THOMAS W. MILLER

Faculty Director of Northwestern University's Predictive Analytics Program

MARKETING DATA SCIENCE

Modeling Techniques in Predictive Analytics with R and Python

12 15

16

18

Marketing Data Science

Modeling Techniques in Predictive Analytics with R and Python

THOMAS W. MILLER

Marketing Data Science: Modeling Techniques in Predictive Analytics with R and Python

Table of Contents

Contents

Preface

Figures

Tables

Exhibits

- 1 Understanding Markets
- 2 Predicting Consumer Choice
- 3 Targeting Current Customers
- 4 Finding New Customers
- 5 Retaining Customers
- 6 Positioning Products
- 7 Developing New Products
- 8 Promoting Products
- 9 Recommending Products
- 10 Assessing Brands and Prices
- 11 Utilizing Social Networks
- 12 Watching Competitors
- 13 Predicting Sales



Table of Contents

14 Redefining Marketing Research

A: Data Science Methods

- A.1 Database Systems and Data Preparation
- A.2 Classical and Bayesian Statistics
- A.3 Regression and Classification
- A.4 Data Mining and Machine Learning
- A.5 Data Visualization
- A.6 Text and Sentiment Analysis
- A.7 Time Series and Market Response Models

B: Marketing Data Sources

- **B.1 Measurement Theory**
- **B.2** Levels of Measurement
- **B.3 Sampling**
- **B.4 Marketing Databases**
- B.5 World Wide Web
- **B.6 Social Media**
- **B.7 Surveys**
- **B.8 Experiments**
- **B.9 Interviews**
- **B.10 Focus Groups**
- B.11 Field Research

C: Case Studies

- C.1 AT&T Choice Study
- C.2 Anonymous Microsoft Web Data
- C.3 Bank Marketing Study
- C.4 Boston Housing Study



Table of Contents

- C.5 Computer Choice Study
- C.6 DriveTime Sedans
- C.7 Lydia E. Pinkham Medicine Company
- C.8 Procter & Gamble Laundry Soaps
- C.9 Return of the Bobbleheads
- C.10 Studenmunds Restaurants
- C.11 Sydney Transportation Study
- C.12 ToutBay Begins Again
- C.13 Two Months Salary
- C.14 Wisconsin Dells
- C.15 Wisconsin Lottery Sales
- C.16 Wikipedia Votes
- D: Code and Utilities

Bibliography

Index