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SYSTEMS ENGINEERING APPROACH TO RESEARCH BUSINESS DEVELOPMENT MANAGEMENT IN AUSTRALIAN SPACE INDUSTRY

Abstract

As the space industry is expanding, researchers in Australia are finding an increasing need to identify funding opportunities to support their research and to develop their research into successful projects/products/businesses. However, currently, there is no clear structure available for research funding management that can be used by researchers or business development managers, which is a gap in the Australian space industry. This paper aims to address this gap and to investigate how system engineering tools can be used to identify funding opportunities within the space industry as well as how those opportunities can be developed into successful projects by providing a more structured guideline to research business development management. Existing research on utilisation of System engineering tools to provide structure to non-engineering fields e.g. Education, NASA's Space Flight Safety and Mission Success (SMS) Assurance Framework has been analysed and synthesised to justify the relevance of system engineering in business development management. As a methodology business development management has been divided into two phases – (A) the opportunity-finding phase and (B) the business/product development phase. A requirement-driven approach that includes identification, analysis, and management of risks and opportunities has been used for phase A. In addition, a research-based business development lifecycle model, the VEE diagram, has been used for phase B. The Lifecycle for the business/product development phase initiates as soon as a research capability analysis starts, and the cycle ends as soon as the funding contract is approved. The methodology has been applied to seek funding opportunities for the ANU Institute for Space, an Innovation Institute of the national university of Australia. This application has been used as a case study throughout the paper. The outcome of this paper will be beneficial for academic researchers, system engineers, and business development managers.