BOOK REVIEWS

Edited by Willis A. Jensen

Predictive Business Analytics—Forward-Looking Capabilities to Improve Business Performance, by Lawrence S. Maisel and Gary Cokins. Wiley and SAS Business Series, Hoboken, NJ, 2013, 272 pp., $49.95, ISBN: 978-1-118-17556-9.

Reviewer: *Zhaojun (Steven) Li*, Western New England University, 1215 Wilbraham Road, Springfield, Massachusetts 01119-2684.

THIS BOOK consists of five parts, and each part discusses a focused them about why predictive business analytics (PBA) are needed, the principles and methods to deploy and implement PBA, and the challenges and trends in adopting PBA for sustainable business success and performance improvement. Part One of the book, consisting of Chapters 1 and 2, answers the question why PBA is the new wave for improving business performance. The predictive nature of PBA is emphasized when comparing PBA with existing or traditional business decision support methods, e.g., business intelligence. According to the authors, the primary purpose of PBA is to identify how the future might look and what actions need to be taken by understanding well the various cause-and-effect relationships. The guiding principles extracted from the International Federation of Accountants (IFAC) for PBA structuring and modeling is presented in Chapter 2.

Part Two of the book discusses in more detail how a business can develop and deploy PBA. Chapter 3 of this part describes 7 guiding principles for designing or constructing decisions based on PBA. These guiding principles form the foundation for developing PBA but are not hard rules. In Chapter 4, developing and designing PBA functions are discussed following three steps: Process design, model development, and data capture. In the model development step, some analytical methods such as regression analysis, Delphi method, Scenario analysis, and Monte Carlo simulation are discussed. An exhaustive treatment of analytical methods is not possible, but many operations research methods and advanced statistical modeling techniques such as time series analysis, statistical classification, and statistical learning methods may be included in model development section. The reader will need to investigate elsewhere on a case by case basis for more detailed information for the analytical methods discussed in this section. Chapter 5 discusses some strategies for deploying PBA in business environments. In this chapter, the authors leverage their expertise in business performance management based on metrics for deploying effective PBA. Key structural components, such as designing a performance measure system, selecting KPIs and drivers, and applying a management review process are discussed for supporting PBA deployment.

Part Three of the book presents the readers with case studies from MetLife and the biopharmaceutical industry. The MetLife case study demonstrates that how PBA can be integrated into performance scorecard framework and reporting process to foster better and faster decision making and adaptive operational practices. One case study from the biopharmaceutical industry highlights how PBA can be used to predict future success of potential products. Another case study shows how PBA capabilities help reshape a new Learn & Confirm philosophy and methodology of an R & D Model. Challenges in implementing PBA in these case studies are also discussed.

Part Four of the book discusses how predictive business analytics (PBA) methods can be integrated into basic business operations and functions such as accounting and finance. Chapter 8 discusses why many large and successful companies fail from the perspective of executives' decision making styles. The authors point out that a leading cause for failures in organizations is the attitude of executives, and rational decisions need to be based on facts, deep analysis, and relevant insights. By explaining business failure

from such an aspect, the business case for predictive business analytics is built and its necessity is emphasized in predicting and mitigating the risk of organizational failure. In Chapter 9, the differences between business intelligence, business analytics, and enterprise performance management are further discussed. Business intelligence focuses on querying and storing data and information while business analytics seeks to gain knowledge from data and information, which may be built on existing business intelligence methods and can be implemented through the platform of enterprise performance management with set objectives and targets. As the authors mention in this chapter, efforts should focus on establishing an effective PBA function rather than differentiating the terminologies being used.

Chapters 10 and 11 in Part Four discuss predictive accounting and rolling forecasts in budgeting, and how the functions of predictive business analytics can be leveraged with the business's managerial accounting and finance budgeting functions. The predictive nature in these two key business functions can provoke more discussions and insights about how management can make more informed decisions by integrating the insights and predictions from PBA capabilities. Chapters 12 and 13 in Part Five discuss the trends and organizational challenges for implementing PBA. In Chapter 12, the authors state that the current status of PBA in business decision making has not been widely applied or is still in the initial adopting stage accompanied with various resistance. On the other hand, the benefits of PBA in finance and accounting function are specifically discussed and the potential rich applications of PBA in enterprise performance management framework are described. The authors also state that embracing analytics is not only to enhance an employee's career and improve an organization's performance but also to address new challenges for the business and the global society.

The book presents a high-level overview about the significance, development, deployment, implementation of PBA in modern business environments from management perspective rather than from a detailed, quantitative perspective. PBA's function and implementation is well integrated into the authors' expertise areas in enterprise performance management. The book provides a basic understanding of PBA as well as some guidance and principles for implementation. With such a PBA overview, management will find it useful to plan an effective PBA func-

tion within an organization as well as to be prepared for possible challenges that may come up when deploying PBA for enterprise performance improvement and sustainability. With an overall understanding to PBA, readers who are more curious about the detailed quantitative methods, techniques, and tools for PBA modeling can dive into each technical area such as statistical modeling, operations research, and other quantitative modeling fields. In summary, the book provides readers with an excellent overview, guiding principles, and case studies for management or organization who expect to implement PBA for business performance improvement and sustainable business success.

Statistical Thinking: Improving Business Performance, 2nd ed., by Roger Hoerl and Ronald D. Snee. John Wiley & Sons, Hoboken, NJ, 2012, 544 pp., $135.00, ISBN: 978-1-118-09477-8.

Reviewer: *Wade E. Molnau,* General Dynamics Advanced Information Systems, 8800 Queen Ave South, Bloomington, Minnesota 55431.

THE USE of statistics and the practitioners that use them have gone through significant changes over the years. Statistics are no longer the domain of a select few, highly trained experts but is now practiced by non-experts and teams through the widespread availability and use of statistical software and via large, industry and corporate initiatives. Statistical thinking has become the norm as managers, executives and whole organizations view statistics as essential to solving development and operational challenges. For many, pervasive statistical thinking has become a competitive advantage—for both individuals and organizations. The key question is how to teach and grow statistical thinking at the individual and organizational level. Statistical Thinking: Improving Business Performance by Roger Hoerl and Ron Snee provides an excellent resource towards filling this need.

The text is both straightforward and practical. Hoerl and Snee start with and emphasize the big picture of statistical thinking and why it is important before diving into detailed topics. The authors include case studies and real world examples to deepen learning. The book is structured into ten chapters, which are grouped into three parts. After an introduction to JMP® statistical software, Part One discusses the big picture of statistical thinking concepts