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NAVIGATING THE NEW SPACE PARADIGM: A FRAMEWORK FOR PROCUREMENT
STRATEGY SELECTION IN SPACE AGENCIES**Abstract**

The space industry is undergoing significant transformations. Increased private sector participation, new satellite-based services, reduced launch costs, digitalisation, and innovative space infrastructure designs decrease entry barriers. New Space companies from the private sector introduce innovations, spin-ins, capabilities, expertise, and practices. At the same time, space agencies contend with time constraints and the imperative to reduce costs due to diminishing public budgets.

In this dynamic environment, space agencies must evolve approaches and interactions with the private sector to reaffirm their pioneering role in space exploration, research, and commercialization. As many New Space organizations are still in their growth phase, space agencies can contribute to shaping the New Space ecosystem by fostering competition, facilitating capacity building, and catalysing market creation. In parallel, expanding the pool of bidders enables space agencies to avoid being locked into inefficient solutions. As space agencies transition towards the New Space paradigm and intensify collaborative endeavours, there exists a knowledge gap concerning the optimal utilization of traditional practices, such as cost-plus contracts, versus emerging practices like service contracts and parallel bidding. This paper aims therefore to investigate the rationale, decision gates, and timing behind the preference for favoring a traditional or an innovative strategy by space agencies.

Following the Design Science Research Methodology, we conducted a multiple case-study focusing on projects within space agencies governed by traditional and New Space strategies. Employing a polar case selection approach, we analysed successful and challenging instances stemming from the implemented procurement practices. By leveraging primary and secondary data sources, our investigation illuminates the motivations, best practices, and limitations associated with the selection of traditional and New Space strategies.

We provide a framework, including a decision-making tree, guiding the configuration of procurement strategies within space agencies. The framework integrates space agencies' partnership and contract objectives, project characteristics, and bidder(s) attributes and goals. Drawing from this data, the framework streamlines the process of selecting appropriate procurement practices and contract types, encompassing conventional practices, service contracts, and parallel bidding. Each strategy is motivated with considerations such as milestone management, performance assessments, and contract termination criteria.

Our contribution to practice encompasses the provision of a decision-making tool to facilitate the selection of procurement practices by space agencies. By incorporating considerations pertaining to both space agencies and bidding companies, and by highlighting the challenges and benefits associated with different strategies, the tool enables space agencies to transition from a traditional paradigm to a commercially-driven one.