

CHAPTER 141

The Role of Leadership in Enhancing Project Delivery Performance through Citizenship Behavior

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ABSTRACT

The delivery performance of Megaprojects serves as a key measure of their overall success, reflecting how well projects meet their objectives in terms of time, cost, and quality. However, the successful delivery of megaprojects is often hindered by inherent complexities, including stakeholder diversity, resource constraints, and dynamic environments. This research delves into the role of Transformational and Authoritarian leadership styles, assessing their influence on enhancing megaproject delivery performance (MDP), focusing on the mediating role of Complexity. Using a structured model, the research examines the interrelationships between leadership styles, project complexity, and megaproject citizenship behavior (MCB). It includes a comprehensive literature review and is supported by empirical data gathered via a questionnaire circulated among experienced professionals in the construction industry. The findings create a detailed framework for enhancing delivery performance through leadership-driven behavioral dynamics. This study offers valuable insights for both academic and practical purposes, deepening the understanding of how leadership plays a crucial role in the success of megaprojects.

Keywords: Leadership styles; Megaproject delivery performance; Complexity in megaprojects; Construction industry; Megaproject citizenship behavior.

1.0 Introduction

Leadership has a significant contribution to make in improving megaproject delivery through promoting citizenship behavior discretionary behavior beyond contract requirements to enhance teamwork, initiative, and problem solving. Great leaders generate a culture of collective responsibility, motivation, and collaborative effort, which enhances project success. Megaprojects, through high-value investments, intricate stakeholder engagement, and substantial impact on society, call for more than task-level leadership but the vision shaping, motivation sustenance, and coherence of various groups. Transformational leadership, where inspiration and personal support are at the core, is most suitable to promote pro-social behavior in raising project performance.

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Megaproject management is fraught with its own set of challenges, such as scope creep, stakeholder management, resource coordination, and risk management. Megaprojects tend to have cost overruns, delays, and regulatory issues because of their complexity and long gestation periods. To make matters worse, there are cultural and organizational dissimilarities, technological developments, and sustainability issues. Leadership plays a crucial role in addressing these challenges, effective decision-making, aligning stakeholders, and developing a robust project culture that instills accountability and high performance.

1.1 Key challenge: Stakeholder coordination

Coordination of diverse stakeholders, such as government institutions, private companies, contractors, suppliers, and local populations, is among the most daunting megaproject management challenges. Mis-alignment between these varied parties may cause delays, conflicts, and litigation. Effective leadership ensures clear communication, conflict management, and objective alignment to ensure that the project is kept on track and that desired results are realized.

1.2 Objectives

This research seeks to investigate the correlation between various leadership styles and Organizational Citizenship Behavior (OCB) in megaprojects, evaluating the impact of Organizational Citizenship Behavior (OCB) on project delivery performance. The research also investigates how the behaviors of leaders contribute to the success of megaprojects through the promotion of organizational citizenship behavior as an intervening variable. Through the analysis of these interactions, the study hopes to shed light on effective leadership approaches that improve teamwork, motivation, and project performance.

2.0 Literature Review

Effective leadership is paramount for the success of megaprojects, those large-scale ventures with significant budgetary and stakeholder considerations. Several studies emphasize the importance of strong leadership, with transformational leadership emerging as the most influential style for driving organizational performance. This style focuses on inspiring and motivating teams, as opposed to relying solely on participation or consensus-building. Research has also delved into specific leadership characteristics and behaviors that contribute to success in complex environments like Building Information Modeling (BIM)-based construction projects. These studies highlight the multifaceted nature of effective leadership, encompassing not only behaviors like commitment and tolerance but also communication skills and personality traits like conscientiousness. Furthermore, the project manager's role in the pre-construction phase of sustainable construction projects is crucial, with communication, planning, team building, and conflict management skills identified as essential for laying a strong foundation for long-term success.

2.1 TCCM (Theory, Context, Characteristics, and Methodology)

TCCM (Theory, Context, Characteristics, and Methodology) is a structured approach that helps researchers analyze and organize academic studies effectively. It acts as a guiding framework to ensure that research is built on strong theoretical foundations, considers relevant real-world settings, identifies key features, and follows a sound research methodology.

- Theory refers to the core ideas and established knowledge that form the basis of a study. It helps ensure that research is not just based on assumptions but is grounded in well-accepted concepts and frameworks.
- Context is all about understanding where and how a concept or theory is applied. This includes factors like geography, industry, culture, and economic conditions that can influence the research outcomes.
- Characteristics focus on the defining elements of the study, things like important variables, relationships between factors, and any unique aspects that make the research stand out.
- Methodology is the approach used to conduct research, whether it's qualitative (exploring ideas and experiences), quantitative (using numbers and statistics), or mix of both. The chosen method should align with the research goals to ensure reliable and meaningful results.

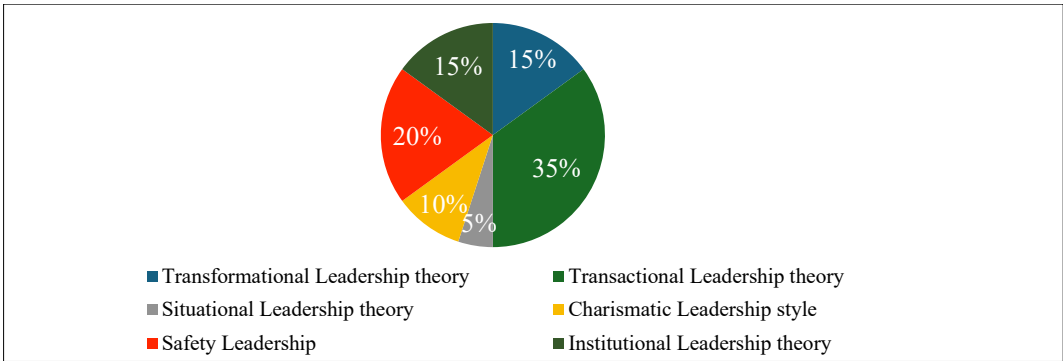
2.1.1 T-Theory

Several studies have explored the importance of leadership in the success of megaprojects. One approach examines how leadership theories can be used to assess potential sponsors (Louw *et al.*, 2018). This research investigates how theories like transformational, transactional, and situational leadership can inform the development of instruments to evaluate a sponsor's leadership style and its suitability for a megaproject.

Another strand of research employs qualitative methods to understand leadership in megaprojects. For instance, a study adopted an explorative qualitative approach using thematic analysis of interview data to gain insights into leadership practices within construction organizations (Alshehhi *et al.*, 2023). This approach can provide valuable real-world perspectives on leadership within complex project environments.

Furthermore, research has explored the link between leadership styles and project innovation. A study identified four innovation leadership styles – charismatic, instrumental, strategic, and interactive – and examined their influence on process and product innovations in construction projects (Omer *et al.*, 2022). Understanding these styles can help project leaders foster a culture of innovation within their megaprojects. Finally, other research papers delve into the specific competencies required for successful megaproject leadership (Zaman *et al.*, 2023). Research suggests that the optimal configuration of leadership skills and project complexity plays a crucial role in achieving positive outcomes (Latiffi & Zulkiffli, 2022). This highlights the need for leaders to adapt their approaches based on the specific characteristics of each megaproject (Damayanti *et al.*, 2021)

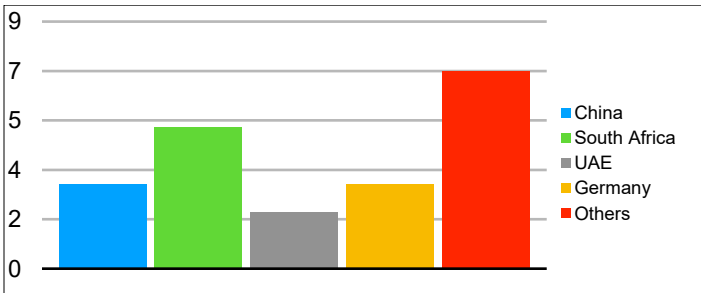
Figure 1: Pie Chart Representing Types of Leadership Theories



2.1.2 C - context

As per (Wan *et al.*, 2020), context pertains to the conditions or environment in which a particular study was conducted. The table below presents the context, focusing on the countries and sectors where leadership affects the Megaprojects that have been explored in the extant literature. Despite the diversified and fragmented nature of research in the domain, researchers were able to arrive at a few conclusions. It was observed that most of the studies in the sample were conducted in a single-country context rather than multicountry. Furthermore, multiple studies explored the context (Latiffi & Zulkiffli, 2022) & (Liu *et al.*, 2021) compared to larger established firms, which may be attributed to our emerging countries context. In terms of continents, the researchers find most countries covered in South Africa, followed by Australia, Germany, and China. In terms of countries, most studies were conducted in South Africa (Africa, 2018; Journal & December 2017), followed by Australia (Oswald & Lingard, 2019). In terms of industries, multiple studies focused on the public construction sector (Lühr & Wagner, 2023). A few under-explored industries were identified, such as Oil, gas, and petrochemicals (Alshehhi *et al.*, 2023) and the Telecommunications sector (Akhwaba *et al.*, 2020). Future studies can be conducted based on multi-country samples focusing on the Middle, Oceania, Southeast Asia, and emerging countries.

Figure 2: Bar Chart Depicting Country's Context



2.1.3 C - Characteristics

This conclusion of research work implicitly demonstrates that leadership in successful megaprojects is meant to be very a complex one. The research not only talks about sponsorship as it plays a crucial part but shows an involvement of leadership style within sponsor's role, and management style to work these large-scale endeavors (Louw *et al.*, 2018) Doubling down the studies try to identify the specific traits that positively impact a project success. In the construction projects grounded on Building Information Modeling (BIM), tolerance, commitment, and reliability are the foremost temperaments needed to create and cultivate a congenial working environment (Omer *et al.*, 2022). On the other side of the coin, intolerant leadership conduct can give rise to countless challenges.

The project managers on the crew of the megaproject must learn to navigate the complexity as well. Communication, planning, setting goals, team building, and conflict management are the traits that are found to be most crucial among all, and they are particularly mentioned by much of the research as the factors that have significant influence at the beginning of the construction phase (Latiffi & Zulkiffli, 2022) Concerning teams alongside the hard skills, it is the leadership styles themselves that also have an impact. The study looks into the state of leadership via the lens of transformational, transactional, charismatic, and democratic models (Dossick & Neff, 2010). Further, trait theory focuses on the inherent qualities that are involved in the success of the leadership and analyses the effectiveness and the emergent properties as traits (Dossick & Neff, 2010). The careful study of the projects gives deep insight into the leadership style corresponding to the field of project management. Collaborative, as well as vertical and horizontal leadership styles are equally significant in this literature.

Such outcomes make clear that a leadership style without a mix of elements is not distinguishable in megaprojects. The “contingency hypothesis” suggested in one study focuses on the interaction of project-avoidable influences with leadership effectiveness, and it is predicted that if the interaction of these factors is satisfactory, the project execution will succeed (Akhwaba *et al.*, 2020).

2.1.4 M - Methodology

Table 1 outlines the research methodology, data collection methods, and sample data analysis techniques employed in the reviewed studies. Notably, all the research studies were conceptual or theoretical approaches, prioritizing the collection and analysis of real-world data over purely empirical approaches. In terms of research design, a quantitative approach, emphasizing non-numerical data and a wider range of research techniques, was the dominant choice. Qualitative and mixed methods design, which encompass numerical data and statistical analysis, were implemented less frequently.

The most prevalent methods for data collection were surveys and questionnaires. The second most common method was case studies and interviews. Using a statistical model called Partial Least Squares Structural Equation Modeling (PLS-SEM), one can comprehend and

determine potential relationships between multiple variables. Structural Equation Modelling is an extension of factor analysis and multiple regression analysis (Majumdarr *et al.*, 2023). Purpose, content analysis and thematic analysis were also utilized, although to a lesser extent. The authors propose that future research could benefit from incorporating qualitative alongside alternative data collection methods like case studies and observations. These approaches have the potential to yield novel and distinct findings. The authors further suggest that Delphi techniques, fuzzy-set qualitative comparative analysis (FSQCA) could provide valuable enhancements to data analysis.

3.0 Future Scope

- We intend to construct a hypothetical model of leadership in megaprojects.
- To gather insights from industrial professionals, we propose circulating a questionnaire aimed at resolving their perspectives on leadership in this context.
- We will conduct an analysis of the data gathered from the questionnaire to extract insights and draw conclusions.

Table 1: Methodologies

Sr. No.	Research Methodology	Number
1	Conceptual	29
2	Empirical	11
Research Design		
1	Quantitative	24
2	Qualitative	13
3	Mixed	3
Data Collection		
1	Survey	10
2	Questionnaire	14
3	Interview	8
4	Case Study	6
5	Document Review	2
Data Analysis		
1	Partial Least Squares Structural Equation Modeling (PLS-SEM)	10
2	Type of Regression	19
3	Fuzzy-set Qualitative Comparative Analysis (FSQCA)	2
4	Others	9

4.0 Conclusion

This research highlights the leadership role in defining the delivery performance of megaprojects by promoting a culture of organizational citizenship behavior (OCB). It shows that

transformational leadership, with its focus on vision, motivation, and individual encouragement, greatly improves teamwork, both of which are important in overcoming the complexities involved in megaprojects. On the other hand, authoritarian leadership, although effective in some organized settings, might not be able to provide comparable amounts of citizenship behaviour or cooperation. The study also reveals how project complexity serves as a mediating factor, determining the strength and direction of leadership's influence. Drawing on empirical data and synthesizing available literature, this paper builds a robust framework that combines leadership style, project complexity, and citizenship behavior to forecast and enhance megaproject delivery performance. Hierarchies and encourage joint responsibility, ultimately leading to sustainable project success.

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