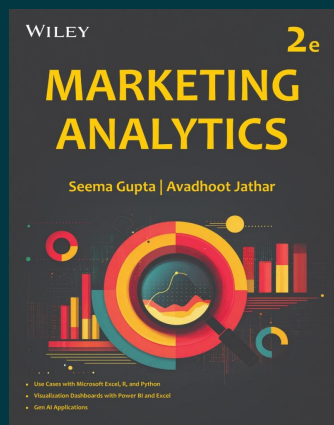




Marketing Analytics, 2ed

By [Seema Gupta](#), [Avadhoot Jathar](#)

Paperback

9789373320489

₹999.00

Pages: 546

Description

Marketing Analytics offers students, educators, and practitioners a practical guide to applying statistical, machine learning, and generative AI models to marketing decisions. The book serves as a unified reference for key marketing areas such as branding, product development, pricing, marketing mix, and customer journey.

It addresses decision-making challenges across several industries, including CPG, hospitality and restaurants, e-commerce, retail, and entertainment. The text highlights trade-offs in inference based on industry-specific data, data limitations, and regulatory norms governing data usage.

The book demonstrates use cases with models built using Microsoft Excel, R, and Python—three widely used tools in the analytics industry. In addition, the second edition introduces data visualization as a means of communicating insights and inferences, featuring Microsoft Power BI.

Overall, the book provides a comprehensive introduction to making marketing decisions through data and analytics.

About the Author

Seema Gupta, Avadhoot Jathar

Dr. Seema Gupta is a seasoned academic leader, management educator, and institution builder, currently serving as Director of Bharati Vidyapeeth Institute of Management & Research, Delhi—a constituent unit of Bharati Vidyapeeth (Deemed to Be University), Pune. With over three decades of experience across India's premier academic institutions and industry, she brings a rare blend of academic depth, institutional leadership, and entrepreneurial energy to higher education.

Dr. Gupta was a tenured Associate Professor at IIM Bangalore, a premier institute she served for 15 years, where she taught core marketing courses and served as Chairperson of the Executive MBA program. Her contributions to curriculum design, industry integration, and learner engagement have left a lasting legacy at the institute.

At Galgotias University, where she was Dean of the School of Business, Dr. Gupta institutionalized Bloom's Taxonomy, case-based learning, active learning pedagogies, and a Question Bank Management System—improving student outcomes and assessment quality across the board.

Dr. Gupta played a pivotal role in India's EdTech evolution through her leadership at Great Learning, where she was Director of Degree and Business programs. She led large-scale online programs in partnership with Jain University, Shiv Nadar University, SRM, PES, and Great Lakes, overseeing program design,

LMS implementation, and learner success. A prolific scholar, Dr. Gupta has published in top-tier international journals including Information Systems Research (FT50) and the Journal of Marketing Theory and Practice. She has authored over 26 case studies and teaching notes with Harvard Business Publishing, several of which are global bestsellers. Her books, on Digital Marketing, Marketing Analytics, AI in Business, and Digital Transformation—are widely prescribed across IIMs, IITs, and leading B-schools. She has also published several Scopus-indexed and peer-reviewed journal articles. Dr. Gupta is a respected trainer and consultant, having conducted workshops for organizations like 3M, Arvind

Brands, John Distilleries, Union Bank, and Aranyani. Her Executive Education programs at IIM Bangalore were among the most in-demand, especially in digital marketing. She has consulted for clients such as Nilon's, KW Group, ABA Corp, Karnataka Milk Federation (Nandini), and Karnataka State Seeds Corporation,

offering strategic insights on business transformation, branding, and customer engagement.

A TEDx speaker at IIT Guwahati, Dr. Gupta spoke on Digital Psychology, drawing from her research and book. As a serial entrepreneur, she has launched two ventures in digital learning, developed online courses, raised seed capital, and built sustainable revenue models. She is a regular contributor to media outlets like Times of India, Financial Express, Brand Equity, and maintains a strong LinkedIn presence, where she shares insights on marketing, leadership, education, and digital disruption.

Avadhoot Jathar is currently working as a Partner (Data Scientist) in the Data Science and Innovation Team at Kantar. He has been working in analytics consulting companies since completing his Fellow Program in Quantitative Methods (now known as Decision Sciences) from IIM Bangalore.

His experience in marketing analytics spans pricing, marketing mix models, probability and scoring models in CRM, loyalty programs, driver models in marketing research, and A/B testing for causal in market inference. In recent years, he has consulted clients on generative model-based summarization and natural language use cases involving customer feedback and product testing data. He enjoys teaching and has delivered analytics-oriented courses at IIM Trichy and IIM Udaipur. He has mentored several colleagues at work and students from these courses on data science and machine learning models for marketing decisions.

He can be reached via <https://www.linkedin.com/in/avadhoot-jathar>

Table of Contents

About the Authors v

Preface vii

Datasets xv

Chapter 1 Introduction 1

1.1 Marketing Analytics 1

1.2 Data for Marketing Analytics 2

1.3 What Are Business Intelligence, Analytics,
and Data Science? 5

1.4 Analysis 6

1.5 Exploratory Data Analysis 6

1.6 Descriptive Analysis 11

1.7 Predictive Analytics 12

1.8 Prescriptive Analytics 12

1.9 Bringing It All Together—Visualization Dashboards 13

1.10 Why Marketing Analytics—Career Prospects
and Nature of Jobs 16

1.11 Organization of the Book 20

Summary 23

Key Terms 24

Discussion Questions 24

Chapter 2 Segmentation 25

2.1 Introduction 27

2.2 Benefits of Customer Analytics 27

2.3 Factors Essential for Obtaining Benefits from Customer Analytics 28

2.4 Segmentation Analytics 29

2.4.1 Data Collection in Segmentation 29

2.4.2 Customer Segmentation Process 29

2.4.3 Data Analysis for Customer Segmentation 30

2.5 Cluster Analysis 32

2.5.1 Applications of Cluster Analysis

2.5.2 Examples of Cluster Analysis 34

2.5.3 Data Used for Clustering 34

2.5.4 Clustering Algorithms 36

Summary 48

Key Terms 49

Discussion Questions 49

Project 49

Chapter 3 Positioning 51

3.1 Introduction 52

3.2 Perceptual Mapping 53

3.2.1 Using Two Determinant Attributes 53

3.2.2 Using Multiple Product Attributes 54

3.2.3 Joint Perceptual Maps 54

3.2.4 Constructing a Perceptual Map 55

3.3 White Spaces 57

3.4 Umbrella Brands 57

3.5 Multidimensional Scaling 58

Summary 65

Key Terms 65

Discussion Questions 66

Project 66

Chapter 4 Product Analytics 67

4.1 Introduction 68

4.2 Analyzing Digital Products 70

4.3 Analyzing Non-Digital Products 71

4.3.1 Utility and Choice 72

4.3.2 Application of Choice Models	76
4.3.3 Conjoint Analysis—Survey Design and Estimation	81
4.3.4 Product Attributes and Attribute Levels	82
4.3.5 Product Levels	82
4.3.6 Steps in Performing Conjoint Analysis	83
4.3.7 Value-Based Pricing	91
4.3.8 Market Forecasting	92
4.3.9 Factors That Impact New Product Adoption	94
4.3.10 Applying the Diffusion Model in Marketing	95
Summary	98
Key Terms	98
Discussion Questions	98
Project	99
Chapter 5 Pricing	101
5.1 Introduction	102
5.2 Goals of Pricing	102
5.3 Bundling	103
5.3.1 Illustration of Bundling	103
5.3.2 Types of Bundling	104
5.3.3 Analyzing Bundles as Promotions	105
5.4 Skimming	106
5.4.1 Illustration of Price Skimming	106
5.4.2 Appropriate Usage of Skimming	107
5.4.3 Analytics with Price Skimming	108
5.5 Revenue Management	108
5.6 Promotions	110
5.6.1 Measuring Promotional Lifts	110
5.6.2 Types of Promotions	111
5.7 Discounting	112
5.7.1 Types of Discounting	112
5.8 Price Elasticity of a Beverage Brand	114
5.8.1 Transformations on Metric in Price Elasticity Model	116
5.8.2 Price Adjustment with Inflation Measure	116

5.9 Candidate Models/Methodology for

Price Elasticity Measurements 120

Summary 124

Key Terms 124

Discussion Questions 124

Project 125

Annexure 5 125

Chapter 6 Marketing Mix 135

6.1 Introduction 136

6.2 Market Mix Modeling 137

6.3 Variables in Market Mix Modeling 138

6.3.1 Base Variables 138

6.3.2 Incremental Variables 138

6.3.3 Other Variables 139

6.4 Techniques of Market Mix Modeling 140

6.4.1 Regression Analysis 140

6.4.2 Non-Linear Optimization 153

6.5 Using Power BI to Visualize Marketing Mix Data 162

6.5.1 Why Unpivot? (Wide to Long) 164

6.5.2 Create a Bar Chart Showing “Total

Amount by Marketing Channel” 172

6.5.3 Filter or Slice by Marketing Channel 174

6.5.4 Use a Single Measure for All Spend

Types (Calculate Total Spend) 176

6.5.5 Performing More Advanced Analysis

(e.g., Spend per Unit Sold by Channel) 180

Summary 184

Key Terms 186

Discussion Questions 186

Project 186

Annexure 6 186

Chapter 7 Customer Journey 199

7.1 Introduction 200

7.2 Importance of Customer Journey 200

7.3 What Is Customer Journey Mapping? 201

7.4 Customer Journey Mapping and Use of Analytics 203

7.5 How to Map a Customer’s Journey 203

7.5.1 Data Gathering 203

7.5.2 Creating a Buyer Persona	204
7.5.3 Determining the Stages of a Customer's Journey	204
7.5.4 Determining the Touchpoints of a Customer's Journey	204
7.5.5 Asking Customers	204
7.5.6 Identifying the Pain Points in a Customer's Journey	205
7.5.7 Fixing the Problems	205
7.5.8 Updating	205
7.6 What Does Analytics with Customer Journeys Involve?	206
7.7 Customer Journey Use Case for a Beverage Brand	209
7.8 Journey of a Loyal Customer	209
7.9 Principal Component Analysis	211
7.9.1 Variance by Principal Components	212
7.10 Applying Principal Components to Brand Evaluations Data	213
Summary	221
Key Terms	221
Discussion Questions	222
Project	222
Annexure 7	222
Chapter 8 Nurturing Customers	233
8.1 Introduction	234
8.2 Metrics for Tracking Customer Experience	234
8.2.1 Customer Feedback Metrics	235
8.2.2 Behavior-Derived Customer Metric	239
8.3 Upgrading Customers: Use Case of Upselling	240
8.4 Logistic Regression Analysis	243
8.4.1 Estimation of Model Parameters β	245
8.4.2 Diagnostic Tests with Logistic Regression	
8.4.3 Interpretation of Effect of a Metric on Log-Odds	247
8.5 Use of Logistic Regression as a Classification Technique	248
8.6 Analysis Approach with Services Marketing Metrics	251

8.7 Inferring Customer Satisfaction Through Sentiment Analysis	252
8.7.1 Challenges and Considerations	253
8.8 Python Code for Deriving Sentiment from Text Data	254
8.9 Application Exercise	254
Summary	261
Key Terms	262
Discussion Questions	262
Project	262
Annexure 8	263
Chapter 9 Customer Analytics	281
9.1 Introduction	282
9.1.1 Building a Customer Persona	284
9.1.2 Benefits of Creating Customer Personas	284
9.1.3 Part of Buyer Persona	285
9.2 Customer Lifetime Value	288
9.2.1 Need for Calculating CLV	288
9.2.2 Calculating CLV	288
9.2.3 Boosting CLV	289
9.2.4 Identifying Profitable Customers	289
9.2.5 Computing CLV	290
9.2.6 Example of CLV	291
9.3 Churn Analytics	296
9.3.1 Calculating Churn Rate	297
9.3.2 Identifying Churn	298
9.3.3 Importance of Customer Retention	298
9.4 Ways to Retain Customers for Physical and E-Commerce Retailers	300
9.5 Visualizing Churn and LTV with Power BI	302
Summary	314
Key Terms	314
Discussion Questions	314
Project	315
Annexure 9	315
Chapter 10 Digital Analytics: Metrics and Measurement	329
10.1 Introduction	330

10.2 Important Web Metrics	331
10.2.1 Overall Website Traffic	331
10.2.2 Conversion Rate	332
10.2.3 Exit Rate	332
10.2.4 Bounce Rate	335
10.2.5 Click-Through Rate	336
10.2.6 Page Views	337
10.2.7 Unique Page Views	338
10.2.8 Sessions	338
10.2.9 Time on Site	340
10.2.10 Unique Visitors	340
10.3 Attribution Challenge and Shapley Regression	341
10.4 Test and Control or A/B Testing	345
10.4.1 ANOVA and Regression	346
10.4.2 ANOVA: Linear Regression Model	349
10.5 Example Use Case: Webpage Design with A/B Testing	351
10.6 Search Engine Marketing	353
10.6.1 Why Is SEM Important?	353
10.6.2 SEM Platforms	354
10.6.3 How Does an Ad Win the Ad Auction?	354
10.7 Search Engine Optimization	355
10.7.1 Working of SEO	356
10.7.2 Factors Affecting SEO	356
10.8 SEM or SEO: Which Is the Optimal Choice?	357
10.9 Social Media Analytics	362
10.10 App Marketing Metrics	363
Summary	365
Key Terms	366
Discussion Questions	366
Project	366
Annexure 10	367
Chapter 11 Artificial Intelligence and Machine Learning	373
11.1 Introduction	374
11.2 Importance of AI in Marketing	375
11.3 Key Applications of AI in Marketing	376
11.3.1 Personalization of Online Experience	376
11.3.2 Chatbots	377

11.3.3 AI-Powered Dynamic Emailing	379
11.4 Common Terminologies—AI, ML, and DL	379
11.5 Important Concepts of ML	380
11.5.1 Variance and Bias Trade-Off	380
11.5.2 Training	381
11.5.3 Validation and Test	382
11.5.4 The k-Fold Cross-Validation	382
11.5.5 Bootstrapping/Bagging Validation	384
11.5.6 Regularization Penalty	385
11.5.7 Decision Trees	386
11.6 Random Forests	390
11.6.1 Data Description and Formatting before Classification Model	391
11.7 Model Evaluation Using ROC, AUC, and Confusion Matrix	396
11.8 Boosting Trees	402
11.9 Variable Importance	405
11.10 Simple Feed-Forward Network	406
11.11 Deep Neural Network	408
11.12 Image Recognition	412
11.12.1 Convolutional Neural Network	414
11.12.2 Marketing Applications of Image Recognition	417
11.13 Working with Textual Data	418
11.13.1 Recurrent Neural Network	423
11.14 Recommendation Systems	424
11.14.1 Collaborative Filtering	425
11.14.2 Content-based Filtering	435
11.15 Generative and Traditional AI	442
11.15.1 Generative AI Preliminaries	442
11.15.2 Generative AI Use Cases in Marketing	445
11.15.3 Customer Service Revolutionized by Generative AI	451
11.15.4 Implementation Best Practices for Generative AI	453
11.15.5 Various Generative AI Tools Used by Marketers	454
11.16 Challenges Involved with AI	455

Summary 457

Key Terms 459

Discussion Questions 459

Chapter 12 Data Visualization 461

12.1 Introduction 461

12.2 Necessity of Data Visualization 462

12.2.1 Understand Patterns and Trends 463

12.2.2 Simplified Understanding of

Complex Data 464

12.2.3 Data-Driven Storytelling 464

12.3 Charts 466

12.3.1 Bar Chart 466

12.3.2 Stacked Bar Graph 467

12.3.3 Histogram 468

12.3.4 Box Plot 469

12.3.5 Violin Plot 469

12.3.6 Pie Chart 470

12.3.7 Scatter Plot 471

12.3.8 Bubble Chart 472

12.3.9 Line Chart 473

12.3.10 Heat Map 473

12.4 Visualizations Useful with Common Data

Science Techniques 475

12.4.1 Visualizations for Communicating

Regression Inference 476

12.4.2 Visualization Inference for Predictive

Machine Learning Models 479

12.4.3 Communicating Inference with

Segmentation/Clustering 480

12.5 Storytelling with Power BI Dashboard 482

12.5.1 Brand Health Dashboard 482

12.5.2 Building a Branding Dashboard 483

12.6 Conclusion 496

Summary 496

Key Terms 497

Discussion Questions 497

Project 497

Appendix 1: Installing and Using R 499

Appendix 2: Installing Python 505

Endnotes 511

Index 517

To purchase this product, please visit:

<https://www.wileyindia.com/marketing-analytics-2ed.html>



Scan to buy