

DILLON
MADDEN
FIRTLE

MARKETING RESEARCH MARKETING ENVIRONMENT

Third Edition

MARKETING RESEARCH MARKETING ENVIRONMENT

Third Edition

WILLIAM R. DILLON

University of South Carolina

THOMAS J. MADDEN

University of South Carolina

NEIL H. FIRTLE

Leggett Lustig Firtle, Inc.

IRWIN

Chicago • Bogotá • Boston • Buenos Aires • Caracas
London • Madrid • Mexico City • Sydney • Toronto



This symbol indicates that the paper in this book is made of recycled paper. Its fiber content exceeds the recommended minimum of 50% waste paper fibers as specified by the EPA.

© The McGraw-Hill Companies, Inc., 1990 and 1994

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher.

| | |
|------------------------------|---|
| Executive editor: | <i>Rob Zwettler</i> |
| Senior developmental editor: | <i>Andy Winston</i> |
| Project editor: | <i>Jean Lou Hess</i> |
| Production manager: | <i>Ann Cassidy</i> |
| Designer: | <i>Jeanne M. Rivera</i> |
| Art manager: | <i>Kim Meriwether</i> |
| Photo research coordinator: | <i>Patricia A. Seefelt</i> |
| Compositor: | <i>Weimer Graphics, Inc.</i> |
| Typeface: | <i>10/12 Electra</i> |
| Printer: | <i>R. R. Donnelley & Sons Company</i> |

Library of Congress Cataloging-in-Publication Data

Dillon, William R.

Marketing research in a marketing environment/William R.

Dillon, Thomas J. Madden, Neil H. Firtle.—3rd ed.

p. cm.

Includes bibliographical references and index.

ISBN 0-256-10517-0 ISBN 0-256-10829-3 (International ed.)

I. Marketing research. I. Madden, Thomas J. II. Firtle, Neil H.

III. Title.

HF5415.2.D54 1994

658.8'3—dc20

93-24883

Printed in the United States of America

3 4 5 6 7 8 9 0 DOC 0 9 8 7

To Jennifer: the most enjoyable bundle of end benefits a father could experience

—

To my parents: Thomas J. Madden and Winifred K. Madden

—

To Maureen: a friend, colleague, and wife

Preface

The preface to the first edition of *Marketing Research in a Marketing Environment* declared our primary motivation for writing another marketing research text: to bridge the gap between the theory and practice of marketing research. The second, and now the third, edition continue this approach by again emphasizing the problem-oriented nature of marketing research and by discussing and illustrating how marketing research is actually implemented by professional marketing researchers. Key features in *Marketing Research in a Marketing Environment* include:

- *Involving the reader in the marketing research community.* This community is discussed in terms of its principal parties and primary activities. The reader gains an appreciation for the primary players who conduct marketing research and their respective responsibilities.
- *Developing a framework that places marketing research within the well-known product life cycle.* Cross-classifying specific marketing research activities according to the marketing research stage and the focus of the research helps the student understand the problem-oriented nature of marketing research.
- *Introducing the reader to traditional content areas by discussing prototypical marketing research proposals.* Real-world marketing research proposals provide much of the motivation for the material presented in this book. The project proposals used throughout the book have been derived from actual marketing research projects. Though brand and research supplier names have been changed to ensure confidentiality, the illustrative proposals convey the essence of how marketing research is conducted in the real world.
- *Building on the secondary sources of information available.* In recent years the ability to locate and obtain secondary sources of market research information has been revolutionized by online computer-assisted data search technology. Scanner services are changing the face of commercial marketing research.
- *Introducing the reader to current sources of purchase and media data.* Syndicated sources of purchase and media data continue to be an important source of information that can be used to solve many marketing-related problems.
- *Involving the reader in a variety of marketing research studies.* The tools and techniques of marketing research take on greater meaning when discussed and illustrated in the context of real-world applications. The Case Studies at the end of each of the seven parts in this text use real-world vignettes to demonstrate the important role that marketing research plays in providing relevant answers to marketing-related problems. In addition, data sets are provided for two cases, as well as for several illustrative examples introduced throughout the text.
- *Reinforcing the major concepts introduced throughout the book.* Throughout each chapter marginal definitions are used to highlight

key principles, and case studies and end-of-chapter questions ask the student to apply them. Further reinforcement is provided by learning objectives at the beginning of each chapter and by key concepts at the close.

We earnestly feel that these features represent a major step toward conveying the essence of marketing research.

Marketing Research in a Marketing Environment, third edition, is divided into seven major parts. The book introduces the practice of marketing research through a scenario that describes the job search activities of a recent undergraduate marketing major and her discussions with the members of a marketing research department. This material sets the stage for the ensuing discussion in Part I and will interest the many students who are looking forward to a business-related career.

Part I, *Marketing Research Environments*, consists of two chapters. In Chapter 1, we describe the elements of marketing research environments and discuss the role and activities of marketing researchers. Chapter 2 discusses the necessary steps in designing a marketing research project.

Part II, *Acquiring Data: An Overview*, considers tools and techniques that can be used to obtain the market information necessary to answer marketing-related questions. In Chapter 3, we describe secondary information from the perspectives of both traditional and newer online computer-assisted technologies. This material is up to date and is not covered in many current textbooks. Syndicated sources of information on purchase and media behavior are described in Chapter 4. The major suppliers of this sort of information are discussed and attention is focused on the new technology (i.e., scanner services) that is changing the face of marketing research. Chapter 5 discusses techniques and issues of qualitative interviewing methods. In Chapter 6, we provide a comprehensive treatment of survey interviewing methods, including the increasingly popular method of mall intercepts. Chapter 7 follows with a discussion of

the issue of causality and, in particular, experimental research methods. All the experimental designs presented are discussed in the context of real-world marketing research studies to increase the relevance and understanding of this subject matter.

Part III, *Sampling Theory and Practices*, consists of two chapters. Chapter 8 presents the fundamentals of sampling. Further details on drawing probability samples are provided in Chapter 9. (For the reader not needing technical details on the procedures for drawing probability samples, Chapter 8 will suffice.)

Part IV, *Measurement, Scaling, and Questionnaire Design*, covers both theoretical and practical issues related to what to ask and how to ask it. Chapter 10 discusses the basic concepts of measurement and provides a discussion of the primary measurement scales used in marketing research. In Chapter 11, we provide a treatment of attitude scales and the concepts of reliability and validity. The final chapter in this part, Chapter 12, presents a comprehensive treatment of the issues that should be considered when designing a questionnaire. In Chapter 13, we discuss issues related to processing the data; in essence, these procedures prepare the data for analysis.

Part V, *Data Processing and Analysis*, considers the tools and techniques of analysis. Chapter 14 offers a discussion of techniques that can be used to give the researcher an initial glimpse of the data. The next two chapters describe techniques that can be used to uncover and test hypotheses concerning a single variable or the relationships between two or more variables. Chapter 15 discusses hypothesis testing and is followed by two appendices that deal with Analysis of Variance. Chapter 16 discusses measures of association and regression analysis. A brief treatment of some popular multivariate data analysis procedures is presented in the appendices to this chapter. In all instances the discussion includes many examples and is directed to the unsophisticated reader.

Part VI, *Applications*, presents details on how several different types of marketing research

studies are typically conducted. Specifically, Chapter 17 considers what are commonly referred to as *market studies*, Chapter 18 considers *concept and product studies*, Chapter 19 considers *package and name studies*, Chapter 20 considers *advertising testing studies*, and Chapter 21 considers *test market studies*, including *simulated/pre-test markets*. These applications are discussed in separate chapters for three reasons. First, these studies typify the practice of marketing research. Second, they provide a vehicle for illustrating how the concepts, tools, and techniques from the first five parts of the book can be used to solve real-world, marketing-related problems. Third, they provide exemplary material on which to build class projects. The final chapter in this part of the book, Chapter 22, discusses *marketing decision support systems*. With the recent advances in computer PC-based technology, marketing professionals are beginning to rely on marketing decision support systems with greater regularity and frequency. Although this trend is likely to increase in the future, marketing decision support systems receive only minimal coverage in many current textbooks. As part of our coverage of marketing decision support systems, an appendix to Chapter 22 discusses forecasting techniques.

Part VII, Report Preparation and Ethical Issues, consists of two chapters in which we present topics central to the successful practice marketing research, but not part of the research process. Chapter 23 presents the suggestions of practicing marketing researchers for writing and orally presenting the results of a research project. Chapter 24, a new chapter, explores the foundations of ethical research practices as well as current dilemmas facing research professionals.

Supplements

We have prepared all of the supplements that accompany this textbook. In doing so, we have attempted to provide elements and features of value to the inexperienced as well as experienced instructor.

Instructor's Manual

- *Learning objectives*. The learning objectives that appear at the beginning of each chapter are reproduced.
- *Key terms and concepts*. The key terms and concepts that appear throughout the textbook are reproduced.
- *Lecture notes*. A detailed outline of each chapter is provided.
- *Transparency masters*. Key exhibits, tables, and figures appearing in the textbook are reproduced as 8½ × 11 transparency masters. Transparency masters are also provided for supplemental material not appearing in the textbook. The suggested spot for use of each of these is designed within the teaching suggestions.
- *Teaching suggestions*. These hints and ideas indicate how the authors would organize and present the material appearing in each chapter. Suggestions for where to integrate the transparency masters are also provided.
- *Author comments*. These describe the author's rationale for the major topics presented in each chapter.
- *Answers to end-of-chapter problems*. Detailed answers to every question are provided.
- *Case notes*. For instructors who decide to use any or all of the case studies appearing in the text, a detailed set of case notes is provided.

Test Bank

The test bank contains over 1,000 questions, categorized by chapter. In addition to correct answers, page references are provided.

CompuTest

All questions appearing in the test bank are reproduced in Irwin's CompuTest test-generation system, for use with the IBM PC and compatible computers. The test-generation system provides the following features:

1. Individual test items can be added or deleted.
2. Individual test items can be edited.
3. A shuffle option is provided that allows different versions of the same examination.
4. Ample documentation.

Software

A unique set of contemporary interactive software programs are available to adopters. The software is pedagogical in nature and designed to enhance students' understanding of the concepts and techniques discussed throughout the textbook. Six individual modules are available:

1. The SAMPLE module demonstrates selected concepts related to drawing simple and stratified samples.
2. The SCALE module takes students through various types of monadic and comparative rating scales. Asking students to rate a set of brands on different types of scales enables them to gain an appreciation for the issues involved in selecting a rating instrument.
3. The ACA module illustrates how conjoint analysis works in an interactive PC environment. The module utilizes the Adaptive Conjoint Analysis (ACA) system developed by Richard Johnson of Sawtooth Software, Inc.
4. The QUADMAP module is a system for analyzing top-box importance ratings along with top-box ratings of a brand on a number of salient attributes. This type of analysis is referred to as *quadrant analysis* and is discussed in Chapter 14.
5. The ASCID module is a marketing decision support system for perceptual mapping. A unique feature of this system is the ability to position new objects in an existing perceptual space.
6. The FORECAST module is designed to demonstrate how the more popular forecasting techniques work.

7. The MARITZSTATS module is an interactive statistical analysis system for testing hypotheses concerning means and proportions for one or multiple independent/dependent samples. It also includes an option for determining sample sizes.

Color Transparencies

There are 75 acetates, many of which include material and sources that do not appear in the textbook.

Videos

Focus group sessions are featured; they provide real life experiences.

Acknowledgments

In writing this textbook we have benefited greatly from the comments, suggestions, help, and last but not least, sympathy of many. The review process has been rigorous and constructive. The content of the textbook has been greatly influenced by the hundreds of comments and suggestions made by the reviewers. We gratefully acknowledge the help of the following reviewers:

David Andrus

Kansas State University

Joan M. Baumer

North Carolina State University

Richard Beltramini

Arizona State University

Norman Bruvold

University of Cincinnati

Lee Cooper

University of California at Los Angeles

Forrest S. Carter

Michigan State University

Melvin Crask

University of Georgia

Richard Davis

California State University—Chico

Dale Duhan

Michigan State University

Elizabeth Ensley

Oregon State University

Lawrence Feick

University of Pittsburgh

Susan Higgins

Texas Christian University

Roy Howell

Texas Tech University

Rajshekhar Javalgi

Cleveland State University

Masaaki Kotabe

University of Missouri—Columbia

Michael Loizides

Hampton University

Gary McCain

Boise State University

Kent Nakamoto

The University of Arizona

Nicholas Nugent

Boston College

Lawrence Patterson

Southwest Texas State University

Pradeep A. Rau

Kent State University

Arno Rethans

California State University—Chico

Marsha Richins

Louisiana State University

Sandra Schmidt

University of Virginia

Richard Skinner

Kent State University

Gail Tom

California State University—Sacramento

David J. Urban

Virginia Commonwealth University

Louis Volpp

California State University—Fresno

Gary Young

University of Massachusetts at Boston

As with the first two editions, our task in this revision was made easier by the thoughtful and penetrating reviews we received. We gratefully acknowledge the following reviewers:

Frank Carmone, Jr.

Florida International University

Elizabeth Ferrell

University of Alabama

Robert T. Fisher

University of Colorado

Donald Fuller

University of Central Florida

John Gwin

University of Virginia

Brian McCue

Fontbonne College

Other individuals also deserve thanks. Nancy Podolak, the consummate administrative assistant, had the unenviable task of typing the first edition. Her professionalism and skills allowed the manuscript to be finished on schedule in spite of an exceedingly long first draft. JoAnn Woo provided expert programming skills in connection with the software modules. Needless to say, without her help the software programs would not have been completed. Beth Schwartz provided administrative assistance on the first edition and supervised the most difficult task of securing all of the permissions. Her perseverance and detective work is greatly appreciated. We were fortunate to be able to call on the expertise of Sal M. Meringolo, Chief, Humanities and Social Sciences Department, Penn State University, who prepared most of Chapter 3. Finally, Robert Johnson of Sawtooth Software, Inc., graciously provided the ACA software module.

The authors have greatly benefited from the help and suggestions of members of the business community. In particular, special thanks go to Lisa Myer of CLT Research Associates; Jerry Leighton and Jeff Starr of CRC Information, Inc.; Steve Wilson, Bill Moults, and Ron Tatham of Burke Marketing Services, Inc.; Jody Bernstein of

Millward Brown, Inc.; Andy Boes of LINK Resources; Narendra Mulani of IRI; and Mark Arkin of S. B. Thomas, Inc.

Several members of the academic community deserve acknowledgment. Thanks are especially due Professors Gloria Thomas, Steve Schnaars, and Leon Schiffman of Baruch College and Professors Donald G. Frederick, Subhash Sharma, and Terry Shimp of the University of South Carolina. Second, while all the names are too numerous to mention, some other influential and helpful people have been David Brinberg now at VIP, Rajiv Grover at the University of Pittsburgh and Ajith Kumar now at Arizona State University.

The third edition could not have been completed without the help, sympathy, and hard work of others. Rob Zwettler, our editor, provided critical guidance and support to the project. It was nurtured by Andy Winston, the developmental editor assigned to this project. All of us want to extend our heartfelt gratitude to Andy for the professional treatment we received. Throughout the project he provided insightful comments and an uncanny ability to bring to the forefront the salient content areas in need of attention.

This project began in 1983 while two of the authors were at the University of Massachusetts. In addition, both of these authors started their careers at that institution and since most of our professional development took place at the University of Massachusetts, we would be remiss not to acknowledge our gratitude.

The third edition was completed at the University of South Carolina. We wish to thank Jennie Symrl and Edie Beaver, the marketing department secretaries, for their hard work and assistance in putting together the third edition. Their ability to quickly decipher our handwriting and their talents for getting things done on time is most appreciated. Finally, we would like to thank our marketing department colleagues and in particular our program director, Donald Frederick, for his support and assistance.

William R. Dillon
Thomas J. Madden
Neil H. Firtle

Brief Contents

Part I

MARKETING RESEARCH ENVIRONMENTS

Chapter 1

Marketing Research Environments
3

Chapter 2

Planning a Research Project
29

Case Studies for Part I
53

Part II

ACQUIRING DATA: AN OVERVIEW

Chapter 3

Secondary Information: The Major Access Tools
61

Chapter 4

Syndicated Sources of Purchase Behavior and
Media Exposure Information
94

Chapter 5

Qualitative Interviewing Methods
115

Chapter 6

Survey-Interviewing Methods
138

Chapter 7

Experimental Research Methods
174

Case Studies for Part II
210

Part III

SAMPLING THEORY AND PRACTICES

Chapter 8

Sampling Fundamentals
219

Chapter 9

Procedures for Drawing Probability Samples
254

Case Studies for Part III
278

Part IV

MEASUREMENT, SCALING, AND QUESTIONNAIRE DESIGN

Chapter 10

Concepts of Measurement and
Measurement Scales
285

Chapter 11
**Attitude Scaling and Concepts in
 Reliability and Validity**
 313

Chapter 12
**Questionnaire Design Including
 International Considerations**
 330

Chapter 13
Data Processing and Tabulation
 361

Case Studies for Part IV
 381

Part V
DATA PROCESSING AND ANALYSIS

Chapter 14
Data Analysis
Exploring Basic Relationships
 396

Chapter 15
Data Analysis
Hypothesis Testing
 417

Chapter 16
Measures of Association and Regression Analysis
 449

Case Studies for Part V
 513

Part VI
APPLICATIONS

Chapter 17
Strategic Market Studies
Positioning, Segmentation, and Structuring
 533

Chapter 18
Concept and Product Testing
 558

Chapter 19
Name and Package Testing
 588

Chapter 20
Advertising Research Practices
Pretesting and Tracking
 601

Chapter 21
Test Market Studies
 631

Chapter 22
Marketing Decision Support Systems (MDSSs)
and Forecasting Techniques
 645

Case Studies for Part VI
 675

Part VII
**REPORT PREPARATION AND
 ETHICAL ISSUES**

Chapter 23
Presenting the Research
 687

Chapter 24
Ethical Issues
 701

Case Studies for Part VII
 714

Statistical Appendix, 721

Glossary, 730

Index, 747

Contents

Part I MARKETING RESEARCH ENVIRONMENTS

Chapter 1

Marketing Research Environments 3

| | |
|--|----|
| Introduction | 3 |
| Understanding Marketing Research | 4 |
| <i>Marketing Research Information</i> | 5 |
| <i>Marketing Research Activities</i> | 6 |
| Marketing Research and Strategy Considerations | 7 |
| Marketing Research Environments | 12 |
| <i>Principal Internal Parties</i> | 13 |
| <i>Principal External Parties</i> | 13 |
| <i>Facilitating External Parties</i> | 17 |
| <i>Current Trends</i> | 17 |
| The Research Cycle | 18 |
| <i>Prelaunch Stage</i> | 20 |
| <i>Rollout</i> | 22 |
| <i>Established Markets</i> | 24 |
| Summary | 27 |
| Key Concepts | 27 |
| Review Questions | 28 |

Chapter 2

Planning a Research Project 29

| | |
|--|----|
| Introduction | 29 |
| Stage 1: Formulate the Problem | 30 |
| <i>Researcher and Client</i> | 31 |
| <i>Situation Analysis</i> | 34 |
| Stage 2: Determine the Research Design | 38 |
| <i>Valuing Alternative Courses of Action</i> | 38 |
| <i>Research Objective Requirements</i> | 40 |

| | |
|---|----|
| Stage 3: Preparation | 41 |
| <i>Determine Source of Data</i> | 41 |
| <i>Determine Data-Collection Method</i> | 42 |
| <i>Design Sampling Plan</i> | 42 |
| <i>Design Questionnaire</i> | 43 |
| Stage 4: Implement the Fieldwork | 43 |
| <i>Instruct Interviewers</i> | 44 |
| <i>Schedule and Conduct Interviews</i> | 44 |
| Stage 5: Process the Data | 44 |
| <i>Editing</i> | 44 |
| <i>Coding</i> | 45 |
| Stage 6: Tabulate and Analyze | 45 |
| Stage 7: Prepare the Research Report | 46 |
| Research Proposals | 46 |
| <i>RFPs</i> | 46 |
| <i>The Research Proposal</i> | 48 |
| Summary | 51 |
| Key Concepts | 51 |
| Review Questions | 52 |

Case Studies for Part I 53

| | | |
|--------|---|----|
| Case 1 | NBC Drops Shows Older Audiences Favor | 53 |
| Case 2 | Redesign Boosts Red Gold Sales | 54 |
| Case 3 | Food Giants Hope New Healthy Soups will be Ingredients of Financial Success | 55 |
| Case 4 | Novel Microwave Dinners Are Tasty—And Likely to Fail Without a Quick Fix | 56 |

Part II ACQUIRING DATA: AN OVERVIEW

| | | | |
|--|-----|---|-----|
| Chapter 3 | | Single-Source Services | 110 |
| Secondary Information: The Major Access Tools | 61 | <i>General Characteristics</i> | 111 |
| | | <i>Comparative Evaluation</i> | 111 |
| Introduction | 61 | <i>Uses</i> | 112 |
| Primary versus Secondary Data | 62 | Summary | 114 |
| Evaluating Secondary Information | 63 | Key Concepts | 114 |
| Traditional Sources of Secondary Market Data | 66 | Review Questions | 114 |
| <i>Preliminary Concept: Industrial Classification</i> | 66 | | |
| <i>Guides to Business Information Sources</i> | 67 | | |
| <i>Directories</i> | 68 | | |
| <i>Indexes to Business Literature</i> | 68 | | |
| <i>Indexes to Newspapers</i> | 69 | | |
| <i>Indexes to Specialized Business Information Services</i> | 70 | | |
| <i>Statistical Compilations</i> | 70 | | |
| <i>Census-Based Statistical Extrapolations</i> | 71 | | |
| <i>International Sources</i> | 76 | | |
| <i>Other Sources</i> | 76 | | |
| The New Age of Information | 77 | | |
| On-line Database Services | 78 | | |
| <i>Database Varieties</i> | 78 | | |
| <i>Directories of Databases</i> | 78 | | |
| <i>Vendors</i> | 79 | | |
| CD-ROM Data Files | 79 | | |
| Summary | 83 | | |
| Key Concepts | 83 | | |
| Review Questions | 83 | | |
| Appendix 3A How to Construct a Custom BPI | 84 | | |
| Appendix 3B Sources of Secondary Data for International Marketing Research | 86 | | |
| Appendix 3C Accessing Online Databases: The Mechanics | 90 | | |
| Chapter 4 | | | |
| Syndicated Sources of Purchase Behavior and Media Exposure Information | 94 | | |
| Introduction | 94 | | |
| Diary Panels | 95 | | |
| <i>General Characteristics</i> | 95 | | |
| <i>Comparative Evaluation</i> | 96 | | |
| <i>Uses</i> | 97 | | |
| Audit Services | 106 | | |
| <i>General Characteristics</i> | 106 | | |
| <i>Comparative Evaluation</i> | 106 | | |
| <i>Uses</i> | 107 | | |
| | | Chapter 5 | |
| | | Qualitative Interviewing Methods | 115 |
| | | Introduction | 115 |
| | | Focus Groups | 116 |
| | | <i>Procedure</i> | 116 |
| | | <i>Advantages and Disadvantages</i> | 121 |
| | | <i>Uses</i> | 122 |
| | | One-on-One/Depth Interviews | 123 |
| | | Projective Techniques | 126 |
| | | Observational Methods | 128 |
| | | <i>Naturalistic Inquiry</i> | 128 |
| | | <i>"Garbology"</i> | 131 |
| | | <i>Physiological Measurement</i> | 133 |
| | | <i>Computerized/Electronic Measurement</i> | 134 |
| | | Summary | 137 |
| | | Key Concepts | 137 |
| | | Review Questions | 137 |
| | | Chapter 6 | |
| | | Survey-Interviewing Methods | 138 |
| | | Introduction | 138 |
| | | Information Collected | 138 |
| | | Types of Surveys | 139 |
| | | Major Data-Collection Methods | 140 |
| | | <i>Mail Surveys</i> | 141 |
| | | <i>Mail Panels</i> | 145 |
| | | <i>Telephone Surveys</i> | 149 |
| | | <i>Personal In-Home Surveys</i> | 157 |
| | | <i>Mall-Intercept Interviewing</i> | 160 |
| | | Newer Technological Approaches | 162 |
| | | <i>CATI Interviewing</i> | 163 |
| | | <i>Self-Administered CRT Interviews</i> | 164 |
| | | Nonresponse Errors | 165 |
| | | <i>Not-at-Homes</i> | 165 |
| | | <i>Refusals</i> | 167 |
| | | <i>Evidence on Response Rate Facilitators</i> | 170 |
| | | <i>Handling Nonresponse</i> | 171 |

| | |
|------------------|-----|
| Summary | 173 |
| Key Concepts | 173 |
| Review Questions | 173 |

Chapter 7

Experimental Research Methods 174

| | |
|--|-----|
| Introduction | 174 |
| Research Environments | 175 |
| <i>Laboratory Experimental Environments</i> | 175 |
| <i>Field Experimental Environment</i> | 175 |
| Experimentation | 175 |
| <i>Causality</i> | 175 |
| <i>Experimental versus Nonexperimental Designs</i> | 179 |
| <i>Experimental Effects</i> | 180 |
| <i>Controlling Extraneous Causal Factors</i> | 182 |
| Validity | 183 |
| Factors Jeopardizing Validity | 184 |
| <i>Threats to Internal Validity</i> | 184 |
| <i>Threats to External Validity</i> | 187 |
| <i>Demand Artifacts</i> | 188 |
| Experimental Designs | 189 |
| <i>Notation</i> | 189 |
| <i>Specific Experimental Designs</i> | 190 |
| <i>Selection of a Design</i> | 207 |
| Summary | 208 |
| Key Concepts | 208 |
| Review Questions | 209 |

Case Studies for Part II 210

| | | |
|--------|--|-----|
| Case 1 | Consumers' Attitudes and Perceptions Toward Seafood when Eating Out: Preliminary Phase | 210 |
| Case 2 | Coke Targets Youth Market with CD, Tape Promotion | 213 |
| Case 3 | McDonald's Tests Catfish Sandwich | 214 |
| Case 4 | Researcher: Test Ads First to "Zap- Proof" Them | 214 |
| Case 5 | Retailers Unhappy with Displays from Manufacturers | 215 |

Part III

SAMPLING THEORY AND PRACTICES

Chapter 8 Sampling Fundamentals 219

| | |
|--|-----|
| Introduction | 219 |
| Sampling Design Considerations | 220 |
| Target Population and Frame Issues | 221 |
| <i>Sampling Frames</i> | 224 |
| <i>Incidence Rates</i> | 226 |
| <i>Select the Sampling Units</i> | 227 |
| Data-Collection Issues | 227 |
| Sample Size Determination Issues | 230 |
| <i>Blind Guesses</i> | 231 |
| <i>Statistical Precision</i> | 231 |
| <i>Bayesian Considerations</i> | 234 |
| <i>Cost Limitations</i> | 234 |
| <i>Industry Standards</i> | 234 |
| Sampling Technique Issues | 234 |
| <i>Probability Samples</i> | 236 |
| <i>Nonprobability Samples</i> | 243 |
| Choosing between Probability and Nonprobability Designs | 246 |
| Nonresponse Bias Issues | 247 |
| <i>Response Errors</i> | 248 |
| <i>Nonresponse Errors</i> | 248 |
| Summary | 250 |
| Key Concepts | 250 |
| Review Questions | 250 |
| Appendix 8A Sample Size Calculator | 252 |

Chapter 9

Procedures for Drawing Probability Samples 254

| | |
|--|-----|
| Introduction | 254 |
| Simple Random Sampling Procedures | 254 |
| <i>Selecting the Sample</i> | 255 |
| <i>Estimating Population Characteristics</i> | 255 |
| <i>Sample Size Determination</i> | 259 |
| Stratified Sampling Procedures | 260 |
| <i>Selecting the Sample</i> | 261 |
| <i>Estimating Population Characteristics</i> | 262 |
| <i>Sample Size Determination</i> | 265 |
| <i>Allocating the Sample</i> | 266 |
| Cluster Sampling Procedures | 269 |
| One-Stage Cluster Sampling Procedures | 269 |
| <i>Selecting the Sample</i> | 270 |

| | |
|--------------------------------------|-----|
| International Considerations | 353 |
| <i>Methodological Considerations</i> | 356 |
| Summary | 359 |
| Key Concepts | 359 |
| Review Questions | 359 |

Chapter 13

Data Processing and Tabulation 361

| | |
|----------------------------------|-----|
| Introduction | 361 |
| Fielding the Questionnaire | 361 |
| <i>Who Conducts Fieldwork?</i> | 361 |
| <i>Steps in Fielding a Study</i> | 362 |
| Steps in Processing the Data | 368 |
| <i>Check-In</i> | 368 |
| <i>Editing</i> | 369 |
| <i>Coding Procedures</i> | 369 |
| <i>Transferring the Data</i> | 372 |
| <i>Table Specifications</i> | 376 |
| Summary | 377 |
| Key Concepts | 377 |
| Review Questions | 377 |

Case Studies for Part IV 381

| | | |
|--------|--|-----|
| Case 1 | Olds Goal: Young and Stylish— GM to Sharpen Divisional Image | 381 |
| Case 2 | BBQ Product Crosses Over the Lines of Varied Tastes | 387 |
| Case 3 | Consumer Attitudes and Perceptions toward Seafood when Eating Out: Measurement Development | 387 |
| Case 4 | National Wine Tracking Study | 390 |

Part V

DATA PROCESSING AND ANALYSIS

Chapter 14

Data Analysis Exploring Basic Relationships 396

| | |
|---|-----|
| Introduction | 396 |
| Data Summary Methods: Descriptive Statistics | 396 |
| <i>Measures of Central Tendency: The Mean</i> | 398 |
| <i>Measures of Variability: The Variance</i> | 400 |

| | |
|--------------------------------|-----|
| Data Tabulation Procedures | 403 |
| <i>Frequency Distributions</i> | 403 |
| <i>Cross Tabulation</i> | 403 |
| Graphic Representation of Data | 406 |
| <i>Bar Charts</i> | 409 |
| <i>Pie Charts</i> | 410 |
| <i>Quadrant Analysis</i> | 411 |
| Summary | 413 |
| Key Concepts | 414 |
| Review Questions | 414 |

Chapter 15

Data Analysis Hypothesis Testing 417

| | |
|---|-----|
| Introduction | 417 |
| Hypothesis Testing Procedures | 417 |
| <i>Steps in Hypothesis Testing</i> | 418 |
| <i>Error Types</i> | 424 |
| Hypothesis Tests | 425 |
| <i>Independent versus Related Samples</i> | 426 |
| Degrees of Freedom | 428 |
| Tests of Proportions | 429 |
| <i>One-Sample Test</i> | 429 |
| <i>Two-Independent Sample Test</i> | 430 |
| <i>More than Two Independent Samples</i> | 432 |
| Tests of Means | 433 |
| <i>One-Sample Test</i> | 433 |
| <i>Two-Independent Sample Test</i> | 434 |
| <i>More than Two Independent Samples</i> | 437 |
| <i>Related-Sample Tests</i> | 441 |
| Statistical Significance | 446 |
| Summary | 447 |
| Key Concepts | 448 |
| Review Questions | 448 |
| Appendix 15A Analysis of Variance with More than One Treatment Condition | 449 |
| Appendix 15B Analysis of Covariance | 455 |

Chapter 16

Measures of Association and Regression Analysis 461

| | |
|-------------------------------|-----|
| Introduction | 461 |
| Association between Variables | 462 |