Preface

Today, information technology plays a more and more important role in project management. The scope and complexity of IT projects has increased, requiring excellent project management to fully realize the benefits of IT. Unfortunately, IT projects have become notorious for high failure rates or having significant cost or budget overruns. Both research and anecdotal evidence suggests that many IT projects struggle to meet functionality and quality targets. Research has identified multiple reasons for these challenges in IT projects, such as project escalation, poor risk management, failure to manage user expectations, poor software development or project management processes, or inability to learn from past mistakes and successes. It is believed that there is still much to be learned and discussed about improving success rates for IT projects.

As we noticed, modern techniques are increasingly used in IT project management. Moreover, project management professions face many challenges in successfully managing IT projects. Furthermore, there is an emerging need for researchers and practitioners to fully understand the potential of modern techniques for successful IT project management. This book intends to fill this gap, providing a systematic synthesis of the latest research findings and professional experience on modern techniques for successful IT project management. We believe that this book will be valuable to academics and practitioners who want to improve their understanding of IT project management in different countries across the world and in different types of organizations.

The book includes 15 chapters written by authors from 11 countries (Australia, Canada, Germany, Greece, Ireland, New Zealand, Norway, Portugal, Sweden, Turkey, and USA). The review process was done during a period of 8 months after the release of the call for chapters, following the usual double-blind review process, and during 3 waves of submissions. In order to keep anonymity for both authors and reviewers, the reviewers were not apprised of the authors' names or institutions in the submitted chapters. Their contributions cover studies in North America, South America, Australia, New Zealand, and Europe. Some authors have a very practical perspective, whereas others approach the topics more academically. The authors have provided appropriate theoretical perspectives, employed sound analytic and research methodologies, and they have translated their results into practical advices. This book presents relevant insights that provide a foundation for discussion and development of theories and best practices in IT project management. Knowledge on the topic, such as agile project management, resource allocation through scheduling optimization, IT project alignment, strategic software project governance, risks in global IT projects and mitigation strategies from Service-Oriented Architecture (SOA), distributed IS development projects, evaluation of IT projects, and SOA governance, has been discussed and presented in this book. Therefore, this book could be useful for project sponsors, project managers, and project teams to understand how modern techniques and best practices can be incorporated into IT project management.

The target audience of this book can be composed of researchers, professionals, and university students working in the field of information systems with an interest in IT project management. The first group of professionals that this book addresses is project management professionals who can use this book for understanding the potential of some of the modern techniques used in IT project management for improving the success rate of their IT projects. Secondly, this book will provide insights and support to executives concerned with IT project management. Thirdly, this book can be used by educators and researchers as a textbook in IT project management courses at the university level. Last but not least, the final group of professionals this book targets is university students specialized in the field of IT project management. They represent the future of their professions and will need to address the challenges that current IT project management professionals are facing today and tomorrow.

As the book is devoted to a very diverse range of topics in the field of IT project management by a number of researchers, an overview of the contents of the chapters is provided as follows.

In Chapter 1, Chilton presents the results of a study undertaken to devise a solution to the problem of under- and over-allocated resources by developing a software artifact that discovers an optimal path through a project and assigns jobs only to those resources that are available. The software was designed to receive the schedules of multiple concurrent projects that share the same resource pools and find an optimal path for all of them, taking into account the resource needs for each task and the resource availability. The author discusses several problems that PMs face when they create project schedules and discusses the ways in which the software was designed to handle these issues. The software ensures that tasks are assigned only to available resources so over-allocation should generally not be a problem. Further, the author tested the software against a project that had been completed by a real firm. It demonstrated that the software found a network path for the project that had a 14% improvement in the scheduled timeline when compared to actual results.

There is a need for IT projects to continuously align themselves with their surrounding context in order to stay relevant. In Chapter 2, Nilsson presents and demonstrates a pragmatic model for IT project alignment. The results show how the model can be used as a support to traditional IT project management methods. A presentation of three projects is also included in this chapter to improve the understanding of IT project alignment in practice.

In Chapter 3, Liberato et al. describe the process of implementation of a maturity model, the CMMI, in Espírito Santo Informática, a Portuguese company specialized in Information Technology (IT) services for banking. Generally, the implementation is positive for the company. This company "ventured" into the challenge of proposing a large organizational change, in order to fill gaps in the software development process and thus increase levels of customer satisfaction. Despite some obstacles found, some due to the major impact which this change had on several teams with work habits that were maintained for several years, the improvements achieved were clear and recognized by almost everyone. The defined strategies for CMMI implementation also proved to be effective.

In Chapter 4, Strond and Huff contribute a theory of coordination to the information systems field that explains coordination in co-located agile software development projects. Their purpose was to build a unique theory based on empirical evidence from cases of software development. They found that agile software development embodies effective coordination by assembling coordination mechanisms that support project team synchronisation, structures a project by supporting proximity, availability, and role substitutability, and incorporates boundary-spanning mechanisms. Such a coordination strategy leads to coordination effectiveness comprising implicit and explicit elements. Further, this theory has utility for theorists as the concepts are grounded in literature and empirical evidence and can potentially be applied in other contexts. Practitioners can use this theory as a guide in selecting agile practices to better coordinate projects, and potentially to measure agile project effectiveness.

In Chapter 5, Krogstie presents the introduction of an application management methodology and further process improvement activities using techniques from Organization Development (OD) in an organization. Often, process improvement approaches are run in a top-down manner. A case study has been performed in one organization to assess the effectiveness of using more bottom-up, participation-oriented organization development techniques in the early stages of process improvements for an application management unit. The different parts of the organization have in general been successful in reaching the first "mature" process maturity level (level 2). More importantly, other main metrics on decreased number of and time used on addressing critical errors and more time used for value-added project-activities have been reached. Although good results have been achieved with the mostly bottom-up approach, further process improvement in the unit is believed to need to be combined with a more top-down approach.

The management of multi-project situations is a challenge for many software companies. In Chapter 6, Parvahan and Drechsler propose a methodology for Strategic Software Project Portfolio Management (SSPPM) for software projects. The different stages of SSPPM are visualized at first and described from a process-related perspective. The SSPPM process consists of four stages: portfolio imitation, planning, controlling, and clearance. Overall, SSPPM allows a strategic governance of the software project landscape and also an improved utilization of IT resources. The initial development of an extended proposal also helps to develop a good relation to the eventual customers and a thorough understanding of the project context. A key prerequisite for successful SSPPM is a mature management of the software projects that can generate the necessary information for the portfolio management.

In Chapter 7, Jansson aims to argue that contemporary theory on human motivation and creative work, such as the Self-Determination framework and the Progress Principle, should be applied in research on agile project management. They have applied the Progress Principle as the theoretical lens in an evaluation of the Scrum method, and have presented findings from a work-in-progress on agile praxis. The results demonstrate that agile practices may indeed be conducive to creative performance, a key aspect of ISD projects, and that applying the suggested motivation theory may be a useful approach to answering some of the questions of how, why, and in what contexts agile practices work.

As a typical IT management subject, IT project management has existed as a core subject in universities for a long period. In Chapter 8, Zhao identifies some typical issues with project management students and the corresponding challenges to effective teaching. Some teaching methods are also introduced together with the sharing of the author's experience in applying them in class. The effectiveness of the methods is evaluated according to the teaching improvements in terms of student feedback and satisfaction statistics. From the collected feedback, students gave positive feedback to the simulated projects,

the marking mechanism, etc. In addition, the improvement of students' learning experiences and results can be reflected by the statistics on student unit satisfaction, pass rate, etc.

IT Outsourcing (ITO) Success Factors (SFs) have been discussed in research literature with a bias towards large companies rather than medium. In Chapter 9, Hodosi et al. explore the SFs for medium-sized companies compared with the ones from the large companies. The conclusion, based on case study, is that middle-size companies can use the SFs from large companies. However, 2 out of 11 studied SFs are ranked differently regarding the order they should be implemented. To implement the right SF can be an important factor in the current extremely hard competition. This result could help the ITO decision makers to select SFs and the research community gain knowledge about how company sizes influence the selection of SFs.

In Chapter 10, Lee et al. propose a framework to characterize the risks within the people-process-technology-external elements of a global IT project. The framework gave particular consideration to risks that arise from interactions of multiplicities within and between those elements (i.e. dynamic risks). The principles of Service-Oriented Architecture (SOA) were adopted to propose specific strategies for mitigation of these dynamic risks. Two case studies further illustrate how those strategies can mitigate the risks.

The management of teams in a distributed IS development project is challenging. In Chapter 11, Bergkvist argues that combining a relationship perspective with a success perspective is fruitful for understanding distributed IS development projects. This chapter thus shifts the focus from client and IS user satisfaction to actor satisfaction to reach a better understanding of successful practices in distributed ISD projects, thus providing knowledge of the significant relational-oriented conditions that influence the practice of distributed ISD projects. The chapter ends with the provision of a conceptual framework addressing relational-oriented conditions for the management of distributed IS development projects. Using the framework, managers can identify the relational-oriented conditions for realizing the benefits of distributed IS development projects.

Information Technology (IT) projects are more and more aligned with business goals. Service-Oriented Architecture (SOA) was introduced to achieve this, align business with IT, and increase IT flexibility, reuse of services in more manageable way. Unfortunately, healthcare organisations that have adopted SOA have yet to benefit in from their investment. In Chapter 12, Koumaditis and Themistocleous present a systematic synthesis of the latest research findings and professional experience on SOA Governance considerations for successful IT projects in the healthcare field.

In Chapter 13, Leite and Bengtson examin cross-sector collaboration by illustrating how actors work together in an ICT project in Brazil. Their findings suggest that, besides technological know-how, the interplay between commitment, knowledge, and opportunity development seem to have a combined impact on project outcome. The result strengthens the idea that studies analysing project management should consider not only rational dimensions of the projects, such as cost, time, quality, and scope, but also the social dimension in terms of the relationships that partners develop during and after the project.

The problems associated with the introduction of IT in work organisations have proved to be of an enduring nature since the 1950s. Why do so many IT-enabled change initiatives fail to deliver on their promised outcomes? In Chapter 14, McDonagh focuses on a range of institutional, organisational, and group pathologies that impede the effective delivery of IT-enabled change initiatives. Implications for professional practice are outlined. The chapter draws to a close by reiterating the propensity for fragmentation and the role of good organisation development and change practices in fostering an integrated approach to IT-enabled change.

In Chapter 15, Yakin aims to explore the role of evaluation methods in IT projects from the Human Performance Technology (HPT) perspective. In that sense, formative, summative, confirmative, and meta evaluation models are presented, and then the connection between these models in IT involving specific strategies which can be used when IT projects are established are explored. The chapter concludes with practical and methodological implications pointing out recommended actions to overcome the reliability and the validity issues encountered through evaluation processes and future research directions.

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