The Impact of Project Management Approaches on Project Success in oil and gas sector in Oman.

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1. Introduction

The oil and gas sector plays a crucial role in Oman's economic development and national revenue generation. However, the sector faces increasing challenges such as volatile oil prices, strict regulatory frameworks, technological transformation, and post-COVID-19 disruptions. These challenges necessitate the adoption of effective project management approaches to enhance project performance and organisational resilience.

Project management approaches, traditional, agile, and hybrid have been widely discussed in the literature as key determinants of project outcomes. However, existing studies often lack sector-specific and country-specific analyses, particularly in the context of the oil and gas industry in emerging economies. Moreover, empirical evidence regarding the relationship between project management approaches and project success remains inconsistent. This study addresses these gaps by examining the impact of project management approaches on project success in Oman's oil and gas sector, while considering the moderating role of project characteristics through the NTCP framework.

2. Literature Review and Theoretical Background

2.1 Project Management Approaches

Project management approaches refer to structured methods and processes designed to achieve project objectives within defined constraints of time, cost, and scope (Joslin and Müller, 2015, Kerzner, 2022). Scholars commonly classify project management approaches into traditional, agile, and hybrid categories (Baskerville et al., 2011, Ciric Lalic et al., 2022).

The traditional project management approach emphasises linear planning, strict control, and detailed documentation, making it suitable for stable and predictable environments (Bianchi and Amaral, 2021, Seymour and Hussein, 2014). However, critics argue that its rigidity limits adaptability in dynamic and uncertain contexts (Bundtzen and Hinrichs, 2021, Serrador and Pinto, 2015).

Agile project management emerged as a response to the limitations of traditional approaches, emphasising flexibility, iterative development, and stakeholder collaboration (Beck et al.,

2001, Hass, 2007). Although agile methods have demonstrated effectiveness in dynamic environments, their applicability in highly regulated sectors such as oil and gas remains underexplored (Conforto et al., 2014, Koch et al., 2023).

Hybrid project management approach integrates elements of traditional and agile approaches to balance structure and flexibility (Špundak, 2014, Gemino et al., 2021). While hybrid approaches are increasingly adopted in practice, empirical evidence regarding their effectiveness in complex and capital-intensive sectors remains limited (Copola Azenha et al., 2021, Sommer et al., 2015).

2.2 Project Success

Project success has evolved from a narrow focus on the "iron triangle" of time, cost, and scope to a multidimensional concept encompassing stakeholder satisfaction, organisational impact, and long-term value creation (Atkinson, 1999, Shenhar and Dvir, 2007, Zwikael and Meredith, 2019). This study adopts project efficiency and stakeholder satisfaction as core dimensions of project success, reflecting both operational and strategic outcomes (Serrador and Turner, 2015).

2.3 Contingency Perspective and NTCP Framework

Contingency theory suggests that the effectiveness of project management approaches depends on contextual and project-specific factors rather than a universal best practice (Joslin and Müller, 2015). The NTCP model (Novelty, Technology, Complexity, Pace) provides a framework for understanding how project characteristics influence project outcomes (Shenhar and Dvir, 2007). This study applies the NTCP framework to examine how project characteristics moderate the relationship between project management approaches and project success in Oman's oil and gas sector.

3. Research Methodology

This study adopts a quantitative, deductive, and explanatory research design within a positivist paradigm. Data are collected using a structured questionnaire distributed among project managers, professionals, and stakeholders in Oman's oil and gas sector. Statistical techniques such as exploratory factor analysis, regression analysis, and structural equation modelling are employed to examine the relationships between project management approaches, project characteristics, and project success.

4. Expected Contributions

The study contributes theoretically by extending contingency theory and project management literature through a sector-specific and country-specific investigation. Practically, it provides empirical evidence and a decision-support framework to guide project managers in selecting appropriate project management approaches based on project characteristics. The findings are expected to improve project efficiency, stakeholder satisfaction, and strategic alignment within Oman's oil and gas sector.

5. Conclusion

This research demonstrates that the effectiveness of project management approaches is context-dependent and influenced by project characteristics. By integrating traditional, agile, and hybrid approaches with the NTCP framework, the study offers a comprehensive understanding of how project management practices can enhance project success in complex and dynamic environments such as Oman's oil and gas sector.

6.References

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