dun; Wilderom, 2024). From this perspective, competencies can be classified as: i) cognitive – related to problem-solving ability; ii) social – linked to communication skills; iii) motivational – connected to factors that awaken desire and fulfillment in leading; and iv) knowledge and expertise – referring to the leader's experience and level of education (Simões; Toledo; Lizarelli, 2024). In this context, creating emotional bonds between leaders and followers can represent an advantage for overall team performance and, consequently, for achieving operational excellence (Kharub et al., 2023; Duggan; Cormican; McDermott, 2023). That being said, Table 1 presents some of the kata coaching competencies extracted from the literature, grouped into cognitive, social and motivational skills.

Table 1: Kata Coaching Leadership Competencies

Types of Kata Coaching Leadership Competencies	Kata Coaching Leadership Competencies	Description	References
Cognitive Skills	Systematic Problem Solving	Focus on problem solving and with that, on performing tasks methodically, paying attention to the details of each step to be executed.	Kristensen, Saabye & Edmondson (2022); Holmemo, Ingvaldsen & Powell (2023); . Netland, Powell & Hines (2020); Netland, Powell & Hines (2020); Knol et. al (2022); (Mogaramedi, Nel & Marnewick (2020); Van Dun & Wilderom (2021); Saabye, Powell & Coughlan (2022); Tan, Van Dun & Wilderom (2024); Michels, Forcellini & Fumagalli (2019); Knol et al. (2019); Ljungblom & Lennerfors (2021); Gaspar & Leal (2020); Saabye, Kristensen & Wæhrens (2022); Fannon, Munive-Hernandez & Campean (2022); Van Dun, Tortorella & Carminati (2023)
	Analytical Ability	Ability to handle and analyze data and facts according to dynamic scenarios contextualized with the organization's reality and the objective to be achieved.	Netland, Powell & Hines (2020); Saabye, Powell & Coughlan (2022); Hines (2022); Ljungblom & Lennerfors (2021); Gaspar & Leal (2020); Magnani et al. (2024); Van Dun, Tortorella & Carminati (2023)
Cognitive/Social Skills	Coaching	Leader with the ability to train the team, act as a learning facilitator, and promote an environment conducive to information exchange.	Kristensen, Saabye & Edmondson (2022); Netland, Powell & Hines (2020); Van Dun & Wilderom (2021); Connor & Cormican (2022); Saabye, Powell & Coughlan (2022); Tan, Van Dun & Wilderom (2024); Michels, Forcellini & Fumagalli (2019); Knol et al. (2019); Hines (2022); Ljungblom & Lennerfors (2021); Kharub et al. (2023); Gaspar & Leal (2020); Saabye, Kristensen & Wæhrens (2022); Fannon, Munive-Hernandez & Campean (2022); Magnani et al. (2024); Van Dun, Tortorella & Carminati (2023)
Social Skills	Active Listening	Ability to listen to team members frequently, giving full attention to the information shared.	Kristensen, Saabye & Edmondson (2022); Holmemo, Ingvaldsen & Powell (2023); Van Dun & Wilderom (2021); Tan, Van Dun & Wilderom (2024); Hines (2022); Hines et al. (2022); Ljungblom & Lennerfors (2021); Van Dun, Tortorella & Carminati (2023)
	Interpersonal Relationship	Interpersonal and relationship skills, linked to listening and communication.	Holmemo, Ingvaldsen & Powell (2023); Netland, Powell & Hines (2020); Mogaramedi, Nel & Marnewick (2020); Connor & Cormican (2022); Saabye, Powell & Coughlan (2022); Tan, Van Dun & Wilderom (2024); Leite, Radnor & Bateman (2022); Hines (2022); Hines et al. (2022); Ljungblom & Lennerfors (2021); Fannon, Munive-Hernandez & Campean (2022); Magnani et al. (2024); Van Dun, Tortorella & Carminati (2023)
	Communication	Ability to communicate clearly, conveying information in a way that all interlocutors understand what is being shared.	Holmemo, Ingvaldsen & Powell (2023); Netland, Powell & Hines (2020); Knapic, Rusjan & Božič (2023); Van Dun & Wilderom (2021); Connor & Cormican (2022); Tan, Van Dun & Wilderom (2024); Leite, Radnor & Bateman (2022); Hines (2022); Hines et al. (2022); Ljungblom & Lennerfors (2021); Gaspar & Leal (2020); Chirinos et al. (2025); Chirinos et al. (2025); Magnani et al. (2024); Van Dun, Tortorella & Carminati (2023); Van Dun, Tortorella & Carminati (2023)
Motivational Skill	Appreciation of Employees' Physical and Mental Well-being	Leader concerned with whether workers are fit and able to perform their jobs, and who regularly checks job demands to avoid possible overload.	Rosa, Marolla & McDermott (2023); Hines (2022); Hines et al. (2022); Ljungblom & Lennerfors (2021); Ljungblom & Lennerfors (2021); Magnani et al. (2024)

Source: The authors.

Therefore, when evaluating the leadership competencies of kata coaching, it is observed that they are closely linked to personality and interpersonal factors, rather than technical skills that require extensive academic background. This factor can be considered a potential bottleneck for the implementation of kata coaching, as

personal competencies may vary according to aspects such as culture, experience, education, and age group, for example.

3.2 Environmental Factors Affecting Engagement and Performance

Operational excellence is defined as a management model whose central pillar is the continuous improvement of processes (Villalba-Diez et al., 2019). In this context, dynamic capability supports high organizational performance, with greater investment in this dynamism increasing the chances for a company to stand out among competitors (Furnival; Boaden; Walshe, 2019). Additionally, the importance of managing work time is highlighted, since overload can represent an obstacle to motivation and, consequently, to high performance. Conversely, promoting a learning-friendly environment has been shown to be a stimulating factor for employees (Rosa; Marolla; McDermott, 2023). Information sharing between managers and subordinates also emerges as a strategic element, strengthening trust between leaders and followers (Hines, 2022). This practice contributes to the development of a sense of organizational belonging, leading employees to engage more intensely in their activities (Rodrigues et al., 2020).

Castillo (2022) presents in his study the process of acceptance of new methodologies and tools implemented in the organization. In the initial phase of the change, employees showed resistance. In a second phase, they became open to negotiation, requiring project leaders to seek convincing arguments to promote employee adherence. As a result, there was acceptance of the proposed changes and, consequently, increased productivity and performance in the activities carried out.

Table 2: Organizational Environmental Factors Influencing Engagement and Performance

Factors Influencing Engagement and Performance	Description	References
Information Sharing	Sharing of organizational processes, improvements, new procedures, and factors that may affect the organization's environment and culture.	Rodrigues et al. (2020); Netland, Powell & Hines (2020); Knapić, Rušan & Božić (2023); Van Dun & Wilderom (2021); Fannon, Munive-Hernandez & Campean (2022); Januszek, Netland & Furlan (2024); Magnani et al. (2024); Van Dun, Tortorella & Carminati (2023)
Sense of Belonging	Feeling of being valued, i.e., being an important part of the company. The employee feels that their work contributes to the organizational goals.	Rodrigues et al. (2020); Mogaramedi, Nel & Marnewick (2020); Hines (2022); Kharub et al. (2023); Magnani et al. (2024); Van Dun, Tortorella & Carminati (2023)
Psychological Safety to Share Ideas and Opinions	Leaders and managers encourage the sharing of information and make employees feel comfortable expressing ideas and opinions.	Kristensen, Saabye & Edmondson (2022); Saabye, Powell & Coughlan (2022); Leite, Radnor & Bateman (2022); Michels, Forcellini & Furnagali (2019); Hines (2022); Ljungblom & Lennerfors (2021); Kharub et al. (2023); Fannon, Munive-Hernandez & Campean (2022); Januszek, Netland & Furlan (2024); Van Dun, Tortorella & Carminati (2023)
Team Meetings	Regular team meetings so that members can share difficulties, challenges, gains, and alignments.	Netland, Powell & Hines (2020); Knol et al. (2022); Van Dun & Wilderom (20, 21); Ljungblom & Lennerfors (2021); Saabye, Kristensen & Wæhrens (2022); Januszek, Netland & Furlan (2024); Van Dun, Tortorella & Carminati (2023)
Daily Involvement of All Employees in Continuous Improvement Projects	Implementation of training and continuous improvement programs at operational, tactical, and strategic levels.	Netland, Powell & Hines (2020); Knol et al. (2022); Tan, Van Dun & Wilderom (2024); Ljungblom & Lennerfors (2021); Saabye, Kristensen & Wæhrens (2022); Magnani et al. (2024); Van Dun, Tortorella & Carminati (2023)
Team Autonomy	Granting decision-making autonomy to ensure agility in certain process steps.	Netland, Powell & Hines (2020); Knapić, Rušan & Božić (2023); Duggan, Cormican & McDermott (2023); Hines et al. (2022); Ljungblom & Lennerfors (2021); Kharub et al. (2023); Saabye, Kristensen & Wæhrens (2022); Van Dun, Tortorella & Carminati (2023)
Rewards	Creation of employee appreciation programs with awards to stimulate greater participation, engagement, and performance in projects.	Knapić, Rušan & Božić (2023); Connor & Cormican (2022); Rosa, Marolla & McDermott (2023); Hines (2022); Van Dun, Tortorella & Carminati (2023)
Training Programs	Provision of quality training programs for employees.	Knapić, Rušan & Božić (2023); Van Dun & Wilderom (2021); Connor & Cormican (2022); Tan, Van Dun & Wilderom (2024); Hilverda et al. (2023); Rosa, Marolla & McDermott (2023); Hines (2022); Kharub et al. (2023); Fannon, Munive-Hernandez & Campean (2022); Chirinos et al. (2025); Magnani et al. (2024); Van Dun, Tortorella & Carminati (2023); Bader (2024)
Support	Providing feedback, being receptive to suggestions, and supporting personal matters when needed.	Knapić, Rušan & Božić (2023); Connor & Cormican (2022); Leite, Radnor & Bateman (2022); Tan, Van Dun & Wilderom (2024); Hines et al. (2022); Kharub et al. (2023); Van Dun, Tortorella & Carminati (2023); Bader (2024)
Job Design	Mapping the tasks performed by each employee, defining clear objectives, and using performance key performance indicators (KPIs).	Knapić, Rušan & Božić (2023); Tan, Van Dun & Wilderom (2024); Leite, Radnor & Bateman (2022); Fannon, Munive-Hernandez & Campean (2022); Chirinos et al. (2025); Januszek, Netland & Furlan (2024); Van Dun, Tortorella & Carminati (2023)

Source: The authors.

From this perspective, Table 2 presents some environmental factors identified in the literature as drivers of engagement and increased team performance. By conducting a brief analysis of the environmental factors that influence organizational engagement and performance, it is noticeable that there are factors related to individual satisfaction (rewards, support, training opportunities, job design, feeling a sense of belonging) as well as factors related to team satisfaction, which require the involvement of all employees (autonomy, meetings, psychological safety to share ideas and opinions, engagement of all employees in projects). This scenario reinforces the idea that building an engaged and high-performing environment depends on a critical view of each individual. However, it is also necessary to consider strategies that ensure each employee functions as part

of a mechanism connected to the whole, guaranteeing that organizational processes operate in an integrated manner.

3.3 Discussion

Figure 4 represents an analysis of the relationships between kata coaching leadership competencies and organizational environmental factors that can influence team engagement and high performance, as identified in the literature. This relationship was established through semantic analysis of the keywords found and presented in Tables 1 and 2.

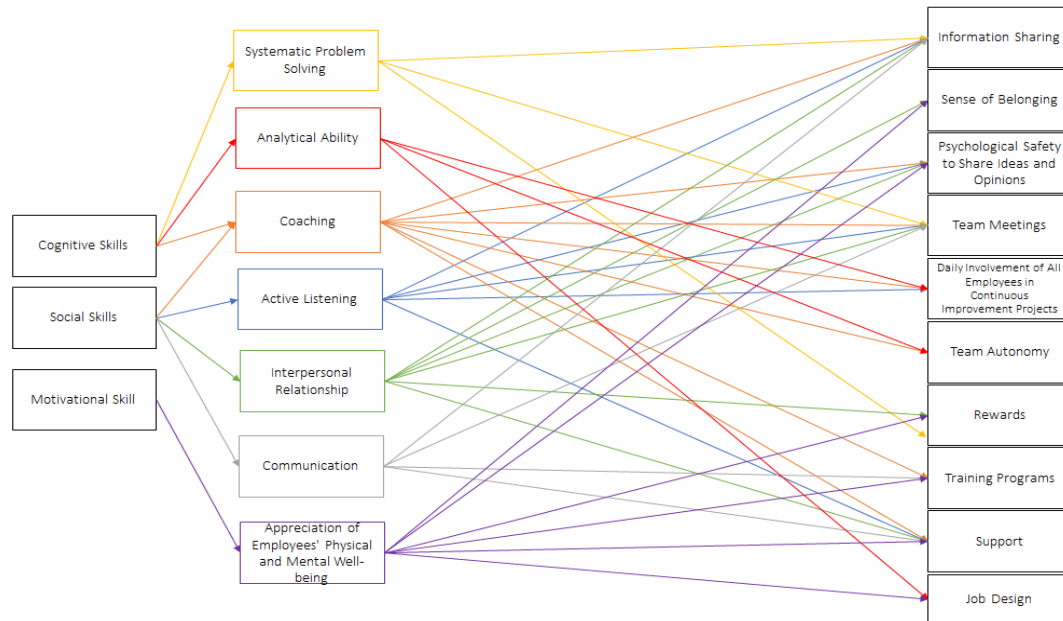


Figure 4: Relationship between Coaching Characteristics and Influential Factors on Engagement and Performance. Source: The authors

Thus, it is understood that active listening is a social skill directly associated with a leader's ability to foster an environment conducive to information sharing. This occurs through conducting team meetings and involving employees in organizational projects, making them feel valued, supported, and confident to express their ideas and opinions. The coaching leader is seen as a facilitator of learning and, therefore, should possess cognitive and social competencies that promote knowledge dissemination through training, creating an environment that allows team autonomy, and encouraging employees' active participation in organizational initiatives (Kristensen; Saabye; Edmondson, 2022). Furthermore, leadership aimed at engaged, high-performing teams should be task-oriented, with cognitive competencies that enable systematic problem-solving, using strategies such as information sharing, alignment meetings, and clear definition of tasks and goals (Holmemo; Ingvaldsen; Powell, 2023).

Social skills, particularly those related to communication and interpersonal relationships, are associated with building an environment favorable to dialogue and information sharing. This environment fosters employee inclusion, allowing their ideas to be heard and valued. To reinforce this sense of belonging, it is recommended to adopt rewards, in addition to promoting meetings and training sessions as tools for capacity building and strengthening the ecosystem of interaction and experience exchange (Rodrigues et al., 2020). A leader's analytical ability, as a cognitive skill, is essential for deeply understanding team members and effectively mapping activities and goals, promoting greater autonomy and engagement of employees in ongoing projects, so that individuals can make decisions considering the collective outcome rather than decisions that satisfy personal objectives (Villalba-Diez et al., 2019). To build an increasingly engaged and high-performing organizational environment, it is essential that the leader values the physical and mental well-being of the team. This includes adequately assessing each employee's workload, providing training, giving constant feedback, being open to listening, offering rewards, encouraging participation, and, above all, demonstrating that the tasks performed by each individual are an essential part of the organization's processes (Castillo, 2022).

It is evident that the presence of all these kata coaching competencies, aligned with environmental factors that foster team engagement and high performance, represents a significant challenge for organizations. As emphasized by Mangaroo-Pillay and Coetzee (2022), Tortorella et al. (2021), and Knapić, Rusjan, and Božič (2023), both organizational culture and local culture are decisive factors for the success or failure of implementing new work methodologies, which constitutes a barrier that must be broadly addressed to be overcome. From this perspective, the involvement of all organizational members is highlighted by Simões, Toledo, and Lizarelli (2024), who stress the critical importance of encouraging and investing in operational leadership practices so that tools supporting process improvement are recognized and implemented from the shop floor upward, increasing the likelihood of achieving desired results. On the other hand, the existence of communication barriers across the organization can hinder the engagement of everyone involved in processes and, above all, impede clear and effective communication among members of different hierarchical levels.

Moreover, the lack of senior management support and commitment, misalignment between strategic objectives and operational goals, failures in change management, limited awareness among top management about the expected benefits of a project, and resource constraints are some of the factors that contribute to failure in organizational change environments (Bader, 2024). These issues are directly related to the difficulty of involving people in knowledge-sharing initiatives, as employees may fear losing their positions by training a colleague in the same role or worry about becoming less essential to the organization as their unique knowledge is disseminated. In addition, such involvement can be hampered by individual personality traits that conflict with the Kata coaching competencies identified in this study.

Finally, this study sought to identify, through a literature review, the kata coaching competencies and organizational environmental factors that together can promote team engagement and high performance. However, it is essential for companies to understand their own organizational reality and employee profiles in order to design strategies that both build leadership competencies and create an environment conducive to engagement and high performance. It is important to note that this model is based on literature and requires empirical testing for validation, given the dynamic nature and multiple dimensions of organizational environments, which can vary according to industry, number of employees, and regional context.

4. Final Considerations

This study aimed to conduct a Systematic Literature Review (SLR) to identify kata coaching leadership competencies and organizational environmental factors that promote team engagement and high performance, establishing the correlation between these two constructs. At the end of the analysis, 39 articles were evaluated, allowing the identification of kata coaching leadership competencies such as systematic problem-solving, analytical ability, coaching, active listening, relationship skills, effective communication, and valuing employees' physical and mental well-being.

Additionally, organizational environmental factors contributing to team engagement and high performance were identified, including information sharing, a sense of belonging to the work environment, psychological safety to express ideas and opinions, conducting team meetings, involving all employees in continuous improvement projects, team autonomy, rewards, training, leadership support, and appropriate task design. Thus, the analysis confirmed that kata coaching leadership competencies and the identified organizational environmental factors are correlated. It was also observed that many of the competencies complement each other, reinforcing the importance of investing in training programs aimed at developing these characteristics in organizational leaders. Nonetheless, it is worth highlighting that there are barriers to developing leaders with the competencies of kata coaching, as many of these are related to intrinsic personality traits of the individual. Furthermore, the same applies to environmental factors that influence engagement and performance, since they must satisfy both individual and collective needs, ensuring not only good relationships between leaders and subordinates, but also among members within the same team and across different teams.

Although the use of specific keywords guided the identification of the analyzed studies, it is recognized that this choice represents a limitation of the present research, as other combinations could reveal different results. Therefore, this limitation should be considered when interpreting the findings. As future work, empirical validation of the relationship model identified in the literature is suggested through its application in different organizational contexts, allowing verification of its adherence to practical reality and possible adjustments. This validation could contribute to building a kata coaching-based leadership persona aimed at creating organizational environments favorable to the development of lean, engaged, and high-performance teams.

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References

- Bader, M. et al. (2024) Why do process improvement projects fail in organizations? A review and future research agenda, *International Journal of Lean Six Sigma*, 15(3), pp. 664–690.
- Castillo, C. (2022) The workers' perspective: emotional consequences during a lean manufacturing change based on VSM analysis, *Journal of Manufacturing Technology Management*, 33(9), pp. 19–39.
- Cauchick-Miguel, P. A. (2019) *Metodologia científica para engenharia*, Elsevier Brasil.
- Chirinos, O. et al. (2025) Sustaining continuous improvement programs proposition of influential elements and a maturity-benchmark model, *International Journal of Lean Six Sigma*.
- Duggan, J.; Cormican, K.; McDermott, O. (2023) Lean implementation: analysis of individual-level factors in a biopharmaceutical organisation, *International Journal of Lean Six Sigma*, 14(2), pp. 309–334.
- Fannon, S. R.; Munive-Hernandez, J. E.; Campean, F. (2022) Mastering continuous improvement (CI): the roles and competences of mid-level management and their impact on the organisation's CI capability, *The TQM Journal*, 34(1), pp. 102–124.
- Furnival, J.; Boaden, R.; Walshe, K. (2018) Assessing improvement capability in healthcare organisations: a qualitative study of healthcare regulatory agencies in the UK, *International Journal for Quality in Health Care*, 30(9), pp. 715–723.
- Gaspar, F.; Leal, F. (2020) A methodology for applying the shop floor management method for sustaining lean manufacturing tools and philosophies: a study of an automotive company in Brazil, *International Journal of Lean Six Sigma*, 11(6), pp. 1219–1238.
- Hilverda, J. J. et al. (2023) Unveiling the Impact of Lean Leadership on Continuous Improvement Maturity: A Scoping Review, *Journal of Healthcare Leadership*, pp. 241–257.
- Hines, P. et al. (2022) Turning the lean world upside down, *International Journal of Lean Six Sigma*, 13(5), pp. 989–1024.
- Hines, P. (2022) Human centred lean—introducing the people value stream, *International Journal of Lean Six Sigma*, 13(5), pp. 961–988.
- Holmemo, M. D.-Q.; Ingvaldsen, J. A.; Powell, D. (2023) Beyond the lean manager: Insights on how to develop corporate lean leadership, *Total Quality Management & Business Excellence*, 34(1–2), pp. 19–31.
- Januszek, S.; Netland, T. H.; Furlan, A. (2024) The role of managerial perceptions and behaviors across hierarchical levels during lean implementation, *International Journal of Operations & Production Management*, 44(1), pp. 54–74.
- Kharub, M. et al. (2023) Employee's performance and Kaizen events' success: does supervisor behaviour play a moderating role?, *The TQM Journal*, 35(8), pp. 2336–2366.
- Knapic, V.; Rusjan, B.; Bozic, K. (2022) Importance of first-line employees in lean implementation in SMEs: a systematic literature review, *International Journal of Lean Six Sigma*, 14(2), pp. 277–308.
- Knol, W. H. et al. (2022) Establishing the interplay between lean operating and continuous improvement routines: a process view, *International Journal of Operations & Production Management*, 42(13), pp. 243–273.
- Knol, W. H. et al. (2019) The relative importance of improvement routines for implementing lean practices, *International Journal of Operations & Production Management*, 39(2), pp. 214–237.
- Kristensen, T. B.; Saabye, H.; Edmondson, A. (2022) Becoming a learning organization while enhancing performance: the case of LEGO, *International Journal of Operations & Production Management*, 42(13), pp. 438–481.
- Leite, H.; Radnor, Z.; Bateman, N. (2022) Meaningful inhibitors of the lean journey: a systematic review and categorisation of over 20 years of literature, *Production Planning & Control*, 33(5), pp. 403–426.
- Ljungblom, M.; Lennerfors, T. T. (2021) The Lean principle respect for people as respect for craftsmanship, *International Journal of Lean Six Sigma*, 12(6), pp. 1209–1230.
- Magnani, F. et al. (2024) Defining lean experts' roles and behavioral competencies during lean adoption: a case study of Groupe PSA, *The TQM Journal*, 36(4), pp. 1054–1073.
- Mangaroo-Pillay, M.; Coetzee, R. (2022) A systematic literature review (SLR) comparing Japanese Lean philosophy and the South African Ubuntu philosophy, *International Journal of Lean Six Sigma*, 13(1), pp. 118–135.
- Michels, E.; Forcellini, F. A.; Fumagali, A. E. C. (2019) Opportunities and barriers in the use of Toyota Kata: a bibliographic analysis, *Gepros: Gestão da Produção, Operações e Sistemas*, 14(5), p. 262.
- Mogaramedi, M.; Nel, H.; Marnewick, A. (2020) Impact of standard work for leaders on reducing unused employee creativity during lean implementation, *South African Journal of Industrial Engineering*, 31(2), pp. 1–10.
- Netland, T. H.; Powell, D. J.; Hines, P. (2020) Demystifying lean leadership, *International Journal of Lean Six Sigma*, 11(3), pp. 543–554.

- O'Connor, D.; Cormican, K. (2022) Leading from the middle: how team leaders implement lean success factors, *International Journal of Lean Six Sigma*, 13(2), pp. 253–275.
- Rodrigues, J. et al. (2020) A rapid improvement process through “quick-win” lean tools: A case study, *Systems*, 8(4), p. 55.
- PRISMA Group (s.d.) PRISMA Statement. Disponível em: <https://www.prisma-statement.org/>
- Rosa, A.; Marolla, G.; McDermott, O. (2023) A cross-organizational Lean deployment in an Italian regional healthcare system, *International Journal of Health Care Quality Assurance*, 36(3/4), pp. 17–36.
- Saabye, H.; Kristensen, T. B.; Wæhrens, B. V. (2022) Developing a learning-to-learn capability: insights on conditions for Industry 4.0 adoption, *International Journal of Operations & Production Management*, 42(13), pp. 25–53.
- Saabye, H.; Powell, D. J.; Coughlan, P. (2023) Lean and action learning: towards an integrated theory?, *International Journal of Operations & Production Management*, 43(13), pp. 128–151.
- Simões, J. M. S.; Toledo, J. C.; Lizarelli, F. L. (2024) Front-line lean leader capacities, practices and effects on implementing tools: a survey of leaders in industrial companies, *International Journal of Lean Six Sigma*, 15(4), pp. 925–956.
- Tan, A. B. C.; Van Dun, D. H.; Wilderom, C. P. M. (2023) Lean innovation training and transformational leadership for employee creative role identity and innovative work behavior in a public service organization, *International Journal of Lean Six Sigma*, 15(8), pp. 1–31.
- Van Dun, D. H.; Tortorella, G. L.; Carminati, L. (2023) Lean leadership across different national cultures: a comparative study, *Production Planning & Control*, pp. 1–18.
- Van Dun, D. H.; Wilderom, C. P. M. (2021) Improving high lean team performance through aligned behaviour-value patterns and coactive vicarious learning-by-doing, *International Journal of Operations & Production Management*, 41(13), pp. 65–99.
- Villalba-Diez, J. et al. (2019) Characterization of industry 4.0 lean management problem-solving behavioral patterns using EEG sensors and deep learning, *Sensors*, 19(13), p. 2841.