

New Product Development Projects and Project Manager Skill Sets in the Telecommunications Industry

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Certification

This thesis is submitted in fulfilment of the requirements of the degree of DBA, in the Macquarie Graduate School of Management, Macquarie University. This represents the original work and contribution of the author, except as acknowledged by general and specific references.

I hereby certify that this has not been submitted for a higher degree to any other university or institution.

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10/01/2008

Abstract

The telecommunications industry ('Telco'), a service provider business, is undergoing significant changes such as deregulations, technology changes and increasing competition. Managers face increased pressure to bring new products with the latest technology into the market faster. Few previous studies have analysed New Product Development (NPD) projects in this hypercompetitive industry. This research addresses this gap by investigating Telco NPD projects and the associated skill sets needed by successful project managers.

The study evaluated how project managers' various skills contribute to project management success. Incorporating clear definitions grounded in the recent literature on NPD, management and leadership, the research proposed a new organising framework of four groups of skill sets: technical, leadership, managerial and administrative. Technical skills are the knowledge of technologies on which the project work is based. Leadership skills involve influencing project stakeholders to deliver a quality product within time and budget. Managerial skills are needed to develop and execute project plans and to get project work done. Administrative skills include understanding an organisation's structure, culture, policies, processes, methods and tools.

Previous classifications for Telco NPD projects have over-emphasised product innovation and undervalued the process aspects. While small projects provide fewer management challenges, this study found that project managers of large and complex projects require all four skill sets. Managerial skills are mandatory. Technical and administrative skills enhance understanding of the technology and business processes. Leadership skills are limited at an operational level. Managerial and administrative skills are essential for developing and implementing project plans; technical skills are important in the initial project stages; leadership skills are needed from the beginning until delivering a new product.

The research outcomes can be used when hiring and developing NPD project manager professionals in the Telco industry to complement current project manager competency standards, which do not cover all the skill sets. Findings may be applicable to Telco companies in other countries new to such market conditions. Furthermore, other industries may adapt the skill set framework to suit their own particular requirements.

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Abbreviations used in thesis

AIPM	Australian Institute of Project Management
APM	Association of Project Management
CIFTER	Crawford-Ishikura Factor Table for Evaluating Roles
CMM	Capability Maturity Model
DIV	Development, Implementation and Validation
EPD	Enhanced Product Development
ERP	Enterprise Resource Planning
F&D	Feasibility and Definition
GAPPS	Global Alliance for Project Performance Standards
HRM	Human Resources Management
II	Initial Investigation
IP	Internet Protocol
IPMA	International Project Managers Association
IT	Information Technology
IT&T	Information Technology and Telecommunications
MS	Microsoft
NCPD	New Customer Product Development
NPD	New Product Development
NTI	New Technology Introduction
OSS	Operations Support Systems
PMAJ	Project Management Association of Japan
PMBOK	Project Management Body of Knowledge
PMCD	Project Management Competency Development
PMI	Project Management Institute
PPM	Project Portfolio Management
R&D	Research and Development
ROI	Return on Investment
SPC	Small Product Customisation
TQM	Total quality management
VoIP	Voice over IP

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