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OPERATIONALIZING COMMERCIAL SPACE MARKET PROPOSITIONS

Abstract

This paper identifies possible ways to operationalize (i.e., collect data to test the validity of) propositions based on the application of organizational change models to "commercial space" activities. For many reasons, including attempts to understand and analyze the differences between Space Race Era (SRE) and more recent space activities, interest increased to define the word "commercial" within the space community. In response to this interest, the space community published or presented many studies on topics spanning the definition of "commercial," "commercial space," and "new space." Recent research applies an organization theory (OT) perspective to the discussion. At an inter-organizational (market) level of analysis, research used the OT definition of organizations to analyze the goal setting, membership boundaries, and socially constructed activities of the "commercial space" ecosystem. Application of different organizational "motors of change" (aka "models") characterized SRE activities as teleologically driven (directed by a centralized agent), and newer space activities as evolution driven (subject to forces of variation, selection, and retention). That analysis identified propositions describing "commercial" market activities along a spectrum (as opposed to the binary designation of being "commercial" or not) and a function of the strength of all three evolution change model forces. The propositions, listed below, identify possible antecedent variables (both moderators and mediators) to the dependent variables of force strength:

1. The combined strength of all three evolutionary change model forces (variation, selection, retention) is positively related to the "commercial degree" of a market organization.
2. The number of independent innovation sources is positively related to the number of independent innovations.
3. The number of independent innovations is positively related to the variation force strength.
4. The level of environmental hostility is positively related to the selection force strength.
5. The number of independent innovations is positively related to the level of environmental hostility.
6. The level of available resources is negatively related to the level of environmental hostility.
7. The number of independent resource sources is positively related to the selection force strength.
8. The level of demand for an innovation is positively related to the level of retention force strength.
9. The number of independent demand sources for an innovation is positively related to the level of retention force strength.

To identify possible ways to operationalize these propositions, this research conducts a literature review of qualitative process research operationalization, and then proposes and assesses multiple empirical data collection options for subsequent implementation.