PARASURAMAN

GREWAL KRISHNAN

Log on to www.surveytime.com to preview a demo of the online survey software FREE TO STUDENTS purchasing a NEW text!



MARKETING RESEARCH

A. Parasuraman

University of Miami

Dhruv Grewal

Babson College

R. Krishnan

California Polytechnic and State University

Houghton Mifflin Company

Boston

New York

To my wife Ranga, sons Rohith and Vishnu, and daughter Roopa-A.P.

To my parents, wife Diana, and children Lauren and Alex–D.G.

To my parents, wife Bala, son Ram, and daughter Vidhya–R.K.

Publisher: Charles Hartford Editor in Chief: George T. Hoffman

Associate Sponsoring Editor: Joanne Dauksewicz

Project Editor: Amy Johnson

Senior Production/Design Coordinator: Jill Haber Manufacturing Manager: Florence Cadran Senior Marketing Manager: Steven W. Mikels

Cover image: Sarah Medway, Illustration Works/Getty

For permission to use copyrighted materials, grateful acknowledgment is made to the copyright holders listed on page 643, which is hereby considered an extension of this copyright page.

Copyright © 2004 by Houghton Mifflin Company. All rights reserved.

No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or by any information storage or retrieval system without the prior written permission of Houghton Mifflin Company unless such copying is expressly permitted by federal copyright law. Address inquiries to College Permissions, Houghton Mifflin Company, 222 Berkeley Street, Boston, MA 02116-3764.

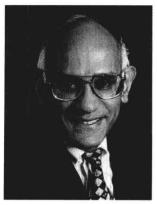
Printed in the U.S.A.

Library of Congress Control Number: 2001131541

ISBN: 0-618-00062-3

123456789-0V-07 06 05 04 03

About the Authors



A. Parasuraman

A. Parasuraman (Parsu) is a professor and holder of the James W. McLamore Chair in Marketing (endowed by the Burger King Corporation) at the University of Miami. He obtained his Bachelor of Technology degree in 1970 and Master of Business Administration degree in 1972 from leading universities in India. His Doctor of Business Administration degree, which he obtained in 1975, is from Indiana University, Bloomington, Indiana.

Dr. Parasuraman teaches and does research in the areas of services marketing, service-quality measurement and improvement, and the role of technology in marketing to and serving customers. In 1988 Dr. Parasuraman was selected as one of the "Ten Most Influential Figures in Quality" by the editorial board of *The Quality Review*, co-published by the American Quality Foundation and the American Society for Quality Control. He has received many distinguished teaching and research awards, including the Best Professor Award given by Executive MBA Classes in 1996, 1998 and 2000, and the Provost's Award for Scholarly Research in 1998. In 1998 he also received the American Marketing Association's "Career Contributions to the Services Discipline Award" (an annual award bestowed upon one individual who has had a sustained and far-reaching impact on the field). In 2001, he received the Academy of Marketing Science's "Outstanding Marketing Educator Award."

Dr. Parasuraman has written numerous articles in journals such as the Journal of Marketing, Journal of Marketing Research, Journal of Retailing, and Sloan Management Review. He has served as editor of the Journal of the Academy of Marketing Science for a 3-year term (1997–2000). He also serves on the editorial review boards of seven journals. In addition to co-authoring Marketing Research, Dr. Parasuraman has co-authored three other business books written for practitioners: Delivering Quality Service: Balancing Customer Perceptions and Expectations, Marketing Services: Competing Through Quality, and Techno-Ready Marketing: How and Why Your Customers Adopt Technology. He is an active consultant and has conducted dozens of executive seminars on service quality, customer satisfaction and the role of technology in service delivery in many countries.



Dhruy Grewal

Dhruv Grewal (Ph.D., Virginia Tech) is the Toyota Chair in Commerce and Electronic Business and a professor of marketing at Babson College. He is currently coeditor of *Journal of Retailing* (oldest marketing journal). His research and teaching interests focus on marketing research, e-business, retailing, pricing, and valuebased marketing strategies. He was recently ranked 1st in the marketing field in terms of publications in the top-six marketing journals during the 1991–1998 period. He is a Distinguished Fellow of the Academy of Marketing Science.

Professor Grewal has served as VP of Research and Conferences for the American Marketing Association Academic Council (1999–2001) and VP of Development for the Academy of Marketing Science (2000–2002). He co-chaired the 1993 Academy of Marketing Science Conference, the 1998 Winter American Marketing Association Conference, the December 1998 Marketing Science Institute Conference, and the 2001 AMA doctoral consortium. He has published over fifty-five articles in publications including *Journal of Marketing, Journal of Consumer Research, Journal of Marketing Research, Journal of Retailing,* and *Journal of the Academy of*

Marketing Science. He currently serves on the editorial review boards of Journal of Public Policy & Marketing, and Journal of Product and Brand Management.

Professor Grewal has won awards for both his teaching and research. His teaching awards include: the Academy of Marketing Science Great Teachers in Marketing Award (1999), Executive MBA Teaching Excellence Award (1998), School of Business Teaching Excellence Awards (1993, 1999), and Virginia Tech Certificate of Recognition for Outstanding Teaching (1989). His research awards include the School of Business Research Excellence Award for years 1991, 1995, 1996, 1998 and best paper awards for AMS Conference 2002, Retailing Track AMS 2002, Pricing Track Winter AMA 2001, and Technology Track Summer AMA 2000. He has taught executive seminars and courses and has worked on research projects with numerous firms.



R. Krishnan

R. Krishnan (Ph.D., Virginia Tech) is a professor of marketing at California Polytechnic and State University in San Luis Obispo, CA. He previously taught at University of Miami, Virginia Tech, and City University of New York. He has a Master's degree in Industrial and Production Engineering as well as a Bachelor's degree in Mechanical Engineering. In addition, he worked for two years in a firm where he handled operations management responsibilities.

Professor Krishnan's research has appeared in a number of professional and scholarly journals, including the Journal of Marketing, Journal of Retailing, Sloan Management Review, California Management Review, The Academy of Management Executives, Total Quality Management, Journal of Business Research, Journal of Marketing Management, Industrial Marketing Management, Journal of Advertising, Journal of Advertising, Research, The Journal of Business Logistics, European Journal of Marketing, Journal of Consumer Psychology, and The International Journal of Physical Distribution.

He has received many distinguished teaching awards, including the University of Miami-EMBA Excellence in Teaching Award, Δ Σ Π Teacher Award, College of Business Teacher Award, and Alumni Award for Best Teaching. Professor Krishnan specializes in business strategy marketing for technology-based companies, e-commerce, new product and brand strategies, and pricing strategies, and conducts marketing education programs for industries around the globe.

Preface

Studying marketing research can and should be an interesting, enlightening, and rewarding experience. We have designed *Marketing Research* for this purpose, even for those students who may approach the subject apprehensively and reluctantly. Based on our collective teaching experience of over five decades we believe that the best way to engage students and reinforce the importance and relevance of marketing research is to continually remind them of its applications in the real world. Therefore, we present the various marketing research terms, tools, and concepts in an understandable, lively fashion by using numerous examples in every chapter. In addition, we have incorporated the impact of the latest advances in computer and information technologies on marketing research.

This book is intended for students who are taking their first course in marketing research. The breadth and the depth of topics included in the book are carefully chosen to benefit those students who will primarily be potential research users as well as those who wish to consider marketing research as a career. To cater to this dual audience, we stress the importance of effective communication between research users and researchers and highlight their respective roles and responsibilities at various stages of a research project.

Content and Organization

The textbook contains sixteen chapters, organized into five parts. Part One, consisting of three chapters, provides an overview of the nature and scope of marketing research, the various parties and steps involved in conducting marketing research, and the different types of marketing research. Part Two, consisting of five chapters, discusses the various types of data available to marketers, the increasing sophistication and capabilities of research-based systems to aid decision making, and the basic research approaches and designs available for conducting marketing research. Part Three, containing three chapters, focuses on the measurement instruments and sampling approaches used in data collection. Part Four highlights data analysis, with chapters on quality control and initial analysis, hypothesis testing, correlation and regression analyses, and other multivariate techniques. Part Five includes the final chapter, which highlights the importance of accurately and clearly presenting marketing research findings to decision makers.

Text Highlights

We stated earlier that this book has been designed to make the study of marketing research interesting, enlightening, and rewarding. Here are some of the ways that the text makes the subject accessible and relevant:

- Every chapter in the book has numerous, carefully chosen examples that are
 well integrated with the textual material. Every key concept, principle, or technique is illustrated with one or more examples. Many of these examples are
 from international contexts, involve technology-based products and services,
 and focus on contemporary issues.
- The book has a readable and accessible writing style. The key ideas in each chapter are logically developed and organized to enable students to grasp them clearly and quickly.

- An attractive, colorful, and engaging design presents the information in an accessible and appealing way. Charts, diagrams, and other graphical illustrations are used liberally to supplement the textual discussion.
- The text provides extensive coverage of marketing research procedures that are frequently used in practice but are treated only superficially in many textbooks. For example, this book has a separate chapter on Geographic Information Systems (Chapter 5) and Qualitative Research (Chapter 7).
- The text also offers useful frameworks and illustrations for understanding and applying effectively the more technical aspects of marketing research (e.g., the probability-sampling techniques covered in Chapter 11 and the hypothesistesting procedures covered in Chapter 13).
- For those instructors who wish to familiarize students with statistical analysis software, a student version of SPSS is available for packaging with the text. In addition, in-text tutorials and screen captures provide step-by-step instructions on how to use the software to perform statistical analysis.
- The analysis chapters share a data set—the "National Insurance Company" data set—to illustrate the use of the most appropriate technique (including how to use SPSS to perform the analysis) based on the nature of the research question and the type of data. This common data set, obtained from a real-life survey of 285 customers of an insurance company, provides continuity across the chapters and brings to life the application of multiple analytical techniques within the same research study.
- The National Insurance Company data set, along with data sets for four other cases in the book, are included in the SPSS CD-ROM that is available with the text. The same data sets are also available on the student website (for Excel users and those already having access to SPSS).
- Guidelines for using Microsoft Excel are also provided for those instructors who prefer to use this tool.

Pedagogical Features

To help highlight the most important concepts and issues in marketing research, we have incorporated a number of pedagogical features.

- Chapter opening vignettes provide interesting and up-to-date anecdotes from the world of business, providing immediate application of chapter concepts and setting the stage for further learning.
- Chapter objectives identify key chapter concepts, mapping chapter content and giving students clear direction about what they need to study most closely.
- In addition to the many in-text examples, "Case in Point" sections provide more in-depth examples and short case scenarios to illustrate major points.
- "Research in Use" boxes illustrate real-world applications of concepts or techniques covered in the chapter. Some of these have been researched firsthand and often include offbeat and unique themes.
- Key terms in each chapter are highlighted in the text and defined in the margins. The text also includes a comprehensive glossary containing an alphabetical listing of all key terms with their definitions.

- Questions for Review and Discussion, Application Exercises, and Internet Exercises in every chapter provide a variety of tasks to help students retain the information they've learned and apply concepts in meaningful ways.
- End-of-Chapter Cases, written by Jeanne Munger of the University of Southern Maine, in association with the text authors, are original to the text and include pertinent and compelling facts and company data to illustrate real-world use of marketing research.

▶ Flexibility for Instructors

The content and the organization of this book are designed to offer maximum flexibility for instructors in terms of the teaching approaches they want to use and the relative emphases they wish to place on different topics. The simple writing style and the liberal use of examples should minimize the amount of class time necessary to merely clarify concepts covered in the book. Instructors will therefore have more time for further developing key topics they wish to emphasize and for experiential activities such as case discussions, computer-assisted exercises, and student projects.

Each text includes a free passkey to SurveyTime.com—a website housing a professional online survey creation tool—so that students will be able to conduct actual Internet surveys as part of their course work. In addition, a student version of SPSS software, containing a special tutorial program, is available for packaging with the text. For those instructors who prefer to work with Microsoft Excel, however, the text is available as a stand-alone product.

A Complete Package of Support Materials

Accompanying the text is a support package that focuses on generating enthusiasm in the classroom and inspiring student success. The following items are provided to help instructors plan, present, and assess more effectively:

Instructor's Resource Manual. Created by Jeanne Munger of the University of Southern Maine in association with the text authors, the *Instructor's Resource Manual* contains a variety of chapter support materials. These include chapter summaries, lists of key terms, detailed lecture notes, answers to review and discussion questions, comments and guidelines for the application exercises and Internet exercises, extensive case teaching notes, and sources for further reading.

Instructor Website. This password-protected site provides up-to-date research, useful web links, downloadable PowerPoint slides and Instructor Resource Manual files.

Test Bank. Also developed by Jeanne Munger in association with the text authors, the *Test Bank* contains about 1400 true/false and multiple-choice questions, several short-answer and essay questions for each chapter, and computational/problem-solving questions for the data analysis chapters.

HMTesting. This electronic version of the printed *Test Bank* allows instructors to generate and change tests easily. The program includes an online testing feature by which instructors can administer tests via their local area network or over the Web. It also has a grade book feature that lets users set up classes, record and track grades from tests or assignments, analyze grades, and produce class and individual statistics.

Call-in Test Service. This service lets instructors select items from the *Test Bank* and call our toll-free faculty services number (800-733-1717) to order printed tests.

PowerPoint Slides. This program, developed by the text authors, presents key concepts and illustrations from the text as well as from outside the text to enhance classroom presentations. The slides are downloadable from the Instructor Website.

Video Package. The video package provides compelling footage of real companies and situations to help bring the textbook concepts to life. Teaching notes and suggestions are also provided.

The following package items are available for students to enhance their knowledge and application skills:

Passkey to SurveyTime.com. A passkey for a free, six-month subscription to this website allows students to create and distribute online surveys using a professional survey construction tool created by SurveyPro.com. Downloading survey data is quick and efficient—and is compatible with SPSS software.

Student Website. Content for the student website has been developed by the text authors and includes student tutorials, data sets relating to text exercises that can be used with either Excel or SPSS, ACE practice tests, additional marketing research information supporting text content, career search links, summaries of latest marketing research articles with links as appropriate, as well as hyperlinks to research sites pertaining to technology, service, and global issues.

SPSS Software. This professional software program is available for packaging with each textbook through a special arrangement with SPSS. Stepby-step instructions, explanations, and screen shots are provided in the textbook to familiarize students with this popular statistical analysis program. In addition, a student tutorial is included with each CD-ROM. Data sets relating to exercises in the textbook are also provided.

Acknowledgments

Many individuals and organizations contributed significantly to the development of this textbook. Our sincere appreciation goes to the numerous organizations and executives who generously provided material for the cases, exercises, and illustrations in this book. Special thanks goes to Dennis Malamatinas (former CEO of Burger King), Douglas Riggan of Burger King, David Moxley of Customer Knowledge Consultants, Charles Colby of Rockbridge Associates, Carey Watson of Burdines, Paul Abbate of Quicktake, Christian Sager of Pankey, Michael G. Rider of Polaroid, Mark Eisner of MSR Research, Caroline Anawati of Taco Bell, and John Tietjen, John Watkins, Kathy Thornhill, and Jim Figura of Colgate-Palmolive. We extend our deep appreciation to Jeanne Munger for her contribution to the case studies, Instructor's Resource Manual, and Test Bank, and to Cornelia Perchmann for her authorship of Chapter 5, "Using Geographic Information Systems for Marketing Research." We also thank Deborah C. Nester for her meticulous review of the early drafts of the book chapters; and we wish to acknowledge the staff at Srivats Software Solutions, who worked tirelessly with us to produce the PowerPoint slides and website content accompanying the text. Other colleagues who provided valuable input include Ray Burke, John Hauser, Meghan McCardle, Michael Levy and Anne Roggeveen. We'd also like to thank Giao Nguyen and Nancy Dlott, who helped us with research for the text, as well as our former students, Betsy Russell and Kristen Presenell. In addition, our sincere appreciation goes to Dean Paul Sugrue, University of Miami; Provost Michael Fetters, Babson College; Dean Terri Swartz, California Polytechnic and State University; Professor Arun Sharma, Chairman, Marketing Department, University of Miami; Professor Abdul Ali, Chairman, Marketing Division, Babson College; and Professor Norm Borin, Chairman, Marketing Area, California Polytechnic and State University, for their support during this project.

We are deeply indebted to the team of professionals at Houghton Mifflin whose excellent support and encouragement were critical for transforming our vision for the book into a finished product. In particular, our sincere thanks go to Joanne Dauksewicz (Associate Sponsoring Editor), George Hoffman (Editor in Chief), Amy Johnson (Project Editor), Elisa Adams (Development Editor), and Mary Dalton-Hoffman (Permissions Editor).

We are also indebted to the following reviewers for their thoughtful and helpful comments and suggestions: Linda Anglin, Minnesota State University; David Ambrose, University of Nebraska, Omaha; John Milewicz, Jacksonville State; Vernon Murray, Marist College; Susan Heckler, Georgetown University; Gopal Iyer, Florida Atlantic University; Eric Panitz, Ferris State University; Michael Russell, St. Bonaventure; Daniel Rutledge, Saint Joseph's College; Robert Stassen, University of Arkansas; William R. Thomas; University of South Carolina; Philip Trocchia, Kansas State University; Pushkala Raman, Florida State University; and David J. Urban, Virginia Commonwealth University.

Finally, words alone are insufficient to thank our wives and children for their generous understanding, support, and sacrifices throughout this project.

A.P. D.G.

R.K.

Brief Contents

PART ONE Introduction to Marketing Research	1
 1 The Nature and Scope of Marketing Research 2 The Marketing Research Process 3 Types of Marketing Research 60 	
PART Two Data Collection: Types and Methods	89
 4 Secondary Data 90 5 Using Geographic Information Systems for Marketing Research 6 Primary-Data Collection 156 7 Qualitative Research 193 8 Experimentation in Marketing Research 227 	128
PART THREE Data Collection: Measurement Instruments and Sampling	263
 9 Measurement and Scaling 264 10 Questionnaire Design 305 11 Sampling Foundations 353 	
PART FOUR Data Analysis	389
 12 Quality Control and Initial Analysis of Data 390 13 Hypothesis Testing 424 14 Examining Associations: Correlation and Regression 466 15 Overview of Other Multivariate Techniques 504 	
PART FIVE Communicating with Research Users	545
16 Presenting Research Results 546	

Contents

Preface xvii

1 The Nature and Scope of Marketing Research 2	Case 1.2 Nike Chainsaw Ad (A) 23 APPENDIX Å	
• eBay: Listening to Customers 3	External Providers of Marketing Research	2
The Role of Marketing Research in Strategic Planning and Decision Making 4 Identifying Marketing Opportunities and Constraints 4 Developing and Implementing Marketing Strategies 6 Evaluating the Effectiveness of Marketing Plans 7 Definition of Marketing Research 8 Basic Marketing Research Principles 9 Principle 1: Attend to the Timeliness and Relevance of Research 9 Principle 2: Define Research Objectives Carefully and Clearly 10	Factors to Consider in Deciding to Use External Suppliers 27 Credibility 27 Competence 30 Cost 30 Capacity 30 Criteria for Evaluating External Suppliers 30 Prestige 31 Past Experience 31 Personnel 31 Price 31	
Principle 3: Do Not Conduct Research to Support Decisions Already Made 10	2 The Marketing Research Process	3
The Importance of Analysis and Interpretation 10 Marketing Research Aids—But Does Not Replace— Decision Making 11 When Research Results and Decisions Differ 12 Relationship of Marketing Research to Decision Making 12 Marketing Research Applications 13 RESEARCH IN USE 1.1 How Do You Recruit a Nun? Marketing Research Comes to the Rescue 14 Organization of and Careers in Marketing Research 15 RESEARCH IN USE 1.2 Marketing Research at Burger King 18 SUMMARY 19 RESEARCH IN USE 1.3 Bissell's Launch of Steam 'n Clean 20 Review and Discussion Questions 21 Application Exercises 21 Internet Exercises 21	Major Steps in the Marketing Research Process 35 Step 1: Justify the Need for Marketing Research 3 Step 2: Define the Research Objective 39 RESEARCH IN USE 2.1 Marketing Research at	34
	Fisher-Price 40 Step 3: Identify Data Needs 42 Step 4: Identify Data Sources 43 Step 5: Choose an Appropriate Research	
	Design and Data Collection Method 44 Step 6: Design the Research Instrument or Form 45 Step 7: Identify the Sample 45 Step 8: Collect the Data 46 Step 9: Analyze the Data and Interpret the Results 46 Step 10: Present Research Findings to Decision Makers 46	
Case 1.1 Yo Quiero Taco Bell 21	Interdependence of Process Steps 46 New-Product Launches at Burger King 47	

PART ONE Introduction to Marketing Research

Marketing Research for the BK Broiler Chicken Sandwich 47	 RESEARCH IN USE 3.1 Use of Secondary-Data Analysis in Decision Making: Opening New 	
Ethical Issues in Marketing Research 50 Codes of Ethics 51 Ethical Grey Areas: Code of Ethics Limitations SUMMARY 54 Review and Discussion Questions 55 Application Exercises 55 Internet Exercises 56 Case 2.1 OfficeMax 57 Case 2.2 L&H Marketing Research 58 Types of Marketing Research	Sears Stores in New York 69 Observational Method 70 51 RESEARCH IN USE 3.2 Discovering New Market 3M Shows the Way 71 Conclusive Research: Descriptive Versus Experimental 72 Descriptive Research 72 Experimental Research 73 Differences Between the Two Types 73 Conducting Descriptive Research 75 Cross-Sectional Studies 76 Longitudinal Studies 78	Needs:
Exploratory Versus Conclusive Research 63 Exploratory Research 63 Conclusive Research 64 A Summary of the Differences 64 Conducting Exploratory Research 65 Key-Informant Technique 65 Focus Group Interviews 66	True Panel Studies 79 Drawbacks of Consumer Panels 80 Conducting Experimental Research 80 Determining Which Type of Research to Conductor Summary 82 Review and Discussion Questions 84 Application Exercises 84 Internet Exercises 85 Case 3.1 Aleve 85	t 82
Analysis of Secondary Data 68 Case Study Method 68	Case 3.2 Superior Landscape Company 86	
· · · · · · · · · · · · · · · · · · ·		89 portant
Case Study Method 68 PART TWO Data Collection: Types	and Methods	portant

5	Using Geographic Information Systems	
	for Marketing Research	128

What Do Starbucks, Blockbuster, and Hyundai Have in Common? 129

Geographic Information Systems 130

RESEARCH IN USE 5.1 Domino's Uses GIS 131 Geocoding 131 Micro Marketing 132

Mapping and Targeting Customers 134

Understanding the Process 135

Area Map 135

How Do Zip Codes Compare to Block Groups? Trade Area Identification 136

Demographic Analysis of the Trade Area 136 Micro Merchandising 137

Choosing New Store Sites 137

RESEARCH IN USE 5.2 McDonald's Is Faster with GIS 138

Understanding the Process 138 Defining the Trade Area 138 Extracting Relevant Market Data 139 Dollar Sales Potential 139 Sales Forecast Formula 140 Final Checklist for Choosing New Store Sites 141

Developing Local Advertising Campaigns 142

Understanding the Process 143 PRIZM Groups 144

Identifying Target Clusters 145

Converting Buyer Data to PRIZM Groups 146 Handling Zip Codes with People from Different

PRIZM Groups 147

Creating a Propensity to Buy Index 148 Mapping the Propensity to Buy Index 148

Delivering the Advertisements: Direct Mail Versus Newspaper Inserts 149

Results 150

SUMMARY 150

Review and Discussion Questions 150

Application Exercises 151 Internet Exercises 151

Case 5.1 New Site Selection at Gold's Gym 152

Case 5.2 Mammography Screening in Urban Atlanta 153

Primary-Data Collection

156

Who Are Air Travelers, and What Do They Do in the Airport? Airports Want to Know 157 Variety of Data Collection Methods 158 Questioning Versus Observation 159

RESEARCH IN USE 6.1 How to Design a Car Interior? Johnson Controls' Automotive Systems Group Shows the Way 160

Versatility 160 Time and Cost 160 Data Accuracy 161

RESEARCH IN USE 6.2 Digital Technology Brings About Retailing Revolution 162

Respondent Convenience 163

Questionnaire Format 164

Questionnaire Administration Methods 166

Versatility 167 Time 168 Cost 169 Accuracy 170

Respondent Convenience 174

Deciding Which Questionnaire Administration Method to Use 177

Types of Observation Techniques 177

Natural Versus Contrived Observation 178 Disguised Versus Nondisguised Observation Human Versus Mechanical Observation 181 Web-Based Observational Techniques 182

RESEARCH IN USE 6.3 Direct Observation: Competitive Intelligence at Staples 183

Direct Versus Indirect Observation Structured Versus Nonstructured Observation 184

SUMMARY 185

Review and Discussion Questions 186

Application Exercises 186 Internet Exercises 187

Case 6.1 Castrol 187

Case 6.2 Colgate-Palmolive Mexico

Qualitative Research

193

Focus Groups Help Fidelity Investments in Designing Its Online Trading Services 194

What is Qualitative Research?

Qualitative Versus Quantitative Research 195

Focus Group Interviews 197

Group Composition 198

Moderator Characteristics 200 Conducting Focus Groups 203

Advantages of Focus Groups 204

Richness of Data 204

Versatility 204

Ability to Study Special Respondents 205 Impact on Managers 205

Disadvantages of Focus Groups

Lack of Generalizability 206

Ratio-Scaled Responses 270

Observing Overt Behavior 273

Classes of Variables 271

Attitude Scaling 273

Opportunity for Misuse 206 Cost 206 Focus Group Applications 207 Understanding Consumers 207 Product Planning 208 Advertising 209 Impact of Technology on Focus Group Research 210 Electronic Group Interviewing (EGI) 210 Videoconference Focus Groups 211 Online Focus Groups 212 RESEARCH IN USE 7.1 Online Focus Group Examples 213 Other Qualitative Research Techniques 213 In-Depth Interviews (IDIs) 214 Crowded One-on-One Interview 214	Conditions for Inferring Causality 230 Laboratory Versus Field Experiments 231 External and Internal Validity 232 Uncontrollable Factors 233 Deciding Which Type of Experiment to Use 233 Time 234 Cost 234 Exposure to Competition 234 RESEARCH IN USE 8.1 Examples of Test Marketing 235 Nature of the Manipulation 236 Hybrid Approaches: Simulated Test Markets 236 RESEARCH IN USE 8.2 Litmus Model: Simulated Test Marketing 237 Scanner Data Analysis 238 Web Resed Experiments 239
Projective Techniques 214	Web-Based Experiments 239 Threats to Internal and External Validity 239
RESEARCH IN USE 7.2 In-Depth Interviews Help P&G Grow Its Cleaning Business 215	Internal Validity 239 External Validity 242
RESEARCH IN USE 7.3 How to Keep in Touch with Kids Around the Globe? Cartoon Network Knows the Answer 216	Determining the Seriousness of Threats to Validity 244 Experimental Design 245
A Final Note 220 Summary 220 Review and Discussion Questions 221 Application Exercises 222 Internet Exercises 222 Case 7.1 AT&T 222 Case 7.2 CrossPad 223	 RESEARCH IN USE 8.3 Electrolux India Conducts Experimentation Exercise to Measure Brand Awareness in Rural India: Modified Design 246 Pre-Experimental Designs 246 True Experimental Designs 249 RESEARCH IN USE 8.4 Frito-Lay Experiments Show How to Make TV Ads Profitable 253
Experimentation in Marketing Research 227	Summary 254 Review and Discussion Questions 255 Application Exercises 255 Internet Exercises 256 Case 8.1 Polaroid I-Zone Camera 256
Eddie Bauer's Electronic Windows 228 Descriptive Versus Experimental Research 229	Case 8.2 Lands' End 259
PART THREE Data Collection: Measurem	ent Instruments and Sampling 263
9 Measurement and Scaling 264	RESEARCH IN USE 9.1 Measuring Brand Equity 274
Most Reputable Companies in the United States 265 Measurement Levels 266 Nominal-Scaled Responses 267 Ordinal-Scaled Responses 268 Interval-Scaled Responses 269	Analyzing Reactions to Partially Structured Stimuli 276 Evaluating Performance on Objective Tasks 276 Monitoring Physiological Responses 276 Self-Report Measurements of Attitudes 277
Ratio-Scaled Responses 270	Use of Rating Scales in Self-Report Measurements 277

Graphic Versus Itemized Formats 278

RESEARCH IN USE 9.2 Measuring

Customer Experience 279

Comparative Versus Noncomparative Assessments 280	Questionnaires for Computerized and Online Interviewing 335
Forced Versus Nonforced Response Choices 281 Balanced Versus Unbalanced	 RESEARCH IN USE 10.2 Development of Questionnaires Using Online Software 336
Response Choices 282 Labeled Versus Unlabeled Response Choices 283 Number of Scale Positions 285	Designing Cover Letters for Mail and Online Surveys 338
Measurement Level of Data Obtained 285	Openers for Personal and Telephone Interviews 340
Commonly Used Multiple-Item Scales 287	Designing Observation Forms 340
Likert Scale 288	SUMMARY 342
Semantic-Differential Scale 290	Review and Discussion Questions 343
Stapel Scale 292	Application Exercises 343
Strengths of Multiple-Item Scales 293	Internet Exercises 344
Validity 294 Reliability 295	Case 10.1 United Airlines 344
Sensitivity 296	Case 10.2 Burdines 348
SUMMARY 297	
Review and Discussion Questions 298	
Application Exercises 298	11 6 11 5 1
Internet Exercises 298	Sampling Foundations 353
Case 9.1 Don's Auto Detailing 299 Case 9.2 Ruby's Cyber Café 301	• Gallup on Sampling: Gallup Survey—China 354
case 9.2 Ruby's Cyber Care 301	Sampling Versus Census Studies 356
10 0 11 1 0 1	Advantages of Sampling 356
10 Questionnaire Design 305	When Census Studies Are Appropriate 359
Circuit City: BizRate Customer	Probability Versus Nonprobability Sampling 360
Satisfaction Survey 306	RESEARCH IN USE 11.1 Gallup on Sampling:
Questionnaire Design 307	How Polls in the USA Are Conducted 361
Complexity of Questionnaire Design 307	Probability Sampling 362
Questionnaire's Impact on Data Accuracy 308	RESEARCH IN USE 11.2 Gallup Survey: India 364
Questionnaire Design Process 310	Nonprobability Sampling Methods 368
Question Form 311	Sampling Error and Sampling Distribution 369
Nonstructured Questions 312	Sampling Error 369
Structured Questions 313	Sampling Distribution 370
Question Relevance and Wording 318 Can the Respondent Answer the Question? 318	Estimating Confidence Intervals 373 Finding Confidence Intervals for Population
Will the Respondent Answer the Question? 319	Mean Values 373
Avoiding Double-Barreled Questions 320	• RESEARCH IN USE 11.3 American Demographics Survey:
Avoiding Leading Questions 320	Estimation of Maximum Sampling Error 375
Avoiding One-Sided Questions 321	Finding Confidence Intervals for Population
Avoiding Questions with Implicit Assumptions 323 Avoiding Complex Questions 326	Proportions 375
Sequencing of Questions 327	Determining Sample Size 377
Position of Demographic and	Factors Influencing Sample Size 377
Sensitive Questions 327	Methods for Determining Sample Size 378
• RESEARCH IN USE 10.1 Accuracy of Survey Data 328	Summary 382 Review and Discussion Questions 383
Arrangement of Related Questions 329	Application Exercises 384
Funnel and Inverted-Funnel Questions 330	Internet Exercises 385
Skip Patterns 331	Case 11 1 Nike Chainsaw Ad (P) 205

Questionnaire Appearance and Layout 333

Pretesting 334

Case 11.1 Nike Chainsaw Ad (B) 385

Case 11.2 Exit Polls and the 2000 Presidential

Election Debacle 387

Data Analysis

12 Quality Control and Initial **Analysis of Data**

390

Data Analysis at Rockbridge Associates: From Data Integrity to Hypothesis Testing 391

Editing 393

Field Edit 393 Office Edit 394 Preventing Errors 395

Coding 397

Transforming Responses into Meaningful Categories 397

RESEARCH IN USE 12.1 AC Nielsen Company: Computerized Editing of SCANTRACK Data 400

Assigning Numerical Codes 401 Creating a Data Set 405

Preliminary Data Analysis: Basic **Descriptive Statistics** 406

Measures of Central Tendency 407 Measures of Dispersion 408 Frequency Distribution: One-Way Tabulation 412

RESEARCH IN USE 12.2 Consumers Didn't Like AT&T Wireless's mLife Campaign 416

SUMMARY 417 Review and Discussion Questions 418 SPSS Exercises 418

Case 12.1 Puma 419

Case 12.2 Firestone: Part 1 421

13 Hypothesis Testing

474

Hypotheses Testing: Key to Actionable Strategies 425 **Descriptive Versus Inferential Analysis**

Overview of Hypothesis Testing 426

Null and Alternative Hypotheses 428 Type I and Type II Errors 429 Significance Level 429 Decision Rule for Rejecting the Null Hypothesis 430 One-Tailed Versus Two-Tailed Tests 433 Steps in Conducting a Hypothesis Test 434

Role of Hypothesis Testing in Data Analysis 435

Specific Hypothesis Tests 435

Cross-Tabulations: Chi-Square Contingency Test 436 Conducting the Test 437 Cross-Tabulation Using SPSS for National Insurance Company 439

Precautions in Interpreting Two-Way Tables 441

RESEARCH IN USE 13.1 National Insurance Company Study—Cross Tabulation: Chi-Square Test Using SPSS 442

Test for a Single Mean 445 Test for a Single Proportion 446 Test of Two Means 447

RESEARCH IN USE 13.2 National Insurance Company Study: Perceived Service Quality Differences Between Males and Females 450

Test of Two Means When Samples Are Dependent 452 Test of Two Proportions 453

SUMMARY 455 Review and Discussion Questions 456 Application Exercises 456 SPSS Exercises 457

Case 13.1 Firestone: Part 2 458

Case 13.2 The Pankey Institute: Part 1 462

14 Examining Associations: **Correlation and Regression**

466

389

Did You Know That . . . 467 Spearman Correlation Coefficient 469 Pearson Correlation Coefficient 470

RESEARCH IN USE 14.1 National Insurance Company: Computing Pearson Correlation Among Service Quality Constructs Using SPSS 474

Simple Regression Analysis 476

Deriving a Regression Equation 476 Evaluating the Regression Equation 478

Practical Applications of Regression Equations 483 Precaution in Using Regression Analysis

Multiple Regression Analysis 485

RESEARCH IN USE 14.2 Regression Applications: **Illustrative Scenarios Calling for** Regression Analysis 486

Implications of Multicollinearity 489

RESEARCH IN USE 14.3 National Insurance Company: Multiple Regression Using SPSS 491

SUMMARY 493 Review and Discussion Questions 494 Application Exercises 494 SPSS Exercises 496

www.ertongbook.com

Case 14.1 Athenaeum Booksellers: Part 1 497 Case 14.2 The Pankey Institute: Part 2 502