discusses the role of information systems to support forecasting and specific forecasting issues that arise in the areas of operations and marketing.

Chapter 13 takes a more holistic view of the forecasting process in which the task is to produce a forecast that meets the needs of an organization at times when there may be a limited amount of available information and data. The authors discuss how to choose the forecasting method(s) that meet the organization's needs and the data restrictions. They also discuss ways to monitor forecast performance, ways to evaluate the uncertainty in forecasts, and how to make changes to improve forecasts.

I do have a few quibbles with the book. First, because the book uses output from many different computer programs, it is largely left to the reader to figure out how to use these programs to analyze the data or produce the forecasts provided in the text. Second, several of the examples have data that do not meet the assumptions of the forecasting method being illustrated. For example, the residual analysis of the gas price data in Chapter 8 suggests a nonconstant variance and there is evidence of significant autocorrelation in the residuals. While the authors point out these problems, they are not dealt with in the body of the text, which in my view was less than optimal.

Business forecasting is a broad and complex topic because there are many different methods that can be used and because, many times, economic data contain complex features that are difficult to model appropriately. Thus, any author writing a book on forecasting business data must make a decision about whether to cover the many different forecasting methods in less depth or to cover only a few methods in greater depth. Ord and Fildes have made the choice to cover a wide variety of forecasting methods. While the depth of coverage is appropriate for a few of the methods, including exponential smoothing and regression, the coverage of many of the methods is in less depth than some readers would like. In my view, this is a good textbook on forecasting as long as the instructor can fill in details for the forecasting methods that are not covered in sufficient depth.

The strength of the book is the broad coverage of many different forecasting methods and the attention to the management issues involved in producing and using forecasts effectively within organizations. In real applications, the largest issues may not be how to produce the forecasts but rather being careful to understand who will use the forecasts, to understand issues with the available data, and to understand how to combine judgment and external knowledge with quantitative forecasts. This book does a good job of raising these practical issues and providing suggestions about how to deal with them.

In summary, the answer to the question "Is this book for me?" depends on what type of forecasting course you are teaching. If you are teaching a course primarily focused on a relatively modest number of the most commonly used forecasting methods and your purpose is to help students understand how to appropriately use these methods, then this book probably will not meet your needs. The coverage on most of the quantitative methods is not at the depth where students will be able to understand and use those methods without significant supplementing of the material in the text. On the other hand, if you are teaching a course focused on introducing the students to the broad range of forecasting methods that are available and, in addition, want the students to understand the management issues that are involved, then this is a book worth considering.

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Introduction to Hierarchical Bayesian Modeling for Ecological Data. Éric Parent and Étienne Rivot. New York: CRC Press, 2013, xxi + 405 pp., $89.95 (H), ISBN: 978-1-58488-919-9.

The authors' goal is to present an introduction to hierarchical Bayesian modeling in the context of ecological data. Part I of the book starts with several binomial models with beta prior distributions. Then it moves to linear models (regression), nonlinear models (stock-recruitment curves), and generalized linear models (logistic regression). In Part II, hierarchical models over sets of parameters are introduced, starting with sets of binomial experiments (multiple capture–recapture experiments) and multiple stock-recruitment experiments. Finally, Part III looks at state-space models through a fishery production model and salmon life cycle model, where the state model is a nice way to encode the dynamics of the population cycles.

Virtually all of the examples are fisheries related—this is not surprising given the background of the authors. The major exception is an appendix that has a long discussion of baseball times-at-bat as an introduction to hierarchical models. The fisheries examples are well explained and realistic. They should be understandable to all readers.

The use of Bayesian methods for the examples is well motivated, and this motivation provides a compelling rationale for the Bayesian paradigm. I liked the use of directed acyclic graphs that are presented for every example and how the authors separate the development of the models into the observational, state, and prior distribution levels. I also liked the use of Bayes factors to compare the results of several models for the same data; however, little guidance is provided on how to compute these using standard software.

The book requires a high degree of statistical maturity prior to reading as there is little introduction to distribution theory or likelihood. For example, the authors assume that the reader knows the density functions for a wide range of distributions (e.g., binomial, beta, Polya, normal, and t-distributions) and can manipulate these. The authors also assume some familiarity with the R statistical package as they often use an R-like shorthand when discussing distributions.

The level of the text is also uneven. For example, Chapters 1 and 2 present an overview of Bayesian methods with a simple Binomial (mark-recapture) experiment with a beta prior. Both closed form and WinBUGS solutions are discussed. Then Chapter 3 starts with a simple comparison of the mean size of fish among three sampling locations on a river. The likelihood (product of normal distributions) is derived. Then it jumps into discussing hyperparameters of gamma distributions applied to the precision (inverse of the variance) that, after factoring based on sufficient statistics, leads to a closed form solution (the t-distribution) for the distribution of the difference between pairs of means. Chapter 4 then returns to a discussion of a simple removal experiment with three binomial experiments. In Chapter 6, a discussion of the linear model in terms of matrices quickly turns to using the Zellner prior for categorical variables in the linear model to avoid nonidentifiability issues.

The book does not contain any instructions for using WinBUGS or OpenBUGS. Some code snippets are sprinkled throughout the book, but no instructions are given on how to actually run these. The authors have a website where copies of the code are provided using R/BRugs and OpenBUGS. The documentation level of the code is uneven, with some large blocks of code having not even a header indicating what the code block is supposed to do. Some chapters have no code because the results are available in closed form. For example, all of the results in Chapter 3 are in closed form and no computer code is provided, so beginners who are unable to digest the mathematics of this chapter are also unable to see how this would be implemented in WinBUGS.

The book also lacks details on assessing the goodness of fit of your model to the data, except for a paragraph in Chapter 10 that presents Bayesian p-values. Similarly, there is no discussion of how to assess convergence of the Markov chain Monte Carlo (MCMC) chains to the stationary distributions.

There are also some typesetting issues that may cause the reader some difficulty. For example, the variable *pi* is replaced by the Greek symbol π in WinBugs code, and equations use the asterisk, the × symbol, and juxtaposition all to indicate multiplication, sometimes in the same equation. In addition, there is some awkward phrasing throughout the book such as when the authors use the word *hypothesis* as synonymous with the word *assumption*. For example, the authors mention several times the *hypothesis* (rather than the assumption) of equal catchability among all members of the fish population and the authors will often switch usage in mid-stream.

The book requires a fair amount of maturity on the part of the reader because the authors often make changes to notation or usage in mid-paragraph, which could be quite mysterious to a person with a weaker background. For example, even a person with a moderately strong background in using statistical models may not know that a Beta(1, 1) is the same as a Uniform(0, 1) or that $\Gamma(n+1)$ is the same as $n!$ or that $\mathbf{Y}$ is the same as $(Y_1, Y_2, \ldots, Y_n)$ while reading the text and looking at figures. There are repeated references to Gibbs sampling, but this is never defined. When discussing the use of WinBugs, there are references to burn in, thinning, and other implementation details that are never defined.

Overall, as a professional statistician working in ecology, I found the book to be informative with interesting examples. It could be adopted for a course in Bayesian methods for students in statistics and/or ecology if the instructor was prepared to support students over the gaps (especially in programming the examples). As suggested by the authors on their website, this book has been used as part of a course with three additional hours of instruction per chapter.

The latter would give the student an ability to ask questions about confusing aspects of the book. It would be difficult to use this book for self-study if the reader's statistical maturity was low.

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