

Linking Leadership Styles and Relationship Quality to Construction Project Performance: A Systematic Review

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ABSTRACT

Construction projects are temporary, fragmented, and multi-organizational settings, performance in which rests not only upon technical and managerial systems but also on the behavior of individuals and their interactions. Yet construction management literature remains splintered, with leadership and relationship concepts being treated separately. As a result, the joint effect of leadership styles and relationship quality on project performance remains poorly understood. This study critically reviews and integrates previous studies to better clarify the leadership–relationship–performance interface in construction projects. It identifies, reviews, and synthesizes studies via major academic databases and some additional reference tracking to derive themes. The review finds that transformational leadership emerges as the principal style explored, although transactional, directive, participative, empowering, and sustainable approaches are also central under certain project conditions. For the nature of the relationships, trust, communication, collaboration, and knowledge sharing serve as key relational mechanisms through which leadership influences performance outcomes. Project performance appears to extend beyond the narrow triad of time, cost and quality to safety outcomes, effectiveness, preferences of the workforce, innovations and sustainability outcomes. The study concludes that understanding the performance of construction projects calls for an integrative view in which both leadership style and relationship quality interact synergistically across contexts.

Keywords: Collaboration, Construction projects, Leadership styles, Project performance, Relationship quality.

1. INTRODUCTION

Construction projects are performed under the conditions of technical complexity, temporary organizational structure, fragmented tasks, and constant reliance on coordinated action of various actors. Planning systems, contractual structures, or resource allocation will never be enough to explain project performance in such settings. It is also influenced by leadership, leadership influences the way goals are set, the way teams are led, the way

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uncertainty is dealt with, the way integrated effort is maintained both on an organizational and a professional frontier **(Nabila et al., 2024; Adewumi et al., 2025)**.

There is also similar evidence indicating that the leadership behavior of project managers can have a powerful impact on project effectiveness and the overall success of building. There is also similar evidence indicating that the leadership behavior of project managers can have a powerful impact on project effectiveness and the overall success of building projects **(Adewumi et al., 2025)**. Previous studies attributed leadership style to quality-related performance in publicly funded projects, specifically functional and aesthetic performance, whereas safety-related studies determined leadership as an important factor defining safety performance in project-based construction settings **(Buba and Tanko, 2017; Ma et al., 2018)**. Taken together, these studies support the perspective that the role of leadership can be achieved in various areas of project performance such as quality, safety, effectiveness, and overall success.

Meanwhile, the literature indicates that leadership in construction is not a single construct. Rather, it manifests in a variety of styles, behaviors, and orientations that are influenced by the conditions of projects and managerial needs. Surveys of the public construction organizations revealed motivating, goal-setting, supportive, participative, and directive leadership behaviors with supportive and directive leadership behaviors being of special importance to the management performance **(Nguyen, 2025)**. The autocratic, democratic, transactional, transformational, paternalistic, charismatic and laissez-faire styles have been studied in other works in the construction industry and successful leadership has been mainly found to be more related to charismatic and democratic than autocratic or laissez-faire styles **(Hristova and Handjiski, 2024)**. Moreover, sustainable leadership is becoming more and more popular in construction due to its long-term focus and the possibility of its applicability to the project results, innovation, and learning **(Fajri and Sujana, 2025; Iqbal et al., 2024)**.

Such an increase in the conceptual variety indicates that leadership in the construction sector is not simply about formal authority or monitoring of tasks. Effective leadership comprises behavioral flexibility and ability to react to organizational and human realities of the work of a project. This is especially noticeable in research that concentrates on leadership attributes in construction project teams. Emotional intelligence, relationship building, empowerment, inclusivity, communication, delegation, trust-building, acknowledgment of team contributions, lifelong learning, and care of employee well-being have been linked to construction leaders **(Khidir et al., 2024)**. All these attributes show that leadership does not involve only guiding the operations but also establishing the environment, in which project teams will be able to cooperate, adjust, and be involved. In this regard, leadership has role in both traditional project measures like time, cost and quality, as well as broader organizational measures like morale, innovation, adaptability and long-term team operation **(Khidir et al., 2024; Iqbal et al., 2024)**.

The new literature, hence, places leadership as a core element of the performance discourse in construction. Regardless of the approach applied to analysis of leadership style, dimensions of leadership behavior, sustainable orientation, or safety leadership, the data lead to the same conclusion: project outcomes depend not only on what is managed, but also on how project actors are led **(Ma et al., 2018; Nguyen, 2025; Adewumi et al., 2025)**.

Leadership is even more significant in construction when one factors in the relational aspect of the project delivery. Construction projects are often carried out under temporary multi-organizational conditions, where the clients, consultants, contractors, subcontractors, and



other stakeholders are forced to coordinate their efforts in short time frames and under uncertainty conditions. Studies of temporary multi-organization arrangements indicate that the functioning of the project is influenced not just by the formal procurement and contractual arrangements, but also by the inter- and intra-organizational relations emerging among participants (**Lizarralde et al., 2011**). This means that construction performance depends not only on technical execution, but also on the quality of relationships that support communication, coordination, and collective problem-solving.

Trust is one of the most important relational themes in construction research. Case-based evidence has suggested that trust, reliance and honest professional relationships underpin collaborative functioning within construction projects and that both project-specific as well as organizational factors influence the development or breakdown of trust (**Khalfan et al., 2007**). Empirical evidence has revealed that trust contributes positively to the project stakeholder's interaction in construction projects, by enhancing communication and enabling better working relationships (**Karlsen et al., 2008**). More recent qualitative research in alliance construction projects suggests that mutual trust is something actively constructed through identifiable characteristics, enablers and staged relational processes in collaborative delivery environments rather than assumed (**Moradi and Sormunen, 2025**). Trust is strongly related to broader processes of cooperation and coordination. Collaboration increases the odds of project management success and in turn is enabled by the trust between team members, as shown through survey-based project research (**Bond-Barnard et al., 2018**). A systematic review of construction collaboration also found trust, commitment and reliability to be key enablers for successful collaborative project delivery and enhanced productivity (**Deep et al., 2021**). Further conceptual work confirms that collaboration in construction is a multilevel process that necessitates mutual agreement regarding cooperation, coordination, and control along with stakeholder relationships evolving through various levels of relational sophistication (**Ali and Haapasalo, 2023**). The upshot is that construction projects are not only held together by the weight of formal structures but rather through relational mechanisms which make coordination practical.

This relational perspective is also consistent with the stakeholder literature in construction. Systematic understanding of types and dimensions of relationships between stakeholder groups has emerged as a critical element in construction innovation and project delivery, but it is thus far limited (**Yang et al., 2023**). This growing interest in stakeholder relationships recognizes that project performance and outcomes are now intimately bound to the interactions of actors across professional, contractual and organizational boundaries. In this sense, relational quality is not merely something on the outskirts of project execution; it's part of a broader foundation upon which performance is built.

The importance of relations is often clearer than ever when considering the long-recognized fragmentation of the construction industry. Fragmentation has been conceptualized in numerous ways through limited integration, barriers between actors, decoupling among various actor groups and complexity of spanning knowledge across boundaries (**AlAshwal and Fong, 2015**). Such conditions make it more difficult to maintain coherent project action and increase the importance of leadership. The literature on relational risk management shows that uncertainty about collaboration performance can have a significant impact on the success of projects and that communication across different organizational levels plays key learning and incentivizing roles in collaborative intense projects (**Lehtiranta, 2011**). Digitalization and evolving delivery systems further complicate contemporary project environments. Evidence from studies of BIM-enabled inter-organizational projects suggests



that while digital tools can facilitate the management of relational dynamics, they also engender further relational tensions needing stabilization, maintenance or active mobilization at project execution **(Braun et al., 2025)**. This highlights the point that construction projects are not simply technically complex but relationally fluid, and as a consequence maintain an active focus on how actors interact, adapt and coordinate with changing conditions.

In such environments, there is no practical separation between leadership and relationships. Rather than through authority alone, effective construction leadership is exercised: Communication – To maximize and optimize the teamwork within construction projects Trust-building – Effective leaders build sense of trust in their team Inclusion – Leaders invite input from members which encourages participation Delegation – Breaking down tasks across people Collaboration – Construction experts work together Stakeholder alignment **(Khidir et al., 2024)**. It therefore calls for a definition of leadership as relational as much as behavioral in the project environment. So, understanding construction project performance in this sense necessitates considering the leadership styles themselves as well as the relations through which leadership affects that influence

For project context, a relational view of leadership is as essential as a behavioral one. Understanding construction project performance therefore requires paying heed not only to leadership styles in their own right, but also to the relational conditions that inform how leadership matters **(Khidir et al., 2024; Bond-Barnard et al., 2018; Yang et al., 2023)**.

Although there is an increasing amount of research on leadership and relationality in construction projects, there are some gaps that are evident. Leadership styles and relationship quality are frequently studied as distinct topics, and not as mutually dependent factors affecting project performance. As a result, the mechanisms by which leadership behavior influences project outcomes via trust, communication, collaboration and knowledge sharing are still not well integrated. Further, there is some conceptual similarity between leadership constructs, especially between transformational, participative, sustainable and other values-based leadership. Many of the current studies are also based on cross-sectional and perception-based survey designs, and limited longitudinal, comparative and multi-source studies exist that can explain how leadership and relational processes develop over project phases, procurement systems, organizational structures and digitalized construction environments. Moreover, while there is growing interest in the performance of construction projects in terms of time, cost and quality, there is a lack of theoretical development of the integration of other outcomes, such as safety, innovation, workforce engagement, learning and sustainability.

Thus, this review focuses on the impact of leadership styles and relationship dynamics on the performance of construction projects. It emphasizes the role of project leadership behaviors, inter-organizational relationships, trust-based interactions, communication, collaboration and knowledge-sharing processes in construction project outcomes. The primary goal of the review is to integrate two related yet distinct fields of construction management literature: leadership style and relationship quality. Its contribution is to bring these two areas together into a single analytical framework that can account for project performance both in terms of formal control and managerial systems and in terms of behavioral and relational mechanisms.

This review is based on the assumption that the performance of construction projects can be better explained by considering leadership styles and relationship quality as interdependent drivers instead of independent factors. In this perspective, the impact of



leadership styles on project results is direct as well as indirect, via relational processes like trust, communication, collaboration, and knowledge sharing. Hence, the review takes the position that effective leadership configurations, in conjunction with high quality of relationships between project participants, have a positive impact on multidimensional construction project performance, such as project success, management effectiveness, quality, safety, workforce engagement, innovation and sustainability-related outcomes. The review, in turn, reveals the key conceptual trends, methodological constraints, and future research directions in this area.

2. REVIEW METHODOLOGY

2.1 Review Design

This paper employed a systematic literature review to conduct a synthesis of the literature on the topic of leadership styles, relational dynamics and performance in construction projects. Selection, screening, eligibility evaluation and inclusion of studies to undergo the review were performed based on a systematic procedure, adhering to a clear and straightforward procedure.

The systematic literature review approach was applied in the paper to summarize the existing research on the topic of understanding leadership styles, relational dynamics and construction project performance. For this review, a methodological approach was taken that included study identification, screening and eligibility selection to ensure transparency and consistency in the review.

2.2 Search Strategy and Information Sources

The literature review was done primarily using the Scopus and Web of Science databases and reference follow-up to find more pertinent publications. The conceptual clusters on which the search terms were generated included three conceptual clusters; such as: leadership, relational dynamics and project performance within a construction context. The systematic combination of the keywords across databases was performed using Boolean operators.

The review is based on literature from 2007 through 2026 and is represented by the references included in the final set of referenced publications. The literature from this time frame was selected so that it would reflect both foundational research related to trust, relational governance, fragmentation, and project-based construction organizations, as well as more recent research related to leadership styles, safety leadership, sustainable leadership, knowledge sharing, and construction project performance. The synthesis of thematic analysis was completed using the most current literature primarily, while the most recent research incorporated into the framework provided the theoretical foundations of the other studies that were necessary to frame the leadership-relationship performance framework.

2.3 Eligibility Criteria

Peer-reviewed journal articles that met the following conditions became eligible in this review: (1) they had to be published in English, (2) they had to be related to construction projects or the construction industry, and (3) it must have covered leadership/relational



factors or project performance directly. Nonconstruction studies, nonpeer-reviewed literature and those not clearly focused on the review were excluded.

2.4 Study Selection

The authors screened these records, eliminating duplicates, and selected their appropriate titles and abstracts. The remaining studies were then screened against the eligibility requirements based on the full texts of the studies. The articles were selected based on having clear conceptual relevance to the constructs of leadership, relationships and performance of construction projects.

The selection of studies included a limited number of older ones; however, the focus of the review was on the most recent studies related to construction leadership and Relationship Based Project Management, as those areas are the most current developments in the industry. Older studies were kept only if they provided a theoretical or conceptual basis from which to draw upon in relation to the constructs of this review. Therefore, the selection criteria for this review focused on the relevance of studies for developing significant implications regarding the Leadership – Relationship – Performance framework rather than the number of references included within it. Studies that were indirectly related to this review were eliminated from the analysis in order to retain the review's analytical focus.

2.5 Data Extraction and Analysis

A structured review matrix captured key information about the research context, methodology, leadership focus, relational focus, performance dimension and key findings of each study. In order to do so, the studies included were further subdivided based on theories in leadership style, relationship dimension and performance outcome to allow faster synthesis.

2.6 Synthesis Procedure

The thematic synthesis was a final synthesis that elaborated a synthesized interpretation of the literature, as opposed to a summary of the literature study-by-study. Studied were identified, extracted, and grouped into categories while matching study conclusions to crosscutting themes for each of these areas: Leadership Orientation, Relational Dynamics, and Performance Outcomes. The process allowed us to identify shared themes in the relationship between various leadership styles and communication, trust, collaboration, coordination and stakeholder interaction in regard to construction project settings.

Synthesis also took into account conceptual relationships among the studies, particularly in the cases where leadership and relational variables appeared to act in concert, not in isolation. In this manner, the analysis could explore how leadership behaviors came to fruition in the mechanisms of relations and how they were interconnected with project performance. The variations within the literature were taken, and this included the differences in leadership standpoint(s), contextual uniqueness, and performance constructs measured. With this exercise of convergence and difference between the individual studies that comprise the review, the synthesis was able to provide an integrative standpoint as to the manner in which leadership styles and the quality of relationship interrelate to propel the performance of the construction projects. **Fig. 1** shows the general overview of the review methodology adopted in the proposed study, which depicts the process of review



design and literature search, to the selection of studies, data extraction and thematic analysis.

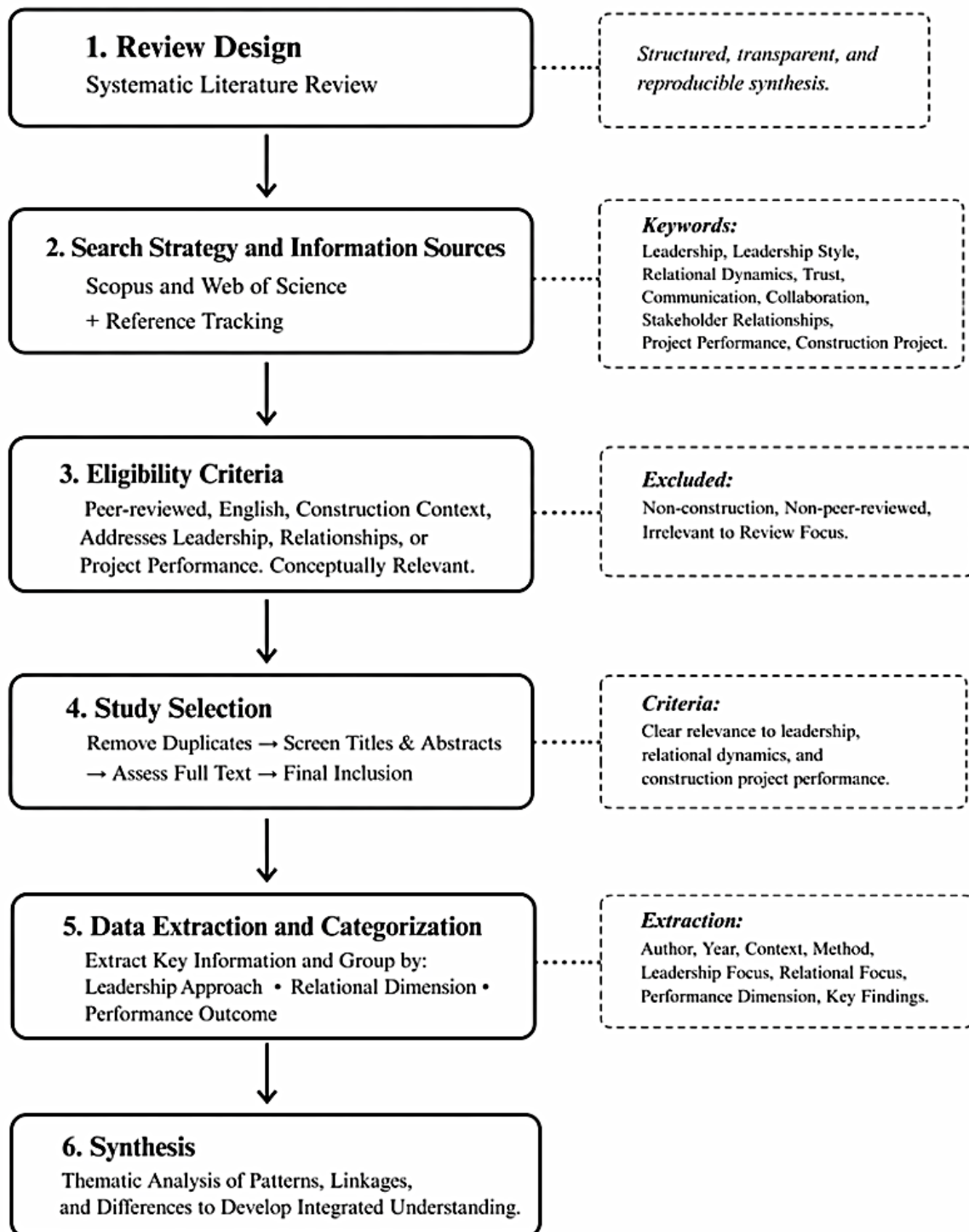


Figure 1. Review methodology flowchart for the systematic literature review.



3. CONCEPTUAL FOUNDATIONS OF LEADERSHIP AND RELATIONAL DYNAMICS IN CONSTRUCTION

3.1 Leadership as a Project-Based Organizational Construct

Leadership in construction should be understood within the structural logic of the project-based organization rather than through assumptions derived from stable functional firms. Construction projects are delivered through temporary organizational arrangements that assemble diverse actors, competencies, and responsibilities around finite objectives, tight constraints, and discontinuous workflows. Managerial effectiveness in such environments is never limited to formal authority, but also by the capacity to significantly integrate dispersed expertise, to coordinate across interfaces, and to stay on course in a changing project environment. Studies of project-based organizations indicate that they are not designed in the same way as a more traditional type of organization due to the nature of managerial decisions which are influenced by various contingencies particular to temporariness, complexity of projects, and interplays between internal/external conditions (**Miterev et al., 2017**).

The preconceptions of stable functional firms do not enable a project-based organization to condition itself when it comes to comprehending leadership. The construction projects are entrenched in impermanent institutional constructions that tie different actors, qualifications and obligations to narrow objectives, narrow boundaries and unbalanced working set-ups. Managerial effectiveness is dependent in these settings not on formal power alone, but on your capacity to organize dispersed expertise and lead across interfaces, at the same time retaining the direction of the project, regardless of the environmental conditions. Unlike some more stable types of organization, the design of project-based organization is impacted by a variety of contingencies related to temporariness and complexity of the project, and the internal/external interaction (**Lizarralde et al., 2011; Miterev et al., 2017**). This position puts the concept of leadership outside the narrow sense of supervision and position in the context of the larger challenge of coordinating the work on the project under temporary conditions.

The project-based environment also renders leadership integral to organizational capability. The gradual advancement of project competencies is contingent on the degree to which senior managers adapt improvement activities to the context of their organization and incorporate proper management practices into project routines. The long-term organizational development experience in project-based contexts shows that the adoption and implementation of management systems can be more effective if they are contextually adapted rather than mechanically implemented (**Kwak et al., 2015**). This is particularly applicable in construction, where there is a disconnect between those executing the project on a day-to-day basis and organizational learning, maturity and process. Leadership is thus not merely a project-level behavioral issue, but rather an organizational capability that guides the evolution and performance of project-based firms.

The conflict between the short time delivery and that of long time capacity development is another conceptual aspect of a project-based construction organization. Projects are both sporadic and decentralized and may demand the construction organizations act fast and urgent rather than focus on more significant learning and innovation. This spreads the knowledge that is time-dependent and project-related and generates a conflict of choice between operation exploitation and organization exploration (**Eriksson, 2013**). These environments have the role of leadership that is an integrating mechanism. It helps in linking



the performance that has been established at the project level and long-term adjustment of the organization since it helps in learning, coordinating and transferring the experience over the project boundary.

Past studies indicate that such an integrative position over upcoming projects is reinforced by the propensity of organizational culture to influence the manner in which knowledge turns out to be transferable across projects in project-based construction companies. Cultural factors determine the place of knowledge, when to disclose and withhold it and which transfer mechanisms can be defined as valid **(Wei and Miraglia, 2017)**. To this end, project-based construction cannot view leadership in narrow terms of individual influence over a team. And it also includes creating organizational conditions to facilitate knowledge and handover, shared understanding and continuity from project to project. From a conceptual point of view, therefore, leadership in construction is best seen as a project-embedded and organization-linked approach to promoting direction, coordination and learning within temporal production systems **(Kwak et al., 2015; Eriksson, 2013; Wei and Miraglia, 2017)**.

3.2 Leadership Style as a Behavioral Lens in Construction Management

While leadership is defined as influencing others in a project-based environment, leadership style signifies the behavioral framework of that influence. Leadership style is one of the key predictors studied in construction research to explain how regularly project managers lead teams, make decisions, influence team members and adjust in line with project needs. Thus, it is a more precise analytical lens than the wider notion of leadership that captures variation in managerial behavior without reducing leadership to formal position alone **(Nabila et al., 2024; Hristova and Handjiski, 2024)**.

Studies in construction demonstrate that leadership in practice takes several behavioral forms rather than a single dominant model. Investigation into the public construction organizations identified motivating, goal setting, supportive, participative and directive leadership behaviors — with particularly strong significance of directive and supportive leadership on management effectiveness **(Nguyen, 2025)**. Other research examining leadership in the construction sector found that successful leaders were more likely to adopt charismatic and democratic styles, while autocratic and laissez-faire styles were less common **(Hristova and Handjiski, 2024)**. Related evidence also indicates that leadership style is significantly associated with construction project success, confirming that behavioral orientation matters for how project objectives are achieved **(Nabila et al., 2024)**.

The diversity indicates that building sector leadership needs to be perceived in the context of a holistic picture where construction is not considered a simplified fixed typology detached from backdrop. Instead, it is a microscope on behavior that reveals how influence happens at different modes of operation. Directive leadership is likely to be especially critical in domains of immediate need that call for control and clarity, while supporting, participative or motivating behaviors may well be more relevant when coordination and commitment to the team are what the leader needs to pursue **(Nguyen, 2025; Buba and Tanko, 2017)**. Sustainable leadership builds on this by making long-term vision, systems thinking and responsibility-oriented conduct central to its perspective, meaning that leadership behavior is connected with broader project outcomes and organizational learning **(Fajri and Sujana, 2025; Iqbal et al., 2024)**.

Research on effective leadership characteristics in construction teams also supports a behavioral understanding of leadership style. Emotional intelligence, communication, trust-



building, empowerment and recognition all reinforce the idea of leadership as an act, not a title (**Khidir et al., 2024**). The literature sees leadership style in this review as the patterned stamp through which influence is exerted by project leaders. This distinction prevents the broad notion of leadership from becoming absorbed by specific behaviors and also abrogates any tendency for the study of different styles of leadership to become too integrated.

3.3 Relationship Quality as a Foundation of Project Governance

If leadership style explains how that influence is behaviorally translated into particular contexts, then relationship quality explains the social and organizational conditions under which project work becomes governable in practice. The relationship quality in construction refers to how strongly the interaction is functioning among different people engaged with a project, and it relates particularly to trust, communication as well as coordination and collaboration, along with mutual understanding. Noting that construction projects involve multiple organizations with divergent interests and responsibilities, Blois and Riemens conclude that these relational conditions are fundamental to successful project governance (**Khalfan et al., 2007; Karlsen et al., 2008**).

Trust forms a key part of this relational aspect. Research into construction shows that trust, reliance and honest professional relationships enable collaborative functioning and that breakdowns in trust can compromise project interactions throughout the supply chain. (**Khalfan et al., 2007**). Trust also plays a positive role in stakeholder interaction by improving communication and strengthening working relationships between the project and its key actors (**Karlsen et al., 2008**). More recent work on collaborative delivery models further suggests that mutual trust is built through identifiable enablers and staged relational processes, indicating that trust is produced through practice rather than passively assumed (**Moradi and Sormunen, 2025**).

Relationship quality also extends beyond trust to include wider patterns of collaboration and coordination. Project success has been shown to become more likely when collaboration improves, while collaboration itself is strengthened by higher levels of trust among team members (**Bond-Barnard et al., 2018**). A systematic review of construction collaboration similarly identified trust, commitment, and reliability as key enablers of collaborative execution and improved project productivity (**Deep et al., 2021**). Alongside this, conceptual work has highlighted that construction collaboration is a multi-level process underpinned by the joint understanding of cooperation, control and coordination (**Ali and Haapasalo, 2023**). Collectively, these studies demonstrate that relationship quality is not just goodwill between individuals; it's a necessary condition for getting your project coalescing in the same direction.

This is especially needed in a disunified industry. Weak integration, actor barriers, and challenges in inter-organizational spanning of knowledge have been linked to construction fragmentation (**AlAshwal and Fong, 2015**). In this case, relationship quality is a stabilizing factor that is used to counterbalance structural disconnection. The studies of relational risk management support this fact by indicating that the uncertainty about the collaborative performance may have a significant effect on the success of a project and that inter-organizational communication between various organizational levels can be significant in learning and incentive alignment (**Lehtiranta, 2011**). Relationship quality therefore functions conceptually as an informal but essential complement to formal governance structures in project delivery.



3.4 Project Performance as a Multi-Dimensional Outcome Domain

Project performance within construction should not be considered a one-dimensional measure of delivery success but should be viewed as a multidimensional outcome domain. Time, cost, and quality have long been central to conventional assessment, but the literature is growing to show that other project outcomes are safety, management efficiency, workforce operating, stakeholder satisfaction, innovation, and sustainability-related outcomes (**Nabila et al., 2024; Ma et al., 2018; Iqbal et al., 2024**). This wider framing is needed due to the fact that leadership and relationships do not influence just one aspect of performance, and all the studies do not identify project success in a similar way.

This multidimensionality is depicted through a few strands of evidence. General project success and management effectiveness have been linked to leadership style (**Nabila et al., 2024; Adewumi et al., 2025**). Other researchers pay more attention to quality-related performance, including functional suitability and aesthetic quality in governmental projects (**Buba and Tanko, 2017**). In its turn, safety leadership research considers performance in terms of safety effectiveness and injury prevention, demonstrating that leadership directly contributes to the development of safe project environments (**Ma et al., 2018**). Sustainable leadership studies take the performance field a step further and connect leadership with sustainable project results, organizational learning and green innovation (**Fajri and Sujana, 2025; Iqbal et al., 2024**).

The same direction is taken by relationship-oriented research. Trust and collaboration have been linked to not just the narrow meaning of project performance, but also to integration of knowledge and innovation, which suggests that project success involves the delivery and relationally facilitated organizational performance (**Bond-Barnard et al., 2018**). This expanded conceptualization is conceptually helpful as it differentiates between explanatory constructs and outcome constructs; leadership style and relationship quality are considered in this review as the domains of influence, whereas project performance is considered as the outcome domain of influence. A distinction like this one assists in ensuring clarity of analysis and avoids overlapping of sections.

Based on this, project performance in this review is considered as a stratified outcome field that encompasses traditional measures of delivery as well as wider measures of project and organizational achievement. The following sections can be well based on this definition: leadership styles will be interpreted as behavioral types of influence, relational dynamics as the interactional conditions of project delivery, and project performance as the system of outcomes under the influence of both.

Section 3 provides the conceptual framework of the review by specifying that leadership, leadership style, relationship quality and project performance are analytically related but not identical constructs. This framing can be summed up in **Table 1**.

**Table 1.** Analytical framing of the core constructs underpinning the review.

Construct	Core focus	Role in the review	Key references
Leadership	Project-embedded influence in temporary construction settings	Frames leadership as an organizational process of direction and coordination	(Miterev et al., 2017; Kwak et al., 2015; Eriksson, 2013; Lizarralde et al., 2011; Khidir et al., 2024)
Leadership style	Behavioural pattern through which leadership is enacted	Explains variation in how leaders guide teams and decisions	(Nguyen, 2025; Hristova and Handjiski, 2024; Nabila et al., 2024; Buba and Tanko, 2017; Fajri and Sujana, 2025)
Relationship quality	Trust-based and coordination-oriented interaction among project actors	Captures the relational conditions supporting project governance	(Khalfan et al., 2007; Karlsen et al., 2008; Bond-Barnard et al., 2018; Deep et al., 2021; Ali and Haapasalo, 2023; Yang et al., 2023)
Project performance	Multi-dimensional project outcomes	Serves as the outcome domain influenced by leadership and relationships	(Nabila et al., 2024; Adewumi et al., 2025; Ma et al., 2018; Iqbal et al., 2024)

4. LEADERSHIP CONFIGURATIONS IN CONSTRUCTION PROJECT SETTINGS

4.1 Transformational Leadership in Project Organizations

Transformational leadership has been the most studied of the leadership configurations that have been studied in construction-related research. Its eminence is an indication that construction projects are not just to be controlled procedurally but also to be led by leaders capable of outlining direction, inspiring initiative, and motivating employees to go beyond the scope of their daily job assignments. In this regard, transformational leadership is typically linked with inspiration, intellectual stimulation, consideration of individuals and value-based influence and, in that manner, applied particularly well to project settings that require adaptability and an ability to coordinate human action (**Korejan and Shahbazi, 2016; Deng et al., 2023**).

Construction literature is becoming more and more associated with transformational leadership and positive project and workforce conditions. Nigerian construction projects have shown that aspects of transformational leadership, especially the intellectual stimulation and charismatic influence, can play significant roles in project outcomes (**Olasunkanmi et al., 2025**). Other related research also demonstrates that transformational leadership has positive links to project success and management effectiveness, as project managers no longer engage in an administrative role only, but in a more motivating and developmental role that integrates employees in the project (**Nabila et al., 2024; Nguyen, 2025**). These findings help explain why transformational leadership continues to occupy a central position in discussions of construction leadership.

A more specific line of research has generalized this set up into the field of safety. Safety-specific transformational leadership has been demonstrated to have a positive impact on the safety behavior of construction workers, safety voice, and knowledge sharing, as well as act through mediating variables, including psychological safety, safety motivation, and psychological contract (**Ali et al., 2025; Yu et al., 2025**). This implies that not only can the



transformational model be applied at the general project level, but it can also be scaled to domain-specific leadership requirements of high-risk construction settings. Its applicability is thus in the fact that it is a flexible leadership structure that can be used to influence both the overall project behavior and the specific operational actions.

This configuration is also relevant in the broader leadership literature. It has been shown that transformational leadership has significant correlations with individual, team, and organizational performance and that some reviews believe that most of the new models of leadership contribute small amounts of explanatory information beyond those of transformational leadership (**Deng et al., 2023**). Such conclusions, though not construction-specific, allow understanding why transformational leadership continues to be a leading point of reference in construction management research. In this review, it is thus considered the main development-oriented leadership set-up in project organizations.

4.2 Transactional and Directive Leadership under Operational Conditions

In case transformational leadership is the development-oriented arrangement, transactional and directive leadership are the operationally organized face of construction leadership. These patterns focus on control, role clarity, monitoring, corrective action, and performance alignment, which are all very applicable in project environments that are deadline-driven, technically accurate, risk-oriented, and have high accountability standards. Such forms of leadership are not peripheral in the construction world; they can manifest themselves frequently as a necessary reaction to the work demands of project delivery (**Nguyen, 2025; Olasunkanmi et al., 2023**).

Construction research indicates that directive leadership is very visible in its application. Directive leadership in the construction work as it is done in the community has been determined as an important aspect of management performance (**Nguyen, 2025**). Likewise, Nigerian data reveal that directing is not only an employed style of leadership but also exhibits a significant impact on quality-related project outcomes (**Buba and Tanko, 2017**). Other studies on the same topic of transactional leadership style in the same country also point out that the following are such behaviors that are common in project management practice: giving clear instructions, closely monitoring progress, risk assessment and correction of errors (**Olasunkanmi et al., 2023**). All these studies indicate that construction leadership tends to be rather task-oriented and control-oriented.

This arrangement is also justified by research that has associated transactional leadership with knowledge and organizational capability. The transactional leadership style has been established to play a role in the development of intellectual capital within construction companies with knowledge sharing serving as a mediating factor (**Lahbar et al., 2024**). All these studies tend to indicate that construction leadership tends to be still highly task oriented and control oriented.

Even though transactional leadership is traditionally related to exchange-based control, this observation suggests that it can also facilitate structured knowledge processes in the case of an organized and performance-oriented application. Meanwhile, more general research beyond construction implies that transactional leadership does not necessarily yield similar engagement-related payoffs to transformational leadership, suggesting that its advantages might be more of an operational than a developmental nature (**Ali et al., 2024**).

Even the recent evidence indicates that under certain construction conditions transactional leadership may be seen as a particularly effective one. Studies in Kaduna have also discovered that transformational leadership was the most commonly used style, but



transactional leadership was considered the most effective particularly where active monitoring and corrective action were underlined (**Mairami et al., 2026**). This supports the interpretation that transactional and directive leadership are very applicable in situations where leaders need to gain compliance, stability and direct performance of tasks. Based on this, the control-oriented leadership mode of construction project settings can be best described in this configuration.

4.3 Participative and Empowering Leadership in Collaborative Settings

Unlike a directive and transactional set-up, participative and empowering leadership focuses on involvement, voice, collective input, and the formation of employee agency. Such types of leadership have attracted interest due to the fact that construction projects are growing to require a focus on coordinated expertise, decentralized knowledge, and active participation of the workforce as opposed to a top-down command. Under those circumstances, the effectiveness of leadership can rely on the capacity to establish an environment where team members can make contributions, act proactively, and be dedicated to project objectives.

There are a number of indications of this participative orientation in construction research. Participative leadership is one of the key behavioral dimensions of project leadership offered by the public-sector, whereas supportive leadership has been demonstrated to be particularly instrumental in the connection of other behavioral aspects of leadership to management effectiveness (**Nguyen, 2025**). The literature on the attributes of construction leadership also highlights empowerment, inclusivity, delegation, recognition, and communication as desirable qualities of a good leadership practice (**Khidir et al., 2024**). These features coincide well with the rationales of participative and empowering leadership, although studies do not explicitly refer to these terms.

The larger body of literature on leadership also facilitates the understanding of the importance of such a configuration. Participative leadership has been linked to good work results and allegiance, but its effectiveness might be diverse based on the institutional setting (**Khassawneh and Elrehail, 2022**). There is also experimental evidence indicating that empowering leadership can enable positive team results and that a rapid alternation between empowering and directive leadership can have cost implications in terms of satisfaction and commitment (**Mukherjee and Mulla, 2022**). The results can be applied to construction contexts as they suggest that participative and empowering leadership are not merely desirable in theory; they also have to be implemented regularly and in a manner that can be adjusted to project requirements.

This arrangement can thus be considered as the involvement-based mode of construction leadership. It is not so much about control but facilitating contribution, initiative, and psychological investment on the part of project participants. It is especially essential in team or knowledge-based contexts where leadership capability requires mobilization of expertise as opposed to the imposition of compliance.

4.4 Values-Based Leadership in Construction Practice

Another leadership format that has been coming out in literature can be termed as values-based leadership. This orientation gives more emphasis on long term purpose, ethics and responsibility and wider organizational direction other than on control of tasks only in the moment. In the context of construction research this arrangement is best manifested in



sustainable leadership although the concept is also discussed under the titles of authentic, ethical and servant leadership elsewhere in the broader leadership literature, to conceptualize its applicability (**Deng et al., 2023**).

The concept of sustainable leadership is currently being debated in the construction industry since modern project environments should not just react to the pressures of delivering a project but also to environmental, social and long-term organizational issues. Studies conducted at Indonesian construction projects revealed that project managers exhibited sustainable leadership traits and that sustainable leadership was a positive contributor to project outcomes, even in cases where the statistical impact was not significant (**Fajri and Sujana, 2025**). Evidence on other areas in Pakistan point to the positive relationship existing between sustainable leadership and sustainable project outcomes with green innovation and organizational learning playing mediating roles (**Iqbal et al., 2024**). It has been demonstrated that values based leadership within construction is not just a normative discourse; it is also being increasingly correlated to discernible project and organizational outcomes.

Prior research on constructed organizations also bolsters this orientation by shedding light on the need for leadership to bring the concept of sustainability to organizational strategy, policy, and culture (**Opoku and Fortune, 2011**). In this sense, as leadership is currently being understood, it does not merely presuppose that companies lead project groups, but it also relates to guiding organizations in practices that are more sustainable, accountable, and strategically oriented to future requirements. The topicality of this configuration is thus in its extension of leadership beyond the short-term implementation of projects into longer perspectives of organizations and the industry in general.

In this review, value-based leadership is considered as an independent concept compared to transformational leadership although there is some overlap in the concept. This difference is upheld by the fact that the construction literature on sustainable leadership specifies more on systems thinking, long-term responsibility, and sustainability-related results as opposed to the broad manifestation of motivational dynamics as identified in transformational leadership. This has rendered values-based leadership a disaggregated arrangement to be analytic, especially in review work that deals with developments that are specific to construction.

4.5 Contingency Perspectives on Leadership Effectiveness

The literature reviewed eventually proposes that no particular leadership structure can be utilized in all construction environments. Rather, performance of the leadership seems to be dependent on the nature of projects, employee factors, organizational environment and individual pressure. The value of this contingency view is that it does not allow literature to be perceived as the one style which should be used to substitute all other ones. Instead, it suggests that the role of construction leadership may be context-dependent and the various constructions can either be more or less dependable in the varied conditions of the project (**Setiawan et al., 2019; Perrenoud and Patterson, 2022**).

This opinion can be seen in various threads of study. Indonesian construction project situations leadership research identified a relationship between the level of employee maturity and the type of leadership employed by project managers and recommended that the effectiveness of leadership is partially determined by the level to which leadership and the team-specific conditions are matched (**Setiawan et al., 2019**). Study of construction managers in the early of their careers also showed that the favored style of leadership



changes when subjected to stress with democratic tendencies giving way to more autocratic reactions under increased stress (**Perrenoud and Patterson, 2022**). Such findings show that leadership in construction is not static, but responsive to situational demands.

This conclusion is supported indirectly by other research which demonstrate that various forms can be effective at various purposes. Initiative, engagement, and wider project results are some of the factors that tend to trail transformational leadership (**Olasunkanmi et al., 2025; Ali et al., 2025**). Transactional and directive leadership, in turn, seem to be specifically applicable in case control, monitoring, and correcting mistakes lie at its core (**Olasunkanmi et al., 2023; Mairami et al., 2026**). Participative and supportive leadership would help generate the involvement and management efficacy (**Nguyen, 2025; Khidir et al., 2024**), and sustainable leadership, on the one hand, should be more strictly linked to long-term and responsibility-oriented results (**Fajri and Sujana, 2025; Iqbal et al., 2024**). Literature thus favors contingency reading whereby leadership competence, is contingent upon the very style, as well as on the circumstances of the particular project, and the outcome priorities being considered.

In line with this, the preceding literature synthesis indicates that the concept of construction leadership can be interpreted in terms of a collection of specific context-dependent constructions: transformational, transactional and directive, participative and empowering, and values-driven constructions. It is not their isolated existence that is important; rather it is their variation in the degree to whom operational, collaborative and strategic environment of construction project settings are best suited. This gives the required background to the subsequent part, which does not focus on leadership arrangements, but on the relationship processes, within which project delivery is played out. The synthesized leadership configurations found in the literature reviewed are summarized in **Table 2**, which is the table containing the dominant orientation of the leadership structure and its applicability in the context of construction projects.

Table 2. Comparative synthesis of leadership configurations in construction project settings.

Leadership configuration	Dominant orientation	Typical emphasis in construction settings	Representative references
Transformational leadership	Developmental and motivational	Vision, inspiration, intellectual stimulation, initiative, and broader project improvement	(Olasunkanmi et al., 2025; Ali et al., 2025; Yu et al., 2025; Deng et al., 2023; Korejan and Shahbazi, 2016)
Transactional and directive leadership	Control and task execution	Clear instructions, monitoring, corrective action, compliance, and operational stability	(Nguyen, 2025; Buba and Tanko, 2017; Olasunkanmi et al., 2023; Lahbar et al., 2024; Mairami et al., 2026)
Participative and empowering leadership	Involvement and employee agency	Inclusion, delegation, support, team input, and workforce engagement	(Nguyen, 2025; Khidir et al., 2024; Khassawneh and Elrehail, 2022; Mukherjee and Mulla, 2022)
Values-based leadership	Long-term responsibility and strategic alignment	Sustainability orientation, learning, innovation, and ethically grounded project direction	(Fajri and Sujana, 2025; Iqbal et al., 2024; Opoku and Fortune, 2011)



Contingency-oriented leadership	Situational adaptation	Matching leadership behaviour to team maturity, stress, uncertainty, and project conditions	(Setiawan et al., 2019; Perrenoud and Patterson, 2022; Mairami et al., 2026)
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5. RELATIONAL DYNAMICS IN CONSTRUCTION PROJECT DELIVERY

The dynamics of relations are the focus of delivering construction projects since the implementation of any project is accompanied by temporary and multi-organizational structures that demand coordinated action between actors who have various roles, interests, and responsibilities. Formal contracts are not enough to achieve successful cooperation in such environments. Rather, project operation falls on trust, communication, sharing knowledge, and interorganizational cohesion (**Khalfan et al., 2007; Lizarralde et al., 2011; Deep et al., 2021**).

5.1 Trust Formation in Temporary Project Organizations

One of the most basic relational conditions in a construction project is trust. It facilitates fair working associations, enhances dialogue, and elevates each interaction with the stakeholders throughout interfaces between projects (**Khalfan et al., 2007; Karlsen et al., 2008**). The phenomenon of trust is particularly significant in temporary project organizations that tend to have short-term relational history and where friction is reduced with its help.

Trust is another point that has been suggested in literature as not automatic. It is constituted by recognizable enablers and partnership procedures, especially in the case of alliance and interorganizational projects (**Moradi and Sormunen, 2025**). Trust also helps to make the project successful, as it enhances communication between team members (**Bond-Barnard et al., 2018**).

5.2 Communicative Alignment and Knowledge Exchange across Project Interfaces

The coordination in construction projects is based on communication and knowledge exchange. Clear communication, delegation, and goal alignment have been linked to effective leadership in construction teams, which implies that the quality of communication is the key to team operations (**Khidir et al., 2024**). Culture also influences knowledge transfer at the organizational level, particularly in the sense of what knowledge is prized, the bases of sharing knowledge and the legitimacy of the mechanisms (**Wei and Miraglia, 2017**).

Governance is also a communication role. Learning and incentivizing functions are facilitated by communication channels in collaboration-intense projects, and they contribute to the capacity to minimize relational risk (**Lehtiranta, 2011**). More recent research indicates that in construction contexts, knowledge sharing mediates the role of leadership on safety behavior and intellectual capital development (**Ali et al., 2025; Lahbar et al., 2024**).

5.3 Collaboration and Interorganizational Cohesion in Construction Networks

Construction projects are based on cooperation among disjointed organizational networks. Reliability, trust and commitment have been cited as key enablers of collaboration, especially when it comes to project execution contexts which demand integrated



performance **(Deep et al., 2021)**. Conceptual work also indicates that collaboration in construction is a multilayer process that encompasses cooperation, coordination and control within the relationships between stakeholders **(Ali and Haapasalo, 2023)**.

This problem transcends internal team relationships to larger stakeholders and network formations. The relationship management between stakeholders has gained importance in the construction research particularly with increased interdependence and innovation-focused project delivery **(Yang et al., 2023)**. Digitized project spaces introduce a new dimension of relational complexity, as the use of different tools like BIM can facilitate and complicate interorganizational interaction **(Braun et al., 2025)**. The key relational dimensions identified in the reviewed literature are synthesized in **Table 3**.

Table 3. Analytical synthesis of relational dynamics in construction project delivery

Relational dimension	Core role in project delivery	Representative references
Trust	Stabilizes collaboration and improves stakeholder interaction	(Khalfan et al., 2007; Karlsen et al., 2008; Moradi and Sormunen, 2025; Bond-Barnard et al., 2018)
Communication and knowledge exchange	Supports coordination, learning, and project alignment across interfaces	(Khidir et al., 2024; Wei and Miraglia, 2017; Lehtiranta, 2011; Ali et al., 2025; Lahbar et al., 2024)
Collaboration and interorganizational cohesion	Enables coordinated execution across fragmented project networks	(Deep et al., 2021; Ali and Haapasalo, 2023; Yang et al., 2023; Braun et al., 2025)

6. LEADERSHIP, RELATIONSHIPS, AND PROJECT PERFORMANCE

According to the reviewed literature, leadership behavior and the interaction between relational conditions and leadership behavior determine the performance of construction projects. Leadership plays a direct role in project success and effectiveness, whereas the quality of relationships enhances the collaborative environment in which this influence translates into results **(Nabila et al., 2024; Adewumi et al., 2025; Bond-Barnard et al., 2018)**.

6.1 Leadership and Relational Conditions in Project Success and Effectiveness

Leadership style is significantly related to project success, and the leadership behavior of project managers is also strongly associated with project effectiveness **(Nabila et al., 2024; Adewumi et al., 2025)**. However, leadership alone cannot explain these outcomes. Trust and cooperation enhance the chances of successful project management, which implies that relational conditions support the impacts of leadership **(Bond-Barnard et al., 2018)**. Studies in the field of public construction organizations also indicate that supportive and directive leadership may mediate the effects of other leadership behaviors on management effectiveness **(Nguyen, 2025)**. This suggests that leadership affects success partly through the managerial and relational conditions it creates.



6.2 Leadership Influence on Quality and Safety Outcomes

Other more specific areas of performance that are influenced by leadership are quality and safety. Functional and aesthetic quality results have been linked to directive leadership in public construction projects (**Buba and Tanko, 2017**). Conversely, safety research emphasizes both overall safety leadership performance and safety-related transformational leadership as key factors that affect worker safety behavior and safety voice (**Ma et al., 2018; Ali et al., 2025; Yu et al., 2025**). These results indicate that various leadership arrangements can influence various areas of performance. Control-oriented leadership is more apparent in quality-related delivery, whereas transformational and safety-focused leadership are more apparent in the development of proactive safety behavior.

6.3 Workforce Engagement, Knowledge Sharing, and Organizational Contribution

Another performance stream is the one that works via workforce engagement and the contribution of knowledge. Construction leadership studies focus on empowerment, recognition, inclusivity, and communication as the states that help foster morale and long-term involvement (**Khidir et al., 2024**). Allied studies indicate that knowledge sharing mediates the influence of leadership on intellectual capital and safety behavior in the construction setting (**Lahbar et al., 2024; Ali et al., 2025**).

It is further supported by supporting evidence on the broader research of leadership, which shows that transformational leadership correlates with the use of strengths, personal initiative, trust in supervisor, work engagement, and job performance (**Lee et al., 2023; Bakker et al., 2023**). Even where the influence of leadership on citizenship behavior is less strong, construction-specific studies indicate that it influences employee engagement and job satisfaction (**Nurtjahjani et al., 2023**).

6.4 Broader Project Outcomes under Sustainable Leadership

There are also broader project outcomes that are highlighted in the literature in terms of sustainable leadership. Sustainable leadership in construction is attributed to long-term orientation, systems thinking and responsible project management (**Fajri and Sujana, 2025**). Its immediate impact on project performance is not always statistically significant, but it still has a positive influence and is additionally connected to green innovation and organizational learning (**Iqbal et al., 2024**).

Previous studies also reveal that leadership plays a strategic role in instilling sustainability in organizational direction and policy within building companies (**Opoku and Fortune, 2011**). This broadens the performance discussion beyond immediate delivery metrics. The principal performance pathways identified in the reviewed studies are summarized in **Table 4**.

Table 4. Comparative synthesis of leadership, relational conditions, and performance outcomes

Performance domain	Main leadership or relational influence	Representative references
Project success and effectiveness	Leadership behavior supported by trust and collaboration	(Nabila et al., 2024; Adewumi et al., 2025; Bond-Barnard et al., 2018; Nguyen, 2025)
Quality outcomes	Directive and control-oriented leadership	(Buba and Tanko, 2017)



Safety outcomes	Safety leadership and safety-specific transformational leadership	(Ma et al., 2018; Ali et al., 2025; Yu et al., 2025)
Engagement and knowledge contribution	Empowering leadership, trust, knowledge sharing, and initiative	(Khidir et al., 2024; Lahbar et al., 2024; Lee et al., 2023; Bakker et al., 2023; Nurtjahjani et al., 2023)
Sustainable and long-term outcomes	Sustainable leadership, learning, and innovation	(Fajri and Sujana, 2025; Iqbal et al., 2024; Opoku and Fortune, 2011)

7. CONTEXTUAL VARIATION IN THE LEADERSHIP–PERFORMANCE RELATIONSHIP

The literature indicates that leadership and relationship effects on the performance of construction projects are context dependent. Their influence depends on the situation of temporary organizational, collaborative projects, and the situation of workforce needs (Mitrev et al., 2017; Setiawan et al., 2019; Braun et al., 2025).

7.1 Project-Based and Temporary Organizational Conditions

Construction projects are carried out under the organizational forms that are temporary and project-based, which are very different to stable hierarchical organizations. Contingencies are specific to temporary organizing that shapes their design, so that leadership is increasingly dependent on how they coordinate across shifting roles and disrupted responsibilities (Mitrev et al., 2017). There are also inter and intra-organizational relations where project functioning is influenced other than through formal contractual relations (Lizarralde et al., 2011).

Learning and integration may also be limited by these temporary conditions. Fragmentation is a debilitating factor that reduces organizational boundaries, and construction organizations tend to focus more on the short-term implementation rather than the long-term development of knowledge (Eriksson, 2013; AlAshwal and Fong, 2015). The effectiveness of leadership is thus partly based on the effectiveness of the leaders in responding to such structural constraints.

7.2 Collaborative and Interorganizational Project Settings

The collaborative environment where the project is provided also contributes to leadership. In interorganizational setting, project delivery requires cooperation, coordination, and control among the relationships of multiple stakeholders (Ali and Haapasalo, 2023). Trust teamwork within alliance and collaborative delivery environments evolves over recognizable enablers and processes (Moradi and Sormunen, 2025).

In this kind of environment, relational risk is particularly pertinent since uncertainty in terms of collaborative performance may have a significant impact on project success (Lehtiranta, 2011). Digitized environments, e.g., projects with BIM, alter these conditions even more by bringing about new relational demands and also providing coordination advantages (Braun et al., 2025).

7.3 Situational Variation in Leadership Effectiveness

The effectiveness of leadership also depends on the situation and team. Indonesian construction projects imply that situational leadership is more effective in case the level of leadership style and employee competence and commitment are compatible (Setiawan et



al., 2019). Studies about construction managers in early careers also show that the preferences towards leadership change in stressful situations with more autocratic answers being observed in more stressful conditions (**Perrenoud and Patterson, 2022**).

The experimental findings also indicate that alternating between empowering and directive leadership can influence satisfaction and commitment, particularly when the teams go through a transition between empowering and directive behavior (**Mukherjee and Mulla, 2022**). Similar proposals are brought forward by public construction research; it implies that the effectiveness of leadership behaviors may vary with respect to the functioning of supportive and directive functions in a particular situation (**Nguyen, 2025**). The main contextual conditions shaping the leadership–performance relationship is outlined in **Table 5**.

Table 5. Analytical summary of contextual conditions influencing leadership effectiveness in construction

Contextual condition	Influence on leadership and performance	Representative references
Temporary and project-based organization	Increases coordination demands and limits stable integration	(Miterev et al., 2017; Lizarralde et al., 2011; Eriksson, 2013; AlAshwal and Fong, 2015)
Collaborative and interorganizational setting	Makes trust, cooperation, and cross-boundary coordination more critical	(Ali and Haapasalo, 2023; Moradi and Sormunen, 2025; Lehtiranta, 2011; Braun et al., 2025)
Situational and workforce variation	Alters the suitability of leadership style according to stress, maturity, and team conditions	(Setiawan et al., 2019; Perrenoud and Patterson, 2022; Mukherjee and Mulla, 2022; Nguyen, 2025)

8. CRITICAL SYNTHESIS

The literature reviewed supports the fact that leadership is a significant predictor of construction project performance, although its impact is seldom direct or independent. Throughout the studies reviewed, leadership is associated with project success, management performance, quality, safety, employee engagement and overall organizational performance. Meanwhile, these impacts are continuously preconditioned by relational aspects like trust, communication, collaboration and exchange of knowledge. The literature thus is more inclined towards a combination perspective where leadership style and relationship quality interrelate to influence construction project delivery and not as independent explanatory domains.

The second pattern that is replicated is the evidence clustering around a small number of leadership configurations. Transformational leadership is the most supported leadership especially when it comes to motivation, initiative, performance enhancement and safety oriented results. Transactional and directive leadership are still critical in the environment that involves monitoring, role clarification, correcting, and control of operations. Participative and empowering leadership seem to be more applicable to engagement and inclusion and employee contribution, whereas sustainable leadership expands the discussion to learning, innovation, and responsibility in the long-run. Combined, the evidence indicates that the leadership that is best applied in construction is a context-sensitive configuration of various forms, and not one configuration that universally works.



It is also reflected in the literature that the performance of construction projects should be taken inclusively. The studied papers show that, though the traditional results of delivery are also significant, leadership and relationships contribute to knowledge exchange, safety voice, intellectual capital, innovation, and the results related to sustainability. This expansion of the concept of performance is also among the strengths of the existing knowledge base since it brings the leadership research in line with the reality of the complexity of construction project environments.

9. CONCLUSIONS

This review identifies leadership as a key aspect of construction project performance, both in establishing managerial direction & in shaping the relational dimensions of coordination, alignment and longevity. The literature suggests that there is no common preferable style of leadership for construction interactions. Transformational leadership supports motivation, involvement & improvement; directive/transactional leadership facilitates control, role definition & remedial action; participative/empowering leadership; promotes employee interaction; whilst sustainable leadership creates longer term value, learning, innovation & responsibility. Construction leadership is, therefore, context contingent rather than style exclusive. Finally, the review identifies that the outcomes of leadership are strongly attuned through relational dynamics of trust, communication, collaboration, and knowledge sharing, so that construction project performance is best understood through the interaction of style and quality of relations.

NOMENCLATURE

Symbol	Description	Symbol	Description
A	Area, m ² .	α	Altitude angle, deg.
T	Time, s	B	The factor of variation, dimensionless.
T _a	Ambient temperature, °C		

Credit Authorship Contribution Statement

Olla Mohammad Ali Jobara: Writing – original draft, Methodology, Investigation, Data curation, Formal analysis, Validation, Visualization. Ahmed Mohammed Raoof Mahjoob: Supervision, Conceptualization, Methodology, Validation, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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ربط أنماط القيادة وجودة العلاقات بأداء مشاريع التشييد: مراجعة منهجية

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الخلاصة

تُنفَّذ مشاريع التشييد ضمن بيئات تتسم بالتعقيد الفني، والتنظيم المؤقت، وتعدد الأطراف، والتجزؤ التنظيمي، مما يجعل أداء المشروع معتمدًا ليس فقط على النظم الفنية والإدارية، بل أيضًا على أنماط القيادة وجودة العلاقات بين المشاركين في المشروع. وعلى الرغم من تزايد الاهتمام البحثي بهذين البعدين، فإن الأدبيات ذات الصلة ما تزال متفرقة مفاهيميًا، إذ غالبًا ما تُدرَس أنماط القيادة والديناميكيات العلائقية بصورة منفصلة. تهدف هذه الدراسة إلى تقديم مراجعة منهجية للأدبيات من أجل تحليل الكيفية التي تؤثر بها أنماط القيادة وجودة العلاقات بصورة مشتركة في أداء مشاريع التشييد. واعتمدت الدراسة إجراءً منظمًا شمل تحديد الدراسات، وفرزها، وتقييم أهليتها، ثم تحليلها موضوعيًا بالاعتماد على قواعد بيانات أكاديمية رئيسة مع تتبع المراجع ذات الصلة. وأظهرت النتائج أن القيادة التحويلية تمثل النمط الأكثر حضورًا في الأدبيات، في حين تؤدي القيادة التبادلية، والتوجيهية، والتشاركية، والتمكينية، والمستدامة أدوارًا مهمة تبعًا لاختلاف ظروف المشروع. كما بينت المراجعة أن الثقة، والاتصال، والتعاون، وتبادل المعرفة تمثل آليات علائقية رئيسة تنتقل من خلالها تأثيرات القيادة إلى مخرجات المشروع. وأوضحت النتائج كذلك أن أداء المشروع لا يقتصر على الوقت والكلفة والجودة، بل يمتد ليشمل السلامة، والفعالية، وانخراط القوى العاملة، والابتكار، والمخرجات المرتبطة بالاستدامة. وتخلص الدراسة إلى أن فهم أداء مشاريع التشييد يتطلب منظورًا تكامليًا تعمل فيه أنماط القيادة وجودة العلاقات بصورة مترابطة ضمن بيئات مشروع تختلف باختلاف السياق. وتسهم الدراسة في تقديم إطار تحليلي موحد وتحديد فجوات بحثية مهمة للدراسات المستقبلية في إدارة التشييد.

الكلمات المفتاحية: أداء المشروع، أنماط القيادة، الجودة العلائقية، مشاريع التشييد، مراجعة منهجية.