

0-1 programming in Chapters 10 through 12. Chapter 10 is devoted to unconstrained, polynomial 0-1 optimization, while Chapter 11 develops the complementary problem of constrained, polynomial 0-1 programming. Chapter 12 develops the two-level methods for constrained, polynomial 0-1 programming. Correspondingly, Chapter 13 presents mixed-integer programming. Finally, Chapter 14 discusses the global-descent method, which searches for an optimal solution to a general NIP problem from among its local minima.

The list of references is another positive feature of this book. It is an updated set of more than 200 references; this facilitates the researcher's task of finding the key articles and books about NIP. Similarly, the examples of difficult theoretical concepts are interesting to the reader who wants to understand the NIP algorithm details. Moreover, the book's word index makes it extraordinarily valuable for use as a handbook. Finally, this book is an excellent tool to use as a reference book to obtain ideas for building new algorithms for integer and nonlinear programming.

In conclusion, I think this is an interesting book about NIP and related issues. Many students, professionals, professors, and researchers could use it to learn key concepts about this topic. Therefore, I consider this work a valuable reference for graduate students or researchers interested in integer programming in a wide sense—not only in traditional linear-integer programming. Finally, as I browsed through this reference, I found it rewarding to learn more things about integer and nonlinear programming.

## References

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Javier Faulin

Department of Statistics and Operations Research, Public University of Navarre, 31006 Pamplona, Spain, javier.faulin@unavarra.es

McMANUS, J., T. WOOD-HARPER. 2004. *Information Systems Project Management: Methods, Tools and Techniques*. Prentice Hall, Upper Saddle River, NJ. 310 pp. \$64.50.

Current literature about information systems (IS) is quite abundant and sometimes confusing (Checkland and Holwell 1998). A quick search on "information systems" in Amazon's book Web site provides more than 75,000 results. Obviously, a lifetime would not be sufficient to read all this material—nor would doing so be sensible. Therefore, recommendations on which IS books to read are generally useful.

McManus and Wood-Harper have produced a valuable text that is deeply rooted in practical insight; this is an achievement by itself. They claim to offer "a clear and logical exposition of how to plan, organize and monitor projects effectively in order to deliver quality information systems within time, to budget and a high standard" (cover page). Certainly, they have achieved this. Additionally, they did it using a theme that had not been explored as deeply as other areas within information systems and technologies (IS/IT). For instance, when we look at the specific topic of "project management" within IS/IT, the number of titles that Amazon provides drops dramatically to fewer than 600. Why is this? Is it because it has no importance, no impact, or both? According to the authors, over half of the projects that involve IT go wrong; they become "runaways" (p. 3). If true, this makes it worthwhile to address the topic.

The text consists of six chapters. Each possesses a very didactic structure that demonstrates a commitment to the clear organization of the material. In addition to the expected theoretical developments, the text also includes a well-presented summary, a project checklist that should prove very useful to a wide array of readers (ranging from undergraduate students to practitioners), additional bibliographical references, useful Web sites, self-assessment exercises, and a case study with questions that are helpful for leading challenging classroom discussions. This content makes the book valuable. The checklists constitute an impressive resource for students as well as practitioners because they facilitate looking for potential problems. However, although some of these checklists include too much detail or have a reduced applicability, the reader has the option of applying what is useful in a particular situation.

The book is not without limitations—the first part is probably the weakest. Chapter 1 introduces, in a somewhat unsuccessful way, the intuitive notion that

“changes in global markets have caused many organizations to adopt new structures so that they can compete more effectively and achieve more consistent success with the projects they undertake” (p. 1). It provides elements of discussion for some causes of runaway projects. However, they are too general. In addition, the authors link them, in a questionable manner, to several symptoms that they attribute to poor IS delivery in project management. Chapter 2 entails a more difficult task, i.e., to identify the qualities of a good project manager. This task proves to be elusive. The authors’ approach consists of presenting several items that prove difficult to put together. First, they provide a comparison between the *Guide to Project Management Body of Knowledge* (PMBOK) of the UK Project Management Institute and the *Body of Knowledge* of the US Association for Project Management. Their intention appears to be to illustrate the “body of knowledge and accompanying skills expected of project managers” (p. 40). However, they provide only authoritative lists that are difficult to test and harder to confirm universally. The book also introduces other elements (i.e., leadership, motivation, managerial styles, power and influence, decision making, problem solving, and communication). This combination makes the discussion difficult to follow and, from a practical point of view, does not add much to the authors’ initial intention.

The book improves dramatically as the reader approaches the middle. Chapter 3 presents and assesses a variety of models and approaches to software development. It also introduces several system methodologies and some ideas about development tools. Obviously, the inclusion of diverse material in a reduced space always has the risk of introducing some deterioration to conceptual frameworks. Although the authors suggest that “a methodology should be described as a series of philosophical views accompanied by one or more methods” (p. 96), they prove unable to deliver that. Probably the clearest example of this resides in their underrepresentation of the soft system methodology (SSM). They provide an oversimplified utilitarian proposition that I suspect its original developers (Wilson 1990, Checkland 1999) would find unacceptable. Chapter 4 introduces a protocol for IT project management—PRINCE 2 (PRoject IN Controlled Environment)—a UK standard that the

Central Computer and Telecommunications Agency developed in 1989. In its Web site ([http://www.ogc.gov.uk/methods\\_prince\\_2.asp](http://www.ogc.gov.uk/methods_prince_2.asp)), the Office of Government Commerce recognizes PRINCE 2 as “a world-class international product and is the standard method for project management.” However, as many other similar proposals, it assumes that projects are more successful when managed by using a methodology. Therefore, the value of this chapter resides in the project checklists that it provides. It is worthwhile to explore them in detail.

At the end of the book, its practical part emerges in all its magnificence. Chapter 5 addresses the difficulty of “estimating cost and managing risk.” It documents several elements that are useful in studying this topic and proposes a model—the CONstructive COSt MOdel (COCOMO). The quantitative examples the book provides show the simplicity and practicality behind the concept. In addition, it presents techniques and methods for assessing risk and discusses mitigation techniques. Chapter 6 explains how to manage IS quality and proposes several core metrics to qualify and quantify software quality. Additionally, it presents characteristics for software quality and explores attributes. Finally, it identifies quality-management frameworks and shows elements from ISO 9000/9001. The book also discusses the TickIT system, from the British Standard Institute, and the capability maturity model (CCM). Tables that present elements, attributes, and instances are clearly developed for both TickIT and CCM.

On a concluding note, I reviewed the Indian edition in paperback, which is much less expensive. This idea from the publishers provides a way to introduce Western business best practices to places where buying English hard copies is prohibitive—at least for students. I would like to see more of these efforts in the near future.

## References

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Eliseo Vilalta-Perdo

Department of Industrial and Systems Engineering, Tecnológico de Monterrey, Campus Irapuato, Mirador del Valle 445, Villas de Irapuato, 36670, Irapuato, Guanajuato, Mexico, [eliseo.vilalta@itesm.mx](mailto:eliseo.vilalta@itesm.mx)

SEPPANEN, M. S., S. KUMAR, C. CHANDRA. 2005. *Process Analysis and Improvement*. McGraw-Hill/Irwin, New York. 366 pp. \$125.65.

*Process Analysis and Improvement* provides a comprehensive coverage of the applicability of readily available software tools to various business-process-improvement (BPI) applications. In this light, the book provides valuable BPI-related information that is beyond traditional academic coverage. It gives the reader or student an understanding of the processes that comprise BPI and their application and execution, and an understanding of how to apply commonly available software to support the execution of these processes. The text covers software applications including Microsoft Visio, Microsoft Excel, Arena simulation software, and Microsoft Visual Basic for Applications (VBA). VBA and Excel are both included in the Microsoft Office application suite; Visio is a relatively inexpensive addition to the suite. Rockwell Automation's Arena simulation software is the only application that the book discusses that would not be readily available in all campus computer labs. However, the text includes a demonstration or academic version of Arena 8.0, in addition to a 60-day trial version of Visio Professional 2003.

The book comprises 12 chapters. It begins with an introduction to the topic of process analysis and improvement, progresses through the applicability and use of each of the various software packages, and ends with VBA in Chapter 8. Chapters 9 through 11 discuss the presentation of case-study applications of the tools in a customer-service-center application and a supply-chain-management application, among others. Chapter 12 discusses future considerations for the application of computer-based tools for process analysis and improvement.

The authors use a paired-chapter strategy, which proves to be effective in presenting the material for the various software applications. The first chapter introduces the student to the theory behind the BPI tool being covered, such as process mapping, data

management, or simulation. It introduces the software's basic features and demonstrates its applicability to the selected application. The objective of the second chapter is to develop software proficiency by leading the student through the creation of a series of BPI applications using each of the software packages. Topics covered under Visio include process mapping and flowcharting, development of organizational charts, facility designs (layouts), Ishikawa diagrams, and project scheduling. Topics under Excel include analysis of variance, linear programming, linear regression, quality function deployment, technology function deployment, and six sigma applications. Process simulation topics include queuing theory, modeling strategy, model development, and verification. The book also covers the capability of utilizing VBA as an integration tool between the various applications thoroughly. It further reinforces the concepts presented in the early chapters by leading the student through the development of fully integrated applications that utilize all the software tools presented in the text.

*Process Analysis and Improvement* is an ideal text for a course at the senior undergraduate or beginning graduate level for students and practitioners in technical and managerial fields. The text is suitable for use in BPI courses, e.g., systems decision making, process design and improvement, business process redesign, or process mapping and improvement. Courses that require students to gain personal-computer-application skills for business process analysis, design, and improvement are ideal candidates. This text would be an excellent choice for an introductory, graduate-level course in programs such as business administration, industrial engineering, management of technology, engineering management, or the senior design course in industrial or manufacturing systems engineering undergraduate programs. Students would need to have a prior knowledge of basic linear programming, business or engineering statistics, production and operations management, C programming or similar programming experience, and a reasonable level of proficiency with Windows-based applications including Microsoft Excel.

The book does an excellent job of converting theory to practice by providing a sufficient level of material