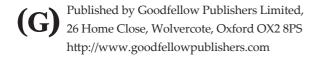
THE GLOBAL MANAGEMENT SERIES

Project Management

Amos Haniff and Mohamed Salama





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Dedications

To my beautiful wife Lisa and our gorgeous children Qasim and Safia. Love you xxx

AH

To my Mum & Dad, my lovely wife Zaza and our boys Omar and Ally. You are the most precious!

MS

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AH & MS

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Reza Mohammadi is Course Director and Project Coordinator for the suite of MSC Engineering and Physical Programme at Heriot Watt University. He teaches courses in Project Management and Critical Analysis, and Research Preparation at postgraduate and undergraduate levels. He also delivers workshops in Project Management Concept and Project Soft Skills to public and private sector organizations. His research interests are in human factor and stakeholder management in programs and the project environment. He is an Information Technology Project Manager by background with extensive professional experience in the public and private sectors both national and international levels. He is also a PRINCE II, ITIL, Waterfall, Kanban, Scrum and Agile project management methodologies Practitioner and an active member of Association of Project Management (APM) and the Project Management Institute (PMI).

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Preface

Introduction

Project management has attracted significant attention over the past decades and in a world that continues to witness very dynamic business environments regardless of location, change is inevitable and project management tools and techniques become even more popular. During the early days of its evolution, project management was predominantly an engineering-led specialization. During that period, those who wrote about project management and who taught or conducted research about project management were mostly either engineers or looking at engineering related sectors such as construction.

Context

Now-a-days, project management tools and techniques have attracted the attention of almost all disciplines, as emphasized in the membership of the major professional bodies such as PMI, and indeed in the diversity of students attending the project management courses offered at undergraduate and postgraduate levels. This textbook aims to provide readers from different backgrounds with the essential knowledge that would help them acquire and furthermore develop basic project management skills.

In the past few decades, Higher Education, endorsed by the advancements in technology, has witnessed a notable shift from the traditional learning and teaching methods. Having taught project management in different contexts and for a wide range of audience for a combined total of more than 30 years, the editors have been motivated to introduce this textbook as a useful guide to facilitate the learning of students regardless of the mode of study. In addition, practitioners and independent learners who are seeking to enhance their knowledge base and develop their project management skills away from the classroom will benefit from the practical approach adopted in writing this textbook; simplifying some of the challenging concepts and numerical aspects.

In this pursuit, the authors of different chapters have attempted to gradually guide the readers in developing their knowledge, starting from first principles and working towards a relatively advanced stage, with the help of a range of case studies, practical examples and numerical worked examples. The end of chapter questions aim to provoke critical thinking, analysis and synthesis. In addition, the references listed at the end of each chapter and cited within the text offer the reader an additional set of resources that will provide further indepth knowledge about some of the specific areas mentioned in the text.

Content and pedagogy

This textbook comprises 12 chapters covering the key areas in the context of managing projects that span both soft and hard skills. Each chapter starts with a list of learning outcomes that pinpoint the objectives of the chapter and should be used alongside the end of chapter questions as a benchmark for students to evaluate their erudition and learning. Chapter 1 provides a background to the development of modern project management and sets the scene for the following chapters. Key concepts are introduced, including the project life cycle, project constraints and project success criteria. Chapter 2 positions projects within the context of the organization and environment. Project stakeholders are identified, with guidance on how they should be managed. This is followed by presentation of three types of organizational structure that need to consider the organizational culture when implementing projects. This chapter also introduces the growing practice of the project management office.

Chapter 4 discusses the critical project management competency of leadership. This chapter explains the concept of project leadership, in detail, through the introduction of contemporary leadership theories. Following on from the discussion on leadership, Chapter 5 provides a comprehensive explanation of managing project teams. Key concepts include the stages in team development, team dynamics and the management of virtual teams.

A detailed discussion about the financial dimension, supported by simple numerical examples, is presented in Chapter 3 with emphasis on the impact of inflation and taxation on project appraisal and selection decisions. The areas of project scope management and communication management are detailed and debated in Chapter 6 with some useful templates, exercises and practical examples. The core areas of project cost estimating and budgeting, time scheduling and resource management are presented and discussed in depth with a range of examples, case studies and end of chapter multiple choice and numerical questions in Chapters 8, 9 and 10, respectively.

An introduction to cost modeling techniques and the factors affecting the accuracy of the different cost models is presented and discussed under cost estimating and cost forecasting. In addition, Chapter 8 includes a section on

bidding strategies, with emphasis on the difference between front and back loading and the importance of considering the present value of the tender price whilst comparing different bids. In Chapter 9, the concept of project scheduling complemented by a detailed step-by-step guide that helps students to estimate activity duration then draw and analyze the network for a simple work package using the critical path method. In addition, the project evaluation and review technique (PERT) is introduced and explained.

Project Risk management is discussed in Chapter 7, with a range of practical examples covering the different types of risk, and also has a detailed section on risk clinic with useful templates. The important aspect of risk attitude has been presented and utilized to explain why managers may have different responses to the same risk event. In addition, the chapter concludes by comparing and contrasting the traditional project management methodology to the contemporary Agile Project Management methodology in the context of risk. In this pursuit, the discussion presents the basic concepts of Agile methodology which has proven to be quite popular within IT and software development projects over the past two decades.

Chapter 11 falls into two main parts. The first discusses change management and configuration management. The second part addresses the areas of project evaluation and control. The earned value analysis as a performance measurement technique, that can shed light on project cost performance as well as the progress of the project, is explained and discussed using numerical examples. The challenges of project closure and the key attributes of this, often neglected, stage of the project life cycle is presented and discussed in Chapter 12.

Project management is a practical discipline. No matter how many books one reads about managing projects, students can only get a feel of the real-life project themes, issues and challenges through interactive discussions, practice, critical thinking and analysis of the various exercises, and case studies provided within the different chapters. Hard skills such as the numerical techniques presented under project financial appraisal, project cost estimating, budgeting, time scheduling (CPM), crashing and project performance measurement (EVA) need to be well understood and practiced through numerical examples followed by a clear interpretation of the results. On the other hand, the soft skills such as leadership, communication, and team issues need more practical workshop based activities such as group activities and team work based projects.

In order to maximize the benefit of the resources provided within this text book, it is recommended that students should be assigned prior relevant reading utilizing the references provided at the end of chapters before being introduced to, and asked to engage in higher order discussions such as those pertaining to leadership theories, the different types and accuracy level of cost models or the debate about the pros and cons of the traditional project management methodology versus more contemporary approaches such as agile methodologies.

Mohamed Salama and Amos Haniff