

Part II: Research Design Formulation

Chapter 3

RESEARCH DESIGN

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- Figure 3.1 A Classification of Marketing Research Designs
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CHAPTER OBJECTIVES

- 3.1. Define research design, classify various research designs, and explain the differences between exploratory and conclusive designs.
- 3.2. Compare and contrast the basic research designs: exploratory, descriptive, and causal.
- 3.3. Describe the major sources of error in a research design including random sampling error and the various sources of nonsampling error.
- 3.4. Discuss managerial aspects of coordinating research projects, particularly budgeting and scheduling.

- 3.5. Describe the elements of a marketing research proposal and show how it addresses the steps of the marketing research process.
- 3.6. Explain research design formulation in international marketing research.
- 3.7. Discuss how the analysis of social media content can facilitate the research design process.
- 3.8. Deliberate the implementation of various research designs in mobile marketing research.
- 3.9. Understand the ethical issues and conflicts that arise in formulating a research design.

AUTHOR'S NOTES: CHAPTER FOCUS

This chapter provides an overview of research design. A definition and a classification of research designs are presented. The differences between exploratory and conclusive research designs are discussed. The three basic types of research designs, namely exploratory, descriptive, and causal are described, and a comparative analysis of these designs is presented. The potential sources of error in research designs are covered in some detail. The budgeting and scheduling of a marketing research project, as well as the preparation of a marketing research proposal, are covered.

This chapter is similar to those in competing texts with regard to the material on the basic types of research designs. It is different in that it presents a comparative analysis of these designs and gives a unified treatment of errors associated with research designs.

This chapter could be taught by focusing on the chapter objectives sequentially. The material on exploratory, descriptive, and causal research (Chapter Objective 2) should be emphasized along with the potential sources of error in a research design (Chapter Objective 3). Material on international marketing research, use of social media, mobile marketing research, and ethics in marketing research (Chapter Objective 6 through 9) should also be covered. Graduate students should be encouraged to try the software, such as the programs described in the book, or similar programs, in the computer lab during non-class hours.

CHAPTER OUTLINE

1. Objectives
2. Overview
3. Research Design: Definition
4. Research Design: Classification
5. Exploratory Research
6. Descriptive Research
 - (i) Cross-Sectional Designs
 - (ii) Longitudinal Designs
 - (iii) Relative Advantages and Disadvantages of Longitudinal and Cross-Sectional Designs
7. Causal Research
8. Relationships among Exploratory, Descriptive, and Causal Research
9. Potential Sources of Error
 - (i) Random Sampling Error
 - (ii) Nonsampling Error
 - (a) Nonresponse Error
 - (b) Response Error
10. Budgeting and Scheduling the Project
11. Marketing Research Proposal
12. International Marketing Research
13. Marketing Research and Social Media
14. Mobile Marketing Research
15. Ethics in Marketing Research
16. Summary
17. Key Terms and Concepts

18. Suggested Cases, Video Cases, and HBS Cases
19. Live Research: Conducting a Marketing Research Project
20. Acronyms
21. Exercises
22. Internet and Computer Exercises
23. Activities

TEACHING SUGGESTIONS

Chapter Objective 1

- Define and discuss the importance of a good research design.

Define the research design as a framework or blueprint for conducting the marketing research project. It specifies the precise details of the procedures necessary for obtaining the required information. Finally, stress that it is important to have a good research design in order to ensure that the marketing research project is conducted effectively and efficiently.

- Discuss the appropriate uses of exploratory and conclusive research designs.

Distinguish the two by noting that exploratory research is used in situations where the problem may have to be defined more precisely, relevant courses of action identified, hypotheses formulated, or additional insights gained before an approach can be developed. Conclusive research would be used to test specific hypotheses, examine specific relationships, or make predictions.

Figure 3.1 provides a framework for organizing marketing research designs and Table 3.1 lists the differences between exploratory and conclusive designs in a comparative reference table.

- See Questions 1, 2, and 3.

Chapter Objective 2

- Explain the differences between descriptive and causal research.

Emphasize that while both descriptive and causal research are classified as conclusive research, they differ in terms of their objectives. Descriptive research is used to describe something, usually market characteristics or functions. Causal research is used to obtain evidence regarding cause-and-effect relationships.

- Explain the distinction between exploratory, descriptive, and causal research. Examples may prove instructive.

Begin with exploratory research by informing students that it is typically used to provide structure and insight into the research problem. For example, using focus groups to determine key factors related to the use of your product. Other examples can be constructed.

For descriptive research, mention that it begins with the structure already defined and proceeds to actual data collection in order to describe some market variable. For example, determining the average age of purchasers of your product. Causal research also proceeds from a pre-established structure but attempts to infer causal relationships between variables as opposed to describing variables. For example, determining if increased advertising spending has led to an increase in sales.

Table 3.2 provides a table that compares the three basic research designs along dimensions of objectives, characteristics, and methods.

- Describe the six W's of descriptive research.

An interesting introduction to this topic is noting that the six W's are used by journalists when trying to gather facts for a story. In like manner, because descriptive research is marked by the prior formulation of specific hypotheses, the design requires a clear specification of the six W's of the research:

1. Who: who should be considered?
2. Where: where should the respondents be contacted to obtain the required information?
3. When: when should the information be obtained from the respondents?
4. What: what information should be obtained from the respondents?
5. Why: why are we obtaining information from the respondents?
6. Way: the way in which we are going to obtain information from the respondents.

These questions form the basis for describing the research to be conducted.

Consider the airline passenger example in the Overview section. Have the class go through the six W's with air travel as the product and the issue being expanding your company's international air travel flights.

- List situations where descriptive research should be used.

Briefly review the elements of descriptive research, i.e., it is characterized by a clear statement of the problem, specific hypotheses, and detailed information needs. Examples of descriptive studies are:

1. Market studies that describe the size of the market, buying power of the consumers, availability of distributors, and consumer profiles.
2. Market share studies that determine the proportion of total sales received by a company and its competitors.
3. Sales analysis studies that describe sales by geographic region, product line, type, and size of the account.
4. Image studies that determine consumer perceptions of the firm and its products.
5. Product usage studies that describe consumption patterns.
6. Distribution studies that determine traffic flow patterns, and the number and location of distributors.

7. Pricing studies that describe the range and frequency of price changes and probable consumer response to proposed price changes.
 8. Advertising studies that describe media consumption habits and audience profiles for specific television programs and magazines.
- Describe situations where causal research could be used.

Start with the basis for causal research. Causal research is appropriate to use when the purposes are to understand which variables are the cause and which variables are the effect, and to determine the nature of the functional relationship between the causal variables and the effect to be predicted. Once the students understand the underlying theory, use the example in the text on business-to-business advertising as an example of causal research.

- Classify descriptive research into cross-sectional and longitudinal designs.

Classify the two designs by the timeframe each uses. Cross-sectional designs involve the collection of information from a sample population at a single point in time, whereas in a longitudinal design a fixed sample population is measured repeatedly over several points in time. Longitudinal data tend to be more informative than cross-sectional data because they measure changes in behavior, large amounts of data can be collected, and they are more accurate. Yet, they suffer from potential bias and nonrepresentativeness.

Cohort analysis is an example of cross-sectional design and panels are examples of longitudinal design.

Table 3.3 provides a table for comparing cross-sectional and longitudinal designs along five criteria: detecting change, amount of data collected, accuracy, representative sampling, and response bias.

Tables 3.4 and 3.5 then provide an example of the benefit of longitudinal designs in charting trends in data.

- See Questions 4, 5, 6, 7, 8, 9, 10, and 11.

Chapter Objective 3

- Explain how poor research design leads to sources of error in analysis.

First, mention the sources of error in analysis. Random sampling error and nonsampling error are the two main sources of error. Random sampling error is the error due to the particular sample selected being an imperfect representation of the population of interest. It is defined as the variation between the true mean value for the sample and the true mean value of the population. It is usually negligible provided a sample of sufficient size from the relevant population has been taken.

Once students understand random sampling error, discuss nonsampling error.

Nonsampling errors occur due to a variety of reasons including errors in the problem definition, approach, scales, questionnaire design, interviewing methods, and data preparation and analysis. Figure 3.2 outlines the sources of error, especially the types of nonsampling error, for discussion.

Nonsampling error is more likely than sampling error to defy estimation, and is problematic because it is the major contributor to total error, while sampling error is minimal. Nonsampling error can cause many different problems, including solving the wrong problem, missing aspects pertinent to the solution, and biasing data through improper collection techniques and improper use of analytical techniques.

- Discuss the importance of reducing the total error and not particular errors.

Emphasize this point since many students and unsophisticated researchers assume error can be controlled by increasing the sample size. Although increasing the sample size does lead to a decrease in sampling error, it may also lead to an increase in the nonsampling errors by increasing interview errors.

- See Questions 12 and 13.

Chapter Objective 4

- Introduce methods of budgeting and scheduling projects.

Three commonly used methods of budgeting and scheduling marketing research projects include the Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), and the Graphical Evaluation and Review Technique (GERT).

CPM involves dividing the project into component activities, determining the sequence of these activities and estimating the time required for each activity. These activities, and the time estimates for them, are diagrammed in the form of a network flow chart. The critical path is identified as the series of activities whose delay will hold up the completion of the project.

PERT is an advanced version of CPM that includes probabilities for completion of each stage of the project. Thus, probabilistic estimates of the completion time are derived.

GERT incorporates both completion probabilities and activity costs so that an estimate of the total cost of the project is also determined.

It would be instructive to bring flow charts of each of these techniques to show to students.

- See Computer Exercise 1.

Chapter Objective 5

- Discuss the importance of the marketing research proposal and list its main components.

The proposal is vital to the research firm since it serves as the contract between the firm and the client. A well-drafted proposal is essential to secure the business and to guide the approach to the problem, the research design, and the subsequent details of the study. Its main features include the executive summary, background material, problem definition, approach to the problem, research design, fieldwork and data collection, data analysis techniques, reporting method, cost of the project and time of completion, and appendices with additional information.

Chapter Objective 6

- Illustrate the difficulties associated with environmental differences in international research.

EXAMPLE: Consider the problem of determining household attitudes toward major appliances in the United States and in Saudi Arabia. While conducting exploratory research in the U.S., it is appropriate to conduct focus groups jointly with male and female heads of households. However, it would be inappropriate to conduct such focus groups in Saudi Arabia. Given the traditional culture, the wives are unlikely to participate freely in the presence of their husbands. It would be more useful to conduct one-on-one depth interviews separately with both male and female heads of households being included in the sample.

- In many countries, particularly developing countries, consumer panels have not been developed, thus making it difficult to conduct descriptive longitudinal research.
- In many countries, the marketing support infrastructure, i.e., retailing, wholesaling, advertising, and the promotional infrastructure, is lacking, which makes it infeasible to implement a causal design, such as a field experiment.
- In formulating a research design, considerable effort is required to ensure the equivalence and comparability of secondary and primary data obtained from different countries.

Chapter Objective 7

- Discuss the use of social networks for implementing research designs.
Social networks can be suitable for conducting marketing research because they eliminate the onerous cost of building and maintaining traditional panels. Online communities range from being open to public—Facebook, MySpace—to completely private, closed, by invitation-only. Private communities are primarily built for discovery and insight purposes and are called MROCs (Marketing Research Online Communities).

Chapter Objective 8

- Describe the use of mobile marketing research for implementing research designs. Mobile marketing research (MMR) can be conducted to implement any of the basic research designs discussed in this chapter or any combination of these basic designs. The major methodologies of exploratory research are analysis of secondary data and qualitative research and the use of MMR for implementing these methods is discussed in Chapters 4 and 5, respectively. The use of MMR to implement surveys and observation research, the major methodologies of descriptive research, is covered in Chapter 6. Finally, the use of MMR to conduct experiments, the major method for conducting causal research, is presented in Chapter 7.

Chapter Objective 9

- Discuss the ethical concerns of the researcher, the client, and the respondents.

The type of research design that should be adopted (i.e., descriptive or causal, cross-sectional or longitudinal) should be suited to the client's needs rather than be limited by the expertise of the researcher.

The researchers must ensure that the research design utilized will provide the information needed to address the marketing research problem that has been identified.

The client should have the integrity not to misrepresent the project and should describe the constraints under which the researcher must operate and not make unreasonable demands.

Finally, the client should not take undue advantage of the research firm to solicit unfair concessions for the current project by making false promises of future research contracts by holding out the carrot.

The Internet and Marketing Research

- Explain how the Internet can facilitate the implementation of different types of research designs.

During the exploratory phase of the research, forums, chat rooms, or newsgroups can be used to discuss generally a topic with anyone who visits the chat room. Listservers could also be used to obtain the initial information needed to begin research design. Listservers make interactive discussion possible for special interest groups, user groups, customer service forums, etc., using e-mail.

Many descriptive studies utilize secondary data, the methodology of which we describe in Chapter 4; surveys, which are discussed in Chapter 6; and panels, which are discussed in Chapters 4 and 6. The use of the Internet for causal research designs is discussed in Chapter 7. The Internet, in its capacity as a source of information, can be useful in uncovering secondary data and collecting primary data needed in conclusive research. Illustrate this by visiting Greenfield Online Research Center, Inc. at www.greenfieldonline.com.

- Describe the use of computers in controlling potential sources of error.

Computers can also help control total error. By using computers, it is possible to understand how the various sources of error will affect the results and what levels of error might be acceptable. Simulation can be conducted to determine how the distributions and levels of various nonsampling errors will affect final results. Software like Monte Carlo Simulations (MCS) by Actuarial Micro Software is useful for these purposes.

ACTIVE RESEARCH

It should be noted that a variety of answers are appropriate. The ones given here are merely illustrative. DM denotes decision maker and MR denotes marketing researcher.

MR: Holiday Inn®

- Family of brands: Crowne Plaza
- Hotel Indigo
- Holiday Inn®
- Holiday Inn Express®
- Express by Holiday Inn®
- Staybridge Suites®
- Candlewood Suites®

We need to conduct exploratory research followed by conclusive research to formulate a coherent marketing strategy. It might be beneficial to retain brand differentiation through brand specific marketing. Consumer perception analysis might helpful for this. Market research should uncover the following information:

- What types of customers prefer which brands?
- Do customers value IC label or individual brands?
- What percentage of customers use the brands interchangeably?

DM: Holiday Inn

Explanatory research can look at questions like:

- How do business and nonbusiness customers select a hotel?
- What attributes are considered in selecting a hotel?
- Why is some other hotel group doing a better job at coherently marketing its brands?
- Why certain marketing campaigns were more successful than others?

Conclusive research can answer the likes of:

- Which brand should target which customers?
- What marketing programs are the most effective?

DM: Taco Bell

Determine the advertising goals for next year and then determine the budget that would be needed to accomplish those goals. Compare next year's budget to that for the current year. Also, look at the industry trends and relationship between market share and advertising expenses.

MR: Taco Bell:

Search net for "Taco Bell Advertising" for relevant details including their ad contracts, budgets, ad agency, etc.

Experiment:

- Variable advertising spending for different regions.
- Independent variable: % change in advertising spending
- Dependent variable: % change in sales revenue
- Control variables: All the other possible factors that could affect change in sales such as other marketing variables, eating habits, change in disposable incomes, etc.

MR: Wachovia

Consumer attitude to online banking is becoming increasingly positive. The most popular online banking services are the following:

1. Accessing a savings or checking account
2. Applying for a loan or mortgage
3. Reviewing account status
4. Paying bills
5. Gathering information on rates and terms
6. Transferring funds between accounts.

A combination of Exploratory, descriptive and casual research can be used to determine consumer attitudes towards online banking.

Exploratory Research: Why are many customers not confident do to online banking?

Descriptive research: What are the services that customers look for in online banking?

Casual research: What is the relation between customer's education and probability to use online banking?

DM: Wachovia

CEO of Wachovia:

- Allay customers concerns
- Design PR programs to educate customers
- Repackage online services to fit customer expectations

EXPERIENTIAL LEARNING

This exercise is designed to give the students a feel of research designs encountered in practice. The answers will vary with the project selected but should demonstrate an understanding of the concepts discussed in Chapter 3. Students should also take into account practical considerations while evaluating the appropriateness of the research designs.

PROJECT ACTIVITIES

1. Since Wal-Mart is interested in examining changes over long periods of time, multiple cross-sectional design in the form of cohort analysis would be appropriate.
2. When Wal-Mart needs to assess the impact of causal variables on sales or other dependent variables, causal research can be implemented. For example, the impact of the number of salespeople on sales may be evaluated by varying the number of salespeople assigned to comparable groups of Wal-Mart stores and monitoring the sales, while

controlling for the other variables. Likewise, the impact of level of coupon value on sales may be assessed by mailing coupons of different face value to households and monitoring redemptions and sales.

EXERCISES

Questions

1. Research design is defined as a framework or blueprint for conducting the marketing research project, where it specifies the details of the procedures necessary for obtaining the required information to structure and solve the problem.
2. The formulation of a research design differs from developing an approach to the problem in that a research design specifies the details of implementing the approach. Thus, a research design follows the approach and lays the foundation for conducting the research.
3. The differences between exploratory and conclusive research can be distinguished by their objectives, characteristics, findings from the research, and outcomes of the research. First, the objective of exploratory research is to provide insights and understandings, whereas the objective of conclusive research is to test hypotheses and examine relationships. Second, in exploratory research the information needed is only loosely defined. The research process that is adopted is flexible and unstructured. The sample, selected to generate maximum insights, is small and nonrepresentative. The primary data that is collected is qualitative in nature and is analyzed as such. In conclusive research, the information needed is clearly specified. Such research is typically more formal and structured than exploratory research. It is based on large and representative samples and the data obtained are subjected to quantitative analysis. Third, given these characteristics of the research process, the findings of exploratory research should be regarded as tentative or used as input to further research, whereas the findings from conclusive research are considered conclusive in nature. Lastly, exploratory research is followed by further exploratory or conclusive research but conclusive research is used as input into managerial decision making.

4. The major purposes for which descriptive research is conducted include:
 - (a) To describe the characteristics of relevant groups of units such as consumers, salespeople, organizations, and market areas.
 - (b) To estimate the percentage of units in a specified population exhibiting a certain behavior.
 - (c) To determine the perceptions of product characteristics.
 - (d) To determine the degree to which marketing variables are associated.
 - (e) To make specific predictions.

5. The six W's of descriptive research are:
 - (a) Who: who should be considered?
 - (b) Where: where should the respondents be contacted to obtain the required information?
 - (c) When: when should the information be obtained from the respondents?
 - (d) What: what information should be obtained from the respondents?
 - (e) Why: why are we obtaining information from the respondents?
 - (f) Way: what is the way in which we are going to obtain information from the respondents?

See the book for an example in the context of the department store project.

6. A cross-sectional design involves the collection of data from a sample at a single point in time. For example, if a researcher observes the buyer behavior of randomly picked people in a mall and then analyzes the data gathered, then such a study will be called a cross-sectional study. On the other hand, longitudinal design involves collecting data periodically from a fixed sample of respondents. Thus, a longitudinal study provides a series of pictures which, when viewed together, portray a vivid illustration of the situation and the changes that are taking place.

Compared to cross-sectional design, longitudinal design is more effective in detecting change, more accurate, and provides a larger amount of data. Cross-sectional design has an advantage in representative sampling and response bias.

7. Cohort analysis refers to any study in which there are measures of some characteristics of one or more cohorts at two or more points in time. This is of special interest because it is used to predict changes in consumers' opinions, e.g., changes in voter opinions during a political campaign.
8. The advantages and disadvantages of panels include:

Advantages:

- (a) Panel data, over multiple periods, enable us to examine changes in the behavior of individual units.
- (b) Relatively large amounts of data can be gathered.
- (c) The researcher can collect more detailed data regarding the primary variables of interest.
- (d) The data collected is more accurate because of support between the panel members and the sponsoring organization.

Disadvantages:

- (a) The panels are not representative. Non-representativeness arises mainly because of refusal to cooperate, mortality due to lost interest, moving out, etc., and payment that may attract a certain type of people to panels.
 - (b) New panel members are often biased in their initial responses and seasoned panel members may provide biased responses.
9. A causal research design allows you to understand cause-and-effect relationships. It is intended to answer specific marketing research questions to assist management decision making.

10. The relationship between exploratory, descriptive, and causal research is that if not much is known about the problem situation, it might be desirable to begin with exploratory research. However, exploratory research should not be used by itself; rather, exploratory research should be followed by descriptive and/or causal research. Depending upon the precision with which the problem has been defined and the degree of understanding the researcher has with respect to developing an approach to the problem, a research design could well begin with descriptive or causal research and possibly be followed by exploratory research.

11. The six components of a research design are:
 - (a) Define the information needed.
 - (b) Design the exploratory, descriptive, and/or causal phases of the research.
 - (c) Specify the measurement and scaling procedures.
 - (d) Construct and pretest a questionnaire or an appropriate form for data collection.
 - (e) Specify the sampling process and sample size.
 - (f) Develop a plan of data analysis.

12. The potential sources of error can be broadly categorized into two classes:
 - (a) **Sampling errors:** Sampling error arises when the sample selected is not perfectly representative of the population it represents. In this case, the mean value for the sample differs from the actual population value.
 - (b) **Nonsampling errors:** Nonsampling error can be classified as nonresponse error and response error. Nonresponse error occurs when some of the respondents do not respond. Response errors are those that arise due to errors made by the researchers, interviewers, and respondents, such as the wrong formulation of the questionnaire, misrecording of answers, hesitancy or unwillingness to provide answers, etc.

13. It is important to lay stress on minimizing the total error and not any particular one because there is tendency among some researchers to control sampling error without giving any attention to total error. Therefore, they tend to use large samples that reduce the sampling error but at the same time increase considerably the nonsampling error and, since it is much easier to estimate sampling error than nonsampling error, the information provided may be totally incorrect.
14. Social networks can be suitable for conducting marketing research because they eliminate the onerous cost of building and maintaining traditional panels. Online communities range from being open to public—Facebook, MySpace—to completely private, closed, by invitation-only. Private communities are primarily built for discovery and insight purposes and are called MROCs (Marketing Research Online Communities).
15. Mobile marketing research (MMR) can be conducted to implement any of the basic research designs discussed in this chapter or any combination of these basic designs. The major methodologies of exploratory research are analysis of secondary data and qualitative research and the use of MMR for implementing these methods is discussed in Chapters 4 and 5, respectively. The use of MMR to implement surveys and observation research, the major methodologies of descriptive research, is covered in Chapter 6. Finally, the use of MMR to conduct experiments, the major method for conducting causal research, is presented in Chapter 7.

Problems

1. The six Ws of a descriptive research design might be:
 - (a) Who—Who should be considered a consumer of mixed chocolate pineapple cookies? Some possibilities are:
 - Anyone who buys cookies
 - Anyone who buys premium priced cookies
 - Anyone who buys chocolate cookies
 - Anyone who has bought Sweet Brand cookies

- (b) Where—Where should the respondents be contacted to obtain the required information? Some possibilities are:
- In the grocery store
 - At home
 - In the parking lot
- (c) When—When should the information be obtained from the respondents? Some possibilities are:
- Before purchasing their groceries
 - While purchasing their groceries
 - Immediately after purchasing their groceries
 - Within two weeks of purchasing their groceries
- (d) What—What information should be obtained from the respondents? Some possibilities are:
- Demographics
 - Psychographics and Lifestyles
 - Attitude toward the chocolate pineapple cookies
 - Attitude toward the premium price
- (e) Why—Why are we obtaining information from the respondents? Some possibilities are:
- To determine consumer attitudinal reaction to the new cookie
 - To determine the market size

- (f) Way—The possible ways in which we are going to obtain information from the respondents. Some possibilities are:
- Observational techniques
 - Scanner Data
 - Personal interview
 - Telephone interview
 - Mail interview
2. (a) Total Error (E) = True mean of population – Observed mean from the research project
- (b) RSE = True mean of population – True mean of original sample
- (c) Nonresponse Error = True mean of the variable in the original sample – True mean of the variable in the net sample
- (d) Response Error = True mean of the variable in the net sample – Observed mean of the variable from the research project
3. (a) This question lends itself to a variety of possible answers. Two are given below:
- Hypothesis 1—Customers are seeking new menu items not found at Welcome.
- Hypothesis 2—Adding new menu items to Welcome’s menu will increase patronage.
- (b) Designs will vary but should be appropriate to the hypotheses listed in part a. A descriptive design consisting of a cross-sectional survey would be a good design for this problem.

Internet and Computer Exercises

1. Since Internet users wishing to take part in surveys and other projects begin by registering online at the company’s Web site, the population as defined by the researcher is different than the target population. Hence, population definition error is present.

Sampling frame error is present since the Internet users who volunteer are not generally representative of all Internet users. Respondent selection error is present due to self-selection.

2. The URLs of several marketing research firms are given in Table 1.2. The students should be encouraged to report a variety of research designs.
3. The results of the output should show sound judgment in allotting time for the various components of the project. Some justification for the choice of times should be given by the student. Also, costs and labor should be justified and plotted on the output.
4. From the analysis of various messages from the newsgroup rec.travel.cruises, which can be found at groups.google.com, we see that some of the factors considered by the consumers are:
 - Fares or price
 - Convenience of bookings
 - Service on the cruise liners
 - Redress of consumer complaints
 - Rudeness of employees or employee behavior or courtesy on the part of the employees
 - Fairness on the part of the cruise line company

ACTIVITIES: QUESTIONS AND ANSWERS

Role Playing

- Q1. Assume the role of marketing manager of Sweet Cookies, Inc., and have your partner assume the role of a researcher hired by the firm (see Problem # 1). Discuss the issue and formulate the appropriate:
- (a) management problem
 - (b) research problem
 - (c) research design

A1. Sweet Cookies, Inc. is planning to launch a new line of cookies and wants to assess the market size. The cookies are of a mixed chocolate pineapple flavor and will be targeted at the premium end of the market.

- (a) **Management Problem:** What can be done to increase the market share of the mixed chocolate pineapple flavor cookie?
- (b) **Research Problem:** Determine the market size of a mixed chocolate pineapple flavor cookie and the strengths and weaknesses of similar products, if any, already in the market.

Some specific research questions to this problem are:

- 1. What is the size of the cookie market?
- 2. What is the potential size of the market for a chocolate pineapple flavor cookie?
- 3. What attributes do consumers desire in cookies?

- (c) **Research Design:** The first phase of the research design might begin with exploratory research consisting of focus groups in which consumers' attitudes and feelings might be obtained regarding the cookie market and the desire for this particular cookie. Also, depth interviews might be conducted to determine people's feelings on the chocolate pineapple cookie. Based on the findings of the initial exploratory research, descriptive research could be conducted to estimate the percentage of consumers that might purchase the cookie and the amount they would be willing to spend.

Q2. You are a manager in charge of a marketing research project. Your goal is to determine what effects different levels of advertising have on consumption behavior. Based on the results of the project you will recommend the amount of money to be budgeted for advertising different products next year. Your supervisor will require strong justification for your recommendations, so your research design has to be as sound as possible. However, your resources (time, money, and labor) are limited. Develop a research project to address this problem. Focus on the kind of research designs you would use, why you would use them, and how you would conduct the research.

- A2. To solve the problem at hand the research project should involve exploratory and causal design. First, exploratory research should be conducted utilizing available secondary data. Past advertising expenditures and consumption levels (or sales) should be examined to determine an association. Then, causal research should be conducted because the goal is to determine the relationship between advertising and consumption.

The causal design can be implemented in several ways. For example, different groups of respondents could be exposed to different levels of advertising. Then, in a simulated shopping environment, their purchases of the product (indicative of their consumption) could be measured.

Fieldwork

- Q1. Contact a few marketing research organizations and ask them about the kind of research designs they have used during the last year and the nature of the problems addressed. Write a report on your findings.
- A1. The purpose of this exercise is to enable students to get a feel for research designs actually used by practitioners. Over the course of a year, it is very likely that only a few designs will be used by any one firm since firms tend to specialize in techniques and industries.

Group Discussion

- Q1. “If the research budget is limited, exploratory research can be dispensed with.” Discuss this quote.
- A1. In discussing this statement, students should note that projects are always subject to a budget and often a theoretically complete study is infeasible. Thus, those areas that must be cut should be analyzed in terms of the tradeoffs that are being made. A key issue in this case is the degree of understanding of the researcher in the problem environment. A high level of experience in the industry and with similar problems may allow the researcher to dispense with exploratory research under a tight budget. However, the tradeoff is that some salient factors may not be considered; thus, the results may be seriously biased.

Q2. As a small group, discuss the following statement: “The researcher should always attempt to develop an optimal design for every marketing research project.”

A2. There are no optimal designs; only good research designs can be formulated. Many different research designs can be designed for any problem and each design offers advantages and disadvantages. The choice is the researcher’s as to which tradeoffs s/he will accept.

Q3. “There are many potential sources of error in a research project. It is impossible to control all of them. Hence, marketing research contains many errors and we cannot be confident of the findings.” Discuss these statements as a small group. Did your group arrive at a consensus?

A3. Issues that should be addressed include the potential sources of error themselves. What effect does each source of error have on the outcomes of research? How significant is the effect on the results obtained? Related to this issue is that there are methods to reduce error that can be incorporated in the design. Finally, understanding the nature of the bias in results enables researchers and managers to be aware of the bias’ influence on the data and adjust their conclusions accordingly. It is true that error cannot be totally removed, but the issue is what level of error is tolerable in order to gain information that assists decision makers in making decisions.

Note: Answers to the Running Case on HP are provided in the case solutions