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RESEARCH METHODS FOR EMERGING COMMERCIAL SPACE MARKETS

Abstract

This article describes the appropriate use of variance and process methods, the two options for addressing research questions of commercial space industry emergence and evolution (also called organizational change research, or innovation research). Each phase of the engaged research process (i.e., identifying the question, developing theory, testing the model, and transferring the resulting knowledge) calls for specific research methods. If validated theory exists, from which models have been developed and hypotheses have been tested, it is appropriate to use variance research methods. Lacking validated theory, process research methods are required to construct the foundations for testable models and hypotheses. Analysts commonly approach questions of new industry emergence with variance research methods, despite inappropriate assumptions inherent to the method, and lack of supporting, validated theory describing the phenomenon. In all fairness, development and testing of industry emergence theory using process research methods is challenging because of high labor intensity and complex data interpretation. These methodological barriers are offset with multiple benefits unmatched by variance methods. Performed correctly, a single process research data set can support multiple research questions, or when pooled with other process data, can support a single research question with multiple industry contexts. Based on the engaged research process, this paper details the strengths and weaknesses of process and variance research methods, the stages of research for which they are most appropriate, the type of research questions for which they are best suited, the implicit assumptions they make, the data collection instruments they use, the strategies for managing uncertainty they employ, and the definitions of “process” they adopt.