



**MARKETING
RESEARCH**

An Indian Perspective

Naval Bajpai

Marketing Research

An Indian Perspective

NAVAL BAJPAI

*ABV-Indian Institute of Information Technology and Management
Gwalior*

PEARSON

Delhi • Chennai

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ISBN 978-93-325-3637-1
eISBN 978-93-325-4467-3

Head Office: A-8 (A), 7th Floor, Knowledge Boulevard, Sector 62, Noida 201 309, Uttar Pradesh, India.

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*In loving memory of my grandfather, late Professor Ramesh Chandra Agnihotri;
and my grandmother, late Mrs Sudha Agnihotri*

*To my mother, Mrs Chitra Bajpai; my father, Mr P. S. Bajpai;
my sister, Mrs Nidhi Shukla; my wife, Mrs Archana Bajpai;
and my daughters, Aditi and Swasti*

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About the Author

Naval Bajpai is a faculty at the ABV-Indian Institute of Information Technology and Management, Gwalior. He has a multifarious background in industrial, teaching and research fields spanning over a decade and is a lifetime member of the Indian Society for Technical Education.



A postgraduate in statistics, Professor Bajpai did his doctoral research in Management at Pt Ravishankar Shukla University, Raipur. He also earned his master's degree in business administration from the same university and has conducted several management development programmes on organizational behaviour and research methods. With over 40 research papers published in journals of national and international repute, Professor Bajpai is an avid analyst of contemporary work trends in public-sector organizations. He is the author of *Business Statistics*, *Business Research Methods* and *Research Methodology* and the co-author of *Quantitative Analysis* published by Pearson Education, India.

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Preface

Every market researcher or business analyst needs to be aware of marketing research methods. Market researchers will find it difficult to conduct an in-depth analysis in their areas of specialization without a sound knowledge of the scientific process of conducting research. Researchers may consult many books and articles but their knowledge may remain inadequate if they lack the patience to devote the time required to understand research techniques prevailing in the contemporary marketing world. They must remember that little knowledge is dangerous and devote time and energy to understand the essence of research before executing any type of marketing research. This book provides readers with an opportunity to understand the crux of marketing research in a scientific and systematic manner. Market researchers who are potential readers of the book must systematically read all the chapters without resorting to shortcuts such as focusing on only a few chapters. This book deals with real examples from the business world that exemplify market research concepts. For example, it uses the example of consumer attitude or consumer satisfaction to deal with the different dimensions of research. It comes in handy even for a researcher involved in organizational behaviour analysis, as any topic related to employee attitude or employee satisfaction can be dealt with using the same kind of research methodology by merely changing the dimension of study from the business level to the organizational level. Similarly, other research topics related to varied streams, such as psychology, sociology, anthropology, social psychology, etc. can be analysed using the tools and techniques presented here. Broadly, any research related to primary data collection or field data collection can be effectively performed with the help of this book.

A basic prerequisite that any researcher who aims at becoming an expert at market research techniques needs to possess is a sound knowledge of statistical techniques. Thus, before one sets out to read this book, it is advisable to first become familiar with application-oriented statistics. Marketing research is designed using the concepts of statistics. Hence, this book unfolds basic and advanced marketing research methods with the assumption that the readers have prior knowledge of the fundamentals of statistics. For example, common terms in statistics such as average, median, mode, standard deviation, etc. are used throughout this book. Similarly, readers must have a solid knowledge of probability and probability distributions. My books, *Business Statistics* (2009) and *Business Research Methods* (2011), published by Pearson Education, provide tools to understand some of the basic concepts of statistics commonly applied to research methods. It will be a good idea for readers to go through these two books before going through the marketing research methods presented here.

Designed to meet the requirements of students in business schools across India, this book also presents case studies and problems developed using real data gathered from organizations such as the Centre for Monitoring Indian Economy (CMIE) and Indiatat.com. Statistical concepts are explained in a simple manner without going into the derivation of formulas. The only prerequisite to understand these concepts is a basic knowledge of algebra. Clear instructions help readers to use these programs for statistical analysis and interpret the outputs obtained. The focus on interpretation rather than computation develops competencies that will aid students in their future careers as managers. This book guides students to make the best

use of marketing research by using a variety of learning tools. Each chapter opens with a list of learning objectives that introduce the reader to the topics covered in the chapter. This is followed by an opening vignette that links theory to actual industry practice. The introductory section in all chapters provides a broad outline of the subject. Scenarios from day-to-day life are used to illustrate complex theories. Problems are provided at the end of important sections to enable students to practice the ideas discussed. Solved examples framed using real data from organizations such as Indiastat. com and CMIE highlight the business applications of marketing research methods. Unsolved numerical problems are designed to strengthen problem-solving skills. A case study at the end of each chapter acquaints the student with an assortment of organizational scenarios that they may encounter in the future.

COVERAGE

This book is divided into six parts consisting of a total of 22 chapters. These six parts are: *Introduction to Marketing Research; Research Design Formulation; Sources and Collection of Data: Descriptive Statistics and Data Analysis; Result Presentation and Applications of Marketing Research*. The first and the most important aspect of conducting any research is to define the research problem properly. In addition, the researcher must have a strong background in marketing research and be knowledgeable about the various stages in conducting a scientific research programme. *Part I: Introduction to Marketing Research* comprises two chapters. *Chapter 1: Marketing Research: An Introduction* introduces readers to marketing research. *Chapter 2: Market Research Process Design* explains the stages in the research process and focuses on the sequential steps in conducting research.

Part II: Research Design Formulation consists of three chapters. *Chapter 3: Measurement and Scaling* deals with measurement issues and discusses the various scales for measurement. *Chapter 4: Questionnaire Design* discusses the development of the questionnaire as a research tool. *Chapter 5: Sampling and Sampling Distributions* discusses sampling, types of sampling, sampling and non-sampling errors and sampling distributions.

Part III: Sources and Collection of Data consists of four chapters. *Chapter 6: Secondary Data Sources* focuses exclusively on the sources of secondary data, especially in India. *Chapter 7: Data Collection: Survey and Observation* explains various survey and observation techniques. *Chapter 8: Experimentation* deals with the validity issue, the process of conducting experiments and the classification of experimental designs. *Chapter 9: Fieldwork and Data Preparation* describes the process of gathering data through field work as well as editing, coding, and preparation of the data matrix for statistical analysis.

Part IV: Descriptive Statistics and Data Analysis consists of 11 chapters. *Chapter 10: Descriptive Statistics: Measures of Central Tendency* gives insights into the central tendency of data. *Chapter 11: Descriptive Statistics: Measures of Dispersion* focuses on the various measures of dispersion. *Chapter 12: Statistical Inference: Hypothesis Testing for Single Populations* introduces readers to the hypothesis-testing procedure for single populations. *Chapter 13: Statistical Inference: Hypothesis Testing for Two Populations* discusses the hypothesis-testing procedure for two populations. *Chapter 14: Analysis of Variance and Experimental Designs* deals with the analysis of variance and designs of experiments. *Chapter 15: Hypothesis Testing for Categorical Data (Chi-Square Test)* discusses the chi-square test and its applications. *Chapter 16: Correlation and Simple Regression Analysis* discusses the applications of bivariate correlation and regression. Chapters 17, 18 and 19 focus on the widely used multivariate statistical techniques in the field of marketing research.

Chapter 17: Multivariate Analysis I: Multiple Regression Analysis discusses multiple regression. *Chapter 18: Multivariate Analysis II: Discriminant Analysis and Conjoint Analysis* focuses on discriminant analysis and conjoint analysis. *Chapter 19: Multivariate Analysis III: Factor Analysis, Cluster Analysis, Multidimensional Scaling and Correspondence Analysis* discusses advanced, interdependent multivariate techniques in marketing research such as factor analysis, cluster analysis, multidimensional scaling and correspondence analysis. *Chapter 20: Sales Forecasting* discusses the various techniques of sales forecasting.

Part V: Result Presentation comprises *Chapter 21: Presentation of Result: Report Writing*. This chapter explains the systematic method to present the results of a marketing research project.

Part VI: Applications of Marketing Research includes the final chapter, *Chapter 22: Marketing Mix Research: Product, Price, Place and Promotion Research*. This chapter focuses on the role played by marketing research in making critical decisions regarding the different elements of the marketing mix.

KEY FEATURES

Learning Objectives define the key points in each chapter that need to be focused on while reading the chapter.

LEARNING OBJECTIVES

Upon completion of this chapter, you will be able to:

- Understand the difference between basic and applied research
- Learn how marketing research methods can be used as a decision making tool by the managers
- Define marketing research
- Understand the marketing research process
- Understand the roadmap to learn marketing research methods
- Get a preliminary idea about the use of software for data preparation and data analysis

Research in Action sets the tone for each chapter and focuses on the marketing research methods discussed in the chapter.

RESEARCH IN ACTION: AIR INDIA LTD

Civil aviation is a key contributor to the growth and development of Indian economy and contributes to the sustainable development of trade, commerce, and tourism in the country. This sector provides three categories of services—operations, infrastructure, and regulatory-cum-development. Domestic and international air services are provided by the government-owned airlines and some private airlines. Airport infrastructure facilities are taken care of by the Airport Authority of India. Mumbai and Delhi airports have now been handed over to private enterprise under a Public-Private Partnership (PPP) model.¹

In July 2009, cash-strapped Air India-Indian Airlines sought an immediate loan of ₹100,000 million from the government along with an annual equity infusion of ₹25,000–30,000 million for the next 4 to 5 years, which will be linked to the induction of new aircrafts into its fleet. In all, the tottering airlines project has a requirement of almost ₹200,000 million.

TABLE 1.1

Income, expenses, and profit after tax of Air India Ltd (from Dec 1999 to Dec 2007) in million rupees

Year	Income	Expenses	Profit after tax
Dec-99	43,895.3	45,640.1	-1744.8
Dec-00	48,342.5	48,718.8	-376.3
Dec-01	53,650.5	54,094.5	-444
Dec-02	50,517.2	50,362.8	154.4
Dec-03	57,062.4	55,723.8	1338.6
Dec-04	62,612.3	61,689	923.3
Dec-05	77,890.2	76,926.6	963.6
Dec-06	93,394.4	93,245	149.4
Dec-07	96,278	100,757.3	-4479.3

Source: Prowess (V.3.1); Centre for Monitoring Indian Economy Pvt. Ltd, Mumbai.



Marginalia highlight the critical concepts and definitions discussed in each chapter.

Marketing researchers systematically collect, compile, analyse, and interpret data to provide quality information based on which a decision maker will be able to take a decision in an optimum manner.

1.1 INTRODUCTION

The marketing environment is always uncertain and there is a need to handle this uncertainty by developing a pool of information in a scientific manner. Marketing researchers systematically collect, compile, analyse, and interpret data to provide quality information, based on which a decision maker will be able to take a decision in an optimum manner. Market research never operates in vacuum. Decision makers of various organizations face a dilemma because of continuous change in the marketing environment. They happen to be in continuous need to have relevant and objective information for the problem at hand. Information may be provided to decision makers by anyone, but the authenticity of such information would be under suspicion. It is the role of the marketing researcher to conduct research scientifically and hence, provide accurate information to the decision maker. In an uncertain environment, decision makers always remain keen to gather scientific and accurate information that will help them to arrive at an optimum decision.

Solved examples based on real data from industry enable students to learn about statistical methodology and its application.

The bottled water segment in India has witnessed rapid growth. Institutional users are responsible for 30% sales in the market.³ If 100 customers are randomly selected, what is the probability that 25 or more customers are institutional users?

Example 5.5

Solution

Here, $p = 0.30$, $\bar{p} = \frac{25}{100} = 0.25$, and $n = 100$

By substituting all the values in the z formula, we obtain

$$z = \frac{\bar{p} - p}{\sqrt{\frac{pq}{n}}} = \frac{0.25 - 0.30}{\sqrt{\frac{(0.30)(0.70)}{100}}} = -\frac{0.05}{0.0458} = -1.09$$

The z value obtained is -1.09 and the corresponding probability from the normal table is 0.3621 , which is the area between sample proportion, 0.25 and the population proportion, 0.30 . Figure 5.16 exhibits this area. So, when 100 customers are randomly selected, then the probability that 25 or more customers are institutional users is

$$P(\bar{p} \geq 0.25) = 0.3621 + 0.5000 = 0.8621$$

This result indicates that 86.21% of the time a random sample of 100 customers will consist of 25 or more institutional users.

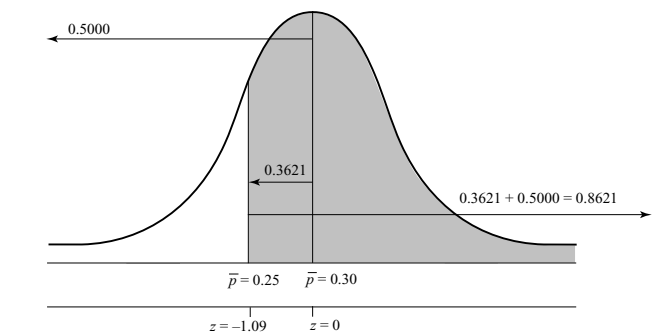


FIGURE 5.16 Shaded area under the normal curve exhibiting the probability that 25 or more customers are institutional users.

Self-Practice Problems provide opportunities for further analysis and practice of the statistical concepts discussed in each chapter.

SELF-PRACTICE PROBLEMS

- 11D1. Compute sample standard deviation and sample variance for the following series:
45 67 117 180 23 29 89 12 200 280
- 11D2. Compute sample standard deviation and sample variance for the following data:
 x : 50 75 89 110 175 185
 f : 11 19 20 21 19 12
- 11D3. Compute sample standard deviation and sample variance for the following data:
 x : 50–100 100–150 150–200 200–250 250–300
 f : 10 20 22 23 19
- 11D4. The table below shows the circlewise number of broadband subscribers as on March 31, 2008. Compute sample standard deviation and sample variance from the data.

State/telecom circle	Broadband subscribers	State/telecom circle	Broadband subscribers
Andaman & Nicobar Islands	1725	Kerala	183,506
Andhra Pradesh	294,111	Maharashtra (including Goa)	809,982
Assam	21,538	Madhya Pradesh (including Chhattisgarh)	112,686
Bihar (including Jharkhand)	52,779	North East	7400
Delhi (including Noida, Gurgaon, Ghaziabad, and Faridabad)	431,377	Orissa	32,321
Gujarat	249,785	Punjab	131,750
Haryana	58,616	Rajasthan	94,110
Himachal Pradesh	12,514	Tamilnadu	499,442
Jammu & Kashmir	13,444	Uttar Pradesh (including Uttaranchal)	170,966
Karnataka	421,392	West Bengal	266,595

Source: www.indiastat.com, accessed October 2008, reproduced with permission.

Problems framed using data from organizations such as **CMIE and Indiastat.com** relate statistical analysis to the business environment in India.

The **Summary** at the end of each chapter recapitulates the main concepts discussed in the chapter.

SUMMARY |

Discriminant analysis is a technique of analysing data when the dependent variable is categorical and the independent variables are interval in nature. The difference between multiple regression and discriminant analysis can be examined in the light of nature of the dependent variable, which happens to be categorical, as compared with metric, as in the case of multiple regression analysis. Two-group discriminant analysis is conducted through the following five-step procedure: problem formulation, discriminant function coefficient estimation, significance of the discriminant function determination, result interpretation, and validity of the analysis determination. When categorical dependent variable has more than two categories, multiple discriminant analysis is performed.

The main objective of the conjoint analysis is to find the attributes of the product, which a respondent mostly prefers. The word conjoint refers to the notion that relative value of any phenomenon (product in most of the cases) can be measured jointly, which may not be measured when taken individually. Conjoint analysis determines the relative importance of various product attributes (attached by the consumers to different product attributes) and the values (utility) attached to different levels of these attributes. Conjoint analysis is conducted through the following five-step procedure: problem formulation, trade-off-data collection, metric versus non-metric input data, result analysis and interpretation, and reliability and validity check.

Discussion Questions test students' understanding of concepts and promote critical thinking.

DISCUSSION QUESTIONS |

1. What do you understand by hypothesis testing?
2. What is the importance of hypothesis testing in managerial decision making?
3. What are the steps in hypothesis testing?
4. Discuss the concept of a two-tailed test in hypothesis testing?
5. When should we consider a one-tailed test for hypothesis testing?
6. What are the two types of errors in hypothesis testing?
7. Explain the z -value approach to hypothesis testing.
8. Explain the p -value approach to hypothesis testing. What is the importance of the p -value approach in terms of modern statistical software available?
9. What is the conceptual framework of the critical value approach to hypothesis testing?

Numerical Problems enhance problem-solving skills and facilitate application of concepts.

NUMERICAL PROBLEMS |

1. A population has mean 40 and standard deviation 10. A random sample of size 50 is taken from the population, what is the probability that the sample mean is each of the following:
 - (a) Greater than or equal to 42
 - (b) Less than 41
 - (c) Between 38 and 43
2. A housing board colony of Gwalior consists of 2000 houses. A researcher wants to know the average income of the households in this housing board colony. The mean income per household is ₹150,000 with standard deviation ₹15,000. A random sample of 200 households is selected by a researcher and analysed. What is the probability that the sample average is greater than ₹160,000?
3. A population proportion is 0.55. A random sample of size 500 is drawn from the population.
 - (a) What is the probability that sample proportion is greater than 0.58?
 - (b) What is the probability that sample proportion is between 0.5 and 0.6?
4. The government of a newly formed state in India is worried about the rising unemployment rates. It has promoted some finance companies to launch schemes to reduce the rate of unemployment by promoting entrepreneurial skills. A finance company introduced a scheme to finance young graduates to start their own business. Out of 200,000 young graduates, 130,000 accepted the policy and received loans. If a random sample of 20,000 is taken

Significant terms compiled at the end of each chapter as **Key Terms** enable students to dwell on the topics for added familiarity.

KEY TERMS |

Applied research, 5
Basic research, 5
Marketing research, 5

Decision making, 6
Diagnosing problem or opportunity, 10

Problem or opportunity identification, 10

Roadmap to learn marketing research methods, 7

Case Studies drawn from companies across various sectors in India correlate statistical theories to their actual applications in the industry.

CASE STUDY |

Case 4: *Videocon Industries Limited: Opting a Way of Consolidation for Materializing Dreams*

Introduction: An Overview of the Consumer Electronics Industry in India

The consumer electronics industry has been witnessing a remarkable growth over the past few years. The fast-growing segments during the year were colour televisions, air conditioners, DVD players, and home theatre systems. Other segments of consumer electronics and home appliances have also shown a positive growth. The consumer electronics and home appliances industry broadly comprises brown goods, white goods, and small domestic appliances.

Brown goods: colour televisions, CD and DVD players, camcorders, still cameras, video game consoles, HIFI, and home cinema;

White goods: air conditioners, refrigerators, dish washers, drying cabinets, microwave ovens, washing machines, freezers, and so on;
Small domestic appliances: iron, vacuum cleaners, water purifiers, and so on.

The company is primarily into manufacturing and distribution of colour televisions, refrigerators, washing machines, air conditioners, microwave ovens, glass shells, and other components.¹

Videocon Group: A Major Player in Consumer Electronics

Shri Nandlal Madhavlal Dhoot was the founder of Videocon Group. In early 1980s, through a technical tie up with Toshiba Corporation of Japan, he produced India's first world-class colour television: Videocon. Today, Videocon is a household name across the nation—India's No. 1 brand of consumer elec-

THE TEACHING AND LEARNING PACKAGE

The following resources included with the book are available at www.pearsoned.co.in/navalbajpai:

- An instructors' solution manual that contains solutions for all the problems and case studies in the text.
- PowerPoint lecture slides with chapter outlines that facilitate the teaching process.
- Multiple-choice and true/false questions that are designed to test students' comprehension of key topics.

NAVAL BAJPAI

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PART I

Introduction to Marketing Research

CHAPTER 1 MARKETING RESEARCH: AN INTRODUCTION
CHAPTER 2 MARKET RESEARCH PROCESS DESIGN

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CHAPTER 1

Marketing Research: An Introduction

LEARNING OBJECTIVES

Upon completion of this chapter, you will be able to:

- Understand the difference between basic and applied research
- Define marketing research
- Understand the roadmap to learn marketing research methods
- Learn how marketing research methods can be used as a decision making tool by the managers
- Understand the marketing research process
- Get a preliminary idea about the use of software for data preparation and data analysis

RESEARCH IN ACTION: AIR INDIA LTD

Civil aviation is a key contributor to the growth and development of Indian economy and contributes to the sustainable development of trade, commerce, and tourism in the country. This sector provides three categories of services—operations, infrastructure, and regulatory-cum-development. Domestic and international air services are provided by the government-owned airlines and some private airlines. Airport infrastructure facilities are taken care of by the Airport Authority of India. Mumbai and Delhi airports have now been handed over to private enterprise under a Public-Private Partnership (PPP) model.¹

In July 2009, cash-strapped Air India-Indian Airlines sought an immediate loan of ₹100,000 million from the government along with an annual equity infusion of ₹25,000–30,000 million for the next 4 to 5 years, which will be linked to the induction of new aircrafts into its fleet. In all, the tottering airlines project has a requirement of almost ₹200,000 million.

TABLE 1.1

Income, expenses, and profit after tax of Air India Ltd (from Dec 1999 to Dec 2007) in million rupees

<i>Year</i>	<i>Income</i>	<i>Expenses</i>	<i>Profit after tax</i>
Dec-99	43,895.3	45,640.1	-1744.8
Dec-00	48,342.5	48,718.8	-376.3
Dec-01	53,650.5	54,094.5	-444
Dec-02	50,517.2	50,362.8	154.4
Dec-03	57,062.4	55,723.8	1338.6
Dec-04	62,612.3	61,689	923.3
Dec-05	77,890.2	76,926.6	963.6
Dec-06	93,394.4	93,245	149.4
Dec-07	96,278	100,757.3	-4479.3

Source: Prowess (V.3.1); Centre for Monitoring Indian Economy Pvt. Ltd, Mumbai.



The merged airline, National Aviation Company of India Ltd (NACIL), accumulated losses of ₹72,000 million till March 2009.²

Table 1.1 shows income, expenses, and profit after tax of Air India Ltd (from Dec 1999 to Dec 2007) in million Rupees.

In this situation, a section of employees of Air India have decided to go on a 2-hour strike even as the national carrier is trying to tide over the worst financial crises in its history. The Civil Aviation Minister Mr Praful Patel, termed this strike “unfortunate” and feels that this kind of agitation will create a “wrong impression” among the travelling public and people will consequently shun flying Air India.³

One has to understand the reasons for the employees’ agitation, at a time Air India is going through historical financial crises. Research is the only tool through which this can be explored. One has to conduct the research in a systematic manner. This chapter deals with the beginning of the research, mainly, defining marketing research, the nature and objective of marketing research, the difference between basic and applied research, marketing research as a decision making tool, and use of statistical software for data preparation and data analysis.

Marketing researchers systematically collect, compile, analyse, and interpret data to provide quality information based on which a decision maker will be able to take a decision in an optimum manner.

1.1 INTRODUCTION

The marketing environment is always uncertain and there is a need to handle this uncertainty by developing a pool of information in a scientific manner. Marketing researchers systematically collect, compile, analyse, and interpret data to provide quality information, based on which a decision maker will be able to take a decision in an optimum manner. Market research never operates in vacuum. Decision makers of various organizations face a dilemma because of continuous change in the marketing environment. They happen to be in continuous need to have relevant and objective information for the problem at hand. Information may be provided to decision makers by anyone, but the authenticity of such information would be under suspicion. It is the role of the marketing researcher to conduct research scientifically and hence, provide accurate information to the decision maker. In an uncertain environment, decision makers always remain keen to gather scientific and accurate information that will help them to arrive at an optimum decision.

Consider the hypothetical example of a multinational company engaged in the manufacturing and selling of toothpaste. The company has got a big client base and has almost 100 million customers in rural and urban India. The company is enjoying a sound market position and willing to enhance the client base by 10 million customers in the next 2 years. After 1 year of fixing this target, the company assessed its performance. An estimation revealed that, instead of enhancing, the client base of the company is surprisingly reduced to approximately 95 million customers. The company management is worried and wants to ascertain where the actual problem lies. Superficially, the problem seems to be the loss of customers and it has to be elaborated and properly addressed.

As discussed, the company has a client base of 100 million customers and the problem and solution can be explored by contacting these customers in a pre-specified and systematic manner. Ultimately, customers will reveal the reason for this change. There is a well-described systematic procedure to obtain information from the customers. This problem must be addressed in various established stages. The company management should contact a marketing researcher. The marketing researcher meets the decision maker of the company and explores the need and dimensions of the proposed research work. The first and most important issue is to define the problem properly. Defining the problem properly is not an easy task. A researcher has to launch a pilot study or an exploratory research to have an insight of the problem. He has to select an appropriate research design and should also focus on developing or adopting a tool (questionnaire) to address the problem. Obviously, the

researcher cannot contact all the customers. He has to determine a sample size and suitable sampling techniques to cater to the diverse population of rural and urban India in an optimum manner. Administering the questionnaire to the respondents and executing the related fieldwork is another concern of the researcher. Data coding and data preparation is the next step before launching statistical analysis. As the next step, an appropriate statistical test must be used and the obtained statistical result must be properly interpreted. This obtained information must be conveyed to the decision maker and it is the decision maker who actually takes the final decision.

Thus, conducting research to deal with any problem is a scientific, systematic, and interlinked exercise, which requires sound experience and knowledge. This chapter is an attempt to understand the nature and scope of marketing research methods. The chapter introduces the dimensions of this discussion and is the first step in learning **marketing research** methods systematically and objectively.

Conducting research to deal with any problem is a scientific, systematic, and interlinked exercise, which requires sound experience and knowledge.

1.2 DIFFERENCE BETWEEN BASIC AND APPLIED RESEARCH

The purpose of both basic and **applied research** is to contribute or develop a body of knowledge. **Basic research** is generally not related to a specific problem and its findings cannot be immediately applied. For example, consider a researcher testing the changing motivational factors of Indian buyers, especially after liberalization. The researcher systematically and scientifically conducts the research and presents a theory about the changing motivational factors of Indian buyers. This is actually adding something to the academic body of knowledge that already exists. The existing body of knowledge has already presented some motivational factors for Indian buyers. The researcher believes that with the passage of time these factors have changed, especially after liberalization. By conducting research, the researcher has presented a new set of motivational factors for Indian buyers. This result is very important but is only a guideline and cannot be applied directly for a specific research problem.

Basic research is generally not related to a specific problem and its findings cannot be immediately applied.

Applied research directly addresses the problem at hand. In general, applied research is launched by the firm, agency, or individual facing a specific problem. As in basic research, the researcher adopts a systematic and scientific procedure to conduct the research. Findings are presented to the research sponsor agency or the decision maker. On the basis of the presented findings, the decision maker takes the decision to address the problem. Thus, the difference lies in terms of applying the findings. Basic research is a development or contribution to the theory where the findings are used directly or immediately. Whereas, applied research is organized to address a specific problem and its findings are immediately applied by the decision maker based on their feasibility and sustainability.

Applied research directly addresses the problem at hand. Applied research is launched by the firm, agency, or individual facing a specific problem.

It is important to note that the techniques and procedure for conducting basic and applied research are the same. The procedure is scientific for both basic research and applied research. This scientific procedure is nothing but systematic data collection, compilation, analysis, interpretation, and implication pertaining to any research problem. All the chapters in this book are sequentially knit to deal with the scientific and systematic procedure of conducting marketing research. The approach of conducting the research does not change when dealing with two diverse topics from two different disciplines. For example, consider two topics such as “measuring the job satisfaction of employees” and “measuring the consumer satisfaction for a product.” Research methods of these two topics will be almost the same. This means that the researcher has to first identify the problem, develop a theoretical model, prepare a questionnaire and develop hypotheses in the light of a theoretical model, select a sampling method, launch an appropriate data analysis exercise, perform interpretation,

and present the finding. For dealing with these two different topics, there will be different approaches to identify the problem and develop the theoretical model through literature. In the first case, for measuring the job satisfaction, a researcher has to explore the literature related to “job satisfaction” and then propose a theoretical model to quantify job satisfaction. In the second case, for measuring consumer satisfaction, a researcher has to explore the literature related to “consumer satisfaction” and then propose a theoretical model to quantify consumer satisfaction. Hence, there will be changes in the aspect of dealing the two different topics, but the basis for conducting the research will remain the same for these two topics. This book will deal with “the basis for conducting the research” through the various chapters in a sequential manner.

Marketing research method is a systematic and scientific procedure of data collection, compilation, analysis, interpretation, and implication pertaining to any marketing problem.

1.3 DEFINING MARKETING RESEARCH

All markets present opportunities and problems. Opportunities are to be explored and problems are to be resolved. Marketing research can be termed as a system that can be used to address such issues. This system, popularly known as marketing research, is a universal phenomenon and is universally applied with some varied regional, geographical, national differences. Tull and Hawkins (1993) have defined marketing research as the function of marketing to provide information that will assist the marketing manager in recognizing and reacting to marketing opportunities and problems. In essence, marketing research exists to help marketing managers make better decisions. It is very difficult to cover all aspects of marketing research through a single definition. The various definitions provided by different scholars are just an attempt to define marketing research concisely. In such an attempt, Parasuraman et al. (2004) define marketing research as a set of techniques and principles for systematically collecting, recording, analysing, and interpreting data that can aid decision makers involved in marketing goods, services and ideas. This definition also focuses on developing a system or systematic approach to collect, record, analyse and interpret data. The key word that distinguishes research from a haphazard gathering of observations is systematic (Luck and Rubin 2008). A researcher has to ensure that a system has been established to address the problems that arise. The system must be such that it can be understood and used by all other researchers. Therefore, there is not only the need to develop a systematic study and understanding but it must also confirm to different universally accepted global parameters.

Another popular definition of marketing research focuses on consumer satisfaction rather than profit maximization. Aaker et al. (2000) stated that a research organization should try to obtain information on consumer needs and gather marketing intelligence to help satisfy these needs efficiently. They defined marketing research as a critical path of such a marketing intelligence system, which helps improve management **decision making** by providing relevant, accurate, and timely information. This marketing intelligence system is in fact a systematic effort to generate relevant, accurate, and timely information. Relevancy, accuracy and timeliness are the factors that propel researchers to take up marketing research as a continuous process.

Marketing research is a systematic and scientific procedure of data collection, compilation, analysis, interpretation, and implication pertaining to any marketing problem. This exercise is launched to provide objective and timely support to the decision maker of a business organization. The definition can be decomposed into five different parts. The first part states that the data collection procedure is scientific and systematic. This means that one cannot collect data haphazardly. Data collection cannot be initiated abruptly.

Data are collected in an organized manner through a well-constructed instrument commonly referred to as the “questionnaire.” Developing the questionnaire is also a systematic

procedure. In fact, the questionnaire quantifies the theoretical model of the research. One cannot willingly include questions in the questionnaire. The questionnaire measures the variables under the research investigation that have already been taken from the literature. For example, a research problem “brand shift” may have various reasons. The dimensions of probable reasons can be explored through extensive literature survey. The probable reasons may be change in brand equity, lack of brand awareness, problems in distribution channel, ineffective advertisement campaign, and the like. These are surface problems; exploratory research can reveal many other problems of “brand shift.” As the next step, the researcher explores each and every factor under investigation and frames questions relevant to each factor. For example, the researcher may take eight different dimensions of a factor namely, “problems in the distribution channel.” Each question of the said factor is rated on a 1 to 5 rating scale. Thus, for the factor “problems in the distribution channel,” minimum score can be 8 and maximum score can be 40. This is the quantification of the factor “problems in the distribution channel.” Likewise, quantification of other factors can be executed. Thus, the questionnaire is a systematic compilation of questions related to all these factors and measures the research phenomenon under investigation. Demographic information is also obtained through the questionnaire in a systematic manner.

Data compilation is also a systematic effort made by the researcher. Data collected from fieldwork may not be ready for analysis. It must be verified, edited, and coded before launching the statistical analysis exercise. Before analysis, data must also be entered in a computer spreadsheet. This exercise must be done carefully. There is a well-defined procedure to handle the misses and inconsistencies in the data matrix.

Data analysis is an integral part of the research process. It is an inferential process where the researcher tries to validate the accuracy of the result obtained from a sample taken from the population. Based on the nature (type) of the data, a researcher applies metric or non-parametric statistical tests. Furthermore, statistical analysis can be classified into univariate statistical analysis, bivariate statistical analysis, and multivariate statistical analysis. Data analysis provides a statistical result. As a next step, the researcher has to interpret the result in the light of the prevailing circumstances. The researcher again takes the help of the literature to substantiate his or her findings. Ultimately, the findings are communicated to the decision maker who actually sponsored the research project. In the light of these well-described findings, the decision maker takes an appropriate decision.

1.4 ROADMAP TO LEARN MARKETING RESEARCH

Students should learn marketing research techniques in a sequential and systematic manner. There is a need to understand that all the chapters incorporated in the book are related to each other and the study of any chapter out of sequence will not provide a scientific understanding of the subject. It has been observed that there is a tendency among students to start with any chapter, which they perceive is of importance to them. For example, taking a short cut, some students directly start with the questionnaire design and then focus on applying any statistical technique without having the base knowledge for applying these sophisticated statistical techniques. The issue becomes more serious when students do not concentrate on the structure of the research. One has to understand that, from problem definition to the questionnaire in the appendix, each and every step is thoroughly linked and interconnected. To understand this link, students should study the subject from Chapter 1 to Chapter 22 in a sequence. Figure 1.1 provides a roadmap to learn marketing research.

For the purpose of understanding, the systematic study of marketing research can be classified into six parts. These six parts of this book are: Introduction to marketing research;

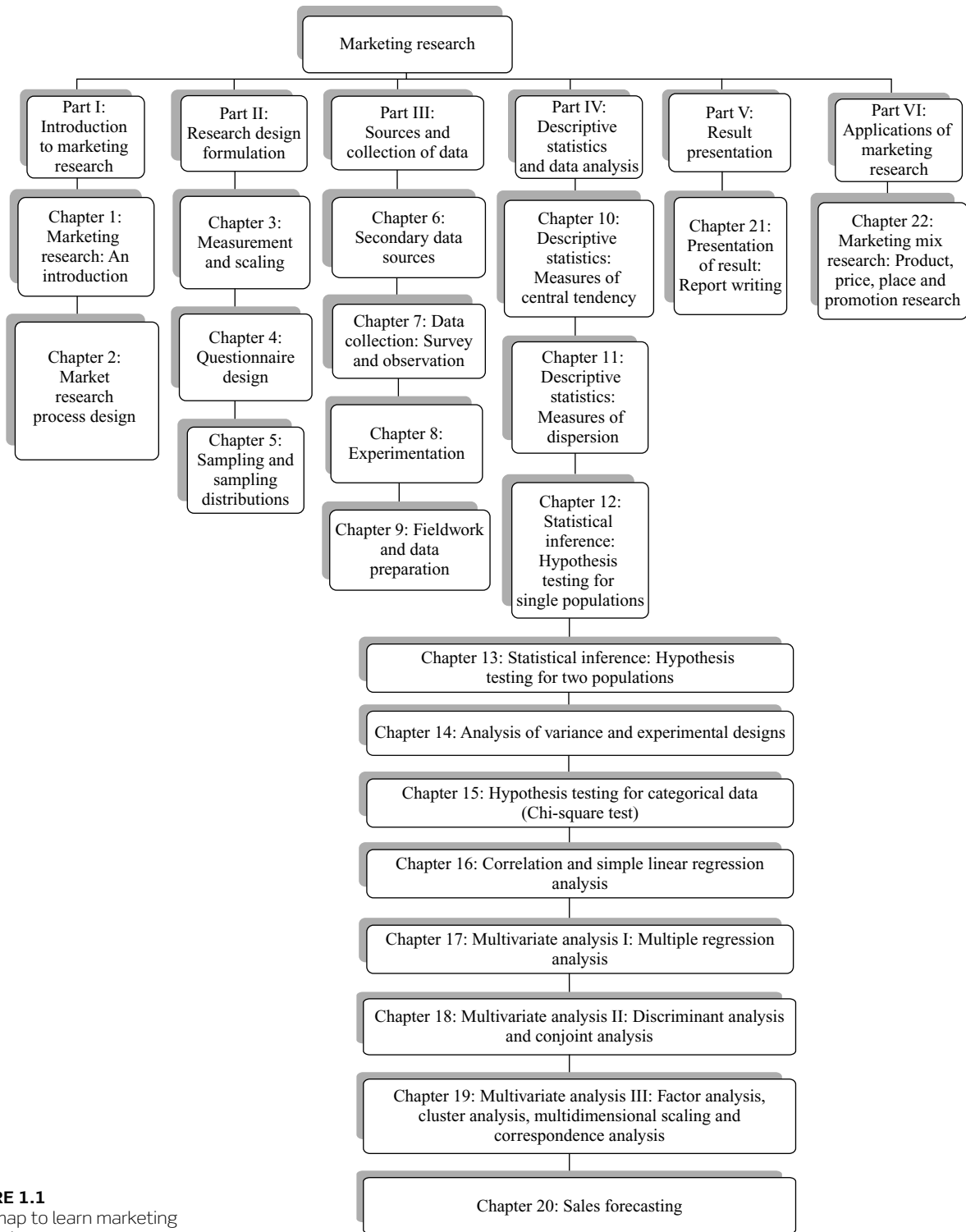


FIGURE 1.1
Roadmap to learn marketing research

research design formulation; sources and collection of data: descriptive statistics and data analysis; result presentation and applications of marketing research.

The first and the most important aspect of conducting any research is to define the research problem properly. In addition, the researcher must have a strong background in marketing research and be knowledgeable about the various stages in conducting a scientific research programme. **Part I: Introduction to Marketing Research** comprises two chapters. **Chapter 1: Marketing Research: An Introduction** introduces readers to marketing research. **Chapter 2: Market Research Process Design** explains the stages in the research process and focuses on the sequential steps in conducting research.

Part II titled **Research Design Formulation** consists of three chapters. **Chapter 3: Measurement and Scaling** deals with measurement issues and discusses the various scales for measurement. **Chapter 4: Questionnaire Design** discusses the development of the questionnaire as a research tool. **Chapter 5: Sampling and Sampling Distribution** discusses sampling, types of sampling, sampling and non-sampling errors and sampling distributions.

Part III entitled **Sources and Collection of Data** consists of four chapters. **Chapter 6: Secondary Data Sources** focuses exclusively on the sources of secondary data, especially in India. **Chapter 7: Data Collection: Survey and Observation** explains various survey and observation techniques. **Chapter 8: Experimentation** deals with the validity issue, the process of conducting experiments and the classification of experimental designs. **Chapter 9: Fieldwork and Data Preparation** describes the process of gathering data through field work as well as editing, coding, and preparation of the data matrix for statistical analysis.

Part IV: Descriptive Statistics and Data Analysis consists of 11 chapters. **Chapter 10: Descriptive Statistics: Measures of Central Tendency** gives insight into the central tendency of data. **Chapter 11: Descriptive Statistics: Measures of Dispersion** focuses on the various measures of dispersion. **Chapter 12: Statistical Inference: Hypothesis Testing for Single Populations** introduces readers to the hypothesis testing procedure for single populations. **Chapter 13: Statistical Inference: Hypothesis Testing for Two Populations** discusses the hypothesis testing procedure for two populations. **Chapter 14: Analysis of Variance and Experimental Designs** deals with the analysis of variance and designs of experiments. **Chapter 15: Hypothesis Testing for Categorical Data** discusses the chi-square test and its applications. **Chapter 16: Correlation and Simple Regression Analysis** discusses the applications of bivariate correlation and regression. Chapters 17, 18 and 19 focus on the widely used multivariate statistical techniques in the field of marketing research. **Chapter 17: Multivariate Analysis I: Multiple Regression Analysis** discusses multiple regression. **Chapter 18: Multivariate Analysis II: Discriminant Analysis and Conjoint analysis** focuses on discriminant analysis and conjoint analysis. **Chapter 19: Multivariate Analysis III: Factor Analysis, Cluster Analysis, Multidimensional Scaling and Correspondence Analysis** discusses advanced, interdependent multivariate techniques in marketing research such as factor analysis, cluster analysis, multidimensional scaling and correspondence analysis. **Chapter 20: Sales Forecasting** discusses the various techniques of sales forecasting.

Part V: Result Presentation comprises **Chapter 21: Presentation of Result: Report Writing**. This chapter explains the systematic method to present the results of a marketing research project.

Part VI: Applications of Marketing Research includes the final chapter, **Chapter 22: Marketing Mix Research: Product, Price, Place and Promotion Research**. This chapter focuses on the role played by marketing research in making critical decisions regarding the different elements of the marketing mix.