



This is “Project Management in a Complex World”, article 2 from the book [Beginning Project Management \(index.html\)](#) (v. 1.1).

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# Project Management in a Complex World

Faster, cheaper, and better has become the mantra of not only profit-making organizations seeking to increase market share and profits but also nonprofits and governmental organizations seeking to increase their value to clients. Organizations are increasingly using projects to meet these goals. Projects are goal directed and time framed, and when managed well, projects deliver on time and within budget. This book is about how to manage projects well.

All projects have common characteristics: every project has a scope, budget, and schedule. Projects also differ. Understanding how projects differ and what that difference means to the management of the project is critical to successfully managing a project. Large, complex projects need project management tools, systems, and processes that are very different from the small and less complex project. Within this text, we provide a tool for profiling a project based on the complexity of the project and describe the different project management approaches needed for the difference in project profiles.

Project management is complicated. In some ways, this is a good thing because students who learn how to manage projects well will find it a rewarding career, and there will always be a demand for their services. Project management is complicated because projects consist of many activities that are interrelated, and the actions taken in one activity affect several other aspects of the project. Project management is complex because project managers must understand several knowledge areas and develop a variety of tools and techniques to successfully manage a project. This complexity makes it challenging to learn about project management because regardless of which activity you begin to study, you need to know something about the other activities to which it is related.

## Organization of the Book

This text addresses the challenges posed by various levels of project complexity by introducing an approach to profiling projects and discussing the implications to project management. The text provides an overview of project management and uses the industry standard definitions of the divisions of project management knowledge as described by the Project Management Institute (PMI) to provide grounding in traditional project management concepts. Additionally, students learn a technique developed by the authors to assess the complexity level of a project. This overview and complexity profile provides a cognitive map to which the student

can refer when they proceed to the second part of the book and learn more about the specific areas of project management knowledge.

Students learn more about specific topics in chapters devoted to scope, planning, budgeting, cost management, quality, risk management, procurement, and closeout. They learn about the knowledge, skills, and tools used in each of these areas. They learn that different subsets of this knowledge, skills, and tools are needed depending on the complexity of the project and how to make the appropriate selection based on a project's complexity profile. They also learn that different subsets of knowledge, skills, and tools are used depending on the phase of the project. Because they already have an overview, students can appreciate how the topics in each chapter in this section relate to other topics.

Students also learn about the most complex part of project management—dealing with people. The project manager is often the factor that makes the difference between success and failure of a project and whether or not a project manager enjoys his or her job. Students learn about managing meetings, team development, and driving innovation in the project environment. Students also learn about managing client expectations, developing an appropriate project culture, and motivating the project team. Additionally, students learn about the different management approaches the project manager must use at different times in the project, including authoritarian, facilitator, counselor, collaborator, and partner. Students assess their own leadership abilities and identify which aspects of a project they are most likely to manage well and where they need to improve their skills or team with someone else who has those skills.

This text presents the core concepts of project management within the versatile online environment of Unnamed Publisher. It provides a practical, case-enriched learning experience that will help students go from learners to competent project managers.

### **Why the Authors Wrote This Book**

As a professor who is responsible for teaching and developing a course in project management to be offered online, Preston wanted a textbook that was designed from the ground up to take advantage of the online environment. He also was interested in the new publishing paradigm typified by FWK and decided to explore the option of writing the kind of book that he needed. One of the founding partners of FWK—Jeff Shelstad—introduced Preston to Russ Darnall, who was interested in writing about methods he had developed for dealing with complex projects. Preston and Darnall formed a partnership that produced this text, which draws on both of their strengths. Writing a book is a project in itself. Darnall and Preston applied the

skills and tools described in this book to form a productive team that used the background and skills of both of them.

## **The Darnall-Preston Complexity Index (DPCI™)**

For the first time in print, Darnall shares with the wider public a proprietary project profiling technique that he developed over many years for his own use as a consultant. Preston has added a standardized format to make it possible to use a subset of Darnall's method to do a preliminary profile that is useful for allocating resources based on the project's complexity in four major categories: external factors, internal factors, technology, and project environment. The DPCI is used as a teaching tool in the text to help students make decisions on where resources should be allocated and which parts of the complex project are most likely to be the biggest challenges. During the closeout phase, students learn how to archive the project documents using the DPCI index so they can create a resource they can use when they start future projects that have similar complexity profiles.

## **Online Supplements**

The concepts taught in the textbook are reinforced using traditional questions, essay assignments, and discussion questions. For instructors who want to teach computer skills that are related to the concepts and to reinforce the concepts with current articles and Web-based student activity, the FWK Web site contains a rich variety of online exercises and activities that are designed by Preston to improve understanding, retention, and ability to transfer knowledge to less familiar situations and new projects.

Examples of these activities are as follows:

- Step-by-step instructions on how to use software to accomplish project management tasks:
  - Using collapsible outlines in MS Word 2003 and 2007 and MS Word for Mac 2008 to create a work breakdown structure
  - Using Excel and OpenOffice Calc to create an activity list with precedents, durations, and a Gantt chart
  - Using Google Docs and Office Live to prepare project scope statements and work breakdown structure documents in an online shared work environment where team members each do a portion of the task

- Using OpenProject (a free, open source project management software that is similar to MS Project) or Microsoft Project trial software to create an activity list with durations and precedents to create a PERT (program evaluation and review technique) chart and identify the critical path and project float
- Using Project On Demand to work with a team to create a similar activity list in an online environment where each team member is responsible for a portion of the activities
- Project management resources located online—URLs of online resources, such as the following:
  - Project management definitions
  - Pronunciations of key terms
  - Project management forms used by government agencies
- Screen captures to record visits to sites for grading purposes
- A bookmark folder for project management sites that can be added to, to develop a resource library of Web addresses
- Exploration and reporting
  - Instructions on how to use advanced search features in Google to limit results using keywords, phrases, recent pages, domain names, and exclusion terms
  - Searches for information on issues and events in project management that can be reported upon in class or in online discussions
- Team activities
  - Determining international time zones and dates
  - Dialing international calls
  - Using Internet-based voice and video conferencing software

### **Other Online Activities**

- Self-assessment, in which students rate their grasp of each learning objective at the beginning of their study of the chapter and at the end to demonstrate that learning has occurred on these objectives and to provide the instructor with quantitative data to prove learning has occurred for assessment purposes
- Audio interviews with project management experts, including Russ Darnall, in which they relate insights to managing real projects
- Case studies depicting examples of the concepts in the text that are drawn primarily from the authors' consulting experience and

supplemented with links to sites online where current project cases are described

## **FWK's Community of Learning**

The FWK approach recognizes the potential of involving the larger community of students and experts and has invited them to participate. To include participation by a wider community while maintaining consistency of process and outcomes, templates are provided that contributors can use to add instructional options. Participants in the learning community can choose to provide the exercises for free or for a fee. Instructors are welcome to participate in this community.

## **Compatibility with Industry Standards**

PMI has identified a body of knowledge and published *A Guide to the Project Management Body of Knowledge (PMBOK Guide)* that is used to certify project management professionals. Darnall was a contributor to this guide when it was created. This book includes the *PMBOK Guide* concepts and uses its terminology to assure that project managers share a common body of knowledge. While this book is not a study guide that is intended to prepare students to take PMI certification tests, students who choose to prepare for those certifications after using this text will find the concepts and terminology familiar and much easier to master. This text goes beyond the PMI standard by including content on client satisfaction and human factors related to stakeholder alignment and managing teams—Darnall's specialty.