

EXPLORING TEAM COHESION IN PROJECT MANAGEMENT

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Abstract:

Project management represents an essential area of research with a significant impact on society and the economy. This paper aims to critically analyze the scientific literature on team cohesion and its influence on project outcomes. We employ a qualitative approach based on secondary sources to identify and evaluate critical factors such as knowledge exchange, trust, and team cohesion and to examine how these contribute to project success. The novelty of our work lies in its interdisciplinary approach, integrating perspectives from organizational psychology and project management to investigate the dynamics of team cohesion and its impact on project performance. Within this article, we critically analyzed team cohesion through the lens of individual team member competencies first, leadership styles second, and the relationship between them third. Our results indicate that integrating team cohesion into project dynamics maximizes operational efficiency and enhances resilience and adaptability against unexpected challenges. Managers who adopt specific leadership approaches (e.g., transformational and transactional) are identified as crucial factors in creating and maintaining project team cohesion. Furthermore, the article emphasizes that integrating team cohesion into management practices contributes not only to project success but also to its sustainability. Managers can develop effective strategies and interventions to enhance collaboration and outcomes within project teams by profoundly understanding the relationship between team cohesion and project performance.

Keywords: project management, team cohesion, project success, leadership

1. Introduction

In recent decades, many organizations have experienced a transition from traditional hierarchical structures to project-based team structures (Devine et al., 1999; Kozlowski and Bell, 2003; Mathieu et al., 2008). This change reflects the recognition that organizational success increasingly depends on teams' ability to collaborate efficiently and achieve high-performance results within projects. While factors such as project size, the coordinating organization's type, and the market sector have influenced project management in the past, the complexity of objectives demands specific adaptability to the human dimension. In projects,

human resources represent the most significant effort to manage. Thus, research on leading and managing teams becomes particularly relevant, with impact both in the academic and economic-industrial spheres.

A significant barrier in empirical research on team cohesion may be explained by the tendency to overlook the temporal nature of teams (Drescher et al., 2012). In our research, we argue that a cohesive team provides a supportive climate for addressing challenges during project collaboration, ultimately facilitating the manifestation of team members' performance benefits and project outcomes. Previous research highlights the importance of team cohesion in project success. For example, Littlepage et al. (1989) and Tung and Chang (2011) underscored the crucial role of team cohesion in project success, while Waseem et al. (2022) showed that it mediates the relationship between project governance and its outcomes. Additionally, studies demonstrate that team cohesion is positively associated with group performance and project success (Mullen and Cooper, 1994; Beal et al., 2003; Chiochio and Essiembre, 2009; Gully et al., 2012).

Furthermore, team cohesion plays a specific role in amplifying the positive effects of team diversity on its dynamics (Chang and Bordia, 2001). Meanwhile, van Vianen and De Dreu (2001) investigated the relationship between team personality composition and various aspects of cohesion, highlighting the influence of personality traits on it. In addition, Grossman et al. (2022) highlighted team cohesion as a significant predictor of team performance. Zhang et al. (2023) showed that project managers with higher emotional intelligence positively influence project outcomes through efficient team cohesion management. These studies highlight the essential role of team cohesion in project success and the need to address this aspect in project management.

Thus, this article aims to critically analyze the scientific literature on project team cohesion and its influence on project outcomes. We also aim to identify and evaluate critical factors contributing to project success, such as knowledge exchange, trust, and team cohesion, and to investigate how these influence project performance (Burlea-Schiopoiu, 2007a). To address these objectives, we will focus on two main research questions: What are the key factors contributing to project team cohesion, and how do they influence project performance? and How can managers and leaders effectively utilize team cohesion to achieve successful project outcomes? The novelty of our work lies in its interdisciplinary approach, integrating perspectives from organizational psychology and project management to investigate the dynamics of team cohesion and its impact on project performance.

2. Literature Review

Specialized literature highlights that the project team represents an essential factor in ensuring the success of project implementation. Projects are planned activities with clear deadlines to achieve a specific result, product, or service used in various fields, and their importance lies in the ability to efficiently manage resources, time, and costs in a structured manner to achieve established objectives. Each project is unique, differing in team structure, activity specifics, domain, desired outcomes, purpose, and objectives. Therefore, achieving success within a project is a complex process consisting of a combination of unique elements determined by each project's type and specific characteristics (Shokri-

Ghasabeh and Kavoosi-Chabok, 2009, p. 265). The uniqueness of a project stems from temporal and financial aspects, the targeted stakeholder group, the provided solution, the team, and leadership, as well as other contextually predefined elements (Lock, 2010, p. 5).

Project management is a field that seeks to improve through its impact on project success (Radujkovic and Sjekavica, 2017, p. 613). Whether involved in the project part-time or full-time, team members play a crucial role in achieving the set objectives. The project team comprises a carefully selected group of individuals with complementary skills and talents collaborating to achieve a specific goal over a determined period (Watt, 2014, p. 60). The project team has two main categories of members: core members and temporary members. Core members are involved in the project from start to finish and are responsible for project planning and decision-making. Together with the project manager, they lead activities and focus on completing the project within budget and desired quality.

On the other hand, temporary members are experts brought into the team based on needs and may participate only in certain project stages. The project team is a group of individuals with interdependent tasks, part of a broader social system. This diversified group, in terms of competencies, experiences, and personal and professional skills, can efficiently leverage project management strengths to achieve set objectives successfully. Project teams inevitably evolve with each stage, with project management having the secondary aim of providing a conducive framework for all project members' personal and professional development (Kloppenborg et al., 2017).

According to Harned (2017, p. 121), the project team's success involves close cooperation and allocating time for collective expression, debate, and decision-making. In specific specialized fields, such as healthcare, recruiting the right people is frequently mentioned as a critical success factor, highlighting the need for the leader to receive support from a capable team. Building and maintaining a cohesive team poses a challenge for leaders in various fields, as they may face the legacy of an already formed team without the possibility of selection based on competencies (Lexa, 2017, p. 28).

Additionally, the literature underscores that diversity of knowledge and expertise within the team is an essential indicator of its success. Creating and developing the project team is defined as selecting and improving project performance by consolidating team members' competencies, interactions, and overall atmosphere. Team effectiveness is subjectively defined by completing tasks and is influenced by the team's culture, the nature of daily work, and its members' attributes. Thus, successful team members promote collaboration, communication, conflict management, and honesty, contributing to a team spirit and a conducive atmosphere for achieving project objectives (Sweis et al., 2017, pp. 4-5).

In projects, the team acts as a complex social system in which individuals with high professional competencies are involved in performing a complex set of interdependent functions. Since each has distinct psychological traits, interests, ambitions, aspirations, values, and ideals, creating a project team and coordinating its objectives, aspirations, and interests are greatly hindered by these differences. Thus, it is essential that during the project team-building phase, the leader pays attention to the candidates' professional level, social competencies, and psychological traits (Grynchenko et al., 2018, pp. 14-16). Personnel teams are

integral to stakeholder groups, involving other entities to understand, consider, communicate, and respond to project interests, needs, and feedback. In the team formation process, aspects such as team size, human resource allocation, team experience, stakeholder accessibility, team diversity, and its evolution are considered (PMI, 2021).

Team dynamics research should develop due to the rarity of scenarios where a project unfolds exactly as initially anticipated. The unexpected reality causes the project team to reassess and reconfigure the following steps, emphasizing the project's success dependency on the team members' quality and responsiveness. Forming a solid and efficient group capable of completing project actions following stakeholders' expectations, while respecting proposed time, budget, and quality constraints, requires careful planning, selection, and monitoring. According to PMBOOK (PMI, 2021, pp. 55-56), managing new or unforeseen elements offers opportunities for value generation, provided that adaptation is done collaboratively with the project team through a robust change control process. In conclusion, specialized literature highlights that project success is closely linked to the quality and efficiency of the project team. A well-built team, with diverse, collaborative, and goal-oriented members, represents an essential pillar in successfully managing projects, and adapting to changes and challenges during implementation.

The topic's relevance is underscored by the current market context, which imposes an increased need for organizations to achieve successful project outcomes, where team cohesion is a crucial factor in achieving this goal. Managers can develop effective strategies and interventions to improve collaboration and results within project teams by profoundly understanding the relationship between team cohesion and project performance.

3. Research objectives

This paper aims to critically analyze the scientific literature on team cohesion and its influence on project outcomes.

3.1 Methodology of research

We employ a qualitative approach based on secondary sources to identify and evaluate critical factors such as knowledge exchange, trust, and team cohesion and to examine how these contribute to project success. Within this article, we critically analyzed team cohesion through the lens of individual team member competencies first, leadership styles second, and the relationship between them third.

3.2 Research question

This paper aims to answer two main research questions: What are the key factors contributing to project team cohesion, and how do they influence project performance? and How can managers and leaders effectively utilize team cohesion to achieve successful project outcomes?

4. Results and discussion

Team management remains controversial in determining the key to project success, given the unique nature of individuals and projects. The approach to this dilemma can be found in the literature and primarily in the accumulation of

competencies, skills, and roles that each team member assumes. Team cohesion, an attractive trait, represents a crucial factor in project success, highlighted in the affective dimension (Littlepage et al., 1989; Tung and Chang, 2011).

Education, medicine, and sports psychology have predominantly studied team cohesion. In the specialized literature regarding project management, there is a need to examine the difficulties related to team cohesion. Studies have demonstrated that team cohesion is essential, mediating the relationship between project governance and its success (Waseem et al., 2022). Additionally, it has been positively associated with group performance (Mullen and Cooper, 1994; Beal et al., 2003; Chiocchio and Essiembre, 2009; Gully et al., 2012). Team cohesion is complex and must be evaluated with valid measures, considering the group and project's specificity. Since Festinger's study in 1950, cohesion has been defined as the result of forces that make members remain in a group, identifying members' attraction, group activities, and prestige as dimensions of cohesion.

Van Vianen and De Dreu's (2001) study explores the relationship between team personality composition and various aspects of cohesion, including social and task cohesion. They found that certain personality traits, such as conscientiousness and agreeableness, positively contributed to social and task cohesion within teams. Specifically, teams with higher levels of these traits tended to exhibit stronger bonds between team members and a greater sense of unity in working towards common goals. It is interesting to note that in specific contexts, social cohesion was more strongly linked to team performance than task cohesion, suggesting that the quality of interpersonal relationships within a team can significantly impact its overall efficiency. However, although personality composition influenced cohesion within teams, the study did not find a direct link between cohesion and team performance, indicating that other factors may also play a role in determining team outcomes.

Analyses by Beal et al. (2003) and Kozlowski and Ilgen (2006) provide a dual perspective on cohesion, through the lenses of task and social cohesion. Task cohesion reflects the linkage and unity in accomplishing a common task, influencing job satisfaction, group performance, and project success, especially in its early stages (Picazo et al., 2015). On the other hand, social cohesion is associated with interaction, friendship, and social support among members, facilitating communication and coordination efforts. This entails interpersonal solid relationships, mutual trust, and a sense of belonging to the group, and is associated with team satisfaction, member involvement, and retention. The differences between the two dimensions of cohesion have been highlighted in the literature, with Carless and De Paola (2000) identifying task cohesion as a strong predictor of group performance compared to social cohesion. In the meta-analysis conducted by Beal et al. (2003), a stronger correlation between cohesion and performance was confirmed in the context of intense team workflow models. These findings support the idea that cohesion, especially task cohesion, is crucial in determining group success and efficiency.

Tung and Chang (2011) sought to extend an integrated team performance model by investigating the mediating roles of knowledge exchange and team cohesion in the relationship between empowering leadership behaviors and team performance. The study was conducted on management teams, considering their frequent interaction, shared understanding, collaboration, and strategic importance in influencing team performance through knowledge sharing and cohesion. The

findings showed that empowering leadership had indirect effects on team performance through knowledge exchange and team cohesion, both factors having a positive impact on performance. The results align with previous research on the relationship between group cohesion and performance, supporting the multidimensional perspective of cohesion.

In their study, Lavy et al. (2015) underscore the significance of team cohesion in mitigating the potential adverse effects of attachment heterogeneity, ultimately contributing to enhancing team performance and functioning. Specifically, the authors suggest that cohesive teams create a conducive climate for addressing challenges posed by insecure team members, thereby allowing for the positive manifestation of attachment orientation heterogeneity within the team. Their findings indicate that when team cohesion is high, teams characterized by heterogeneity in anxiety and attachment avoidance tend to perform better. These perspectives have implications for team management and emphasize the importance of fostering a supportive and trusting team environment to leverage the benefits of attachment diversity within teams.

Mathieu et al. (2015) conducted a meta-analysis synthesizing the results of 17 studies on team cohesion and performance, revealing reciprocal relationships between the two over time. Longitudinal data from 205 members of 57 student teams further supported this, indicating a positive and reinforcing relationship between cohesion and performance, with cohesion exerting a more significant influence. Shared leadership positively influenced cohesion, while team members' academic competence was correlated with performance. A replication study confirmed these relationships, highlighting the importance of cohesion in stimulating subsequent performances. The findings suggest that team cohesion develops over time and can be strengthened by overcoming challenges, ultimately improving performance.

Project teams, complex and composed of individuals with diverse competencies, require close cooperation to achieve success. This cooperation entails allocating time for expressing and debating ideas, making decisions, and effective leadership (Harned, 2017; Kloppenborg et al., 2017). Building a project team and coordinating its objectives and members' interests is complicated by the psychological traits (i.e., interests, ambitions, aspirations, values, and distinct ideals) of each team member (Grynchenko et al., 2018, p. 14). Leadership style has a strong influence on the team and the project. For example, transformational and transactional leadership styles aid in creating and maintaining project team cohesion, encouraging collaboration and innovation, and evaluating and improving individual performances. Transformational managers encourage team members to surpass their limits and become innovators, while transactional managers focus on managing and developing individual performances. Both approaches can enhance team cohesion and project performance by increasing employee engagement and fostering collaboration. However, the interaction between the manager and team members can negatively affect team cohesion, such as autocratic leadership style, which is more significant for virtual teams than traditional teams (Burlea-Schiopoiu, 2007b; Wang et al., 2018).

Özer and Tuğba Karabulut (2019, p. 107) investigated the role of multiple variables, including the impact of team cohesion dimensions on project outcomes. The study's results confirmed that team autonomy and task cohesion dimensions significantly affect innovation and efficiency, while organizational support positively

impacts task cohesion and team effectiveness. Project managers adopting a leadership approach can benefit in striking a balance between team and project needs (Burlea-Schiopoiu, 2009; Oh et al., 2019).

Furthermore, developing team cohesion is essential for both team members' performance and the project's overall success. Podgórska and Pichlak (2019, p. 882) emphasize the significance of personnel in achieving a successful project, considering a robust and well-managed team as crucial for goal attainment. Thus, the manager must facilitate the team's accommodation with tasks and other members, thereby increasing team cohesion and the project's likelihood of success. Additionally, it is essential to precisely determine each team member's position in Maslow's hierarchy to manipulate motivational factors according to each individual's characteristics (Shirley, 2020, pp. 141-149).

The study conducted by Gonzalez-Mulé et al. (2020) investigates the relationship between team lifespan and team performance. The authors performed meta-analyses based on data from 169 studies, comprising 622 effect sizes, to examine how different conceptualizations of team lifespan (additive, collective, and dispersion) are related to team performance. Their findings reveal that team lifespan, regardless of how it is conceptualized, is positively associated with team performance. Firstly, additive team lifespan assists individual team members in acquiring job-relevant knowledge and skills, team, and organizational context. Secondly, collective team lifespan contributes to a common knowledge base by sharing experiences among team members. Lastly, team lifespan dispersion is notable for the diversity among team members regarding knowledge, skills, and perspectives, enriching task accomplishment. Additionally, the study identifies team mediation processes through which team lifespan influences team performance, including team cognition, motivational-affective states, and behavioral processes.

Moreover, Acton et al. (2020) investigated the impact of team composition on team cohesion evolution, and the findings suggest that for effective team management, interventions should focus on increasing the number of team members with traits such as agreeableness and performance-oriented goal orientation, which are associated with increased cohesion over time. Understanding how interpersonal relationships evolve based on team composition, managers can intervene more effectively when necessary, aligning interventions with the team's lifecycle and compositional properties.

Feitosa et al. (2020) highlight the significance of team trust regarding members' perceptions of trust in their colleagues and their personal perception of trust in their team members. This perspective aligns with arguments in the literature regarding cohesion, where a distinction is made between individuals' attraction to their team and their perception of the team's collective level of attraction (Carless and De Paola, 2000). To assess the trust-performance relationship, various team performance outcomes are considered, such as creativity, efficiency, effectiveness, and results. Feitosa et al. (2020) demonstrate that the trust-performance relationship remains robust regardless of how trust is defined and measured. They highlight the dynamic nature of trust and performance, suggesting that underestimating this relationship could threaten team cohesion.

Imam and Zaheer (2021, pp. 2-3) suggest that knowledge exchange, cohesion, and trust within the team are critical factors that must be addressed in project management. The authors found through their study that shared leadership

positively influenced project success, and this relationship was partially mediated by knowledge sharing, team cohesion, and trust. The results emphasize the importance of promoting shared leadership practices within project teams to encourage efficient knowledge exchange, enhance team cohesion, and build trust, ultimately leading to improved project outcomes. According to the Project Management Institute in the PMBOK Guide (PMI, 2021, p. 70), members remain focused on executing activities according to the plan through effective collaboration and the collective effort of the project team.

The study by Mariam et al. (2022) investigates the link between knowledge-oriented leadership, team cohesion, and project success. The results of this study highlight that knowledge-oriented leadership positively impacts team cohesion, and team cohesion, in turn, positively influences project success. These findings underscore the importance of promoting leadership focused on knowledge development and exchange within the team, thus strengthening cohesion and achieving successful project outcomes.

Additionally, Grossman et al. (2022) provide valuable insights into the relationship between team cohesion and project success, highlighting the importance of team cohesion as a significant predictor of team performance. However, they also highlight challenges in understanding this relationship due to inconsistencies in conceptualizing and measuring cohesion. Findings from the meta-analysis of the cohesion-performance relationship suggest that the degree of proximity in cohesion measures impacts the strength of this relationship. Specifically, measures evaluating task cohesion and behavioral manifestations of cohesion exhibit stronger relationships with performance than measures focusing on social cohesion or attitudinal manifestations. Moreover, the influence of modern team characteristics on this relationship is acknowledged, although optimal measurement approaches remain relatively stable across all contexts. The study underscores the need to consider nuances of modern team characteristics and their implications for research and practice.

Overall, the tendency is to consider a team composed mainly or entirely of individuals with brilliant intellect. Yet, Belbin demonstrates through his experiment that what truly has a strong impact on the group is human behavior and the balance created within the team, thus different members in terms of skills and behavior register significantly superior results to those in imbalance (either oversaturating the team with members holding the same role type or lacking a particular role in the created team). In Belbin's team, there are nine roles; however, a person can perform multiple roles concurrently or interchangeably, just as there can be roles they do not adopt throughout the project or organizational lifecycle. Belbin's team role model is used in over 40% of top companies in the UK, the United Nations, the World Bank, and thousands of other organizations worldwide. Belbin's team role model underscores the importance of balance and role diversity to achieve superior results (Belbin Associates, 2022, <https://www.belbin.com>).

Furthermore, internal factors such as member similarity, team size, levels of self-disclosure, acceptance, trust among team members, empathic bonds, mutual respect, behavioral norms, and interpersonal relationships can influence perceived team cohesion. In contrast, external factors that foster a sense of belonging among team members include team differentiation, external competitive pressures, external threats, and collective team achievements (Cai, 2023). Zhang et al.'s

(2023) meta-analysis revealed that project managers with higher emotional intelligence demonstrated superior leadership, communication, and conflict management skills, positively influencing project outcomes.

Thus, successfully managing team cohesion and psychological and interpersonal factors is essential for project success. Managing teams within projects is a complex challenge, with numerous factors contributing to their success or failure. Yet, team cohesion lies at the heart of project performance, reflected in efficient collaboration, communication, and mutual trust. Effective project management must address these aspects, leveraging the diversity of skills and styles within the team, and promoting leadership that supports cohesion and manages psychological and interpersonal factors constructively.

5. Conclusions

From the analysis of the specialized literature, we have concluded that a comprehensive exploration of the factors influencing the success of a project reveals a central constant: team cohesion. Extensive research in project management emphasizes the significant role that efficient collaboration, communication, and mutual trust play in determining project performance and success. From analyzing dimensions of cohesion, such as task and social cohesion, to the influence of leadership styles, such as transformational and transactional, evidence converges on the idea that well-knit and properly managed teams significantly contribute to project objectives.

In a broader context, integrating team cohesion into project dynamics maximizes operational efficiency and contributes to resilience and adaptability in the face of unexpected challenges. Teams are dynamic entities, with ebbs and flows that change and evolve, and team cohesion has been recognized by researchers as an essential factor in determining team performance (Mathieu et al., 2015). In the contemporary era, the cohesive nature of teams has become a determinant of organizational success, especially in a dynamic and ever-evolving environment (Cai, 2023). Cohesion is not only essential for accomplishing specific project tasks but also serves as a bond that strengthens team spirit and motivates members to overcome obstacles together.

Cohesion management should not be viewed merely as a transient strategy but as a sustainable investment in project success, providing a solid foundation for innovation, adaptability, and achieving established objectives. We recommend that project managers promote shared leadership practices to encourage efficient knowledge exchange, enhance team cohesion, and build trust among team members, thus improving project outcomes.

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