

Computing for Human Services

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Electrical and Computer Engineering-IIUM University

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Chapter 6

Management of Research and Development in Educational Organizations

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6.1. Introduction

Research and Development are key issues to development of any organization. It is a tightly sequence of processes and activities of generating knowledge, technology and innovation by producing new practices, systems, products, services, etc to achieve a specific outcome in improvement and community growth. The search for new ideas and new ways of doing things, and increase competitive pressures has transformed the R&D function into one of primary strategic importance. In this article, research and development (R&D) management in universities is discussed to provide a framework for safe, ethical development & application of educational research. The article will not discuss R&D project management tools (i.e. Six Sigma, CMMI, etc) and the suitability of these tools to the R&D projects, which is discussed extensively in the literature [1]. The objective is to discuss the big picture of management strategies for R&D organizations. Generally, R&D has very unique business case, where it is not like traditional business neither product-based nor service-based business. In these two businesses, business management is quite clear and straightforward, which is to keep enhancing the product/service through any process improvement tool and then sustain this improvement based on the customer satisfaction index (CSI) [2]. In these type research is also can be carried out however target from research is outcomes rather than outputs. The return of investment (ROI) should be greater than one or the project will be described as a failed project. In the traditional R&D, ROI is usually greater than one but not directly, meaning that the return is not in money format (Dollar) but indirect in knowledge format. In R&D usually there is no traditional customer where the customer can be:

- a) **ICT industries:** by selling the invented IPs. In this case a strong partnership is required with industries and understands their needs. This is can be done by participating in standardization communities and associations or through Non-disclosure agreements (NDAs) and memorandum of understanding (MOUs).
- b) **Government:** by selling the ideas, Intellectual proprietary (IPs), training and consultation. This is usually done through direct tender invitations.