Optimizing International Science & Technology Collaboration Through Scientometric Studies

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Innovation broken down to its core constituents is really about the creation, diffusion, absorption, and utilization of knowledge. An innovation system cohesively binds innovation's core constituents wherever these activities may occur. Improving the system requires a thorough understanding of these activities, where they occur within the system and how it functions as a whole. How well the enterprise creates, diffuses, absorbs and utilizes knowledge is dependent upon complex human interactions, structured processes, personalities, and capabilities – all human endeavors and attributes.

Literature already recognizes the need for the systematic study of the causes and determinants of activities within an innovation system which allows for the development of theories about the relations between the variables within the system. This study adds to this body of knowledge by analyzing the activities of Program Managers funding basic science overseas who are part of a Military Service's Science & Technology Enterprise within the United States Department of Defense. By conducting multi-level analyses (macro, meso, micro) the studies showed that the engagement model does seem to have an impact on the selection of high-quality science as well as how efficiently knowledge diffuses within the enterprise. It appears there is a correlation between the selection of high quality science and time devoted towards selection of science.

These studies underscored the need to establish evaluation criteria for proposed policies prior to implementation and that it is possible to identify quantifiable mechanisms which allow those providing governance and management of international S&T investments the insight required so that they may achieve an optimal outcome.