

1. Record Nr.	UNINA9910465440303321
Autore	Hahn Eugene D.
Titolo	Bayesian methods for management and business : pragmatic solutions for real problems // Eugene D. Hahn
Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley, , 2014 ©2014
ISBN	1-118-93519-5
Descrizione fisica	1 online resource (787 p.)
Classificazione	MAT029010
Disciplina	650.01/519542
Soggetti	Management - Statistical methods Commercial statistics Bayesian statistical decision theory Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Machine generated contents note: 1 Introduction to Bayesian Methods 1 1.1 Bayesian Methods: An Aerial Survey 1 1.2 Bayes' Theorem 4 1.3 Bayes' Theorem and the Focus Group 6 1.4 The Flavors of Probability 9 1.5 Summary 12 1.6 Notation Introduced in This Chapter 12 2 A First Look at Bayesian Computation 13 2.1 Getting Started 13 2.2 Selecting the Likelihood Function 14 2.3 Selecting the Functional Form 18 2.4 Selecting the Prior 19 2.5 Finding the Normalizing Constant 20 2.6 Obtaining the Posterior 20 2.7 Communicating Findings 25 2.8 Predicting Future Outcomes 28 2.9 Summary 30 2.10 Exercises 31 2.11 Notation Introduced in This Chapter 32 3 Computer-Assisted Bayesian Computation 33 3.1 Getting Started 33 3.2 Random Number Sequences 34 3.3 Monte Carlo Integration 36 3.4 Monte Carlo Simulation for Inference 40 3.5 The Conjugate Normal Model 44 3.6 In Practice: The Conjugate Normal Model 50 3.7 Count Data and the Conjugate Poisson Model 57 3.8 Summary 61 3.9 Exercises 62 3.10 Notation Introduced in This Chapter 63 3.11 Appendix - In Detail: Finding Posterior Distributions for the Normal Model 63 4 MCMC and Regression Models 71 4.1 Introduction to Markov Chain Monte Carlo 71 4.2 Fundamentals of MCMC 73 4.3 Gibbs Sampling 75 4.4 Gibbs Sampling and the Simple

Linear Regression Model 82 4.5 In Practice: The Simple Linear Regression Model 85 4.6 The Metropolis Algorithm 88 4.7 Hastings' Extension of the Metropolis Algorithm 97 4.8 Summary 102 4.9 Exercises 103 5 Estimating Bayesian Models with WinBUGS 105 5.1 An Introduction to WinBUGS 106 5.2 In Practice: A First WinBUGS Model 107 5.3 In Practice: Models for the Mean in WinBUGS 117 5.4 Examining the Prior with Sensitivity Analysis 125 5.5 In Practice: Examining Proportions in WinBUGS 136 5.6 Analysis of Variance Models 142 5.7 Higher-order ANOVA Models 155 5.8 Regression and ANCOVA Models in WinBUGS 163 5.9 Summary 171 5.10 Chapter Appendix: Exporting WinBUGS MCMC Output to R 171 5.11 Exercises 173 6 Assessing MCMC Performance in WinBUGS 175 6.1 Convergence Issues in MCMC Modeling 175 6.2 Output Diagnostics in WinBUGS 178 6.3 Reparameterizing to Improve Convergence 181 6.4 Number and Length of Chains 186 6.5 Metropolis-Hastings Acceptance Rates 197 6.6 Summary 199 6.7 Exercises 200 7 Model Checking and Model Comparison 203 7.1 Graphical Model Checking 203 7.2 Predictive Densities and Checking Model Assumptions 209 7.3 Variable Selection Methods 216 7.4 Bayes Factors and BIC 227 7.5 Deviance Information Criterion 234 7.6 Summary 241 7.7 Exercises 241 8 Hierarchical Models 243 8.1 Fundamentals of Hierarchical Models 243 8.2 The Random Coefficients Model 256 8.3 Hierarchical Models for Variance Terms 267 8.4 Functional Forms at Multiple Hierarchical Levels 273 8.5 In Detail: Modeling Covarying Hierarchical Terms 279 8.6 Summary 286 8.7 Exercises 286 8.8 Notation Introduced in This Chapter 288 9 Generalized Linear Models 289 9.1 Fundamentals of Generalized Linear Models 289 9.2 Count Data Models: Poisson Regression 292 9.3 Models for Binary Data: Logistic Regression 296 9.4 The Probit Model 303 9.5 In Detail: Multinomial Logistic Regression for Categorical Outcomes 306 9.6 Hierarchical Models for Count Data 314 9.7 Hierarchical Models for Binary Data 320 9.8 Summary 324 9.9 Exercises 325 9.10 Notation Introduced in This Chapter 327 10 Models for Difficult Data 329 10.1 Living with Outliers-Robust Regression Models 329 10.2 Handling Heteroscedasticity by Modeling Variance Parameters 340 10.3 Dealing with Missing Data 345 10.4 Types of Missing Data 349 10.5 Missing Covariate Data and Non-Normal Missing Data 357 10.6 Summary 358 10.7 Exercises 359 10.8 Notation Introduced in This Chapter 360 11 Introduction to Latent Variable Models 361 11.1 Not Seen but Felt 361 11.2 Latent Variable Models for Binary Data 362 11.3 Structural Break Models 366 11.4 In Detail: The Ordinal Probit Model 376 11.5 Summary 383 11.6 Exercises 383 A Common Statistical Distributions 385 Bibliography 389 Author Index 403 Subject Index 407 .

Sommario/riassunto

"Features the use of Bayesian statistics to gain insights from empirical dataFeaturing an accessible approach, Bayesian Methods for Management and Business: Pragmatic Solutions for Real Problems demonstrates how Bayesian statistics can help to provide insights into important issues facing business and management. The book draws on multidisciplinary applications and examples and utilizes the freely available software WinBUGS and R to illustrate the integration of Bayesian statistics within data-rich environments. Computational issues are discussed and integrated with coverage of linear models, sensitivity analysis, Markov Chain Monte Carlo (MCMC), and model comparison. In addition, more advanced models including hierarchal models, generalized linear models, and latent variable models are presented to further bridge the theory and application in real-world usage. Bayesian Methods for Management and Business: Pragmatic Solutions for Real Problems alsofeatures: Numerous real-world examples drawn from

multiple management disciplines such as strategy, international business, accounting, and information systems An incremental skill-building presentation based on analyzing data sets with widely-applicable models of increasing complexity An accessible treatment of Bayesian statistics that is integrated with a broad range of business and management issues and problems A practical problem-solving approach to illustrate how Bayesian statistics can help provide insight into important issues facing business and management The use of WinBUGS and R to showcase the benefits of Bayesian statistics for the increasingly data-rich business environment Bayesian Methods for Management and Business: Pragmatic Solutions for Real Problems is an important textbook for Bayesian statistics courses at the advanced MBA-level and also for business and management PhD candidates as a first course in methodology. In addition, the book is a useful resource for management scholars and practitioners as well as business academics and practitioners who need to broaden their methodological skill sets"--
