*Practical Management Science*, Revised 3e

Albright, Winston

Note: There are no changes from the original third edition.

1. Introduction to Modeling
   1. Introduction
   2. A Waiting-Line Example
   3. Modeling Versus Models
   4. The Seven-Step Modeling Process
   5. A Successful Management Science Application
   6. Why Study Management Science?
   7. Software Included in this Book
   8. Conclusion
2. Introductory Spreadsheet Modeling
   1. Introduction
   2. Basic Spreadsheet Modeling: Concepts and Best Practices
   3. Cost Projections
   4. Breakeven Analysis
   5. Ordering with Quantity Discounts and Demand Uncertainty
   6. Estimating the Relationship Between Price and Demand
   7. Decisions Involving the Time Value of Money
   8. Conclusion

Appendix: Tips for Editing and Documenting Spreadsheets

1. Introduction to Optimization Modeling
   1. Introduction
   2. Introduction to Optimization
   3. A Two-Variable Model
   4. Sensitivity Analysis
   5. Properties of Linear Models
   6. Infeasibility and Unboundedness
   7. A Product Mix Model
   8. A Multiperiod Production Model
   9. A Comparison of Algebraic and Spreadsheet Models
   10. A Decision Support System
   11. Conclusion
2. Linear Programming Models
   1. Introduction
   2. Advertising Models
   3. Workforce Scheduling Models
   4. Aggregate Planning Models
   5. Blending Models
   6. Production Process Models
   7. Financial Models
   8. Data Envelopment Analysis (DEA)
   9. Conclusion
3. Network Models
   1. Introduction
   2. Transportation Models
   3. Assignment Models
   4. Minimum Cost Network Flow Models
   5. Shortest Path Models
   6. Other Network Models
   7. Conclusion
4. Linear Optimization Models with Integer Variables
   1. Introduction
   2. Overview of Optimization with Integer Variables
   3. Capital Budgeting Models
   4. Fixed-Cost Models
   5. Set Covering Models and Location–Assignment Models
   6. Cutting Stock Models
   7. Conclusion
5. Nonlinear Optimization Models
   1. Introduction
   2. Basic Ideas of Nonlinear Optimization
   3. Pricing Models
   4. Advertising Response and Selection Models
   5. Facility Location Models
   6. Models for Rating Sports Teams
   7. Portfolio Optimization Models
   8. Estimating the Beta of a Stock
   9. Conclusion
6. Evolutionary Solver: An Alternative Optimization Procedure
   1. Introduction
   2. Introduction to Genetic Algorithms
   3. Introduction to Evolutionary Solver
   4. Nonlinear Pricing Models
   5. Combinatorial Models
   6. Fitting an S-Shaped Curve
   7. Portfolio Optimization
   8. Cluster Analysis
   9. Discriminant Analysis
   10. The Traveling Salesperson Problem
   11. Conclusion
7. Multi-Objective Decision Making
   1. Introduction
   2. Goal Programming
   3. Pareto Optimality and Trade-off Curves
   4. The Analytic Hierarchy Process (AHP)
   5. Conclusion
8. Decision Making Under Uncertainty
   1. Introduction
   2. Elements of a Decision Analysis
   3. The PrecisionTree Add-In
   4. Bayes’ Rule
   5. Multistage Decision Problems
   6. Incorporating Attitudes Toward Risk
   7. Conclusion
9. Introduction to Simulation Modeling
   1. Introduction
   2. Real Applications of Simulation
   3. Probability Distributions for Input Variables
   4. Simulation with Built-In Excel Tools
   5. Introduction to @RISK
   6. The Effects of Input Distributions on Results
   7. Conclusion

Appendix: Creating Histograms with Excel Tools

1. Simulation Models
   1. Introduction
   2. Operations Models
   3. Financial Models
   4. Marketing Models
   5. Simulating Games of Chance
   6. Using TopRank with @RISK for Powerful Modeling
   7. Conclusion
2. Inventory Models
   1. Introduction
   2. Categories of Inventory Models
   3. Types of Costs in Inventory Models
   4. Economic Order Quantity (EOQ) Models
   5. Probabilistic Inventory Models
   6. Ordering Simulation Models
   7. Supply Chain Models
   8. Conclusion
3. Queueing Models
   1. Introduction
   2. Elements of Queueing Models
   3. The Exponential Distribution
   4. Important Queueing Relationships
   5. Analytical Steady-State Queueing Models
   6. Approximating Short-Run Behavior Analytically
   7. Queueing Simulation Models
   8. Conclusion
4. Project Scheduling Models
   1. Introduction
   2. The Basic CPM Model
   3. Modeling Allocation of Resources
   4. Models with Uncertain Task Times
   5. A Brief Look at Microsoft Project
   6. Conclusion
5. Regression and Forecasting Models
   1. Introduction
   2. Overview of Regression Models
   3. Simple Regression Models
   4. Multiple Regression Models
   5. Overview of Time Series Models
   6. Moving Averages Models
   7. Exponential Smoothing Models
   8. Conclusion

Visit the [Cengage](http://www.cengage.com/decisionsciences/albright) site for our books.

Send e-mail to [albright@indiana.edu](mailto:albright@indiana.edu)

Albright is retired from the [Kelley School of Business, Indiana University, Bloomington](http://www.kelley.indiana.edu/) and now works as a consultant for [Palisade Corp](http://www.palisade.com/).

Back to [home page](file:///C:\Users\chris\Dropbox\My%20Books\Web%20Site\default.htm)

Updated: 1/13/2015