Marketing Essentials

Marketing Research Project Workbook

Lois Schneider Farese

Mc Graw Hill Education

Bothell, WA • Chicago, IL • Columbus, OH • New York, NY

glencoe.com

Send all inquiries to:
McGraw-Hill Education
4400 Easton Commons
Columbus, OH 43219

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Contents

Introduction

Purpose of the Marketing Research Project Workbook

The Marketing Research Project Workbook provides step-by-step directions for you to conduct your own marketing research study. Research concepts are explained simply, yet in sufficient detail to create a foundation for understanding the principles and practices of marketing research.

Your Marketing Research Project

The main goal of this project-oriented textbook-workbook is for students to plan, conduct, and report on your own marketing research study. Each chapter is devoted to key elements in the research process, and is followed by a workbook section in which you will test your understanding of the chapter's important concepts through a Vocabulary Review, Fact and Idea Review, and Marketing Research Applications. The final workbook section of each chapter, called Your Marketing Research Project, gives you the required steps to apply what you have learned in the chapter to your own marketing research study. Once you have completed all of the chapter activities, you will have completed an in-depth marketing research study, complete with rationale for all decisions, a report of the findings and conclusions, recommendations based on the original research problem and study objectives, and an annotated bibliography.

Any student participating in one of DECA's research events can benefit from this workbook because it provides all the details for reporting, analyzing, and presenting the findings of a marketing research study, all of which are required in DECA competition.

The DECA Connection

DECA is a national association of high school students who are interested in pursuing a career in marketing, management, or entrepreneurship. DECA offers students the opportunity to compete in career-related fields. DECA's competitive events are designed to help students develop competencies for business careers and to further develop their self-confidence, team-building skills, and communication skills. DECA has a post-secondary division at the national level, called Delta Epsilon Chi.

The DECA Connection feature in each chapter provides suggestions for implementing a marketing research project in conjunction with one of the DECA written projects. The Creative Marketing Research Project and all of DECA's Marketing Research Written Events (Business and Financial Services, Food Marketing, General Marketing, Hospitality and Recreation, and Retail Marketing) may be written by following the guidelines in this project workbook.

The national headquarters for DECA is in Reston, Virginia. To receive a DECA Guide, which outlines DECA's Program of Competitive Events, write to: DECA, 1908 Association Drive, Reston, VA 20191-1594. Phone (703) 860-5000; Fax (703) 860-4013. DECA's Web site is *www.deca.org*.

Chapter 1 Beginning the Research Process

What You'll Do

- Select a client.
- Conduct preliminary research on your client.
- Write a description of your client.
- Assess your client's needs.
- Identify a research problem.
- Write your research study's objectives.
- Establish a timetable for your marketing research project.

Why It's Important

Before beginning any research project, certain questions should be asked. These questions will directly impact the decision of whether to execute the research, and will shape the design, scope, and methodology of the study. In this chapter, you will learn the importance of structure in marketing research. This will ensure that your efforts result in useful, timely, actionable information.

Key Terms

marketing research
client
feedback
research problem
actionable

Marketing Research Defined

Marketing research is the systematic gathering, recording, and analyzing of market information for management decision-making purposes. To be considered "systematic," the process must have a detailed plan of exactly what needs to be accomplished.

Successful companies must be able to understand the needs and wants of their customers. Marketing research can provide the necessary information a business needs while planning, solving problems, and making decisions regarding its products and services. Companies conduct marketing research to identify market opportunities, which may involve development of new and improved products and services or identification of new potential customers. Promotional materials may be tested to determine their effectiveness with a specific target market. Customer satisfaction surveys may be used to provide management with information to improve operations and remain competitive.

The purpose of this workbook is to provide a roadmap for conducting marketing research. As you progress through this workbook, you will be asked to plan your own marketing research study.

The Research Process

The research process comprises five steps, the first of which will be covered in this chapter. The remaining steps will be covered in subsequent chapters.

Step 1: Identify the research problem
Step 2: Develop an appropriate research design
Step 3: Administer the research design
Step 4: Collect and analyze research data
Step 5: Prepare recommendations resulting from the study

Identify Your Client

The first thing you need to do is identify a company to be your client. A **client** is a business or organization that could benefit from a marketing research study. If you are competing in a DECA Marketing Research Event, DECA Guidelines require that the research be conducted on an actual, existing business. The best way to select a client is to look for a local business that is of interest to you. Your client may be a local retail business owner or a family friend who owns or manages a small business. A local charitable organization may be a client. Your client could also be a bigger business that operates nationally or even globally. A research project should only be conducted with approval of the business's owner or manager.

At the very beginning of the project, get permission to conduct the study and write a letter confirming the permission along with the name of the contact person with whom you will be working. In a smaller company, the owner or manager will most likely be your contact person. In a larger organization, an assistant to the person with whom you initially made contact may become your contact. Once you have identified your client, give your teacher the following information:

- Name of your contact person
- Name of business
- Address of firm
- Telephone number
- Fax number
- E-mail address
- Hours of operation
- Best time to reach your contact person

Table 1.1 *Sample Timetable for a Marketing Research Study*

Deadline	Topic
February 15	Final oral and written report to client, as well as computer presentation
February 1	Recommendations resulting from study
January 15	Tabulation and analysis of data
December 15	Data collection deadline (Note: varies with research design)
November 15	Administer the research instrument
November 7	Approval of the research instrument
October 30	Meeting to review draft of the research instrument
October 15	Approval of the research design
October 7	Meeting with client to present the first draft of the research design
September 22	Mutual agreement on the research problem and the study objectives
September 15	Interview with client to discuss the research problem and study objectives
September 7	Preliminary research (background information on the client and market)

When selecting a client, consider whether the contact person can make himself or herself available to meet with you on a regular basis. If yes, then establish when and how often you will meet. It is also important to find out whether the company will place any restrictions on you with regard to conducting the study. Some restrictions may involve whether you can administer the study to current customers. There may be questions that you will not be permitted to ask those customers. Find out what types of resources your client will make available to you, such as industry and trade journals and company publications.

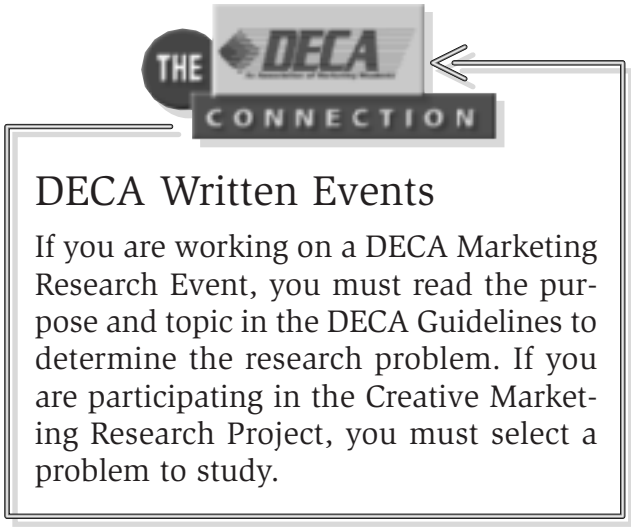
To keep your client involved throughout the life of the project, establish meeting times and ways of communicating when meeting in person is not feasible (i.e., telephone, fax, or e-mail). As you complete each step of the study, it would be a good idea to e-mail your client the information you generated. Your client can review the information and give you feedback. This will help prevent any mistakes from impacting the remainder of the study.

Assess Your Client's Needs

Once you've identified a client, it is essential that you fully assess your client's needs. Once you understand your client's standing in the marketplace, you will be in a better position to review specific issues and problems. In some cases, your preliminary research and analysis of the market may answer your client's questions. In other cases, you will need to review the specific problem your client wants addressed.

To get a clear picture of your client's business and the type of market in which it operates, conduct preliminary research to answer the following questions:

- Is your client a manufacturer, wholesaler, retailer, or service provider?
- What products and services does your client sell?
- Who are your client's customers?
- What is the company's trading area? In other words, does your client's company sell its products in a local geographic area, such as northern New Jersey, or are its sales national or global in scope?
- How big is your client's organization? How many employees does it have?
- Who are your client's competitors?
- What market share does your client presently have?



Establish a Timetable

Since research takes a considerable amount of time, it is a good idea to first determine the deadline for completion of the project. Then you can work backward to determine deadlines for each step of the research process. Your deadlines need to reflect time to revise your original draft. See Table 1.1 on page 2 for an example of a marketing research plan with a February 15 deadline.

When establishing a timetable, take into account that some steps take longer to complete than others. This is because client approval must be secured before proceeding to the next step. Depending on the type and extent of your research design, you may want to allow a full month to administer a study. Consider holidays that fall into your schedule as well, which may impact the time you have to complete a task. In the Table 1.1 example, two weeks are allotted for writing recommendations and preparing an oral and visual presentation.

Identify the Research Problem

After you have completed your preliminary research, the next step is to hold a meeting with your client to discuss and identify the research problem. Identifying the research problem is essential for keeping the entire research process focused. Every decision about the research design will be based on what your client expects to learn from the research findings.

During your meeting, it is vitally important to listen carefully and give feedback. **Feedback** is the receiver's response to the message. When the client explains the issue at hand, you will probably ask some questions. This is feedback. You may restate some of your client's words to assure that you understand the message. Feedback is important in communication because it allows participants to clarify the message and know that both (or all) parties understood the same meaning of the message. Take careful notes or ask permission to tape record the discussion.

The actual **research problem** is nothing more than the question your client wants answered. Problems generally focus on the customer and/or the four Ps of the marketing mix: product, place, price, and promotion. Table 1.2 identifies potential research problems that could be analyzed in a marketing research study.

Determine the Objectives

Once the research problem has been identified, the next step is to determine the objectives that will help answer the research problem. Schedule a meeting with your client to discuss the study's objectives. After that consultation, write effective objectives that are mutually agreed upon. For objectives to be effective, they need to be:

- Specific (identify the target population and use clear language)
- Single-minded (answer only one question in each objective)
- Realistic (topics that can be researched in a given time period)
- Measurable (whether you can determine if the objective has been achieved) • Actionable (results that can be used to take specific action)

Let's review a few objectives to see if they meet these criteria.

Table 1.2 ***Potential Research Problems***

Focus	Potential Research Problem
Customer	Who are our current customers? Who are our potential customers? Are our customers satisfied with our products and services?
Product	Is there a market for a given product? What features should be included in a newly designed product or package? What is the best name for a new product?
Price	How much will customers pay for a new product? How would a price increase impact sales? How satisfied are customers with our prices?
Place	Should our company's Web site be designed for online sales? How would a change in our channels of distribution affect sales? Why are sales increasing in certain areas of the country and not in others?
Promotion	How effective are our newly designed promotional materials? Which advertising medium was the most effective in our last ad campaign? Which slogan should be used in an upcoming advertising campaign?

Objective 1: To determine why sales are down.

The problem with this objective is that it is not specific or realistic. Far too many factors must be included in the research design to pinpoint the exact cause of falling sales. A slowing economy or a competitor's pricing strategy could be the culprits. Other reasons could include a decline in popularity or need for the product or service. Without dates for comparison, results are not measurable. Are sales down based on last year's sales of the same time period or last week's sales figures? Are sales down for all types of customers or just credit card customers?

Revised Objective 1: To determine if a 10 percent price decrease will increase sales for customers who have not purchased anything in the last six months.

Revised Objective 1 is specific because it addresses a selected audience (those customers who have not purchased anything in the last six months), and it is single-minded because it only provides one option—a 10 percent price decrease. It is realistic and measurable, as sales records of the identified customers could be measured against current sales to see if the price decrease has any impact on current sales from that group. It is also **actionable**, meaning that it could show management a specific action to take to solve a problem. A price decrease is something management can prescribe to solve the problem if research findings bear out the need to do so.

Objective 2: To determine the value of selling home blood pressure machines.

In this example, the concept of "value" is difficult to measure. What does value mean? Is the meaning of value in terms of sales volume, in terms of company image, in terms of profitability, or in terms of improved product selection? For objectives to be workable, the words selected in their development must be more specific.

Writing Objectives for DECA Written Events

To determine the specific objectives for DECA Marketing Research Events, review the topics noted in the "Findings and Conclusions" section of the outline found in the DECA Guidelines. For example, if the outline requires a customer profile, then you must include an objective to determine the geographic, demographic, and psychographic characteristics of your client's customers. Other topics might involve determining the buying habits of the client's customers, or determining customer satisfaction with its current product mix or its current Web site. Whatever actions you plan to suggest to solve a client's problem, such as designing or improving its Web site, creating a new promotional campaign, or suggesting a new product or service, objectives that will help in that endeavor should also be included in the objectives of the study.

Revised Objective 2: To determine if the addition of home blood pressure machines to the product mix will help enhance the company's image as a full-service pharmacy for current customers, as well as potential customers.

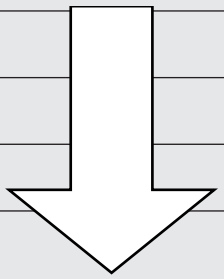
Revised Objective 2 is specific and single-minded because it addresses the addition of a home blood pressure machine to the pharmacy's product mix. It is realistic and actionable because it is possible for the pharmacy to purchase the home blood pressure machine if the research suggests that it would help enhance the store's image. The objective is measurable because a survey or experiment may be conducted to ascertain the impact that product may have on the store's image.

Since research objectives must lead to decisions, it is important that each objective is tested for its validity. If the objective will not lead to results that will be factored in the client's decision-making, the objective is not worthy of being included in the research design. This is called the "nice-to-know" dilemma. Even though it would be nice to know if skiing customers are also snowboarders, don't include it as an objective if you don't plan to use that information in your marketing strategies.

Because the objectives of the study need to correlate with the actual items used in the research instrument, it is a good idea to create a table that lists those objectives. In this chapter, that objectives portion of the correlation is depicted in Table 1.3. When the actual research design and instrument are completed, the other half of the table will be completed.

Table 1.3 ***Correlation of Study's Objectives With Research Instrument***

Objectives of the Study: To determine...	**Research Instrument Item Numbers**
Demographic, psychographic, and geographic characteristics of current customers	To be completed when the instrument is designed
Buying habits of current customers	
Customer satisfaction with product offerings	
Customer satisfaction with prices	
Customer satisfaction with personnel	
Customer's perception of store's image	
Customer's reaction to new store layout	



Student _____ Date _____

Class _____ Teacher _____

CHAPTER 1 Beginning the Research Process

Vocabulary Review

Match each definition with the correct term. Write the letter of the term on the line.

_____ **1.** A question a client wants answered through research.

_____ **2.** The receiver's response to the message.

_____ **3.** The systematic gathering, recording, and analyzing of market information for management decision-making purposes.

_____ **4.** A business or organization that could benefit from your marketing research design.

_____ **5.** Describes information that shows what specific action to take to solve a problem.

a. marketing research

b. feedback

c. client

d. research problem

e. actionable

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 1 Beginning the Research Process

Fact and Idea Review

Review your understanding of the important concepts in this chapter by answering the following questions.

1. What is marketing research?

2. What are the five major steps in the research process?

3. What factors should be taken into account when establishing a timetable for a marketing research study?

4. To learn about and describe your client, what characteristics will you research?

5. Why is identification of the research problem essential to success in a marketing research study?

continued

Student Date

Class Teacher

6. What is feedback and why is it so important when discussing the research problem with your client?

7. Describe what a research problem really is.

8. List five categories that can be used to identify research problems and provide an example for each one.

9. To write effective research objectives, what five criteria must be followed?

10. Why does each research objective have to be tested for its validity?

Student Date

Class Teacher

CHAPTER 1 Beginning the Research Process

Marketing Research Applications

A. Conducting Preliminary Client Research

Select a local retailer, bank, or restaurant. Conduct preliminary research on the following issues:

- What is the type of business (manufacturer, wholesaler, retailer, service provider)?
- What types of products and services does the business sell?
- What is the business's trading area (geographic boundaries from which it draws its customers)?
- Describe the business's customers.
- What are the business's hours of operation?
- What size is the business (square footage and number of employees)?
- Who are the business's competitors?

Write a description of your chosen business in one paragraph that can be used as part of a marketing research report.

continued

Student Date

Class Teacher

B. Writing a Research Problem and Objectives

Read the following scenario:

Your client is Dawn's Sports & Memorabilia, a small retail store that is located in a downtown shopping district of a fairly affluent community. Its customer base is primarily local residents who are collectors, as well as parents of school-age children. The owner has been considering establishing a Web site for customer convenience. Currently, customers must call the store to check on new memorabilia. A few customers have indicated that they have purchased products (not carried in your client's store) from Web site competitors. The store is listed on the town's Web site and in online Yellow Pages directories, but there is no e-commerce component.

1. Write the marketing research study research problem for Dawn's Sports & Memorabilia in one sentence.

2. Write four objectives that would help answer the question posed in the research problem. Think about the basic information you need to answer the research question as well as any additional information your client will need if the research findings indicate that a Web site would be beneficial to the company.

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 1 Beginning the Research Process

Your Marketing Research Project

Throughout this workbook, you will be planning and executing a marketing research study for a client. In this chapter, you will begin the planning process.

1. Name and describe your client.

2. Identify the research problem in one sentence.

continued

Student Date

Class Teacher

3. List your study's objectives in Table 1 below, ignoring the research instrument column for now.

Table 1 *Correlation of Study's Objectives With Research Instrument*

Objectives of the Study: To determine...	Research Instrument Item Numbers

4. Use Table 2 below to prepare a schedule of deadlines for your marketing research study by working backward from the date your client needs a final report.

Table 2 *Sample Timetable for a Marketing Research Study*

Deadline	Topic
	Final oral and written report to client, as well as computer presentation
	Recommendations resulting from study
	Tabulation and analysis of data
	Data collection deadline (Note: varies with research design)
	Administer research instrument
	Approval of the research instrument
	Meeting to review the draft of the research instrument
	Approval of the research design
	Meeting with client to present the first draft of the research design
	Mutual agreement on the research problem and the study objectives
	Interview with client to discuss the research problem and study objectives
	Preliminary research (background information on client and market)

Chapter 2 Conducting Secondary Research

What You'll Do

- Evaluate the relevancy, accuracy, source, methodology, and thoroughness of internal and external secondary data.
- Obtain and interpret internal and external secondary data on your client.
- Begin an annotated bibliography that will be maintained throughout the life of your marketing research project.

Why It's Important

A lot of time and money can be saved if you research what other work has already been done in your area of interest. There's no sense in reinventing the wheel, so it's smart to exhaust existing sources of information before committing to more expensive, time-consuming methods. Secondary research is conducted throughout the life of the project because you never know when a new development will impact your research design or findings. It also provides a source of creative ideas for your recommendations.

Key Terms

secondary research
internal secondary data
house organs
external secondary data
industry and trade journals

The Purpose and Scope of Secondary Data

Secondary research is published or recorded data that have already been collected for some purpose other than the current study. Because secondary data are less expensive to collect than primary data, it is most effective for a company to decide what secondary data to use before collecting any primary data. Marketing researchers use secondary data to answer research questions, define research problems, design research instruments, and provide background information.

Answer Research Questions

In some cases, secondary data may provide the answer to the research question without any further study. That is why secondary resources should be accessed first. Secondary data can be obtained easily and cost very little (sometimes they are free) when compared to the cost of conducting primary research. For example, suppose that a college wants to research

whether it should create a new logistics program. By accessing data available from the U.S. Department of Commerce and other government agencies, the college may find the facts it needs to make such a decision.

Define Research Problems

For preliminary research, secondary data sources help provide the background information that needs to be included in the research problem and objectives for the study. For example, a study of the demographics of a restaurant's trading area might reveal an influx of a certain age group (i.e., young, single adults or older, retired couples). Having this information might change the focus of the research design, which originally may not have included age as a focus of the research. Armed with that information, the marketing research problem might be: "What could the restaurant do to attract this age group?" Specific objectives might include changes that might be made in menu offerings, hours of operations, and décor to attract this new age group. Additional objectives might address a new advertising campaign to attract that target market.

Design Research Instruments

By reviewing and comparing published research studies of other researchers who have conducted similar research, you can learn what methods have been most successful. This will help you to design a more effective research instrument. For example, suppose you are planning a research study to identify creative people. By reviewing and comparing previous similar research, you learn of a successful study that used a test that was well received and easy to use, and you learn of another study that used a different test that was difficult to administer and contained gender bias. By reviewing these studies, you would learn which test (research instrument) would be a better model for your study.

Provide Background Information

Secondary research provides a wealth of background information that helps build a foundation for the entire research process. Background data on a market will help in determining the target population for a study. Industry reports will help in providing creative solutions that could be investigated in the research design. Sales and research data may help eliminate questions you would have needed to include in a questionnaire. This is good because shorter questionnaires are preferred in market research studies. Secondary sources can also help researchers make sense of the research they conduct. In some cases, results of primary research may corroborate findings of other researchers or theorists.

Obtaining Secondary Data

Resources for secondary data are classified in two ways: internal (a company's own data) and external (other organizations' data).

Internal Data Sources

Internal secondary data comes from within the organization itself. Internal data can be generated from many sources, including sales records and customer databases, which are generated by sales invoices, product return documentation, customer service complaints, warranty registration cards, service records, and credit records, as well as from mailing lists and company publications. Internal data are often found in raw form and must be analyzed to provide important insights.

Sales Data and Customer Databases

Sales records and customer databases generated from customer purchase records are collected by manufacturers, wholesalers, and retailers, and are probably the most common internal data source. Sales invoices provide the company with records of sales revenue and inventory control. That information is

used for many purposes, including for generating financial reports. Today, such databases are sophisticated and may enable analysis of sales by regions of the country, type of customer, and specific products sold. This type of analysis helps identify popular items that will need to be reordered and slow-selling merchandise that may need to be discounted. Other sales and customer data are generated by warranty registration cards, which provide a manufacturer with a database of consumers who bought their products. Customer service records and credit records help the company analyze customer loyalty and payment history, so decisions can be made about issuing additional credit and tailoring special promotions for specific customers. Product return documentation and customer service complaints provide a source of information regarding company errors and problem areas that should be addressed so the company can remain competitive.

Through more advanced statistical analysis, demographic data can be correlated with customer purchasing patterns generated from sales data to identify new ways to market goods. For example, suppose that a correlation of purchase data with demographic data indicates that females 55 years old and older purchase romance and mystery novels, as well as children's books. It is evident that these women are purchasing books for their grandchildren or other children. A smart marketer can use that information to create a marketing strategy to provide women 55 years old and older with a list of popular children's books and tapes.

In manufacturing and wholesaling operations, monitoring sales records permits companies to analyze product offerings, customer activity, inventory control, and marketing plans. Retailers manage customer databases, too. Wal-Mart is said to have one of the world's largest customer databases. In addition to using the data it collects to monitor profit margins and inventory, it is able to determine the best placement of products in the store layout. For example, if research reveals that when customers purchase cold remedies, they also buy facial tissues, a company would want to stock facial tissues in the paper products aisle and the cold remedy section.

Retailers can collect personalized sales data through the use of preferred customer clubs and loyalty marketing programs. These allow businesses to collect data on individual customers' buying habits and life-styles. Customers join such clubs and programs to get discounts on purchases, advance notification of special sales events, and credits redeemable for goods and services. In exchange, the sponsoring retailer and any cooperating manufacturers get information about the customer's buying preferences and patterns. Customer databases can reveal, for example, which customers have pets by tracking pet food purchases, and which customers have infants by tracking baby food purchases. Manufacturers can use that information to distribute customized coupons as a reward to their loyal customers and different customized coupons to buyers of competing brands to encourage them to try their brand.

Catalog companies manage huge customer databases that are analyzed to determine which type of customer should get a specific catalog based on previous purchase patterns. Hotel chains keep basic demographic data as well as detailed guest records to track guest preferences in room type, services requested, and special recreational interests, such as golf, tennis, or sightseeing.

E-tailers monitor customers' online purchases and their navigation of the Web site. Such measurements include time spent browsing specific goods and how the online shopper moves from one product category to another. The e-tailer can use this information to offer customized deals to returning customers. For example, if a customer lingers at the electronic games section of a toy e-tailer's Web site, the e-tailer may use that information to decide to offer a discount on electronic games upon the customer's return visit.

Mailing Lists

Companies may maintain mailing lists of consumers of their products, not just customers or potential customers. For example, a manufacturer of syringes may maintain a huge database of diabetics who use syringes to administer their daily medication. Even though they are not customers of the manufacturer, they are potential consumers of the manufacturer's products. Providing them with information about their medical condition and breakthroughs in diabetes research helps to build a positive image for the manufacturer. If and when research needs to be conducted regarding a new syringe, this group could be included in the study. Feedback from this group at any time is appreciated. Positive relations can be maintained through newsletters and other sources of communication such as e-mail.

Company Publications

In addition to sales, customer, and consumer databases, corporations publish annual reports detailing financial analyses, management philosophy, and future company plans. In-house product testing may be accessed to determine the features of a newly designed product and the suggested uses for the product. Previous marketing research studies may be reviewed in order to see what was done in the past. **House organs**, which are in-house publications that communicate happenings in the company and among a company's employees, may also provide useful information. The company's Web site might be host to a variety of press releases and other company information.

Internal Financial Data

Most internal data are considered confidential and proprietary, which means that they belong to the owner and are not for release or publication. The profit and sales revenue of a company are two types of proprietary information that you should not request. If necessary, ask for industry standards, not actual figures.

External Data Sources

External secondary data are published information from outside the organization. Using external secondary data involves applying that information to your particular problem or potential opportunity. Free or relatively inexpensive external (published) data may be found in newspapers, magazines, industry and trade journals, as well as through government agencies. Much of this type of information can be found in a library or accessed via the Internet. There are also paid sources of external data, such as market research companies and consumer and business information companies.

News Media

Newspapers and general business publications may provide information about current events and other issues that pertain to your research. Publications, such as *BusinessWeek*, *Investor's Business Daily*, and the *Wall Street Journal*, may be useful for general business information about the national economy or specific companies, especially those listed on the stock exchange. Local news media may provide information about local economic conditions, as well as newsworthy topics that may be useful in deciding on a valuable marketing research study for a client. For example, suppose that perusal of a local newspaper revealed several editorials and articles regarding a proposed shopping center that would be located on what is now a farm and fresh produce stand. Some residents in the area are against the development, while others don't seem to care one way or the other. The town planning board and the shopping center developer could benefit from a marketing research study to assess residents' opinions about the proposal.

Trade Publications and Associations

Industry and trade journals are specialized magazines that cater to a specific type of business or business sector. Trade association publications often conduct and

publish industry-wide research through articles, reports, and books. To find the names of these types of publications, ask people employed in the industry what trade publications they read. You can also use a Web directory to find the names of trade journals and associations. Some trade journals may even be published on the Web.

Government Publications

Federal government studies can provide useful information and statistics about markets, people, and business activities. Data collected by U.S. government agencies regarding population demographics, specific markets, industries, products, the economy, imports and exports, and legislative trends can be accessed at the library or on the Internet. *FedWorld* (www.fedworld.gov) and *The Federal Web Locator* (www.infoctr.edu/fwl/) are two Web directories with links to government Web sites that provide such data.

The Small Business Administration, U.S. Department of Commerce, U.S. Census Bureau, U.S. Securities and Exchange Commission, and the Bureau of Labor Statistics can also be excellent sources for secondary data. Publications such as the *Census of the Population* and the *Statistical Abstract of the United States* contain hundreds of tables, graphs, and charts that can be useful in analyzing various business situations.

The Internet

The Internet has increased the availability of secondary data from a variety of sources. In addition to the bounty of government data that are available online, there are also countless Web sites that track company and industry news. Digital dossiers, which are detailed profiles of public companies, are available online. These reports, which are available in brief for free or in detail for a fee, can be accessed through online databases such as *Hoover's* (www.hoovers.com). Competitors' Web sites often include press releases and information about new products and prices.

Paid Secondary Sources

Market research companies and consumer and business information companies also offer secondary data for business needs. An active and growing number of specialized research companies or syndicated services concentrate their efforts in specialized fields.

An example of a syndicated services company is Audits & Surveys Worldwide (ASW), which provides continuous monthly national measures of retail sales by brand. Yankelovich, a market research company, specializes in consumer attitudes as well as branding and positioning. It also publishes the *Yankelovich Monitor,* which addresses consumers' beliefs and values. Another respected market research firm is Roper Starch, which specializes in consumer attitudes and advertising effectiveness. For media measurement, one of the best-known companies is Nielsen. Nielsen provides estimates of how many people watch, listen to, or read various forms of media, as well as the demographics of those people.

There are many Web sites that identify market research products for sale. Market research firms may publish some reports for free on their Web sites. They also may list research they have for sale. Some of the facts you may need to know may be included in the text used to entice you to purchase the entire report.

Disadvantages of Secondary Data

Although secondary data are useful for marketing research studies, there are some disadvantages and limitations. Secondary data are not always available, nor are they always relevant. Many times there are research flaws that result in inaccurate data. Flaws in research studies that can cause inaccurate data include the source, people included, methodology, inconsistency, and thoroughness.

Availability

Companies that want to address new concepts or new products will have difficulty finding useful secondary data. Any type of consumer reaction to a company's products, image, or promotional materials requires primary research.

Relevancy

Research that has become dated is often not useable because it is no longer relevant. Consumers' attitudes change over time and information can become dated quickly. For example, suppose you find a study of the buying habits of Chevrolet's customers from 1990. With changes in consumer demographics and Chevrolet's car models, that research would probably not be relevant to your current study.

Accuracy

The accuracy of secondary data should be considered because some research studies are flawed. Evaluate the accuracy of research data and be critical of how the research was conducted. Flaws in research studies create inaccurate data, and this should be mentioned in the research report. If a report does not address potential errors in the research, it is reasonable to be skeptical about the accuracy of the report, as most research studies are not without some bias or range of error. Some areas of concern that should be reviewed regarding accuracy include the source, people included, methodology, inconsistency, and thoroughness.

Source

It is important to find out who conducted the research to determine if the research design and findings were self-serving or designed to support a certain viewpoint. Most research published by the government is objective.

People Included

Who and how many people were included in the study is also an important question. When reviewing a study's findings, seek out information on how many people participated, as well as the characteristics of that population. Be critical of a study with few participants if the study generalizes the findings to a much larger population. The study's findings may be skewed because of the type of people who participated in the study.

Methodology

The methodology used to conduct the study should be taken into consideration. Each type of research design offers advantages and disadvantages, as do different methods of collecting data. For example, a telephone survey conducted from 9:00 A.M. to 4:00 P.M. would not reflect the views of people who work outside the home. Mail surveys typically have a low response rate.

Inconsistency

Inconsistent data should also be considered suspect. When reviewing research on a given topic and finding that different studies report incompatible findings, one must wonder what caused the difference. Discrepancies need to be reviewed in light of all aspects of the research design, implementation, and evaluation.

Thoroughness

Although you may find lots of secondary data useful, it may not be sufficient to answer the problem at hand. For example, you may be able to find the characteristics of the people who live in a specific community, which would be useful if you are planning to open a retail store in town. However, you may not know if the specific location you are considering is a good one. You may need to conduct research on the desirability of that location.

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 2 Conducting Secondary Research

Vocabulary Review

Match each definition with the correct term. Write the term on the line.

_____ **1.** Specialized magazines that cater to a specific type of business or business sector.

_____ **2.** Published information from outside the organization.

_____ **3.** In-house publications that communicate happenings in the company and among the company's employees.

_____ **4.** Data that come from within the organization itself, a company's own records.

_____ **5.** Published or recorded data that have already been collected for some purpose other than the current study.

a. external secondary data

b. house organs

c. industry and trade journals

d. internal secondary data

e. secondary research

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 2 Conducting Secondary Research

Fact and Idea Review

Review your understanding of the important concepts in this chapter by answering the following questions.

1. What is secondary research?

2. Explain four ways secondary research may be used in a marketing research study.

3. What is internal secondary data?

4. From what sources can sales and customer databases be generated? Explain.

5. What kinds of data are kept by hotel chains in their customer databases?

continued

Student Date

Class Teacher

6. How can e-tailers use the data generated by customers' online purchases?

7. What company publications can be sources of internal secondary data?

8. What is external secondary data? List five sources of external secondary data.

9. What are the main disadvantages or limitations of secondary data?

10. What are five areas of concern that should be reviewed when determining the accuracy of a research report?

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 2 Conducting Secondary Research

Marketing Research Applications

A. Evaluating Secondary Data

Read the following information published by the U.S. Census Bureau and answer the questions that follow.

> The third-quarter estimate of U.S. retail e-commerce sales in 2000 was $6.4 billion. In 2004, the third-quarter figure jumped to $17.6 billion, which is a 175 percent increase.

1. Are these secondary data an internal or external source? Why?

_____

_____

2. How can these data be used for a study of online retail shopping?

_____

_____

B. Interpreting Secondary Data

Read the following information published by the U.S. Census Bureau and answer the questions that follow.

> In 1997 the nation's greeting card publishers shipped $212 million worth of Mother's Day cards, up from $148 million in 1992. Fourteen companies shipped $100,000 or more worth of these cards. For the sake of comparison, shipments of Mother's Day cards exceeded those of Easter cards ($116 million) but lagged somewhat behind shipments of Valentine's Day cards ($277 million) and considerably behind shipments of Christmas cards ($571 million).

1. Evaluate the facts in the above statement with regard to the disadvantages of secondary data. What additional information might be helpful in deciding the usefulness of that data for a study of holiday greeting cards?

_____

_____

_____

_____

2. Conduct research to determine the names of two key publishers of printed greeting cards and note some of the brands carried by each one. List the names on the lines that follow.

_____

_____

_____

_____

continued

Student Date

Class Teacher

3. What technological trend may impact the sales of published greeting cards? Explain your answer and give examples of companies involved in this new trend.

C. Using Secondary Data

Assume you were hired to conduct marketing research for a manufacturer of non-motorized push scooters to study the non-motorized push scooter market. Use secondary data sources to answer the following questions.

1. What is the trend in this mode of transportation?

2. Who are the non-motorized push scooter manufacturer's competitors?

3. Who purchases and rides non-motorized push scooters?

4. What demographic and psychographic trends will affect the sale of non-motorized push scooters in the next five to ten years?

5. What internal secondary data would be helpful in preparing your report? What secondary data sources did you use to answer these questions?

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 2 Conducting Secondary Research

Your Marketing Research Project

Based on the research problem and the study's objectives you identified in Chapter 1, conduct the following secondary research.

1. What internal secondary data sources would be helpful? Are those sources available to you? Why or why not?

2. Visit two government Web sites—the U.S. Census Bureau and the Commerce Department—to see what information is available that might be helpful for your research study. List and briefly describe the information on the following lines.

continued

Student Date

Class Teacher

3. What are the characteristics of the residents in the company's trading area (people who reside within the geographic boundaries of where the company does business) and/or market segment (targeted audience)? Age, gender, income level, education level, and any other descriptive classification should be reviewed. List this information in one or both columns in Table 1 below for easy reference.

Table 1 ***Demographics of the Trading Area***

Characteristic	Trading Area/ Market Segment 1	Trading Area/ Market Segment 2
Total population		
Number of households		
Average household income		
Education level–percent with H.S. diploma		
Percent male		
Percent female		
Percent Caucasian		
Percent African American		
Percent Hispanic		
Percent Asian		
Percent other ethnic background		
Median age		

4. Locate five press releases and/or published articles on your research topic to begin preparing an annotated bibliography. An annotated bibliography requires complete disclosure of your source of information, as well as an analysis of the information contained in the article or report. Follow the correct MLA or other accepted format. Since this annotated bibliography should be maintained throughout the life of your marketing research project, return to this page every time you find a useful resource and document the necessary information.

Source:

_____

_____

Brief summary of information contained in source:

_____

_____

continued

Source:

Brief summary of information contained in source:

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Chapter 3 Selecting the Appropriate Primary Research Method

What You'll Do

- Select the type of primary research best suited for your marketing research project and provide the rationale for your decision.

Why It's Important

One of the central challenges in any research project is selecting the primary research method. It is the process through which the opinions of customers are collected and categorized, and by which hypotheses are proven or overturned. In order for you to decide which research technique is most appropriate for your research problem, you will need to understand each method's strengths and weaknesses as well as how each is more or less suited to specific research applications.

Key Terms

primary research
experimentation method
independent variable
dependent variable
concomitant variation
time order sequence
elimination of extraneous causes
extraneous factors
laboratory experiments
internal validity
external validity
field experiments
test marketing
one-group case study design
one-group with pre-measurement and post-measurement design
before-and-after with control group design
Solomon four-group design
observation method
direct observation
indirect observation
disguised observation
undisguised observation
structured observations
unstructured observation
mechanical observation
human observation
survey method
questionnaire

The Purpose and Scope of Primary Research

Primary research involves conducting original research to collect new data to answer a research problem or solve a marketing information need. There are three types of primary research methods used by marketers: experimentation, observation, and survey. Each method has its benefits and shortcomings. Let's take a closer look at each one so you can decide which method is most appropriate for your research problem.

The Experimentation Method

In the **experimentation method,** which can be employed in a laboratory or in the field, the researcher has control over one or more independent variables and manipulates them to see the observable effect. An **independent variable** (also known as a *causal variable*) is a variable that is controlled or manipulated by the researcher and exerts some influence on another (dependent) variable. A **dependent variable** (also known as an *effect variable*) is a variable that is influenced to some extent by one or more other (independent) variables. Due to its design, the experimentation method can only be used to test a few marketing

variables at a given time. The key factor that sets experimentation apart from the other types of marketing research is its ability to show a causal relationship among alternatives being observed. For example, you may want to see if a price reduction will "cause" sales to increase. Using different price reductions in three stores of a chain may help determine which price decrease had the most significant effect on sales. This cause and effect (causal relationship) involves the manipulation of an independent variable (price change) on a dependent variable (sales). Other dependent variables frequently used in marketing research studies are market share and profit. Independent variables that are studied often involve changes in the four Ps of the marketing mix (product, place, price, and promotion).

Causal Relationship Factors

To show a causal relationship, which is the essence of an experimental design, three factors must be demonstrated: concomitant variation or correlation, time order sequence, and elimination of extraneous causes.

A **concomitant variation** or correlation involves a statistical and predictable relationship between two variables. For example, a change in product packaging increases sales. This change must be predictable in that if the product packaging was not changed, sales would not increase.

To demonstrate a **time order sequence,** the cause (packaging change) must precede the effect (sales). To demonstrate that packaging caused increased sales, the research must show that the packaging change occurred before the change in sales was observed.

The **elimination of extraneous causes** involves eradicating any other factors that could cause the change in the dependent variable in order to show that one variable caused an observable change in another variable. **Extraneous factors** are factors that are not manipulated as part of an experiment, but may exert some influence on the dependent variable under study. Some extraneous factors that can make if difficult to show the causal relationship are changes in the economy for which you have no control. Sales may have increased because a competitor may have gone out of business at the same time you were testing the effectiveness of the package design. In fact, it could have been the lack of choice in competing products that caused the increase in sales and not the changed packaging. This last factor for ensuring a causal relationship exists is a challenge for researchers.

Laboratory Experiments

Laboratory experiments are experiments conducted in a controlled setting. In a laboratory, extraneous causal factors can be controlled. Thus, the researcher must only be concerned with making sure the research design can demonstrate concomitant and order time sequence to show the causal relationship. Laboratory experiments have high **internal validity,** the ability to show that the independent variable was responsible for the change in the dependent variable because the researcher was able to control all the variables. You might think that a laboratory experiment would be the perfect solution for an experimental design, but it isn't. The problem with using a laboratory setting is the fact that it is a sterile environment, which is not representative of the outside world, especially when trying to measure human behavior in the marketplace. Therefore, it lacks **external validity**—the ability to replicate the findings in the outside world with real people and real settings.

With improved computer graphics and three-dimensional modeling, a new type of laboratory experimental design, called virtual shopping, can be used to eliminate or at least reduce the major drawback of experimental design. In virtual shopping, a researcher can re-create a shopping experience on the computer with nearly all the complexities you would find in an actual store. The shopper can see the fully stocked virtual store, select items to view in three dimensions, and purchase products by selecting the shopping cart

image on the computer screen. In this experiment, the independent variable can be changed quickly and easily as trends are depicted. In sticking with the original example, the colors on the package or its position on the shelf could be changed in order to see which independent variable has more of an effect on the outcome of the research. The options are endless. Data collection is easy and without error, because data are recorded and tabulated by the computer program. This particular method is useful for testing new product ideas as well. In the early stages of product development, researchers can determine if an idea for a new product is worth pursuing.

Field Experiments

Field experiments are tests conducted outside the laboratory in an actual market environment. The biggest benefit of field testing is its ability to generalize results to outside people and settings. Because the experiment takes place in a market environment, researchers can assume that other people under the same conditions, in a similar market environment, would behave the same way as the subjects in the experiment. Thus, field experiments have high external validity. Unfortunately, field experiments have low internal validity because there are many extraneous factors in the marketplace that could affect the outcome of a field experience.

One of the best known field experiments is test marketing. **Test marketing** is the initial launching of a new product into one or more selected geographic areas for a trial period to test its marketing-mix (product, place, price, or promotion) prior to full-scale launch.

Test marketing generally involves analysis of a product's sales potential under actual market conditions. Researchers use test stores in an area of the country that is representative of the target market. Pricing decisions and appropriate promotional materials are designed for introduction of the new product. Then purchase behavior is monitored. The reactions of competitors and consumer brand awareness are also monitored based on the media plan created for the test market.

The results of test marketing help the manufacturer determine whether the product needs changes before it is introduced to a larger market. Of course, another option is withdrawal of the product completely if it was a failure during test marketing.

One concern about test marketing is that it offers competitors a chance to see new products before they are ready for national introduction. Competitors can also try to influence test results by running special advertising and promotions on their own products.

Adding Research Components to Written Events

For written events that do not require a marketing research component, think about adding one. For example, in the Learn and Earn project, what better way to show how much you have learned about marketing research than to conduct marketing research as one aspect of the project. For the Free Enterprise Event, the experimental design would work well. You could take a pre-measurement of what the audience knows about free enterprise before the activity begins and a post-measurement at the end of the activity. The findings from that research can be used in your evaluation of the project. A survey of the audience's opinions about the project could help provide recommendations for the future.

Experimental Designs

Experimental designs can be based on one to four groups, depending upon how much control the researcher wants to employ over extraneous factors. The groups are identified as either experimental or control. The experimental group is exposed to the treatment (independent variable) while the control group is not. There may be a pre-measurement or record of the dependent variable prior to the experiment, used for comparison. Post-measurement of the dependent variable is taken at the end of the experiment in all experimental designs. Listed below are a few experimental designs.

The **one-group case study design** is a type of experimental design that does not use a control group and pre-measurement but does use post-measurement. Test markets fall into this category because there is no pre-measurement, because sales data are not available for a new product being tested. There is no control group, just the experimental group exposed to the new product introduction and a post-measurement (sales figures).

The **one-group with pre-measurement and post-measurement design** is a type of experimental design that uses pre- and post- measurements but no control group. One group with pre-measurement and post-measurement design is used for products that were on the market prior to the experiment. A change in the product is being tested so sales figures prior to the experiment (pre-measurement) are compared to sales figures at the end of the experiment (post-measurement).

The **before-and-after with control group design** is a type of experimental design in which subjects or settings are randomly assigned to each of two groups (experimental and control groups). This can be used to test the effectiveness of a price change or product packaging change. The experimental group is exposed to the change in the independent variable (price change) and the control group is not. Randomization helps extraneous factors such as differences in types of retail stores (settings) and types of customers (subjects). There is a pre-measurement and post-measurement, and two groups—the experimental group and a control group. The differences between the pre-measurement and the post-measurement are compared to see if the differences between the two groups are significant. If the difference in the dependent variable (sales) is the same, the change cannot be attributed to the change in price or change in product packaging.

The **Solomon four-group design** is a type of experimental design that has two control groups and two experimental groups in order to control for pretesting and experimental testing variables. All subjects are assigned to the four groups in a random fashion to decrease the effects of extraneous variables or differences in subjects. All four groups must be similar for comparisons to be made. For example, to evaluate a training program for counter persons in a fast-food chain, the groups would be set up as follows:

- *Experimental Group A* would be given a pretest to see what the subjects already know about training (pre-measurement), would take the training program (treatment), and would be given a test at the end of the program (post-measurement).
- *Control Group A* would be given the pretest and the posttest, but would not partake in the training. A comparison between test scores from Experimental Group A and Control Group A would reveal the effect training had on the two groups by comparing posttest scores.
- *Experimental Group B* would not be given the pretest but would take part in the training program and would be given the posttest.
- *Control Group B* would only take the posttest. The difference in posttests for Experimental Group B and Control Group B is used to see what effect the training and pretest had on the results. This is accomplished by subtracting the difference found between Experimental Group A and Control Group A from the difference found between Experimental Group B and

Table 3.1 *Solomon Four-Group Design Without Scores*

Group	Pretest	Treatment	Posttest
Experimental A	X (L)	X	X (M)
Control A	X (N)		X (O)
Experimental B		X	X (P)
Control B			X (Q)

Control Group B. See Table 3.1 for a graphic illustration of these calculations. The letters in parentheses are used to simplify the calculation formulas.

Perform the following calculations for the Solomon Four-Group Design to determine the experimental treatment effect:

- Experimental Group A's pretest (L) is subtracted from Experimental Group A's posttest (M) to calculate the difference in scores. This shows the effect of the independent variable (training program) on the subjects.
- Control Group A's pretest (N) is subtracted from Control Group A's posttest scores (O) to see if the pretest had any effect on the posttest scores. The researcher hopes that the difference is small.
- To further check the effectiveness of the treatment, Control Group B's posttest scores (Q) would be subtracted from Experimental Group B's posttest scores (P). If there was a significant difference in the two scores, favoring the experimental group, the treatment would be considered effective.
- To see the effects of the interaction between the pretest and the treatment, the differences between the Experimental Group A (M) and Control Group A (O) would be subtracted from the difference found between Control Group B (Q) and Experimental Group B (P). If this difference were not significant, the effect of the pretest on posttest scores could be ruled out.

Here is a review of those calculations to measure the treatment effect:

$$(M-L) - (O-N), \text{ and } (Q-P)$$

To measure the effects of the interaction between the pretest and the treatment, the calculations would be:

$$(M-O) - (P2-Q)$$

Another nice feature to this design is that Control Group B's posttest score could be compared to Experimental Group A and Control Group A's pretest scores. If all three scores were similar, the experimenter would be fairly sure that the randomization of subjects was done correctly and that all groups were similar.

Now let's use actual scores (see Table 3.2) to see how the differences would be calculated.

As you can see the randomization of subjects into the groups was done correctly, as the pre-tests for Experimental Group A and Control Group A were 45 and 44, respectively, while Control Group B's post-test score was 42. All three scores were very similar.

Table 3.2 *Solomon Four-Group Design With Scores*

Group	Pretest	Treatment	Posttest
Experimental A	45 (L)	X	90 (M)
Control A	44 (N)		47 (O)
Experimental B		X	87 (P)
Control B			42 (Q)

To test the effectiveness of the treatment, the differences were as follows:

- (M−L) − (O−N) = net difference for Experimental A and Control A groups and (Q−P) = difference between Experimental B and Control B groups.
- (M) 90 − (L) 45 = 45 for Experimental Group A. To take the effect of the pretest out of the mix, the difference between Control Group A's posttest and pretest must be calculated and then subtracted from the posttest score of Experimental Group A's score. That calculation is as follows:

  (O) 47 − (N) 44 = 3.

  Thus, Experimental Group A's net difference would be 42 (45−3).
- Experimental Group B's difference is 45, which is calculated by subtracting the posttest scores for the Experimental B and Control B groups: (P) 87 − (Q) 42 = 45.

To measure the effects of the interaction between the pretest and the treatment, the calculations would be:

(M−O) − (P−Q)

(M) 90 − (O) 47 = 43

(P) 87 − (Q) 42 = 45

Since the differences in the two experimental groups compared to the two control groups were great, it appears that the treatment had a positive effect on the subjects and the pretest had little effect on the results.

The Observation Method

The **observation method** involves watching and recording behavior without any direct contact or interaction with the objects or subjects. In order to determine if observation is the appropriate strategy, researchers must consider three conditions: information, setting, and time. The observation method is used when current information is needed, the setting allows for observation, and the observable behavior is performed in a short time frame.

When current data are required, observation is the method of choice. People cannot always accurately recall how many times they watched a certain television program, so a device that records such data can give an accurate account. The observation method is limited to settings and activities that allow for firsthand observation, whether by human surveillance or by an electronic observation device, such as a video camera. Ethical issues preclude observation of certain situations, such as religious worship or actions in a private home. This method lends itself well to observations of repetitive, predictable, frequently performed behaviors that are completed within a short time frame. For example, you would not want to observe someone purchasing a new car because the time frame for the purchase decision may take more than one visit to the auto dealer. On the other hand, you could observe customers who purchase French fries with their burgers in a fast food restaurant.

One disadvantage of the observation method is that it cannot measure attitudes or motivation. Observation provides information on what the person does, but not why the person does it. You cannot assess beliefs, feelings, attitudes, motivation, or rationale for a subject's actions. Since there is no direct interview of the individuals being observed, a researcher can only speculate on the motives behind the behavior. For example, a subject may be observed purchasing a brand of cereal, but the researcher cannot know for whom or why the purchase was made.

Observation Research Methodology

Observation research methods vary depending on how the observation is performed. Four approaches to observation are direct vs. indirect, disguised vs. undisguised, structured vs. unstructured, and human vs. mechanical.

Direct observation involves having a researcher observe and record behavior or an event as it occurs. **Indirect observation** makes use of pre-recorded behavior from secondary sources, such as telephone records or sales records.

In a **disguised observation,** the subjects do not know they are being observed. Disguised methods are used because it is well known that subjects behave differently when they know they are being observed and evaluated. In one form of disguised observation, one-way mirrors and hidden cameras are used to observe customer behavior in a store setting. Another common form of disguised observation is the "mystery shopper" employed by retail establishments. Observers (researchers) act as though they are shopping to determine how effective the salespeople are at handling customers. Certain qualities that may be observed are the salesperson's greeting, courtesy, and product and store policy knowledge. In **undisguised observation,** subjects know they are being observed. In focus group sessions, the narrator will tell the subjects that a video camera will be recording the session. It is hoped that subjects will tend to forget about the camera as the session proceeds so as not to demonstrate atypical behavior.

Structured observations involve determining the characteristics that will be observed prior to the market research. Observers are given a checklist of behaviors to check as they observe the subjects. The checklist looks like a questionnaire with many yes/no response options. In an **unstructured observation,** the characteristics that will be observed are not predetermined. Rather, the observer simply watches the subjects and takes notes on what he or she observes. You would use a structured observation when you know a lot about the behavior and already have the criteria you want to evaluate. An unstructured observation may be used as a preliminary method to get a better idea of what should be included in the final study.

In **mechanical observation,** some form of mechanical device records the behavior of interest. Mechanical devices are less costly and more accurate than human observers. A perfect example of mechanical observation is a meter recording the movement of traffic. Traffic counts are used to evaluate potential locations for new retail stores and to determine how many vehicles pass an outdoor billboard. Other examples include the mechanical recorders in people's homes that record television viewing, and electronic scanners in stores that provide a record of all merchandise purchased. Some mechanical devices can be used to measure how a subject is feeling by having the subject simply turn a dial. Subjects might be invited to view new television programs and commercials, and would be asked to turn the dial in one direction when they were feeling positive and in the opposite direction when they were feeling negative. In **human observation,** people monitor and record the action under study.

The Survey Method

The **survey method** is a research technique in which information is gathered from people through the use of surveys or questionnaires. A **questionnaire** is a prepared set of questions designed to generate data necessary for accomplishing the objectives of the research project. A survey can be administered in person, by telephone (personal and prerecorded), by mail (regular or e-mail), or via the Internet. Surveys can gather information in the form of facts, opinions, and attitudes, which is why they are so popular with marketing researchers. Whenever you need to know the "why" for a given behavior, a survey is the preferred method of choice. Why do consumers buy one brand of cereal rather than another? Who makes the food buying decision in the family? Surveys help determine customer satisfaction and likes and dislikes. A survey can also help determine how purchasing decisions are made. Finally, surveys are used to determine customer profiles, complete with demographic and psychographic (life style) data on the subjects. This information helps determine how to segment a market based on income, gender, age, occupation, marital status, education, values, hobbies, and interests. A detailed review of the survey method is provided in Chapter 5.

Student Date

Class Teacher

CHAPTER 3 Selecting the Appropriate Primary Research Method

Vocabulary Review

Match each definition with the correct term. Write the term on the line.

before-and-after with control group design	human observation	questionnaire
concomitant variation	independent variable	Solomon four-group design
dependent variable	indirect observation	structured observations
direct observation	internal validity	survey method
disguised observation	laboratory experiments	test marketing
elimination of extraneous causes	mechanical observation	time order sequence
experimentation method	observation method	undisguised observation
external validity	one-group case study design	unstructured observation
extraneous factors	one-group with pre-measurement and post-measurement design	
field experiments	primary research	

1. A variable that is influenced to some extent by one or more other (independent) variables; also known as an effect variable.

_____

2. Eradicating any other factors that could cause the change in the dependent variable in order to show that one variable caused an observable change in another variable.

_____

3. A statistical and predictable relationship between two variables.

_____

4. A sequence in which cause precedes effect.

_____

5. A research technique in which the researcher has control over one or more independent variables and manipulates them to see the observable effect.

_____

continued

6. Factors that are not manipulated as part of an experiment, but may exert some influence on the dependent variable under study.

_____

7. The characteristics that will be observed are determined prior to the market research.

_____

8. A variable that is controlled or manipulated by the researcher and exerts some influence on another (dependent) variable; also known as a causal variable.

_____

9. The ability to show that the independent variable was responsible for the change in the dependent variable because the researcher was able to control all the variables.

_____

10. A type of experimental design in which subjects or settings are randomly assigned to each of two groups (experimental and control).

_____

11. Tests conducted outside the laboratory in an actual market environment.

_____

12. A research technique in which subjects do not know they are being observed.

_____

13. A type of experimental design that does not use a control group and pre-measurement but does use post-measurement.

_____

14. A prepared set of questions designed to generate data necessary for accomplishing the objectives of the research project.

_____

15. A research technique in which a researcher observes and records behavior or an event as it occurs.

_____

16. Original research conducted to collect new data to answer a research problem or solve a marketing information need.

_____

continued

Student Date

Class Teacher

17. A research technique in which people monitor and record the action under study.

18. A type of experimental design that uses pre- and post-measurements but no control group.

19. The ability to replicate findings in the outside world with real people and real settings.

20. A research technique in which some form of mechanical device records the behavior of interest.

21. A research technique that makes use of pre-recorded behavior from secondary sources.

22. A research technique in which information is gathered through the use of questionnaires.

23. A research technique in which the research subjects know they are being observed.

24. Experiments conducted in a controlled setting.

25. A type of experimental design in which there are two control groups and two experimental groups in order to control for pretesting and experimental effects.

26. A research technique in which the behavior of research subjects is watched and recorded without any direct contact or interaction.

27. A research technique in which the characteristics that will be observed are not predetermined.

28. The initial launching of a new product into one or more selected geographic areas for a trial period to test its marketing mix (product, place, price, or promotion) prior to a full-scale launch.

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 3 Selecting the Appropriate Primary Research Method

Fact and Idea Review

Review your understanding of the important concepts in this chapter by answering the following questions.

1. What is primary research? Name and briefly explain the three types of primary research methods.

2. Explain the relationship between the independent and dependent variables in an experimentation design.

3. Explain the three factors that must be demonstrated to show a causal relationship in the experimental design.

4. How do laboratory experiments differ from field experiments? Relate internal and external validity to each method.

continued

Student Date

Class Teacher

5. Explain the difference between a one-group case study design and a one-group with pre-measurement and post-measurement design.

6. What is the benefit of randomization in a before and after with control group design?

7. Explain the four groups in a Solomon four-group design.

8. Explain the three conditions that need to be reviewed when the observation method is used.

9. What are the four different approaches that should be considered when utilizing the observation method?

10. Why are surveys so popular with marketing researchers?

Student Date

Class Teacher

CHAPTER 3 Selecting the Appropriate Primary Research Method

Marketing Research Applications

A. Selecting Primary Research Methods

Select the most appropriate primary research method for each of the following situations and provide rationale for your decision.

1. Will a new store layout increase sales?

2. Will a specific location provide enough vehicle traffic for a new branch of a chain store operation?

3. Will a change in a store's name change the store's image in a customer's mind?

4. How effective is a new package design in having customers stop and select the box from a supermarket shelf?

5. How satisfied are customers with the service at a local bank?

continued

Student Date

Class Teacher

B. Applying Primary Research Methods

Design a marketing research study for each of the following scenarios based on the methodology you are directed to use. Be sure your plans demonstrate the method requested.

1. Using the one-group case study design, design a marketing research study for the introduction of a new shampoo in a small geographic area of the country. Be sure to identify the dependent and independent variables.

2. Using a one-group experimental design with a pre- and post-measurement, design a marketing research study for a new advertising campaign to see its effects on sales. Identify the dependent and independent variables.

3. Using the before-and-after with control group experimental design and three chain stores that are similar in layout and customer demographics, test the effect of two price reductions on sales. You want to see if a price reduction of 10 percent is as effective as a 15 percent price reduction. Identify the pre- and post-measurement system, the control and experimental groups, as well as the dependent and independent variables.

continued

4. Using a four-group experimental design, test the effectiveness of a new sales training program for your sales staff. Be sure to identify the two experimental groups and two control groups, as well as which ones will receive the pre- and post-measurements and the treatment. Use fictitious figures to demonstrate how to calculate and evaluate the effect of the treatment, as well as the effect of the pretest on the post-measurement.

5. Using a structured observation method, develop a checklist for a mystery shopper to use in order to evaluate a fast-food counterperson's greeting, friendliness, accuracy in taking an order, as well as payment, suggestion selling skills, and promptness of service. You must be specific regarding the behavior you expect the mystery shopper to observe.

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 3 Selecting the Appropriate Primary Research Method

Your Marketing Research Project

Select the type of primary research method (experiment, observation, or survey) that is most appropriate to answer the research problem you identified in Chapter 1. Write two or more paragraphs to explain your decision. Provide rationale for the selection and cite any sources that support your decision to go with that method or a combination of methods.

Chapter 4 Conducting Qualitative Research

What You'll Do

- Screen and select participants for a focus group session for your research project.
- Write objectives for which you are seeking qualitative information.
- Prepare your discussion guide for a focus group session based on the objectives.
- Prepare for and conduct a focus group session for your project.
- Prepare a written report detailing your findings, conclusions, and recommendations.

Why It's Important

Before you embark on sophisticated and expensive quantitative research, it is wise to spend some time conducting qualitative research to help make sure that you thoroughly understand all the issues at hand. By conducting qualitative research first, you can increase the value of subsequent quantitative research.

Key Terms

qualitative research
subjective
quantitative research
objective
open-ended questions
focus group
moderator
homogeneous
observation room
one-way mirror
incentive
discussion guide
write-down period
methodology
research findings
conclusions
recommendations
telephone focus group
online focus group

Qualitative versus Quantitative Research

It is important to understand the distinction between qualitative and quantitative research. These two methods, though they have very similar names, are as different as night and day. **Qualitative research** (also called soft data) is a free-form research technique that is used to gain insight into the underlying issues surrounding a research problem by gathering non-statistical feedback and opinions rooted in people's feelings, attitudes, motivations, values, and perceptions, often from small samples. Qualitative research is **subjective,** meaning that it is determined by the thoughts of the subject. **Quantitative research** (also called hard data), on the other hand, seeks to gather scientific, concrete, and projectable numerical data that can be statistically analyzed, often from large samples. Quantitative research is **objective,** meaning that it is based on observable phenomena. This chapter focuses on qualitative research methods. Quantitative research methods will be covered in Chapter 5.

If you were conducting a survey on coffee drinkers, you could use both qualitative and quantitative data. In order to gather the qualitative data, you would want to ask probing questions in an in-depth personal interview or in a small group, both of which are representative of qualitative research. The qualitative research for such a survey could assess:

- Images that are conjured up in the customers' minds from the aroma of coffee.
- How they feel emotionally about their first cup of coffee of the day.
- Perceptions customers have regarding regular vs. decaffeinated coffee.
- Why customers drink specialty cofee.
- A new marketing strategy for a selected group of heavy coffee drinkers.
- Attitudinal reactions of consumers to a new coffee house that specializes in fruit drinks and a variety of coffee flavors.

Quantitative research for a survey of coffee drinkers could include demographic data and purchasing habits of customers who purchase regular coffee vs. specialty coffees. It could also include customers' preferences regarding coffee strength from a list of fixed alternatives. In order to gather such data, you could simply ask customers who were leaving a coffee house to answer a few brief questions. Questions might involve such things as their coffee preference, how often they purchased coffee, as well as their age, income level, zip code, and marital status. The responses to those questions could be tallied, analyzed, and compared to see if there are statistical differences between different groups of coffee drinkers.

Key Characteristics of Qualitative Research

The key characteristics of qualitative research include questioning techniques, the number of participants, main purposes, data analysis, and administration.

Questioning Techniques

In qualitative research, researchers conduct interviews using open-ended questions to explore and understand the attitudes, opinions, feelings, and behavior of individuals or a group of individuals. **Open-ended questions**, also known as subjective questions, require the participant to answer in his or her own words. Open-ended questions are like essay questions because the participant is expected to provide a complete explanation. Yes/No questions are not open-ended. For example, *"Did you shop in Sears today?"* is not an open-ended question because the response is simply a yes or no. On the other hand, *"How would you describe the service you received at Sears based on today's shopping experience?"* is a question that requires an in-depth response, thereby making it an open-ended question.

The advantage of open-ended questions is that they allow for all types of answers by not restricting the respondent to a predefined list of choices. Open-ended questions can provide rich, contextual results. Their nature makes these questions ideally suited to investigating the issues that surround a research topic.

Participants

Since qualitative research is so intense, it is usually conducted with only one person at a time (in-depth or one-on-one interview) or in a small group of between eight to twelve participants (focus group). A **focus group** is a qualitative market research technique in which a group of participants (usually eight to twelve people) are led through a discussion of a given topic by a trained moderator. A **moderator** is the leader of a focus group who facilitates discussion and ensures the agenda is covered in the allotted time period. Focus groups are usually **homogeneous,** meaning that the participants have common demographics, attitudes, purchasing patterns, and needs. We will learn about focus groups later in this chapter. In quantitative research, the number of participants may be far greater because administration of the survey is much less intense.

Purpose

Exploration is the key function or purpose of qualitative research. It helps to determine customers' needs, wants, values, attitudes, feelings, and behavior. Exploratory research is conducted to determine the basis for quantitative research. It is sometimes necessary to speak with prospective customers about a new product to determine their needs and wants, as well as the image they have of a new concept for a product.

Armed with qualitative research results, researchers are able to develop more effective quantitative questionnaires to use in a consumer survey. For example, suppose that a small group of consumers are questioned about their expectations and the image they have of Mercedes Benz automobiles, as well as the service they expect from a Mercedes Benz dealership. Data from that qualitative research could then be used to design a quantitative questionnaire that could be sent to all new owners of Mercedes Benz autos to evaluate their satisfaction with their new autos and their overall auto purchasing experience.

On the other hand, qualitative research can also be used to provide a better understanding of quantitative research findings. Let's say the results of a survey indicated that customers were aware of a company's Web site, but never accessed it. Qualitative research might be helpful in determining why those customers did not visit the company's Web site. Reasons could include discomfort using computers or the Internet, privacy concerns, or other computer security issues. In this case, qualitative research findings could help explain the quantitative research findings.

Data Analysis

Qualitative data analysis is more subjective and interpretive than quantitative research. Unlike quantitative research, in which statistics can be used to interpret results, qualitative research has its basis more in the social sciences of psychology and sociology. Data from qualitative research is full of human dimensions that provide deep-seated motivations for behavior. Therefore, the findings from qualitative research are generally reported in a written report with revelations explained by the researcher based on what was observed and recorded during the interaction with the participant(s).

THE DECA CONNECTION

Hitting the Mark!

Whenever you are trying to determine if a product or an ad campaign is going to be successful, it is a good idea to conduct qualitative research. For that reason, in-depth interviews or focus groups would add direction to DECA projects, such as the Advertising Campaign, Fashion Merchandising Promotion Plan, Public Relations Campaign, and either of the Entrepreneurship events (Participating and Written). Qualitative research could be conducted to determine the motivation and feelings behind a product or company, as well as be a means of evaluating creative elements of a campaign to see if they are hitting their mark.

Administration

An experienced interviewer or moderator is required for qualitative research. Since the basis of qualitative research is interaction between the interviewer and the participant in a one-on-one interview and among the participants in a group, certain skills are needed to control the conversations and keep them focused on the topics. In a group setting, the moderator must be able to draw out the people who are quiet and reserved, as well as to tactfully control more aggressive participants. One challenge a moderator may face is a strong group member who attempts to influence the

entire group. In such a situation, the moderator needs to achieve balanced participation by keeping that one member from biasing everyone else's opinions. Thus, a talented moderator knows how groups function and has experience handling various situations that could potentially ruin the free-flowing interaction and direction of the group. Excellent interpersonal, questioning, and listening skills are essential for success as a marketing research interviewer.

Limitations of Qualitative Research

Although qualitative research has many benefits, it also has some shortcomings. Three limitations are theory versus reality (what people say in a focus group is not necessarily what they would do in reality), the inability to generalize findings due to the small sample size, and the difficulty in distinguishing small differences that are found using this type of research.

Theory versus Reality

A major limitation of qualitative research is that sometimes what people say in an interview is not what they would really do in practice. Focus group findings may be very different from results generated in a real situation, or experimental design.

For example, suppose that an olive oil company is considering switching from its traditional tin container to a plastic container. In a focus group, participants indicated that they liked the look of a new plastic container and many said they would purchase it when it was made available in the supermarket. They even gave reasons for liking it, such as the ability to see the contents of the container and the ease in opening and pouring. An astute marketing manager was not convinced, so he conducted a simple experiment in which the two containers were displayed side-by-side in several similar supermarkets to see which container customers preferred. The volume of olive oil in each container and its price were exactly the same. Sales were monitored in all the supermarkets. The results were five to one favoring the traditional tin. Even though the focus group findings indicated that customers liked the plastic bottle, in the real situation customers favored purchasing the tin.

Inability to Generalize Findings

Because one-on-one research and focus groups use few participants, there is always a question regarding how representative the sample is of the target population under study. Careful consideration must be given to generalizing the results of qualitative research. In the example of olive oil customers, it is possible that the participants selected for the focus group were different than the olive oil customers who shopped in the supermarkets in the experimental research design. Thus, it would be inaccurate to generalize the results of the focus group to the target population of all current olive oil customers.

Small Differences

When conducting qualitative research, differences in participants' responses may be difficult to distinguish. In focus groups, participants may simply agree with other participants without further explanation or they may try to provide the right answer in order to appear knowledgeable. It is up to the moderator to probe to find out why everyone agrees on a certain topic. Even with extra probing, minor differences may not be easy to discern. In the olive oil study example, the company was studying the newly designed container. It is possible that the comparison of the two containers and participants' feeling about one versus the other was not distinguishable. The quantitative data generated from the experiment made the choice quite distinguishable. There was no doubt which container was preferred by olive oil customers in the real situation, or experimental design.

Focus Groups

As you learned earlier, a focus group is a qualitative market research technique in which a group of participants (usually eight to twelve people) with common demographics, attitudes, and purchasing patterns are led through a discussion of a given topic by a trained moderator. The goal of a focus group is to get the participants talking and interacting with one another so the discussion is spontaneous. Participants are encouraged to react to the responses of other members of the group. From this free-flowing interaction, more information can be obtained when compared to a one-on-one interview. Focus group sessions are generally between 90 minutes and two hours in length. Conducting a focus group requires lots of preparation and a final report, in addition to the actual focus group session.

Preparation

In addition to deciding on the objectives of the study (discussed in Chapter 1), preparation involves selecting the proper facility, recruiting participants, and writing the discussion guide.

Facility

Focus groups are typically held in a special facility with a conference room separated from an observation area by a one-way mirror. An **observation room** is the room from which client personnel observe and listen to focus group proceedings through a one-way mirror. A **one-way mirror** is a special mirror that permits observers to watch the proceedings in the focus group without the participants being able to see the observers. Focus group facilities normally provide services such as videotaping the sessions. This is so the client and researcher can review the video of the proceedings at a later date. A videotape can capture dialogue and facial expressions that may have been missed during the actual session. A conference table is usually in the center of the room with seating for the participants and the moderator.

Other equipment that may be needed, depending on purpose of the focus group session, includes a flip chart to record responses by participants or to use as a guide; a screen with computer and projector to show participants samples of product packaging, advertisements, or other visual materials; and a television and videotape player or simply a tape recorder in order to provide a sample of television or radio commercials. Refreshments are usually served prior to the focus group session, so an extra table for that purpose is often required as well.

Participants

A screening is conducted prior to selecting participants for a focus group session in order to ensure that the group is as homogeneous as possible with regard to the essential characteristics, but not so similar that they do not have different opinions. Characteristics that may be used to select a homogeneous group of participants might include age, income, education level, gender, occupation, past use of the product or service, or intended purchase of the product. Homogeneity helps participants to identify with one another based on a common interest or characteristic, so they feel more relaxed and comfortable in the group. The characteristics for each focus group must be established in advance for consistency in the selection process. Key demographic factors may be required for each of several focus groups. For example, one focus group on toothpaste may be for women over age 50, while another one may be established for women under age 30. Often more than one focus group is held, so differences in attitudes and preferences can be determined based on demographic characteristics.

Generally, participants are called and asked a series of questions to determine their eligibility. If they qualify, they are invited to attend the focus group on a specific date and

time, and are given directions to the facility, as well as a phone number to call if they have any questions. Getting a participant to agree to participate is not always easy. You need to explain how important their input is, as well as what the incentive is for participating. The **incentive** is the payment to participants for coming to a focus group. Focus group participants are generally paid for their time with money or something else of monetary value, such as sample products. Once a participant has agreed to participate in the focus group, a formal letter or card to reinforce the participant's commitment to participate should be sent. A follow-up phone call on the day of or day before the focus group session is advised to make sure the participant did not forget about the commitment.

One of the questions asked during the screening process should assess the participant's knowledge of the topic of the focus group. If the participant has no experience or knowledge of the topic, then the person should not participate. For example, if a focus group were established to ascertain women's attitudes about golfing equipment, you would want women golfers as the participants. It would be useless to invite women who have never golfed and who have no interest in the sport to participate in a focus group about golf equipment. Other people who should not be invited to attend a focus group on golf equipment would be anyone who works for a market research company, a golf equipment manufacturer, or a golf equipment retailer, as they might be biased.

Discussion Guide

The moderator needs a discussion guide to make sure the focus group session is run efficiently. The **discussion guide** is a detailed written outline of topics the moderator will cover during a focus group discussion. It is broken up into the opening, warm-up, topic discussion, and closing. You will learn more about how to design a discussion guide later in this chapter.

Conducting the Focus Group

When participants arrive for the focus group session, they should be greeted warmly and invited to enjoy the refreshments provided. All participants should be given a placard and a pen so they can write their name. The moderator should observe the participants during this socialization period to see who is outgoing and who is more quiet and reserved. These observations will help when conducting the actual session.

When it is time to begin the focus group, participants should be asked to sit around the table in no particular order and to put their name placards in front of them so the moderator and other participants can see them. The moderator should welcome everyone and follow the discussion guide steps. They include the opening, warm-up, topic discussion, and closing. Each one has a time limit, which is simply a guide for the moderator so all topics can be covered in the time period allowed. It is okay if one topic requires more time than another one, as each group will be different.

During the topic discussions, it is important to allow participants to react to each other's responses. The moderator may even ask participants how they feel about something that was said by another participant to determine the depth of feelings about a given topic. It is important for the moderator to pick up on similarities and differences among the group members as the session progresses in order to accurately summarize the main points at the end of the discussion for each main topic, as well as at the end of the session. Some focus groups include a write-down period. A **write-down period** is a time for participants to write their views on a topic during a focus group. Moderators use write-downs to get participants to commit to their point of view before other participants can influence them. There are three examples of write-down periods in the following Sample Discussion Guide. One example involves ranking of product features, while another addresses product

packaging. The third example asks participants to write the price they are willing to pay for the product on paper before discussing that topic in the group. Let's review a sample discussion guide to get an idea of the format, timing, questions, and techniques that are used to ensure participation of all members of the group.

Sample Discussion Guide

Opening (5 minutes)

In the opening, the moderator explains the focus group format and covers the rules. The following are some statements that would be made by the moderator during the opening:

- "There are no right or wrong answers, only opinions—your opinions, which are important to me."
- "Everyone must be heard so I will ask that no one talk when someone else is speaking."
- "This room is equipped with a one-way mirror and a video camera so my colleagues can see and hear what you have to say, as they are very interested in your ideas too. The use of recording equipment also means I don't have to take notes, which makes it easier for me to listen to your opinions."
- "Please don't ask me questions about what I think because that is not important; what you think is what is important."
- "Don't feel uneasy if you don't know anything about the topic—knowing what you don't know is just as important to us as knowing what you do know."
- "If your view is different from the others in the group, please speak up. We are not looking for everyone to agree, unless that is how you all feel."
- "Since we have several topics to cover, I will need to keep the discussion moving along, so please don't get offended if we don't completely discuss a given topic."
- "Do any of you have any questions before we begin?"

Warm-up (10 minutes)

The first few questions are designed to help the participants relax and uncover their common bond. Participants might be asked to tell everyone something about themselves, such as their hobbies or interests, as well as something about their use or interest in the topic of the focus group. For example, "*Let's go around the room, and please tell us your name and one or two things about yourself.*" The second statement might be "*Now we'd like you to tell us about your experience with* [the product under study] *or your knowledge of* [the program or topic of the focus group]." (Call on each participant to respond to these two requests, one at a time.)

Topic Discussion (60 minutes)

Now you are ready to begin the specific topics for which you planned this focus group session. Each topic needs to be introduced with a transition so that participants understand exactly where the discussion is headed. Let's assume the topic is automatic home blood pressure machines and a client wants the following questions answered:

- *Topic 1:* Why and when would the product be used? (15 minutes)
- *Topic 2:* What product features are important? (15 minutes)
- *Topic 3:* What is the best packaging for it? (15 minutes)
- *Topic 4:* What price would they pay and who or what would influence their purchase decision? (15 minutes)

Topic 1 (15 minutes)

Probe to determine when the last time participants had their blood pressure taken, where it was taken, by whom, and why. Determine if anyone takes his or her own blood pressure. If so, what equipment is used? Ask participants if they have ever seen or used an automatic blood pressure machine, and what they know about them, to determine their perceptions about them. (*Note:* Everyone invited to this focus group session had to qualify by

indicating that they monitored their blood pressure. Thus, respondents will most likely explain a medical condition that is correlated with the need to monitor blood pressure, such as diabetes or heart disease. Note how often participants get their blood pressure taken.)

Topic 2 (15 minutes)

Show participants the prototype of the automatic home blood pressure machine. Probe to determine participants' reactions to five features: the size, weight, directions, carrying case, and ease of operation. Before ending this session, have the participants rank those five features in writing according to their importance to them. (Distribute paper and pens, if you have not already done so.) Have them rank the most important feature with a 1, the next most important with a 2, down to the least important with a 5. (This is an example of a write-down period.) Discuss the rankings by asking participants to explain why they ranked the features as they did.

Topic 3 (15 minutes)

Before beginning Topic 3 make sure all participants have a pen and paper. Show participants each of the three packaging styles, one at a time. Have participants evaluate each package by writing the first one or two words that come to their minds that best describe their immediate reactions to each package design. After the third package is shown, have participants write down which package design they like the best. (This is another example of a write-down period.) Then conduct a discussion about their reactions to the three different packaging styles by inviting each participant to share their responses with the group.

Topic 4 (15 minutes)

Have each participant write the price they would expect to pay for the automatic home blood pressure machine they saw today (complete with the packaging they preferred). (This is another example of a write-down period.) Ask respondents to reveal their answers and provide their rationale for the prices they indicated they would expect to pay. You may want to write the prices on the flip chart to keep track of the price range of the group. Ask participants whether the inclusion of an instructional video would change the amount they would expect to or be willing to spend. Finally, ask participants if they would purchase this product if it were on the store shelf tomorrow. Probe to determine why and under what circumstances they would purchase it or why they would not purchase it. Ask if the advice of a doctor to monitor their blood pressure on a weekly basis would change their mind about whether or not they would make the purchase.

Closing (15 minutes)

In the closing, the moderator should encourage participants to add any thoughts, feelings, or ideas. There should be closure and time to let participants reflect on comments made earlier in the session. To make it easy for them to do so, the moderator might review the key points made by the group and ask if that summation was accurate. The moderator could also ask if anything was missed in the discussion. Finally, the moderator might ask a question to encourage participants to probe for specific ideas, such as: "*Taking into consideration all the things we discussed today, do you have any last thoughts or feelings that should be included in the report on this automatic home blood pressure machine?*" Or, "*What would you suggest to the designers of this automatic home blood pressure machine to make it a success in the marketplace?*" After the participant's response, a debriefing should include telling the participants that they did an excellent job, thanking the participants for their input, giving them their honorarium (gift or cash), and telling them to have a safe trip home.

Focus Group Report

After an analysis of the focus group session, a report is written to document the research methodology, findings, conclusions, and recommendations. The **methodology** is the approach used in the research, including the method of recruiting participants and the types of questions used. The **research findings** summarize but do not interpret the facts from the research on which the interpretation will be based. The **conclusions** are the interpretation of the data in light of the research objectives. The **recommendations** suggest the next actions a client could take, based on the conclusions of the research.

The written report should include the following:

- Title page
- Table of contents
- Introduction
- Two-page executive summary of the methodology, research findings, conclusions, and recommendations. The executive summary should include:
  - **a.** Details on the findings organized according to the main discussion topics.
  - **b.** Actual participants' comments that help support the findings and conclusions.
  - **c.** An appendix with a copy of the discussion guide and the screening questions used to select participants into the study.

The introduction should include the purpose of the research, the major questions to be answered, and the characteristics of the focus group participants. A two-page executive summary of the methodology, research findings, conclusions, and recommendations should be included in the report, but should also be able to stand alone. Details on the findings should be organized according to the main topics under scrutiny and the main insights reported by the focus group. Excerpts of actual participants' comments and conversations should be included to support the findings and conclusions.

Other Focus Group Formats

Two other common forms of focus groups are telephone focus groups and online focus groups. A **telephone focus group** is a focus group that is conducted via a conference call. In an **online focus group,** respondents in separate locations use their computers to participate in a virtual group discussion in a private Internet chat room. Using a split screen, the moderator asks questions while the participants write their answers to those questions. The client can observe the entire process by logging on to the chat room site.

The benefits or advantages of online and telephone focus groups is the flexibility in selecting participants—there are no geographic boundaries, and difficult-to-reach target populations (such as physicians and business executives) can be reached with this method far easier than through conventional focus groups. Costs are less because the client's representatives, who generally observe the focus group sessions, do not require travel or other expenses. Another advantage is the ability of the client to interact with the moderator while the session is taking place. Finally, many participants enjoy the anonymity of the online and telephone focus group.

The disadvantages of these alternative forms of focus groups include lack of group dynamics, and face-to-face contact, and the inability to observe nonverbal communication, such as facial expressions and body language. Some say that the emotions depicted by nonverbal communication are still evident through the immediacy of the response and the words used by the participants. Also limited is the exposure of participants to external stimuli, such as prototypes of products and sample advertisements. The lack of face-to-face contact limits the ability of the moderator to use group dynamic skills, such as energizing a group into action or helping draw out quiet or timid participants. It is also impossible to tell how attentive the participant is when using alternative forms of focus groups.

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 4 Conducting Qualitative Research

Vocabulary Review

Match each definition with the correct term. Write the letter of the term on the line.

_____ **1.** Suggestions for the next actions a client could take based on the conclusions of the research.

_____ **2.** The payment to participants for coming to a focus group.

_____ **3.** A research technique in which scientific, concrete, and projectable numerical data that can be statistically analyzed is gathered, often from large samples.

_____ **4.** Based on observable phenomena.

_____ **5.** A qualitative market research technique in which a group of participants (usually eight to twelve people) are led through a discussion of a given topic by a trained moderator.

_____ **6.** The room from which client personnel observe and listen to focus group proceedings through a one-way mirror.

_____ **7.** The approach used in marketing research, including the method of recruiting participants and the types of questions used.

_____ **8.** A focus group in which respondents in separate locations use their computers to participate in a virtual group discussion in a private Internet chat room.

_____ **9.** Having common demographics, attitudes, purchase patterns, and needs.

a. conclusions
b. discussion guide
c. online focus group
d. homogeneous
e. incentive
f. methodology
g. objective
h. observation room
i. one-way mirror
j. focus group
k. open-ended questions
l. qualitative research
m. quantitative research
n. recommendations
o. research findings
p. subjective
q. telephone focus group
r. write-down period
s. moderator

continued

_____ **10.** A free-form research technique that is used to gain insight into the underlying issues surrounding a research problem by gathering non-statistical feedback and opinions rooted in people's feelings, attitudes, motivations, values, and perceptions, often from small samples.

_____ **11.** A detailed written outline of topics the moderator will cover during a focus group discussion.

_____ **12.** A special mirror that permits observers to watch the proceedings in the focus group without the participants being able to see the observers.

_____ **13.** The time for participants to write their views on a topic during a focus group.

_____ **14.** Determined by the thoughts of the subject.

_____ **15.** The interpretation of the data in light of the research objectives.

_____ **16.** A focus group that is conducted via conference calling.

_____ **17.** A form of question that requires the participant to answer in his or her own words (also known as a subjective question).

_____ **18.** These summarize, but are not an interpretation of, facts from the research on which the interpretation will be based.

_____ **19.** The leader of a focus group who facilitates discussion and ensures the agenda is covered in the allotted time period.

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 4 Conducting Qualitative Research

Fact and Idea Review

Review your understanding of the important concepts in this chapter by answering the following questions.

1. What is the key difference between qualitative and quantitative research?

2. What are open-ended questions, and what is the advantage of using them in qualitative research?

3. Note the number of participants used in qualitative research (one-on-one interview and focus groups) and the rationale for those numbers.

4. Discuss the purpose of qualitative research and the ways it is used in conjunction with quantitative research.

continued

5. How is data analysis performed in qualitative research?

6. Why is an experienced interviewer or moderator required for qualitative research?

7. What are the three limitations of qualitative research?

8. Describe a focus group and the preparation needed to before conducting one.

9. What is a write-down period, and why is it used in a focus group session?

10. What are the advantages and disadvantages of online and telephone focus groups?

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 4 Conducting Qualitative Research

Marketing Research Applications

A. Evaluating Research Methods

Read each of the following three research situations and note whether the research study represents qualitative or quantitative research. Then order the research situations chronologically and provide a rationale for your decision.

1. A survey is administered to 200 bank customers to determine their level of satisfaction with the bank's personnel (their friendliness, service, and knowledge), hours of operation, and products (checking accounts, savings accounts, and safe deposit boxes).

2. Interviews are conducted on a one-on-one basis with 20 bank customers to determine their attitudes and feelings about bank service, image, and personnel.

3. Small groups of eight to 12 banking customers are brought together to discuss a bank's new advertising campaign and image.

4. Consider the three research studies in questions 1, 2, and 3. Put them in chronological order and provide rationale for your decision.

B. Planning Focus Groups

Review your understanding of focus group planning and preparation by answering the following questions.

1. Assuming you do not have a professional marketing research facility as described in this chapter, what three other facilities could be used to conduct a focus group session?

continued

2. Select one of the facilities from your list and explain how you would set up that facility so focus groups could be conducted there. Prepare a list of all the furniture, equipment, and supplies you would need for the focus group sessions. On a separate sheet of paper, prepare a diagram of the room.

3. Prepare a telephone script to screen participants for a focus group on ice cream. The client wants to conduct three focus groups—each one representing a different age group.

   - Group 1 is for males and females between the ages of 20 and 34
   - Group 2 is for males and females between the ages of 35 and 49
   - Group 3 is for males and females between the ages of 50 and 64

continued

Student Date

Class Teacher

4. Use a word processor to prepare the topic discussion questions and the closing for a focus group discussion guide on CD players. Assume that the opening and warm-up on the discussion guide are done for you. The client wants to know what marketing strategy to use to reach teenagers, as they are primary customers of CD players. Preliminary research indicates that teenagers feel as though they are escaping from reality when they listen to their music on CD players, but you want to verify that information is accurate. You therefore want to know how they feel when they listen to their music and what advertising message will reach them. It is important to also know where and when they listen to their music. To test a new marketing strategy, it would be a good idea to use an existing magazine ad for a CD player or create a new one. To design a new ad, you can simply cut and paste an illustration, headline, logo, and copy from existing ads to create your own ad.

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 4 Conducting Qualitative Research

Your Marketing Research Project

Review the objectives of your original research project and your selected target population. Select two or three objectives for which qualitative research would help you in designing your quantitative research study. Use a word processing application to perform the following steps of your marketing research study.

1. Write a list of questions to screen participants for a focus group session for your research project. These participants should match the characteristics of your target population.
2. Write two or three objectives for which you are seeking qualitative information (feelings, attitudes, opinions, etc.) that later may be used in your quantitative research study (i.e., questions or possible responses to questions on a questionnaire). Explain how the findings from the qualitative research will help you when designing your quantitative research study.
3. Prepare your discussion guide for a focus group session based on the objectives you selected in the previous question. Include the opening, warm-up, topic discussion, closing comments, requests, and questions.
4. Prepare a calendar with dates for contacting participants, confirming participation, writing the discussion guide, getting permission to hold the focus group in a specific facility, and any other details required to actually conduct a focus group session for your project.
5. Conduct the focus group and prepare a written report, which includes:
   - Title page
   - Table of contents
   - Introduction
   - Two-page executive summary of the methodology, research findings, conclusions, and recommendations, which should include:
     - ⌫ Details on the findings organized according the main discussion topics
     - ⌫ Actual participants' comments that help support the findings and conclusions
     - ⌫ An appendix with a copy of the discussion guide and the screening questions used to select participants into the study

Chapter 5 Conducting Quantitative Research

What You'll Do

- Select the most appropriate survey method to use for your study based upon the goals and objectives of the study and your client's budgetary constraints.
- Write a one- to three-page word-processed report on your selected survey method, providing a valid rationale for your selection, detailing problems inherent in the selected method, outlining a proposal for how those problems will be handled, and planning for preventing and controlling survey errors.

Why It's Important

Quantitative research forms the core of marketing research because the measurements of a correctly executed survey are accurate, reliable, replicable, and representative. As such, quantitative data can be used with confidence in making critical business decisions.

Key Terms

survey
bias
sampling
sample
representative
sample population
sampling error
random sample
non-random sample
interviewer error
respondent error
instrument error
validity
reliability
leading question
processing error
in-person survey
executive interview
mall-intercept interview
purchase-intercept interview
telephone survey
telephone sample
self-administered surveys
mail survey
fax survey
drop-off surveys
e-mail surveys
Internet surveys
screened Internet sample
recruited Internet sample

Overview of Quantitative Survey Research

As you learned in Chapter 4, quantitative research has its basis in numbers and statistics. Quantitative research (also called hard data) is a research technique in which accurate, concrete, and projectable numerical data that can be statistically analyzed is gathered, often from large samples. A **survey** is the means by which quantitative research is conducted. The aim of quantitative research is to determine how one thing (a variable) affects another. Therefore, quantitative research is all about quantifying the relationships between variables. As a general rule, research data is quantitative when you can chart it, graph it, or tabulate it.

Quantitative research is best suited to measuring concrete and easily categorized attributes, such as market factors (e.g., market size; segmentation; product consumption levels, patterns, and frequency; distribution channels; and market share), consumer characteristics and behaviors (e.g., demographics, psychographics, geographics, and consumption and purchase habits), and attitudes and opinions of consumers (e.g., product requirements, feature preferences, brand perceptions, and product performance expectations).

One advantage of quantitative research is that surveys, for the most part, are easy to administer. Another major strength is that a large number of respondents may be included. This allows researchers to generalize results to the target population with some degree of statistical accuracy. Another benefit is that quantitative research lends itself well to in-depth analysis. An array of statistical techniques can be applied to quantitative data. Such data can be charted, graphed, and tabulated, and the complexity of analysis can range from generating simple averages to complicated and simultaneous analysis of multiple variables. This allows small differences in data to be detected.

The replicability of quantitative research is also advantageous. A basic tenet of quantitative research is that correctly executed, simultaneously conducted surveys involving the same population produce nearly identical results. This allows changes in a population to be tracked over time by executing the same study at regular intervals. A major economic benefit of quantitative research is that once the appropriate systems are in place, the process can be automated and computerized, decreasing the cost of subsequent research studies.

One major disadvantage of surveys is the difficulty in ensuring a representative sample of the target population. Without a representative sample, the accuracy of the results can be compromised. Other disadvantages include controlling for interviewer and respondent errors caused by conscious or subconscious bias or falsification, and creating a fair instrument for measurement. There is also a limit to the depth of information that can be generated from a survey. This chapter reviews the various types of survey errors that may occur and suggests way of controlling or preventing them. It also provides a review of the various types of survey methods so you can decide on the method of choice for your research study.

Survey Method Errors

Researchers must be careful when planning the design of a study to avoid or at least reduce the many types of errors that can creep into a marketing research study. These errors compromise the research data generated from the study, making the data inaccurate and/or biased. **Bias** is a prejudice or preference favoring some outcomes over others. Errors may occur at any phase in the research project. Errors can be classified as sampling, interviewer, respondent, and instrument.

Sampling Error

Sampling is the method of selecting a subgroup of consumers to participate in a study. A **sample** is a subset of the population of interest chosen for a research study. A sample must be **representative,** meaning that it is like or typical of the population as a whole. The **sample population** (also known as the target population) is the population of interest from which the sample is obtained. **Sampling error** is the estimated inaccuracy of the results of a study when a population sample is used to explain the behavior of the total population.

There are two types of samples, random and non-random. A **random sample** (also known as a probability sample) is a sample in which all members of the target population have an equal and independent chance of being selected for the study. For all members to have an equal chance, a master list of the entire target population is required, such as all students enrolled in a specific high school as of a certain date, or all credit card customers of a specific retail store as of a certain date. In each of these examples, all respondents are part of the pool from which respondents may be selected. To reduce sampling error when random sampling is used, the researcher must make sure the sample size is large enough to provide adequate representation of the target population. This issue will be discussed in detail in Chapter 7.

A **non-random sample** (also called convenience samples) is one in which a complete list of respondents is not available, so the respondents are selected based on other characteristics. The biggest challenge for researchers is to make sure the non-random sample is representative of the target population with regard to specific characteristics found in the target population, such as age, income, gender, purchasing habits, product usage, or some of other relevant factor. This issue also will be discussed in detail in Chapter 7.

Another sampling error issue involves differences in respondents vs. non-respondents. The question is whether respondents are the same or different than people who choose not to respond to a questionnaire. Some researchers conduct follow-up studies to see if there are any differences between the first group of respondents and those obtained from follow-up efforts.

Interviewer Error

Interviewer error is inaccurate information produced because of errors by the person administering the survey. Interviewer error can be caused by conscious or subconscious bias. In some cases, inexperienced interviewers inadvertently use body language (i.e., nodding of the head) to lead respondents to answer in certain fashion, or they change the wording of the questions when administering the survey, which causes respondents to interpret the questions differently from its intended purpose. Other causes of interviewer error occur when interviewers fake data in order to reach their quota or get their job done quickly. Sometimes, they also may misinterpret the responses given or check the wrong boxes on the questionnaire. One of the best ways to prevent interviewer error is to thoroughly train interviewers. Another suggestion would be to supervise them closely and/or have them work in teams so they are more likely to conduct interviews correctly.

Respondent Error

Respondent error is an error that results from survey participants deliberately falsifying their responses or unconsciously providing inaccurate answers. One reason respondents may not provide honest responses is to preserve their self-image; respondents may want to appear socially or politically correct or more educated, richer, or younger/older than they truly are. In other cases, they simply may not want to offend the sponsor of the research study (e.g., a store owner with whom they do business), so they respond with answers they perceive as desirable or correct. Lastly, they may not reveal sensitive information, such as values, opinions, or feelings, for fear that their responses would be published for others to see.

Some of the ways of controlling for respondent error are to let the respondents know that their responses are anonymous and confidential. Additionally, they should be told that the researcher wants them to answer honestly, as their answers are not correct or incorrect.

Care should also be taken when writing questions of a sensitive nature for the survey instrument. For example, income questions could be optional, and age questions could be grouped into ranges (i.e., 25 to 35, 36 to 45, etc.) so the respondent is not asked directly, "*How old are you?*" or "*How much money do you earn?*"

Instrument Error

Instrument error occurs when a questionnaire used for the survey is not constructed properly. Most of the errors found on a questionnaire relate to the validity and reliability of the instrument. Other instrument errors stem from the wording of questions that may be of a sensitive nature, leading questions, and questions that are difficult to answer.

Validity

When planning a survey, validity and reliability of the instrument must be considered. **Validity** means that the survey actually measured what it was supposed to measure. Anything included in the survey that is not relevant to the study's objectives would be considered invalid and should be eliminated. During the planning stages, it is very important to keep asking your client, "*Is this something you need to know to accomplish your objectives or is it something that you think would be nice to know?*" The acid test for a client who may find that question difficult to answer would be, "*How will you use this information to make a decision or answer the objectives at hand?*" If no decision will be made based on that data, it is best to leave questions related to it off the survey instrument. The best way to check for the validity of the questionnaire items is to prepare a table that correlates the objectives of the study with the questionnaire items. Refer to Table 1.3 on page 6 for a sample of the format for this correlation table.

Another problem with validity arises when writing questionnaire items. You must make sure you are asking the questions that will generate the data needed to answer the research problem. In many cases, researchers will write questions and then try to find ways to connect the answers to the problem, only to find flaws in the interpretation or analysis. For example, if you want to know if customers are pleased with the service they received from your customer service representatives, you must be specific when you prepare a question that addresses that issue. Here is an example of a poorly worded question: "*How would you rate the service you received from our staff, on a scale of 1 to 5, with 1 being poor and 5 being excellent?*" The basic rule of thumb is to ask the question you need the answer to and be specific. In this instance, "staff" is too broad, so the results will not be valid. To correct the problem, the word *staff* would have to be changed to *customer service personnel* because they are the employees you want evaluated.

Reliability

Reliability means that all the respondents will interpret the questionnaire items the same way. In the preceding example, *staff* could be interpreted differently by each respondent. A questionnaire item for a restaurant survey would be: "*Was your food hot?*" The word *hot* can be construed as the temperature of the food or the spiciness of the food. The best way to check the reliability of questionnaire items is to pretest the questionnaire with people in the target population and ask them how they interpreted each question. If all respondents interpreted the questions the same way, the instrument would be considered reliable.

Other Considerations

Other instrument error considerations involve the wording of questions that may be of a sensitive nature, leading questions, and questions that are difficult to answer. The order of questions, layout of the questionnaire, and other principles related to preventing or controlling instrument error will be covered in Chapter 6, where details are provided on how to construct an effective questionnaire.

Questions about sensitive topics that may evoke an emotional response may cause respondents to get angry and possibly refuse to continue with the survey. Sensitive topics should be kept to the end of the survey and should be worded in such a way that the respondent is not offended. Political issues, medical conditions, and the like would fall into this category.

Questions should not lead the respondent to answer in a prescribed fashion. A **leading question** (also called a loaded question) suggests an answer by the way in which the question is worded. Because of this, it is important to see if the words in the questions used have certain connotations that affect the respondents' answers. For example, you would not want to ask, "*How did you like the delightful performance of the main character of the play?*" You can see that the word *delightful* would lead the respondent to answer in a positive fashion.

Questions that are difficult to answer should be avoided. When asking questions that involve frequency of use, it is important to provide a time frame that is reasonable for the respondent to use for such a calculation. An example of a poorly worded question is: "*How many times did you visit a McDonald's restaurant in the last five years?*" A shorter period of time would be more reasonable, such as *"How many times did you visit a McDonald's restaurant in the last month?*"

Processing Error

Processing error occurs when information is incorrectly transferred from the measurement instrument to the computer. The assignment of computer codes to raw responses can be a source of error. Errors can also occur due to flawed computer programming. Other processing errors may occur when inputting the information.

One way to control for processing errors is to have one person read the information to another person, who inputs the data into the computer. This procedure allows more focused concentration while transferring the data. Another way to reduce inputting errors is through the use of an automated process. Optical scanners may be used to read and record responses recorded on special survey instruments.

Types of Surveys

Any observation or investigation of the facts about a situation may be called a survey. Surveys may be administered in different ways, depending on your client's needs and the circumstances surrounding the research study. A few types are in-person, telephone, self-administered (via drop-off, mail, or fax), and Internet surveys. Let's look at the advantages and disadvantages of each.

Explaining Methodology Design and Rationale

All of DECA's Marketing Research Events (Business and Financial Services, Food Marketing, General Marketing, Hospitality and Recreation, and Retail Marketing), as well as the Creative Marketing Research Project lend themselves to quantitative research. When writing the section(s) on research methods used in the study, address all the steps taken to design the study and the rationale for the method chosen.

In-Person Surveys

An **in-person survey** involves a face-to-face encounter with the respondent. One of the major benefits of an in-person survey is the interviewer's ability to observe the respondent. An experienced interviewer may be able to determine when a question is not understood, so complex questions can be explained. Visual aids and other stimuli can be used to elicit responses. The feedback generated from in-person surveys is greater than other methods because respondents provide verbal answers rather than writing their responses, which is less appealing. However, in-person surveys are expensive and time-consuming, in part because of the cost of hiring experienced interviewers and the time it takes to complete an in-person survey.

In-person surveys may be conducted in different locations, depending on the research situation. In-home, in-office, executive interviews, mall-intercept, and purchase-intercept are the most common in-person surveys.

In-Home and In-Office Surveys

The major advantage of in-home and in-office surveys is that they help make respondents feel comfortable and at ease, which helps during the interview session. An **executive interview** is a special type of in-office interview that is generally focused on industrial goods and services. One of the major problems with executive interviews is getting an appointment, as most executives are reluctant to take time from their busy schedule. In such a situation, the interviewer needs to be highly trained because the topics may be of a technical nature.

Mall-Intercept Surveys

In a **mall-intercept interview,** shoppers are intercepted in shopping malls and interviewed face-to-face. The respondents may be interviewed when approached or taken to another area of the mall, where it is quiet and there are fewer distractions. The mall intercept is popular because of the ease in locating potential respondents.

Purchase-Intercept Surveys

In a **purchase-intercept interview** the interview is initiated immediately after a customer buys something. Two major advantages of this survey technique are the ability to select the people who have demonstrated a specific behavior for the study (e.g, the purchase of a specific item) and the ability to secure their immediate reactions and reasons for that purchase, as everything is fresh in their minds. One problem with this method is that many store owners are reluctant to allow their customers to be approached and interviewed while in their store.

Telephone Surveys

A **telephone survey** is a personal interview conducted via the phone. A **telephone sample** is a group of individuals who are surveyed by telephone. Telephone administered surveys have grown in popularity because of their lower costs and ability to reach a large number of people at a faster rate than personal interviews. Other advantages involve the wide geographical range possible and the ability of research companies to monitor their telephone interviewers. Telephone interviewers also have the ability to call a person back if a time is not convenient. Researchers have found that respondents feel more anonymous when interviewed over the telephone when compared to face-to-face interviews, so they feel they can be more honest or candid. People who are difficult to reach such as executives and professionals, will often grant a telephone interview but not a personal interview because of their busy schedules.

Although there are many advantages to telephone interviews, there are also disadvantages. One of the most obvious disadvantages is that visual materials cannot be used in the interview process. Since respondents have the power to end the interview at any time by hanging up the phone, interviews need to be simple and relatively short in duration. Another consideration is the time of day telephone interviews are conducted, which should not be too early in the morning (before 9:00 A.M.) or too late in the evening (after 9:00 P.M.).

One disadvantage of telephone surveys is that many members of the sample population have unlisted phone numbers. One way to get around this is to use "plus-one dialing," which involves selecting telephone numbers randomly from a directory and adding 1. So if a number selected is 555-6788, adding 1 would make the number 555-6789.

A disadvantage of telephone interviews is that interviewers experience a lot of rejections before they find someone to interview. Unfortunately, there are telemarketers who use the guise of market research in their sales pitch. This practice, called sugging, is against the law (Telemarketing Sales Act of 1995).

Self-Administered Surveys

In **self-administered surveys,** respondents answer questions directly on a questionnaire without an interviewer's interaction. The low cost makes this type of survey appealing, as does the benefit of not introducing interviewer bias. One disadvantage is that clarification of responses is not as easy as when an interviewer can probe with a why-question.

There are several ways a self-administered survey can be conducted, which include using the mail or a fax, the Internet, or simply by dropping them off to be completed and returned at a later time. Let's review the details of using each method.

Mail or Fax Surveys

In a **mail survey,** respondents are sent the questionnaire, accompanied by a cover letter, and asked to respond by mail. In a **fax survey,** respondents are faxed the questionnaire, accompanied by a cover letter, and asked to respond by fax. For both types of self-administered surveys, you need an accurate, up-to-date mailing list and something to arouse interest so respondents want to complete the survey. Timing is important because you must allow enough time for the respondents to reply, thus extending the duration of the research process.

Advantages of the mail or fax survey include their relatively low cost because you do not have to pay trained interviewers. For mail surveys, your expenses include printing, postage for the mailing and return envelope, and whatever the incentive may be. These expenses may be considered low in relation to the cost of in-person surveys. If faxing is used, all except the cost of the incentive would be eliminated.

Disadvantages include the loss of control over who actually completes the survey and the completeness of answers. It is common for respondents to skip questions or to respond with answers they think are right if they are not sure about the interpretation of a question. Another major drawback is the low response rate, which can be as low as one to five percent. A response rate of 10 percent is usually expected. However there are a few techniques that can be used to improve that figure.

Techniques to improve mail survey response rates include designing an intriguing envelope and providing an incentive. Incentives can come in a variety of forms. Response rates are the greatest when the person completing the survey is truly interested in the results. In that case, simply offering the respondent a copy of the completed report is a great incentive. An example of such a survey might be one conducted by a professional organization regarding an issue affecting that organization. In either case, respondents will be interested in the results and will feel obliged to participate in the study so they can learn about the research findings.

Other incentives could be monetary in nature, such as being paid $20 for sending back a completed survey, offering coupons on a variety of products and services, offering a free long-distance phone call, or entry into a drawing for prizes. Emotional appeals can work for certain types of surveys, as well as noting the educational nature of the research, which will help others. Follow-up is a must in mail and fax surveys to increase the response rate. A postcard or phone call may be used to get additional respondents to complete the survey instrument.

Drop-Off or In-House Surveys

Drop-off surveys are surveys that are delivered to the respondents and then mailed back, faxed back, or picked up the researcher. In-house surveys are often conducted in a similar manner, with the researcher simply making the surveys available. Have you ever been in a restaurant or hotel that has questionnaires displayed on the table or in the room? In-house surveys are best conducted when there is a captive audience, such as patients waiting to see a physician or customers waiting to make payment or receive merchandise. In such instances, an employee may ask patients or customers if they would

be willing to complete the survey, thus providing a benefit not available in mail or faxed surveys. The employee would also be available to answer question and screen potential respondents, if needed.

The main advantage of drop-off or in-house surveys is the captive audience. The main disadvantage involves the introduction of possible respondent error because respondents may not want to provide negative responses. Even though the survey is self-administered, they may worry that their responses are not anonymous because they would be returning the questionnaires to the employee or researcher. To help neutralize this disadvantage, have respondents return the survey anonymously to a drop box or area where no employee could connect the survey with the respondent.

E-Mail and Internet Surveys

In **e-mail surveys** the respondents are contacted by e-mail and they respond to the survey via e-mail. This fast and convenient method is sure to gain popularity as more and more businesses and consumers use e-mail as a means of communicating.

Internet surveys are surveys that are conducted via the Internet. A questionnaire can be created, distributed, and results can be tabulated quickly and easily with specially tailored software applications. There are even computer research organizations that offer their tools for implementing Internet surveys for a fee. These companies provide complete service from design to implementation to reporting of results with statistical analysis and charts.

A major advantage of Internet surveys is the large number of people who can be contacted in this manner, even on a global basis. Surveys can be designed so that respondents can select their language of choice and complete the survey in that language. One of the most exciting benefits of Internet surveys is the creative aspect, which may be introduced through graphics, audio and visual presentations, and other unique multimedia presentations, such as three-dimensional visualizations. Flexibility is another advantage of Internet surveys. While on a home page for a business, a brief three-question survey may be included as a link through which important information can be accessed. People who want to access the information (incentive) will complete the survey. Lastly, specific populations can be reached via the Internet, especially as more and more people gain Internet access.

A disadvantage of Internet surveys is that they are limited to people with Internet access. Security is another issue that is of concern to researchers and potential respondents. Another weakness in Internet surveys is that this method creates an unrestricted sample because anyone can respond to the survey. The problem is that Web surfers may not be representative of the target population. Additionally, some respondents may respond to the survey more than once, which creates bias in the findings.

Some of the problems noted above can be avoided or at least controlled by using screened Internet samples or recruited Internet samples. A **screened Internet sample** involves setting up the survey to screen respondents for various demographic characteristics, such as age, gender, income range, geographic location, or some product related characteristic, such as a past purchase or use of the product. Sophisticated computer programs can be written that screen respondents to determine if the questionnaire should be administered. If the quota for a given characteristic is already met, the questionnaire would not be administered, which helps to avoid duplication of entries, as well as making sure the sample is representative of the population under study. If more control is required, a **recruited Internet sample** may be used. Respondents are recruited through non-Internet sources, such as the mail, e-mail, telephone, or in-person. The recruited respondents are given a password to access the questionnaire on the Internet. With such control, the researcher knows who completed the surveys and who did not, so follow-up is specific and directed only to non-respondents.

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 5 Conducting Quantitative Research

Vocabulary Review

Match each definition with the correct term. Write the term on the line.

bias	mail survey	sample
drop-off surveys	mall-intercept interview	sampling
e-mail surveys	non-random sample	sample error
executive interview	processing error	sample population
fax survey	purchase-intercept interview	screened Internet sample
in-person survey	random sample	self-administered surveys
instrument error	recruited Internet sample	survey
Internet surveys	reliability	telephone sample
interviewer error	representative	telephone survey
leading question	respondent error	validity

1. Surveys in which respondents answer questions directly on a questionnaire without an interviewer's interaction.

_____

2. A subset of the population of interest chosen for a research study.

_____

3. The means by which quantitative research is conducted.

_____

4. Similar to or typical of the population as a whole.

_____

5. A survey that involves a face-to-face encounter with the respondent.

_____

6. The estimated inaccuracy of the results of a study when a population sample is used to explain the behavior of the total population.

_____

7. Surveys that are delivered to the respondents and then mailed back, faxed back, or picked up by the researcher.

_____

continued

8. A sample in which all members of the target population have an equal and independent chance of being selected for the study, also known as probability sample.

_____

9. All the respondents will interpret the questionnaire items the same way.

_____

10. A sample in which a complete list of respondents is not available, so the respondents are selected based on other characteristics; also called a convenience sample.

_____

11. A prejudice or preference favoring some outcomes over others that causes research data to be inaccurate.

_____

12. A survey in which respondents are faxed the questionnaire, accompanied by a cover letter, and asked to respond by fax.

_____

13. The population of interest from which the sample is obtained; also known as the target population.

_____

14. An error that results from survey participants deliberately falsifying their responses or unconsciously providing inaccurate answers.

_____

15. Surveys that are conducted via the Internet.

_____

16. An error that occurs when a questionnaire used for a survey is not constructed properly.

_____

17. The survey actually measured what it was supposed to measure.

_____

18. Interviews initiated immediately after a customer buys something.

_____

19. A question that suggests an answer by the way the question is worded; also called a loaded question.

_____

continued

Student Date

Class Teacher

20. An Internet survey method in which respondents are recruited through non-Internet sources and given a password to access the questionnaire on the Internet.

21. An error that occurs when information is incorrectly transferred from the measurement instrument to the computer.

22. Inaccurate information produced because of an error by the person administering the survey.

23. A group of individuals who are surveyed by telephone.

24. A special type of in-office interview that is generally focused on industrial goods and services.

25. An interview in which shoppers are approached in shopping malls and interviewed face-to-face.

26. A screening method that involves setting up an Internet survey with certain quotas for various demographic characteristics, such as age, gender, income range, geographic location, or some product-related characteristic, such as a past purchase or use of the product.

27. A personal interview conducted via the phone.

28. A survey in which respondents are sent the questionnaire, accompanied by a cover letter, and asked to respond by mail.

29. Surveys in which respondents are contacted by e-mail and they respond to the survey via e-mail.

30. The method of selecting a subgroup of consumers to participate in a study.

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 5 Conducting Quantitative Research

Fact and Idea Review

Review your understanding of the important concepts in this chapter by answering the following questions.

1. What are the advantages and disadvantages of quantitative survey research?

2. Distinguish between a random and a non-random sample. What is the biggest challenge for researchers when using a non-random sample?

3. Explain interviewer error and what can be done to prevent or control it.

continued

Student Date

Class Teacher

4. What is respondent error and what are the reasons it occurs?

5. Explain instrument error. Include in your discussion validity, reliability, and other considerations in addressing instrument error.

6. When do processing errors occur and what can be done to control for such errors?

continued

7. Discuss briefly all of the following in-person survey methods: in-home/in-office, mall-intercept, and purchase intercept, as well as telephone surveys.

8. What are the advantages and disadvantages of self-administered surveys?

9. What methods may be used for a self-administered survey?

10. How are e-mail and Internet surveys conducted?

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 5 Conducting Quantitative Research

Marketing Research Applications

A. Understanding Survey Method Errors

Determine what type(s) of errors may occur in the following situations. Provide a rationale for your answers.

1. Customer surveys, administered on a Friday from 10:00 A.M. to 1:00 P.M. at the sales register, are used to develop a customer profile and assess customer attitudes about the image of the store and its product offerings.

2. A local telephone directory is used to select people for a survey on how residents feel about a school bond issue to upgrade technology at the local high school.

3. Young college students are hired to conduct interviews in a mall-intercept survey.

4. After deciding on all the questions for an attitudinal harassment survey among administrative office staff in a large corporation, a question is added that asks respondents how many sick days they have taken in the last year.

continued

5. A questionnaire item asks respondents to rate the friendliness of their waiter/waitress on a scale of 1 to 5.

6. A questionnaire item asks respondents to provide the number of good deeds they have performed in the last three years.

7. A questionnaire item reads, "How would you rate the durable fabric of this sturdy suitcase?"

8. A questionnaire item reads, "How old are you?"

9. A couple standing in front of a Mercedes Benz dealership is asked to provide information about their household income as part of the survey being administered in that location.

10. As the final question on a mid-term exam, a college professor asks students to rate the lectures to date for their ability to hold the students' attention.

continued

Student Date

Class Teacher

B. Selecting Survey Methods

Select an appropriate survey method for each of the following situations. Provide a rationale for your selection, and when appropriate, note any shortcomings or limitations that are inherent in that method.

1. Survey business executives about proposed legislation that may affect their industry.

2. Survey customers of a local café to see how satisfied they are with the store hours, luncheon specials, and prices.

3. Survey teens who are potential customers of a new product.

4. Survey customers who recently purchased a computer to see how satisfied they are with their purchase.

5. Survey customers about their Internet use and current online purchases of groceries, clothing, airline tickets, and books.

continued

6. Survey high school students regarding harassment in their school.

7. Survey patients of a dental practice regarding their dental hygiene, toothpaste preference, and attitudes about visiting a dentist.

8. Survey hotel guests about the cleanliness of the room, ease of checking in, services offered, and satisfaction with the room's décor.

9. Survey restaurant customers about the service they received.

10. Survey residents to assess their attitude about a proposed shopping center that will be located in their community.

continued

Student Date

Class Teacher

C. Understanding Survey Methods

Review your understanding of survey preparation by completing the following activities.

1. Assume you are conducting a self-administered survey that will be distributed by employees of a local hair salon. Write the script for the employees to use when soliciting participants for the study.

2. Assume you are conducting a mail or fax survey for M. Cary's Linen Supply House, an industrial distributor of linens for use in restaurants, catering halls, and hotels, to learn more about the needs and wants of those customers. Write a cover letter to accompany that survey. Be sure to include an incentive in the letter.

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 5 Conducting Quantitative Research

Your Marketing Research Project

Revisit the research problem and objectives of your marketing research study, written in Chapter 1. Decide on the most appropriate survey method to use for your study. Use a word processor to write a one- to three-page report on your survey method selection and the rationale for it. Note any problems you foresee and explain how those problems will be addressed in your study. Explain what you will do to prevent or at least control sampling error, interviewer error, respondent error, instrument error, and processing error.

Chapter 6 Designing the Questionnaire

What You'll Do

- Decide on the appropriate survey method for collecting data for your marketing research project.
- Decide on the format of the question or questions needed for each objective to gather the necessary data.
- Write the questionnaire that will be the instrument used to gather all the data you need to satisfy the objectives of your study.
- Check the validity of your questionnaire.
- Pretest and time the administration of the questionnaire with people who are in your target population to determine if any revisions need to be made.

Why It's Important

The importance of the questionnaire cannot be overemphasized in survey research, as it is the vehicle that generates the data to answer the research question and objectives of the study. Data generated from the questionnaire becomes the basis for the study, as it combines the objectives of the study with respondent information so that data analysis can be performed, findings reported, and recommendations proposed.

Key Terms

close-ended questions
dichotomous questions
filter questions
multiple-choice questions
mutually exclusive
single-minded
all-inclusive
scaled-response questions
continuum scale
itemized rating scale
rank order scales
constant sum scale
semantic differential scale
Stapel scale
Likert scale
purchase intent scales
screener

What is a Questionnaire?

A questionnaire is a set of questions used to generate data in order to answer the research problem and accomplish the objectives of the study. The questionnaire controls the data generated by providing specific questions and directions for completing the survey instrument. By standardizing the format for questioning respondents, the researcher is less likely to introduce bias or error into the research study. A poorly designed questionnaire would ruin a research study, so it is very important to plan and test a questionnaire.

The data generated from the questionnaire becomes the basis for the study, as it combines the objectives of the study with respondent information so data analysis can be performed, findings reported, and recommendations proposed. Thus, it

Explaining Your Questionnaire

If you are competing in one of DECA's Marketing Research Events or the Creative Marketing Research Project, include a discussion of the efforts you made to create a valid and reliable questionnaire in the section of your report on designing the marketing research study. Somewhere in the paragraph where you write about the questionnaire, tell the reader that you have included a copy of it in the Appendix. Remember that your appendices are lettered in sequence as they occur in the text of your paper. Also check DECA guidelines regarding the Appendix and note that all pages in the Appendix are numbered, as they are part of the written report and count toward the page limitation imposed by DECA.

is the link between the researcher and the respondent. Creativity is important as well, given the different target populations that may be surveyed and topics that may be included. Lastly, the questionnaire needs to be designed for ease in tabulation.

Standardization and uniformity of the questionnaire help to control the data gathering process. Without an established set of questions, the researcher might ask some respondents about the color preference of a product, other respondents about the design of the package, and still other respondents about the image of the brand name. For data to be complete and unbiased, ALL respondents must be asked the exact same questions in the exact same manner.

The following are the steps that are involved in the design of a questionnaire:

1. Determine the objectives of the study (Chapter 1) and review all relevant secondary sources of data (Chapter 2).
2. Select the appropriate survey research method for data collection and determine in what manner the survey will be conducted (in person, self administered, telephone, faxed, or mailed) (Chapter 5).
3. Decide on the format of questions that are needed to satisfy the objectives (Chapter 6).
4. Write the questions (Chapter 6).
5. Decide on the order of questions and layout of the questionnaire (Chapter 6).
6. Evaluate the questionnaire for its validity and reliability (Chapter 6).
7. Gain approval from the client regarding the questionnaire design and layout.
8. Pretest and time the administration of the questionnaire with people who are in your target population and make necessary revisions based on their feedback (Chapter 6).
9. Prepare the final draft.
10. Administer the questionnaire.

As you recall from Chapter 1, the first step in the research process is deciding on the research objectives of the study. The second step, which is covered in Chapter 5, involves selecting the most appropriate survey research method. Once that is decided, the next step involves construction of the actual survey. To ensure validity of the questionnaire, the objectives of the study must be correlated with the questions.

This chapter focuses on designing a valid and reliable questionnaire that is understandable by the respondent, easy to tabulate, and one that generates the required data for making informed business decisions. Let's look at the different types of questions used in a survey instrument to see which ones are most appropriate for soliciting the needed information.

Types of Questions

Questions may be categorized into three major types: open-ended, close-ended, and scaled-response.

Open-Ended Questions

Open-ended questions (also known as subjective questions) require the participant to answer in his or her own words. They are like essay questions, where no options are provided for a question's response. One benefit of the results of open-ended questions is that respondents' answers can be a great source of fresh ideas for advertising campaigns. This is because the respondents' answers are from the consumer's frame of reference. Another advantage of open-ended questions is that they allow a researcher to probe deeper into the motivation of a respondent. By asking *"Why?"* researchers gain insight into the respondent's mind. Researchers often need to probe respondents in order to generate a complete answer to a question. In some cases, a researcher may ask a respondent to elaborate on a response. For example, suppose that a respondent selected a given package design from a selection of three models. The interviewer's next question might be "*Why did you pick that model?*" If the respondent says, "*Because I liked it,*" the researcher would not have enough information to make any type of recommendation at the conclusion of the study. In this case, the researcher might ask the respondent to please elaborate on the response. Also, by simply asking, "*Is there anything else you would like to add?*" findings can be generated that the researcher had not even considered or had just missed.

Open-ended questions have disadvantages as well. One of the most difficult aspects of using open-ended questions in a survey involves coding the responses. Categories need to be used so that responses can be grouped together. Otherwise, analysis of the data would not provide usable information. Consider the following responses to an open-ended question regarding funding of public schools through local real estate taxes.

"I don't have any children in school, so why should I pay for their education?"

"School taxes are too high."

"My children are all grown."

"What happened to all the state lottery monies that were earmarked for education?"

"The federal government should pay for public education, not local taxpayers."

"I always vote 'yes' on school budget issues because I believe in education."

"I have five children in public school now and I elected to live in this school district because of its excellent reputation."

As you can see, these responses are all varied and represent different points of view. In order to quantify these responses and the others from 200 participants in a study, you can well imagine that some type of coding would be necessary to make sense of these data. Coding is covered in more detail in Chapter 8.

Another problem with open-ended questions can involve the interviewer. Bias is often created by inexperienced interviewers who try to memorize the question, but in fact end up changing its meaning from one respondent to the next. In other cases, the interviewer is not adept at recording the responses given, which makes it difficult to obtain complete and accurate data.

Another disadvantage of open-ended questions is that they are not really appropriate for self-administered studies because there is no one to probe the respondent for details. Thus, some responses are incomplete and often useless. For example, suppose a question asks respondents to indicate what they like about the annual Super Bowl football game. Responses might be: *"It's cool," "The half-time show," "The game."* There is no one to ask the respondent to elaborate or explain why they feel a certain way.

Close-Ended Questions

Because open-ended questions make analysis time-consuming and difficult, researchers typically use closed-ended questions to understand how respondents relate to an issue. **Close-ended questions** require respondents to choose their answers from prescribed options. Close-ended questions are especially useful when researchers understand the major issues surrounding a research topic and are interested in quantifying the degree to which those issues exist with respondents.

The biggest advantage of close-ended questions is the ease in tabulating responses. Other advantages include the variety of options that can be presented, which helps to prevent instrumental error.

Disadvantages of close-ended questions involve the research required to ascertain the most appropriate response options for multiple-choice questions. Without this research, respondents may be forced to choose from an array that may not include their preferred answer. Another shortcoming is the order of the responses, as respondents have a tendency to select the first or last from a list that is read to them. This bias can be overcome by having the interviewer read the list of options in a different order each time. When there are too many options listed, a respondent may be overwhelmed or confused. To correct that problem, it is best to provide a list of the options on a card, which can be handed to a respondent to view in order to answer the question. Here is an example of that technique.

Into which of the following age groups would you categorize yourself? (Hand card to respondent.)

a. younger than 19
b. 19–29
c. 30–39
d. 40–49
e. 50–59
f. 60–69
g. 70 or older

Dichotomous Questions

Dichotomous questions are a type of close-ended question that ask respondents to choose between only two options. Agree/Disagree and Yes/No questions are the most obvious types of dichotomous questions. Respondents find Yes/No questions easy to answer. However, researchers find that Yes/No questions often do not provide details needed to make the information useful. So, additional questions may be required. In that case, the Yes/No question would be considered a filter question. A **filter question** is a survey question that is used to identify respondents who have the information required to answer the next question. For example, a filter question might be:

Have you rented an automobile in the last six months? Yes/No. If yes, please check the car rental companies you used.

❑ Hertz
❑ Avis
❑ Budget
❑ Alamo
❑ Other, please specify _____

Other dichotomous questions generally create polarized results. The following is an example.

Indicate whether you agree or disagree with the following statement:

I like cats.	Agree	Disagree
I spend my leisure time reading books.	Agree	Disagree

As you can see, respondents may feel frustrated answering these questions because they might like some cats but not all cats. They may spend some time reading books but not as much leisure time as they spend listening to music or going shopping or playing sports. Thus, dichotomous questions can often lead to inaccurate findings. Whenever there is a possibility of a wide range of responses, it is better to offer additional options in the form of multiple-choice questions.

Multiple-Choice Questions

Multiple-choice questions provide more than two options for respondents to choose from. Three characteristics of effective multiple-choice question response options are that the options are mutually exclusive, single-minded, and all-inclusive. **Mutually exclusive** means that each option is distinct from all other options. Questionnaire items might be responses that are so close in meaning that it would be difficult to determine a distinction between them. For example, let's say the question asks female respondents to identify the person with whom they most often go shopping for clothes. The possible answers are as follows:

a. family member
b. mother
c. friend
d. boyfriend
e. I shop alone

In the above example, which one would you check if you shopped most often with your mother, who is a family member? What if you shop with a male friend who is not considered a boyfriend in a romantic sense? Would you select friend or would you consider "boyfriend" simply as the gender of the friend? This confusion of meanings affects the reliability of the question. Every effort must be made to be sure all respondents interpret the question and responses in the same manner. Thus, mutually exclusive answers are required. Let's look at one method of correcting the above options:

a. family member, other than your mother
b. mother
c. friend of the same gender
d. friend of the opposite sex
e. I shop alone

As you can see, "family member other than your mother" helps to make the option of "mother" mutually exclusive. To make friend and boyfriend mutually exclusive requires separating the gender for each.

The second characteristic of effective multiple-choice questions is that response options are single minded. **Single-minded** means that each option has only one thought or message. If you have several options, each one may be used as a separate response because otherwise, the data will be inaccurate and the findings difficult to interpret. The following is an example of responses that are not single-minded with regard to the question:

What is the primary reason you go to the movies?

a. to relax and have fun
b. to escape reality and be sociable
c. to be entertained
d. to get out of the house

As you can see, a respondent may go to the movies to escape reality but not to be sociable. Those two options need to be separated into two distinct options. To relax and have fun also require separation. Here is an example of the way the options should be presented:

What is the primary reason you go to the movies?

a. to relax
b. to have fun
c. to escape reality
d. to be sociable
e. to get out of the house
f. other, please specify _____

The third characteristic of effective multiple-choice questions is that response options are all-inclusive. **All-inclusive** means that all options are provided. What is wrong with the following multiple-choice question?

What is your favorite fast-food restaurant?

a. McDonald's
b. Wendy's
c. Taco Bell
d. Burger King
e. Kentucky Fried Chicken

The problem with this example is that all options are not included. What if a respondent's favorite fast-food restaurant is Jack in the Box or Subway? To correct that problem, add "Other" as one of the options. "Other"

will cover all items not listed. To obtain the needed information, you may want to ask the respondent to "please specify" what the "Other" represents. That way you will get the needed information to interpret the results of that question. The following is the example of the correct list of options:

What is your favorite fast-food restaurant?

a. McDonald's
b. Wendy's
c. Taco Bell
d. Burger King
e. Kentucky Fried Chicken
f. Other, please specify _____

Scaled-Response Questions

Scaled-response questions provide respondents with a rule or continuum for providing an answer. A major advantage of scaled response questions is the variety of methods available for assessing respondent characteristics (demographic, attitudinal, and behavioral). Another major advantage is the ability to assess the intensity of the respondent's feelings about their attitudes, opinions, and experiences. A disadvantage of scaled-response questions is the danger of creating bias if they are not written properly. Scaled-response questions provide much opportunity for leading respondents and not providing all options. Another related problem is that options do not always match a respondent's frame of reference. Scaled-response questions require extensive directions, which, if not followed properly, also create bias.

In scaled-response questions, respondents' answers are based on their characteristics, attitudes, or whatever the scale is trying to measure. Demographic, behavioral, and attitudinal scales can be designed to be mutually exclusive and comprehensive, or they can be designed to provide rankings or ratings. The best way to review these various types of scaled responses is to see how they are written for specific types of data.

Scaled-Response Questions for Demographic Data

Demographic data based on age, income, and educational level could be formatted in a scaled response question. Demographic scaled response questions apply the same principles as multiple-choice questions. In addition, the responses require order to the data with intervals that are equal among the options. Let's look at two examples and common mistakes made with age and income questions.

A common mistake made by inexperienced researchers is overlapping of response options in a range. For example, you would create a problem if you provided the following response option for a question about age:

a. 20–30
b. 30–40
c. 40–50
d. over 50

In this example, what option would a person who is 30 select? Would it be a or b? The same goes for someone who is 40—would the answer be b or c? To correct the above range, a researcher should use the following options:

a. 20–29
b. 30–39
c. 40–49
d. 50 and over

When there is a range for age or income, it is possible to cover all options with "less than" or "more than" in your response option. For example, a question that asks for household income might include the following options:

a. less than $25,000
b. $25,000–$39,999
c. $40,000–$54,999
d. $55,000–$69,999
e. $70,000–$85,000
f. more than $85,000

In this example, all possible annual household income levels are covered.

Scaled-Response Questions for Behavioral Data

When asking for behavioral data, provide options that make it easy for the respondent to answer by recalling their behavior. Keep the options reasonable. For example, if you need to know how frequently a respondent shops in your store, you would want to give them a time frame, such as "in the last week" or "in the last three months." The following is an example:

Counting today, how many times did you shop in this store in the last month?

a. once
b. 2–3 times
c. 4–5 times
d. more than 5 times

The time frame of one month makes it easy for respondents to recall their behavior. If you made the time frame one year or more, it would make it more difficult to get accurate data from your respondents, most of whom would simply guess rather than give an accurate answer. When the time frame is too long, respondents may not answer the question, or they may simply take the middle option because they don't want to spend the time doing all the calculations to be absolutely accurate.

Scaled-Response Questions for Attitudinal Data

Attitudinal data are based on constructs that are created in the minds of respondents. Attitudes are based on perceptions, feelings, and emotions, all of which are relative by nature. Thus, scaled measurements help researchers assess the intensity of respondents' attitudes.

Because attitudes are varied, so are the methods to measure them. There are several types of attitudinal measurement scales, including continuum scales with numbers, itemized rating scales, rank order scales, constant sum scales, semantic differential scales, Stapel scales, Likert scales, and purchase intent scales.

Continuum Scale with Numbers A **continuum scale** is a scale that uses numbers that respondents use to identify their rating, such as 1 to 5, with 1 being poor and 5 being excellent. It is very important that the parameters for the number scale be included in the question. To instill the rating sale with meaning, anchor words or phrases are typically placed at either end of the scale. The following is an example of a continuum scale with numbers:

On a scale of 1 to 10, with 10 being excellent and 1 being poor, how would you rate the packaging of this product?

Poor **Excellent**

1 2 3 4 5 6 7 8 9 10

If you are administering the questionnaire, you could hand the respondent a card with the above scale printed on it so several characteristics that are being rated could be repeated without repeating the scale every time. You may want to repeat it for the first two or three characteristics and then simply refer to it for the remaining characteristics on the questionnaire.

Itemized Rating Scales **Itemized rating scales** use words instead of numbers for respondents to identify their rating, such as "definitely will buy" or "definitely will not buy." The following are several examples of options that may be used for itemized rating scales:

Purchase Intent
definitely will buy
probably will buy
probably will not buy
definitely will not buy

Level of Agreement
strongly agree
agree
neither agree nor disagree
disagree
strongly disagree

Quality
very good
good
neither good nor bad
fair
poor

Satisfaction
completely satisfied
somewhat satisfied
neither satisfied nor dissatisfied
somewhat dissatisfied
completely dissatisfied

Ease of Use
very easy to use
somewhat easy to use
not very easy to use
very difficult to use

If you are dealing with young children or nonreaders it is often necessary to use a visual scale, such as a smiley face with three options. The options would include a smile, a straight line for the mouth, and a frown with words to explain the two extremes, such as very good (smiley face) and very poor (frowning face). The middle face would be neutral. The following is an example of an itemized rating scale with visuals:

Very good **Neutral** **Very poor**

Rank Order Scales **Rank order scales** ask respondents to put a list of attitudes or characteristics into a sequence that best represents their relationship to one another. The biggest problem with rank order scales is getting respondents to understand the task. Therefore, detailed directions must be provided so the respondent does not confuse the task of ranking with the task of rating. The following is an example of a rank order scale:

Please rank the following restaurant chains based on the characteristics noted with 1 being the restaurant chain that best meets the characteristic being evaluated, 2 being the next best, 3 next best, 4 next to last, and 5 the restaurant chain that least meets the characteristic being evaluated.

	Convenient Location	**Food Quality**	**Menu Variety**
Cracker Barrel	_____	_____	_____
Shoney's	_____	_____	_____
Rain Forest Café	_____	_____	_____
Macaroni Grill	_____	_____	_____
Houston's	_____	_____	_____

Constant Sum Scales A **constant sum scale** asks respondents to use a set sum, such as 100 points, to assign among attributes of a product or service. In order to determine the intensity or comparative importance of the attributes under study. The following is an example of a constant sum scale:

Below are five attributes of hand lotion. Please allocate 100 points among the characteristics based on each characteristic's importance to you. Allocate the highest points to the characteristic you feel is most important. If a characteristic is not at all important to you, do not assign any points to it. When you have finished, check to see that your points total 100.

Characteristics of Hand Lotion	**Number of Points**
scent	_____
texture or feel of the lotion	_____
absorption into skin	_____
ingredients	_____
brand name	_____
	Total = 100 points

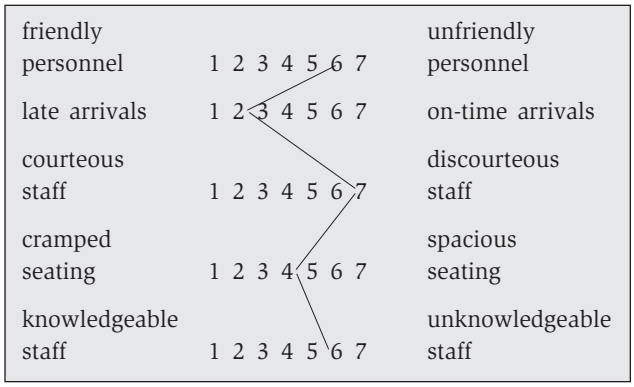
Semantic Differential Scales A **semantic differential scale** presents extreme opposite (dichotomous) pairs of words or phrases for respondents to rate a product or image of a company. Respondents are given a seven-point scale in order to respond to the adjectives. The mean of the responses for each pair of adjectives is then calculated. To avoid having respondents simply select all positive or all negative characteristics from the list, the order in which positive and negative attributes are assigned should be varied so respondents have to consider each pair of options individually.

The following is an example of a semantic differential scale for airline travel:

friendly personnel	1 2 3 4 5 6 7	unfriendly personnel
late arrivals	1 2 3 4 5 6 7	on-time arrivals
courteous staff	1 2 3 4 5 6 7	discourteous staff
cramped seating	1 2 3 4 5 6 7	spacious seating
knowledgeable staff	1 2 3 4 5 6 7	unknowledgeable staff

When presenting the findings of a semantic differential scale, it is a good idea to change the original format of the positive and negative adjectives so that all the positive options are on one side and all the negative options are on the other side. This makes it easier for the reader to see the image presented of the product or company. Then you can plot the mean for each pair of adjectives on the scale to create a distinct image or profile for the product or service.

The following is an example of findings for a semantic differential scale for airline travel that shows that the personnel and the staff are okay, but the arrival times and seating could be improved:



Stapel Scales A **Stapel scale** is a variation of the semantic differential scale that ranges from +5 to −5 and requires the respondent to rate how close and in what direction a descriptor fits the attribute being measured. An adjective and noun are placed in the center of the scale, and the intensity and direction of the attribute are measured. The findings are a little more informative than those of the semantic differential scale. The following is an example of a Stapel scale:

+5	+5
+4	+4
+3	+3
+2	+2
+1	+1
quick service	competent sales staff
−1	−1
−2	−2
−3	−3
−4	−4
−5	−5

Directions: Select a positive number if you think the words describe XYZ Distributor accurately. The more accurately the word describes XYZ Distributor, the larger the positive number you should select. Select a negative number if you think the words do not describe XYZ distributor. The less accurately the word describes XYZ Distributor, the larger the negative number you should select.

Likert Scales **A Likert scale** is a scale in which respondents indicate their level of agreement with statements that express a favorable or unfavorable attitude toward a concept being measured. The options provided are strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree. Because of the word association, Likert scales tend to work better than numeric scales for telephone research, when visual cues are absent.

If you have a strong understanding of the subject matter, you can write some of the attitude statements yourself. But more often than not, it's helpful to engage a number of people in the development of attitude statements. Focus groups are often held to see the kinds of attitude statements people make about the product, company, organization, or other topic under study. These attitude statements can be used to develop the statements used in a Likert scale. Key issues are included in the Likert scale in the form of attitude statements, some of which are presented in a positive manner, while others are presented in a negative manner. Varying positive and negative statements force respondents to read each statement so they cannot simply record all responses on one side of the Likert scale.

There are two ways Likert scales are used for analysis. In one method, numbers are assigned to the responses, with a 5 being assigned to strongly agree, 4 to agree, 3 to neutral, 2 to disagree, and 1 to strongly disagree. The total score of the sum of responses weighted according to their coded number is then used to determine the aggregate degree of positive or negative attitudes a respondent has for the company or product under study. Since that type of analysis is not very informative, except to provide a very general attitude about the topic under study, most researchers use the levels of agreements to see what respondents are revealing about specific issues noted in the statement. The following is a Likert scale for attitudes regarding attributes of a deodorant under study:

Based on the deodorant you used for the past week, tell me if you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree with the following statements:

(NOTE TO INTERVIEWER: CIRCLE THE RESPONSE INDICATED.)

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
It keeps me bone dry.	SA	A	NAND	D	SD
It is too expensive.	SA	A	NAND	D	SD
It has a pleasant scent.	SA	A	NAND	D	SD
It is difficult to apply.	SA	A	NAND	D	SD
It is better than my usual brand.	SA	A	NAND	D	SD
It is the best brand in today's market.	SA	A	NAND	D	SD

Purchase Intent Scales **Purchase intent scales** are used to measure a respondent's intention to buy a particular product or service. This type of questioning is used throughout a new product's development in order to identify potential winners and quickly weed out potential losers. In essence, researchers want to know if they should proceed to the next stage or if the process should stop. At the final stage in product development, researchers often distribute products to consumers to use for a few weeks and then conduct an interview with them to see what they liked and disliked about the product. Within that interview, intended purchase decisions carry a heavy weight on the decision to proceed to the next stage. The following is an example of a few questions that may be used in a survey to determine intended purchase of a new hair conditioner:

1. *If a 10-ounce bottle of the conditioner sold for $4.79 and was available in your local supermarket or pharmacy, would you:*

   a. definitely buy the conditioner 1
   b. probably buy the conditioner 2
   c. probably not buy—skip to question 3
   d. definitely not buy—skip to question 4

2. *Would you use the conditioner (a) instead of or (b) in addition to existing products you use for your hair?*

   a. instead of 1
   b. in addition to 2

3. *Would you recommend this product to your friends?*

   a. definitely 1
   b. probably 2
   c. probably not 3
   d. definitely not 4

Purchase intent questions are helpful in determining potential market share, as they estimate purchase probability. That estimate can then be applied to the size of the market to help in determining the market share the company may expect when they launch the new product. Since researchers know that not all respondents who say they will buy the product do so, reasonable estimates are used to arrive at actual figures. For example, probably only 70 percent of the respondents who say they will buy the product actually do so. So figures arrived at during the research are generally adjusted to get a more realistic estimate.

Additional Guidelines for Scaled-Response Questions

After reviewing all the different types of scaled-response questions, you may still wonder about some specifics when you sit down to construct your own questions. A few of those considerations are noted below to help you in that endeavor.

Number of Categories A scale that only has three options, such as good, fair, and poor, lacks richness. It cannot provide the type of discriminating information that may be needed, such as the intensity of a person's feelings about a product or concept. On the other hand, a scale of ten or more options may be too detailed and confusing to the respondent. Therefore, a scale of five to nine categories is suggested.

Odd or Even Number of Options If you use an even number of options in a scale, you cannot include a neutral point. Some researchers feel that a neutral point, such as "do not agree or disagree," encourages respondents to think less about a topic. Respondents often select the neutral option when they are not familiar with the product or concept. In those cases, the neutral option is the only one that appears to cover their lack of knowledge. To avoid that problem, a filter question could be used immediately preceding the scaled-response question so only knowledgeable respondents answer the scaled-response question. Here is an example:

1. *Have you shopped at Jacobsen's in the last six months?*
   Yes No (If no, skip to question 3)

2. *Please rate your level of agreement with the following statements:*

   a. Jacobsen's personnel are always helpful.

   strongly agree | agree | disagree | strongly disagree

   b. Jacobsen's clothing is not fashionable.

   strongly agree | agree | disagree | strongly disagree

In the above example, you avoid a neutral option because all respondents to question 2 should have an opinion about Jacobsen's because they have shopped there in the last six months. Another way to handle the problem of respondents not having the information to answer a question is to add a "Don't Know" option to the scale. The following is an example using a semantic differential question:

helpful 1 2 3 4 5 6 7 not helpful
I don't know

courteous 1 2 3 4 5 6 7 discourteous
I don't know

A researcher must weigh the advantages and disadvantages of having forced-choice (even responses) options against nonforced-choice options (odd responses). The advantage of forced choice is that respondents are forced to think about their answer because they must make a decision. The disadvantage of forced choice is that findings may be biased because respondents who really do not know anything about the topic are forced to provide an answer. Respondents do not like answering questions for which they do not know the answers, so they get disenchanted and may want to terminate the interview. If it is a self-administered questionnaire, they may simply skip those questions that do not pertain to them, which will create incomplete data. The advantage of non-forced- choice scales is the ability to answer honestly. The disadvantage is that often respondents simply take the easy way out and record neutral responses because they do not want to take the time to think about the question.

Writing Questionnaire Items

Once you have decided on the format of the questions you will use on your questionnaire, you must spend time on the actual wording of each item. Here are a few helpful guidelines to follow when writing your questionnaire items.

Clarity

Make sure your questions are written in such a way that all respondents will understand the question. Ambiguity creates unreliable results that create bias in a study. If there is more than one way of interpreting a question, revise it. Look at the wording of the following question to see if you can determine the problems with interpretation:

Was your food hot?

In the example, you do not know whether the researcher is referring to the temperature of the food or how spicy the food was.

What is wrong with the following question? *"How many bottles of soda do you drink in a week?"*

In this case, bottles come in different sizes. For clarity, you should indicate the bottle sizes in your response options.

Another factor in the clarity of questions involves the terminology. Try to use simple language that all respondents understand. If you are writing a questionnaire for physicians, computer programmers, or other professionals who use technical jargon, you may use terms that are specific to their specialty. For the average consumer, it is best to avoid jargon and "big" words, both of which can cause problems in interpretation, or worse, cause frustration to the point that respondents may terminate a survey.

As mentioned earlier, also avoid including two questions in one. How would you rate the service and friendliness of the bank teller? What if the service was quick but the bank teller was not friendly or vice versa? It is best to ask one question at a time.

Objectivity

It is important to be objective when writing questions so you do not lead the respondents to answer in certain way. The following example shows how a researcher can create bias in the study through leading questions:

How would you rate the delicious meal served to you today?

In this example, the respondent is encouraged to respond positively to the question. To avoid leading the respondent, the word "delicious" must be deleted.

Sensitivity

Ask questions that respondents will be willing and able to answer. Questions that involve social issues, personal hygiene, and other emotionally charged topics are difficult to write because respondents are often reluctant to answer honestly. Other examples of issues that might alienate respondents include amount of time spent exercising or with their children. Respondents tend to answer based on social pressures, thus distorting the data. One way of addressing this is to word your question with sensitivity to this issue. The following is an example of a such a question:

Many people suffer from depression from time to time; do you or does any member of your family suffer from this condition?

The opening statement makes the respondents more receptive to answering the question, because they are not singled out.

When respondents are asked questions that make them feel stupid or uncomfortable, they generally guess or become frustrated, so ask questions that respondents are able to answer. When asking about behavior, put a reasonable time frame on the question, such as one week or one month, so respondents can recall their actions. You can also use options such as "more or less/fewer" in your answer to keep the question simple. Here is an example:

Would you say in the last month you bought more or fewer or about the same number of lottery tickets as you purchased in the previous month?

If the respondent answers with "more" or "less/fewer," you could follow up with another question to get more detailed facts, such as:

What would you say is the average number of lottery tickets you purchase each month?

Construction of the Questionnaire

Besides writing questionnaire items, a researcher must take the physical appearance and layout of the questionnaire into consideration. There should be a logical progression of questions. The logical order of questions is: screener questions, warm-up questions, transitional questions, difficult questions, and ending questions.

A **screener** is a question that is used to identify qualified respondents. If your research study centered on frequent purchasers of athletic footwear, you would want respondents who wear athletic footwear to answer the survey. Thus, the screener question might be: *"In the last six months, have you purchased any type of athletic footwear?"* If yes, the person would be interviewed.

The next set of questions should be warm-up questions of a general nature. They should be easy to answer to encourage respondents to continue with the survey. A simple question might be: *"What is your favorite brand of athletic footwear?"* The following questions should be transitional questions that address the objectives of the study in more detail. Here you might ask, *"What features do you like best about your athletic footwear?"*

After asking the transitional questions, difficult questions may be asked as the respondent has already committed to completing the questionnaire. At this point you can ask

the respondent to rate specific features of the athletic footwear.

The ending questions should include classification questions that involve the demographics of the respondent. Since these questions are often perceived as being personal, you may want to make some of them optional. The reason demographic questions about age, income, educational level, and marital status are asked at the end of the questionnaire instead of at the beginning of the questionnaire is that many people may refuse to answer the rest of the questionnaire if they are asked at the beginning. When asked at the end, respondents have just devoted time to answering all the other questions, and so they are more likely to complete it. Questions that reveal who the client is also should be kept to the end of the survey in order to avoid creating any bias with the earlier questions.

Final Stages of Questionnaire Design

Once the questionnaire is prepared, it is time to evaluate it. Although you have spent a lot of time in its development, a critical review is necessary to determine if all the questions are necessary. Here is a checklist of things to review:

1. **Purpose of Each Question** Each question should have a purpose (screener, build interest, filter, etc.) and be directly related to the objectives of the study.
2. **Objectives** Review the objectives of the study to be sure all the questionnaire items will provide the data needed to satisfy those objectives. If there are no questions for a given objective, a question or two must be added. If questionnaire items do not match the objectives, they should be deleted.
3. **Length** Check the length of the questionnaire. Long questionnaires lead to incomplete data because questions are skipped or surveys are terminated midstream. Administer the questionnaire with friends to see how long it takes to complete. If the questionnaire is too long and all the questions are necessary, consider providing some type of incentive so respondents are willing to complete it. If a questionnaire is more than one page, provide directions and arrows to alert the respondent or interviewer to turn the page.
4. **Space** Allow enough space for the respondent to answer or for the interviewer to record answers. For open-ended questions leave three to five lines.
5. **Directions** Provide directions throughout the questionnaire on both a self-administered and interviewer-administered questionnaire. For an interviewer-administered survey, type the directions in all uppercase letters to alert the interviewer to what action must be taken next. For example, *"IF THE ANSWER IS NO FOR QUESTION 12, SKIP TO QUESTION 15."*
6. **Pretesting** Conduct a trial run, called a pretest, with people who are in your target population to see if the questionnaire is reliable. Look for confusion and misinterpretation of questions. The pretest should be administered in the exact same way it will be administered in the field. Pretesting is essential and required before a full-scale survey is administered.
7. **Revisions** After the pretesting, final revisions should be made to correct problems identified in the pretesting.
8. **Final copy** To create a final copy, questions must be coded to make it easy to tabulate results. Coding is covered in more detail in Chapter 8. The final copy needs to be proofread to make sure it is free of errors. A professional appearance must be ensured by use of quality paper and copying.
9. **Implementation** After obtaining approval for the final version of the questionnaire, the researcher is ready to administer the survey.

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 6 Designing the Questionnaire

Vocabulary Review

Match each definition with the correct term. Write the letter of the term on the line.

_____ **1.** A scale that uses numbers that respondents use to identify their rating, such as 1 to 5 with 1 being poor and 5 being excellent.

_____ **2.** Each option has only one thought or message.

_____ **3.** A scale that uses words instead of numbers for respondents to identify their rating, such as "definitely will buy" or "definitely will not buy."

_____ **4.** Questions that require respondents to choose their answers from prescribed options.

_____ **5.** Scales used to measure a respondent's intention to buy a particular product or service.

_____ **6.** A scale that presents extreme opposite (dichotomous) pairs of words or phrases for respondents to rate a product or image of a company on a seven-point scale.

_____ **7.** Each option is distinct from all other options.

_____ **8.** All options are provided.

_____ **9.** Close-ended questions that ask respondents to choose between only two options.

a. all-inclusive
b. close-ended questions
c. constant sum scale
d. continuum scale
e. dichotomous question
f. filter question
g. itemized rating scale
h. Likert scale
i. multiple-choice questions
j. mutually exclusive
k. purchase intent scales
l. rank order scales
m. scaled-response questions
n. screener
o. semantic differential scale
p. single-minded
q. Stapel scale

_____ **10.** Questions that provide respondents with a rule or continuum for providing an answer.

_____ **11.** A question that is used to identify qualified respondents.

_____ **12.** Questions that provide more than two options for respondents to choose from.

_____ **13.** A variation of the semantic differential scale that ranges from 15 to 25 and requires the respondent to rate how close and in what direction a descriptor fits the attribute being measured.

_____ **14.** Scales that ask respondents to use a set sum, such as 100 points, to assign among attributes of a product or service in order to determine the intensity or comparative importance of each attribute under study.

_____ **15.** Scales that ask respondents to put a list of attitudes or characteristics into a sequence that best represents their relationship to one another.

_____ **16.** A scale in which respondents indicate their level of agreement with statements that express a favorable or unfavorable attitude toward a concept being measured.

_____ **17.** A survey question that is used to identify respondents who have the information required to answer the next question.

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 6 Designing the Questionnaire

Fact and Idea Review

Review your understanding of the important concepts in this chapter by answering the following questions.

1. What is the importance of a questionnaire?

2. What are the key principles for writing effective multiple choice questions?

3. What is the difference between continuum scales and itemized rating scales?

4. How are rank order scales and constant sum scales different?

continued

5. What is a semantic differential scale and how is different from a Stapel scale?

6. How are Likert scales constructed?

7. How are purchase intent scales used?

8. What is wrong with a scale that has only three options, such as good, fair, and poor?

9. What is jargon? When is it okay to use it in a questionnaire, and when should it be avoided? Why?

10. List the order of questions in the construction of a questionnaire and explain the importance of the order.

Student Date

Class Teacher

CHAPTER 6 Designing the Questionnaire

Marketing Research Applications

A. Understanding Survey Questions

Use the following table to note the advantages and disadvantages of each of the following types of survey questions: open-ended, close-ended, and scaled-response.

Type of Question	Advantages	Disadvantages
Open-Ended		
Close-Ended		
Scaled-Response		

continued

B. Writing Survey Questions

Review your understanding of the different types of questions used in a survey instrument by completing the following activities.

1. Write an open-ended question that satisfies the objective of identifying the image customers have of a recently renovated resort that features golf, tennis, water sports, a spa, and five restaurants.

2. Write a filter question to qualify respondents who have never stayed at the newly renovated resort.

3. Write three multiple-choice questions to satisfy the objective of determining the demographics of current resort guests.

4. Find the errors in the following options supplied for the multiple-choice question, and then rewrite the question to correct the errors.

   In the last three years, how many vacations of four days or more have you taken?

   a. 1–3
   b. 3–5
   c. 5–7
   d. 8–10

continued

Student Date

Class Teacher

5. Determine what is wrong with the options supplied for the following multiple-choice question, and then rewrite the question to correct the errors.

When I go on vacation, I usually spend my time:

a. shopping and sunning
b. swimming and snorkeling
c. golfing
d. playing tennis
e. sight-seeing

6. Write a continuum scale to determine how guests would rate their check-in at the resort.

7. Write an itemized rating scale to determine guests' satisfaction with the spa offerings (aerobics classes, exercise equipment, manicure, pedicure, massage, aromatherapy, etc.).

continued

8. Write a rank order scale for the five restaurants on the premises based on service, food quality, and décor. The five restaurants are: Dawn's Diner, Shoshi's Sushi Bar, Kimmy's Café, Heather's House of Pancakes, and Lauren's Lobster Shack.

9. Write a constant sum scale for the relative importance of the following resort services: rental car outlet on premises, 24-hour room service, laundry service, sight-seeing tour ticket sales office, valet parking, courtesy room for late hotel checkout.

10. Prepare a semantic differential scale to determine the customer's image of the resort with regard to cleanliness, staff courtesy, guest rooms (size and décor), and the resort's location.

continued

Student Date

Class Teacher

11. Prepare a Stapel scale to determine the guests' opinions of the snack bar's service, staff, and hours of operation.

12. Prepare a Likert scale to determine the guests' positive and negative attitudes regarding the resort's staff, guest check-in, spa services, and how safe guests feel while at the resort.

13. Prepare two purchase intent scale questions to determine if guests would return and if they would recommend this resort to a friend.

continued

14. Note the potential problems or errors in the following questionnaire items and explain the options to correct those problems.

a. Ask all guests: *Rate the difficulty of the golf course, availability of tee times, speed of the greens, and speed of play.*

b. *In the last 20 years, how many vacations have you taken?*

c. First question on the questionnaire: *What is your annual household income?*

continued

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 6 Designing the Questionnaire

Your Marketing Research Project

You are now ready to write the questionnaire that will be the instrument used to gather all the data you need to satisfy the objectives of your study. To start this process, retrieve the table you prepared in Chapter 1—Table 1: Correlation of Study's Objectives with Research Instrument (page 13). Review the objectives to see if they have remained the same. Make any adjustments to those objectives as necessary based on any secondary research you have conducted or additional client needs you have uncovered since then. Complete the following activities, documenting your decisions and developing your questionnaire using a word processing application:

1. Make your final decision on the appropriate survey method for data collection. Is this survey going to be conducted in person or will it be self-administered? Will it be conducted over the telephone? Will it be faxed or mailed?
2. Decide on the format of the question or questions needed for each objective to gather the necessary data. What objectives lend themselves to open-ended questions, forced-choice questions, or scaled-response questions?
3. Write the questions necessary to satisfy each objective. Check the questions for clarity, and to see if you made any of the common errors, such as leading the respondent or making it difficult for the respondent to answer.
4. Check the questionnaire again to see if all the questionnaire items have a purpose. To ensure the validity of the questionnaire, complete the table you prepared in Chapter 1—Table 1: Correlation of Study's Objectives with Research Instrument (page 13). Insert the number of the questionnaire item that corresponds with each objective. If a question does not belong anywhere on that table, discard it or add another objective for the study that addresses that questionnaire item.
5. Finalize the order of questions. Consider what additional questions are needed to make the questionnaire flow easily. Do you need a screener question at the beginning of the questionnaire? Are there any questions that need a preceding filter question? Check the sequence of questions (screener, warm-up, transitional, difficult, ending). Did you give away the purpose of the study early in the questionnaire?
6. Check the length of the questionnaire. If it is too lengthy, check to see if there is some way to condense questions. Do this by using a checklist in a table format for a group of questions that use the same format, such as Likert scale questions or rating scale questions in which all categories could be included in one table instead of repeating the directions each time. If your questionnaire is too long, determine what you will do to ensure completion by respondents. Time the administration of the survey if it is given over the telephone or in person. If it is too long or takes too much time, consider revising it.
7. Check to see that all directions are clearly understood by the interviewers, or, in the case of a self-administered questionnaire, by the respondents.
8. Pretest the questionnaire with people who are in your target population. Note any difficulties they have interpreting the questions or following directions. Ask for feedback.
9. Make needed revisions and get your final copy approved one last time by your client.
10. Make copies of the questionnaire and plan for its administration.

Chapter 7 Sampling

What You'll Do

- Identify your target population—the people you want to study.
- Determine if you have a list of all members of the target population.
- Decide if you can conduct a census of the target population.
- Determine if you will use a probability or a non-probability sample (if a census is not possible).
- Select a specific method for selecting participants for the probability or non-probability sample.
- Determine the sample size required for the study.

Why It's Important

One of the most important decisions you'll make when conducting primary survey research is determining who you will interview to collect your data. When a census is not possible, researchers rely on various methods to select a subset of the population to interview. In this chapter, you will learn the fundamental concepts of sampling so that you can develop methodologically sound studies that will provide reliable data.

Key Terms

target population
geographics
demographics
Pareto 80/20 rule
parameters
census
sample bias
probability sample
non-probability sample
systematic sample
stratified sample
strata
convenience samples
judgment sample
quota sample
snowball or referral samples
Internet samples
research confidence level

Identifying Your Target Population

One of the most important decisions you'll make when conducting primary survey research is determining who will help you answer the research problem and address the objectives of your study. Your **target population** (also called the universe) is the group of people whom you want to study. This population of interest will provide the data needed to satisfy the objectives of the study. When you meet with your client, it is important to discuss the specific characteristics of the group of people for whom you are designing the study. For example, let's assume you are conducting a study for a retail department store located in a tourist area, such as Boca Raton, Florida. Is the client interested in tourists who frequent the store while on vacation during the height of the tourist season? Or is the client interested in customers who live in the area and regularly shop in the store? The client may also be interested in regular credit card

customers, in which case, the target population could be further defined as all credit card holders who have used their store credit card a minimum of three times in the last six months. In this last case, the description of the target population is very specific. The key to identifying a target population is to make it as specific as possible so the data generated from the study are useful to your client.

Identification Characteristics

Researchers rely on various ways to identify who the population of interest should be. When defining the target population, consider ways of describing the group of people your client wants to study. Some suggested criteria include geographics, demographics, patronage, and product use.

Your client may be interested in people who are part of the company's trading area (geographic boundaries from which a company draws its customers). In such a case, your target population would be identified by **geographics,** a method of segmenting people based on geographic location. That may involve a neighborhood, town, city, county, state, region of the country (several states), the entire United States, continent, several countries around the world, or the entire global trading area.

The target population may be identified by demographics. **Demographics** is a method of segmenting people based on objective and quantifiable characteristics of a population, such as age, gender, income, ethnicity, occupation, education level, parental status, or marital status. For example, are you studying teenagers or middle-aged men? Is your client interested in working women who are married with children? You may want to study the demographic characteristics of current customers to develop a customer profile. You could also study potential customers whom you want to target in the future.

The target population may also be identified by patronage characteristics, which generally involve the frequency with which customers do business with a company. You may want to invoke the **Pareto 80/20 rule,** which states that 80 percent of a company's business is generated by 20 percent of its customers. Thus, you would want the 20 percent of the best customers to be the target population.

Still another way of defining the target population may be through the use or potential use of the product under study. You could be interested in adults who drink milk on a regular basis versus those who do not. You might want to identify men and women who suffer from high blood pressure. In that case, you may be interested in people who share a certain health condition and are likely candidates for new products such as home blood pressure machines.

In some cases the description of the target population is a little more complicated because many people share a common characteristic, so additional parameters should be included in the identification of the target population. **Parameters** are fixed measurable factors that establish and limit how something must be done. Assume your client's study is for a new upscale hair spray for women. Although many women use hair spray, your client is only interested in women who purchase their hair spray in beauty salons. Another client might only be interested in women who do not buy their hair spray in hair salons, as the new product is targeting women who purchase their hair spray in supermarkets and drug stores. Discussion regarding who the target population of interest to your client is must occur before the method of gathering the data is determined.

Conducting a Census

Once the target population is identified, the next step is to determine if it is possible to conduct a census of the group. A **census** is a study that includes data about or from every member of the target population. Every ten years the United States government conducts a census, which means everyone in the

United States is counted and their characteristics documented.

Whenever it is possible to conduct a census, researchers elect to do so because they know their findings will reflect all members of the target population. However, it is rarely an easy task. There are very few examples of when a census is practical for a marketing research study because in most cases the target population is just too large; tens of thousands of people may match the characteristics of the target population. Another reason why a census is rarely practical is because you rarely have a master list of all the people in your target population. If you do, and the number of people listed on the master list is small enough to make it practical to conduct a census, then you can conduct a census. For example, if you want to conduct a study of your firm's 100 employees to see how many employees frequent the company cafeteria and how satisfied they are with it, a census would be practical. All employees could be asked to return the survey when they pick up their paychecks. This would assure that all surveys are returned, which would be a true census. The following factors must be considered before a census can be conducted:

1. Is the target population small enough to make it practical to include everyone?
2. Do you have a list of every person in the target population so they can be asked to participate in the study?
3. How will you assure that every person will participate in the study?

As you can see, there are many obstacles to using a census in marketing research studies. That is why most marketing researchers use a sample. A sample is a representative part or subset of the target population. If you think of a pizza pie, one slice from an eight-slice pie would be considered a sample. You would have to pick the piece of the pie that most represents the other seven pieces in order to generalize about the whole pizza pie's qualities. The same is true when selecting the people as the sample of the target population of interest.

Training Interviewers

For DECA Chapter Projects, such as the Creative Marketing Research Project, it is a good idea to train DECA members to be interviewers. It is best to use a simulated situation and role playing to ensure that all DECA members who are conducting interviews for the chapter projects know what they are doing. Otherwise, your data will be useless. Another way to ensure success with the actual interview process is to train experienced DECA members to supervise the novice market research interviewers.

Sample Bias

Your goal as a researcher is to prevent or at least control sample bias. **Sample bias** is skewed data due to the selection of a sample that is not representative of the target population. Skewed data falsifies the findings of a research study, providing the client with misinformation. There are three factors that contribute to sample bias. The first factor is a flaw in the sample design, such as how participants are identified for the study. If the wrong criteria are used, the findings will not present an accurate picture of the target population. The second factor involves the actual selection process of the participants. Some methods assure you of a truer representative sample of the target population than others, as you will learn as you read the rest of this chapter. Finally, sample size can create sample bias if the sample is not large enough to represent the characteristics of the target population. The size of the sample should be determined based on the size of the target population, the number of subgroups

that must be included, the budget, and the methodology for selecting participants in the sample. As you read the rest of this chapter, consider those factors in controlling for sample bias.

Probability versus Non-Probability Samples

How you select your sample is dependent on whether you have a complete list of people who share the characteristics of importance in identifying the target population. A **probability sample** (also called a random sample) is a research sample in which all members of the target population have an equal and independent chance of being selected for the study. If you don't have a complete list of everyone in your target population, your sample must be considered a non-probability sample. A **non-probability sample** (also called a non-random sample) is a research sample in which the selection of members is based on factors other than random chance.

For example, suppose that all the people who live in your town are considered the target population of interest to your client. You have a telephone directory of your town, so you think you have a complete list of all residents. You would be incorrect because not all residents have listed telephone numbers, so your sample cannot be considered a probability sample. Two examples of when a probability sample could be used would be when you have a complete list of all of a store's credit card customers, or all the customers who spent over $10,000 with the firm in the last year. In both cases, a business's records could provide the required information for a probability sample.

The advantages of a probability sample are that you are sure your sample is free of bias because statistics show that the sample will be representative of the target population. Another advantage is the ability to compute the degree of error in the sample based on statistics involving the size of the target population and the sample selected. Because probability samples are highly representative of the target population, the results can be generalized to the client's entire population of interest.

The major drawback of a probability sample is the time it takes to design the sampling procedure. The names of all members of the target population must be made available and then a systematic procedure for selecting the sample participants be devised, based on the type of probability sample desired. These probability sampling methods are discussed below.

Non-probability samples are much easier to conduct because they do not have to adhere to the stringent requirements of a probability sample (that every member of the target population has an equal and independent chance of being selected into the sample). When dealing with probability samples, statistical formulas can be used to determine the degree of error that the researcher can expect from the findings of the study. However, these statistical formulas cannot be used to analyze non-probability sample data. Thus, non-probability data may not be generalized to the target population with any degree of statistical accuracy. Nonetheless, every effort should be made to be sure that the sample is representative of the target population. Quotas may be established for certain key characteristics of the target population in a non-probability sample to reduce bias in the study. If measures are taken to ensure a true representation of the target population, the results from non-probability samples can produce quality research data. You will learn more about how data from non-probability samples can be analyzed and reported in a marketing research study in Chapter 8.

Probability Sampling Methods

As noted earlier, a probability sample (also called a random sample) is a research sample in which all members of the target population have an equal and independent chance of being selected for the study. Let's look at probability sampling methods that could be used to generate research data, including simple random samples, systematic samples, and stratified samples.

Simple Random Samples

An easy method for doing a simple random sample is to put the names of all the people who are in the target population into a bowl, mix up those names, and then select one name at a time from the bowl until you have selected the total number of people for your sample.

You can also select a simple random sample using a computer program that selects the people for the sample on a random basis from a file that includes all the people in your target population. Microsoft Excel provides an easy-to-use function for selecting a random subset of elements from a list. Start by listing your potential respondents with contact information in individual rows of an Excel spreadsheet. For each entry, copy and paste the =RAND() function into a new column. This associates each potential respondent with a random decimal number between 0 and 1. The text =RAND() will not appear in your spreadsheet, rather it will transform to a random decimal number between 0 and 1 after you enter it into a cell. Once you are finished entering all of the respondents, you can create a randomly ordered list by sorting the spreadsheet on the random number in ascending order. Before sorting, copy the list of random numbers created by the formula using the Paste Only Values selection of the Paste Special function of the Edit pull down menu. This will paste only the values into the same cells. If you don't perform this step, sorting the list will cause the =RAND() formula to rerun and select new random numbers. You will know if you have performed the process correctly when sorting by the random number column causes the random values to appear in ascending order.

If a computer program is not available, there are tables of random numbers that can be used to select your sample. In this method, each member of the target population would be assigned a number, and the sample would be chosen according to the table of random numbers.

Systematic Samples

A **systematic sample** is a type of probability (random) sample that starts at a random position on a list and selects every Nth unit (skip interval) of a population until the desired sample size is reached. To determine the skip interval, you would simply divide the population size by the sample size. For example, if your population size was 2,000 and your sample size was 500, your skip interval would be 4.

If you obtained a printout of an alphabetical listing of all the customers of a given business and did not want to use simple random sampling, you could use systematic sampling. Let's assume your population size was 2,000 and your sample size was 500, making your skip interval 4. To determine where to start the selection process, you would randomly select a starting point on the list. The random starting point could be determined by writing the numbers 1, 2, 3, and 4 on slips of paper and placing them in a hat. Then you could pull a slip of paper from the hat to select a number. For this example, let's suppose that you pulled the number 3. The third customer on the alphabetical list would be your starting point. Then your next customer would be the 7th customer (3 + 4 skip interval) and the next would be the 11th customer (7 + 4 = 11), until all 500 customers were selected into the sample.

Stratified Samples

A **stratified sample** is a type of probability (random) sample that is made more representative of the target population by dividing the

target population into groups called strata and taking simple random samples from each of the strata. **Strata** are groups of people with similar characteristics. For example, if you know that 30 percent of your client's customers are females age 15 to 19; 50 percent are females age 20 to 35; and 20 percent are females age 36 to 50, then you can select a random sample of numbers from each category of your target population according to those percentages.

Gender is often used as a common strata if the client is interested in the differences between them. For stratified random samples to be representative of the target population, it is necessary to know the proportion of the subsets.

Stratified samples frequently are not used in marketing research, except for possibly media audience research, because the criteria for creating each stratum must be based on facts differentiating the subsets. If there is no evidence from research that there are differences in the subsets, there is no reason to use stratified samples. A hunch or feeling about those differences would not be sufficient to warrant the use of stratified samples.

Non-Probability Sampling Methods

As noted earlier, any sample that is not a probability sample is considered a non-probability sample. A non-probability sample (also called a non-random sample) is a research sample in which the selection of members is based on factors other than random chance. These samples have no known probability for each member of the population to be included in the sample. Thus, the methodology of a non-probability sample is crucial to creating a sample that is representative of the target population.

Let's look at non-probability samples that could be used to generate research data, including convenience, judgment, quota, snowball, and Internet samples.

Convenience Samples

Convenience samples are a type of non-probability sample in which the respondents have been selected because they are convenient for the researcher. There are companies that sell lists of people who possess characteristics of various target populations.

If your client is interested in people who use antacids on a frequent basis, a list may be purchased from an independent company that has a database of people who have purchased a certain number of bottles of antacids in the last year. The database is generally made up of customers who have used coupons, returned rebates, or are part of a supermarket's frequent customer program. Thus, the sample list does not include ALL customers of antacids, nor is it completely accurate, as some purchasers may not in fact be the users. Nonetheless, it is a convenient sample that is easy to access.

Mall-intercept surveys make use of convenience samples. People walking through the shopping mall are stopped and asked to participate in a survey. In this case, the researcher believes that the people who frequent the mall are representative of the target population.

Judgment Samples

A **judgment sample** is a type of non-probability sample that is made up of respondents who are selected on the basis of someone's judgment that their attitudes or behavior will be representative of the target population. In an industrial business setting, sales representatives for the company may be surveyed to determine if customers' needs and wants are being satisfied and if changes need to be made to the company's products. In other cases, key customers may be included in the sample based on the assumption that their knowledge of consumption patterns and the like are representative of the target population. Thus, in both cases, the people being included in the sample are deemed experts in their field.

Quota Samples

A **quota sample** is a type of non-probability sample that includes specified numbers of respondents based on specific characteristics that have been predetermined as representative of the target population. If a researcher determined that the target population was 50 percent males and 50 percent females, they would ensure that half the sample was male and half was female. Those characteristics may be based on demographics, such as age, income, ethnic background, shared attitudes about a product or service (satisfaction or dissatisfaction), or behavior (patronage or product user). Research objectives may have identified these characteristics; thus the researcher must be sure to have participants who fit the characteristics under study.

For example, suppose that you are conducting a study for a women's clothing store close to a small industrial park, lots of residential housing, and some office buildings. Although customers shop all day in the store, there seems to be more traffic around lunchtime than in the morning hours, and the bulk of customers shop during evening hours. Assuming a sample size of 300, you would want to include in your sample customers from each time frame in numbers that duplicate the percentage of sales for each group.

Time Frame	Percent of Sales	Number of Customers to include in sample of 300
9:30 A.M. to 11:30 A.M.	10%	30
11:30 A.M. to 2:00 P.M.	30%	90
2:00 P.M. to 4:30 P.M.	15%	45
4:30 P.M. to 7:00 P.M.	25%	75
7:00 P.M. to 9:30 P.M.	20%	60
Total	100%	300

In this example, another quota system might be used that addresses the day of the week, rather than the time of day. For example, suppose that 30 percent of the sales for that store are generated on Saturdays, while the remaining 70 percent are spread over the rest of the days of the week, with more sales generated on Wednesday (15 percent), Thursday (15 percent), and Friday (20 percent) than on Monday (10 percent) and Tuesday (10 percent). A quota system could be used to select participants for the study based on those quotas as well.

Snowball or Referral Samples

Snowball or referral samples are a type of non-probability sample in which initial respondents refer additional respondents who share the same characteristic(s). This method is used when the target population is very small and unique and when it is difficult to generate a list of people who would qualify for the sample. For example, suppose that you wanted to survey people who like opera. You are able to acquire a list of some opera lovers, but not enough to meet the sample size requirement for your study. In that case, you might ask the respondents to suggest friends or colleagues who share their enthusiasm and interest in opera.

Internet Samples

Internet samples are a type of non-probability sample in which respondents are identified through their use of the Internet. Many Internet research companies have huge databases of Internet users. Their databases include the demographic characteristics of these Internet users, as well as their e-mail addresses. Thus, they can access those files to produce a sample for a client quite easily.

Company Web sites can host pop-up surveys that ask Internet users simple questions related to the company's products and services. Complete survey instruments can be made available through a company's Web site or through independent Internet marketing research companies.

Many people feel that Internet samples are not representative of the target population because of their selectivity. First of all, only computer users would respond to such a survey. If that is one of the characteristics of the target population, then the rationale for Internet samples could be made. You could even make a case for a probability sample of online purchasers of your product if you had such a list. In most cases, however, you could not use the Internet for a study of the general population because the demographics of Internet users are not the same as the general population. Research indicates that most Internet users are younger and better educated than the total population. Also, there is no database of all Internet users, even though some Internet companies have huge databases of people who can be reached through their e-mail addresses. As the number of people who use the Internet increases, the methods of selecting Internet samples will be less biased.

Sample Size

Sample size is important in controlling for bias in a study. The size of the sample must be large enough to be representative of the target population. The methods for determining sample size depend on whether the sample is a probability sample or a non-probability sample, as well as on the budget, industry standards and past experience, and the subgroups required. In addition, a researcher must plan the number of contacts required to meet the sample size requirement.

Table 7.1 ***Sample Size Table***
Degree of Accuracy = + or − 5%; Confidence Level = 95%

Population	Sample	Population	Sample	Population	Sample
10	9	230	144	1,400	301
20	19	250	151	1,600	309
30	27	270	158	1,800	316
40	36	290	165	2,000	322
50	44	320	174	2,400	331
60	52	360	186	2,800	337
70	59	400	196	3,500	346
80	66	440	205	4,500	354
90	73	480	213	6,000	361
100	79	550	226	8,000	366
110	85	600	234	9,000	368
120	91	650	241	10,000	369
130	97	700	248	15,000	374
140	102	750	254	20,000	376
160	113	850	264	40,000	380
180	122	950	273	60,000	381
200	131	1,100	284	120,000	382
220	140	1,300	296	1,000,000	383

Statistics

When dealing with probability samples, the methodology is simple because there are statistical formulas that can be used to determine the degree of error that the researcher can expect from the findings of the study. In general, the larger the sample size, the smaller the sampling error.

If you were to survey the students in your school for a research study and only asked three students the questions on the survey, how confident would you be that those three students were truly representative of the entire school population? What are the chances that their responses accurately reflected all the students in the school? The chance of error in those data would be very high. On the other hand, if you surveyed 75 percent of the students in your school, how confident would you be that the results reflected the entire population of the school? Pretty confident, but still not totally confident because all members of the student population were not included in the survey.

With probability samples, that confidence level can be measured statistically to tell you how confident you can expect to be with the data generated from a given sample size. The **research confidence level** is a percentage (usually 95 percent) that reflects the probability that the data generated from a sample will be representative of the entire target population. The research confidence level will determine how large the sample size must be. For most researchers, 95 percent, which means there is five percent chance of error, is an acceptable research confidence level. With a .05 degree of error, you can be sure that the findings are skewed in either direction by only plus or minus five percent. If a small range of sampling error (sometimes called confidence interval) is required, the sample size will need to be big. Table 7.1 on page 118 lists sample size requirements for various sizes for target populations in order to achieve .05 confidence level.

Client

For non-probability samples, industry standards or past experience may suggest the size of the sample. In some cases clients dictate the sample size based on past experience with similar market research studies. They may specify a specific sample size.

Budget

For both probability and non-probability samples, the budget will be a determining factor in sample size. Financial constraints may require a change in the sample design plan. The larger the sample size the more accurate the data will be, and the more expensive the survey.

Subgroups

The number of subgroups to be analyzed will also affect sample size in both probability and non-probability samples. In probability samples, each subgroup must be statistically significant so analyses can be made on the characteristics of each subgroup. In general, it is suggested that 100 respondents are needed for major subgroups; for less important subgroups, the minimum number of respondents in each group is generally in the range of 20 to 50.

Number of Contacts versus Sample Size

Realistically, far more contacts must be made than the sample size suggests because not all respondents complete the surveys, nor do all respondents choose to participate in the study. You must determine how many people must be included in the study to ensure the sample size requirements and to estimate how much that will cost. When providing your client with a proposal for the research design, include expected response rates to justify the need to contact more than the prescribed number of people expected as part of the sample. For example, if your research suggests that the response rate for a mail survey is 10 percent and the expected sample size is 100, you will need to mail 1,000 surveys.

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 7 Sampling

Vocabulary Review

Match each definition with the correct term. Write the letter of the term on the line.

_____ **1.** A method of segmenting people based on geographic location.

_____ **2.** Groups of people with similar characteristics.

_____ **3.** Fixed measurable factors that establish and limit how something must be done.

_____ **4.** The group of people you want to study; also called the universe.

_____ **5.** Skewed data caused by the selection of a sample that is not representative of the target population.

_____ **6.** A method of segmenting people based on objective and quantifiable characteristics of a population, such as age, gender, income, ethnicity, occupation, education level, parental status, or marital status.

_____ **7.** A research sample in which the selection of members is based on factors other than random chance; also called a non-random sample.

_____ **8.** A study that includes data about or from every member of the target population.

_____ **9.** A rule that states that 80 percent of a company's business is generated by 20 percent of its customers.

_____ **10.** Non-probability samples in which initial respondents refer additional respondents who share the same characteristic(s).

a. census

b. convenience samples

c. demographics

d. geographics

e. Internet samples

f. judgment sample

g. non-probability sample

h. parameters

i. Pareto 80/20 rule

j. probability sample

k. quota sample

l. research confidence level

m. sample bias

n. snowball or referral samples

o. strata

p. stratified sample

q. systematic sampling

r. target population

continued

_____ **11.** A research sample in which all members of the target population have an equal and independent chance of being selected for the study; also called a random sample.

_____ **12.** A type of probability sample that starts at a random position on a list and selects every Nth unit (skip interval) of a population until the desired sample size is reached.

_____ **13.** A type of probability sample that is made more representative of the target population by dividing the target population into groups called strata and taking simple random samples from each of the strata.

_____ **14.** A percentage that reflects the probability that the data generated from a sample will be representative of the entire target population.

_____ **15.** Non-probability samples in which the respondents have been selected because they are convenient for the researcher.

_____ **16.** Non-probability samples in which respondents are identified through their use of the Internet.

_____ **17.** A type of non-probability sample that is made up of respondents selected on the basis of someone's judgment that their attitudes or behavior will be representative of the target population.

_____ **18.** A type of non-probability sample that includes specified numbers of respondents based on percentages of specific characteristics that have been predetermined as representative of the target population.

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 7 Sampling

Fact and Idea Review

Review your understanding of the important concepts in this chapter by answering the following questions.

1. What is a target population? What is the key for identifying the target population? What criteria may be used to describe a target population?

2. How do a census and sample differ? How do a probability and a non-probability sample differ?

3. What is sample bias? What three factors can cause it?

4. Explain how market research participants could be selected using a simple random sample. Note if this sampling method is a probability or non-probability sample.

5. What is used in a systematic random sample that is not used in a simple random sample? Explain.

continued

6. What is necessary for stratified random samples to be representative of the target population?

7. How are convenience samples and judgment samples similar and different?

8. What is a quota sample and how is it determined?

9. Explain snowball or referral samples, as well as Internet samples.

10. Explain the considerations that must be communicated to the client with regard to deciding on a sample size and the number of contacts required for obtaining the desired sample size.

Student Date

Class Teacher

CHAPTER 7 Sampling

Marketing Research Applications

A. Describing Target Populations

Rewrite the following target population descriptions to make them more specific, based on the characteristic suggested. You can be creative with regard to the characteristic, as long as it is realistic. The first one is completed as a sample for you to follow.

Client or Product	Target Population	Characteristics to be Added	Improved—More Specific Target Population
E-mail company	Internet users	Product use	E-mail users who have accessed their e-mail at least once in the last week.
Local bank	Business customers	Geographic and patronage	
New clothing store in the local mall	Teenagers	Geographic	
New children's cereal	Mothers	Demographic and product use	
Cell phone manufacturer	People who use cell phones	Geographic, demographic, and product use	

continued

B. Census or Sample?

For each of the following marketing research studies, indicate whether you would suggest a census or a sample. If you select a sample, indicate whether that sample would be a probability or a non-probability sample. Provide a rationale for your decisions.

Research Study	Census vs. Sample	Probability vs. Non-probability	Rationale
A manufacturer of lighting fixtures wants to study its top 50 customers to determine if they would consider purchasing its products online.			
A pharmaceutical company wants to study the needs of diabetics in the United States.			
A long-distance telephone company wants to determine if its printed, monthly statements should be discontinued in favor of supplying the same information online.			
A local restaurant wants to determine customer satisfaction with its food and service.			
A college bookstore wants to know what additional products it should carry.			

continued

Student Date

Class Teacher

C. Understanding Sampling Concepts

Read each of the following scenarios. Then review your understanding of fundamental sampling concepts by answering the following questions and performing the following activities.

1. A marketing research study of 800 former graduates of a special free enterprise summer program that has been conducted for the last three years, with males representing 65 percent and females 35 percent of the enrollment. The sample size is 200.

a. How would you select the participants for the sample using a simple random sample?

b. How would you select the participants for the sample using a systematic random sample?

c. Prior research of similar programs suggest that males and females differ in their opinions about how useful the free enterprise seminars were to them. That being the case, how would you select participants into the sample using a stratified random sampling method for gender?

d. Is the stratified sample in the previous question large enough to be statistically significant for both genders? Explain your answer.

e. How many former graduates would you include in the study to ensure a sample size of 200?

continued

2. A shopping mall owner would like a study conducted to create a customer profile. The findings from the study may be used to attract more stores to the mall and to help current stores better understand the customers the mall attracts. Since there is no master list of all mall customers, a non-probability sample is in order. The study needs to address geographic and demographic data, such as the customer's age, income level, local residence, gender, and occupation. The management of the mall has requested that the sample size be 400.

   a. Using quota sampling methods, explain how participants would be selected to assure that daytime (45 percent) and nighttime (55 percent) shoppers were included in the correct proportions. In your answer, include the quota needed for the sample of daytime shoppers and the quota needed for the sample of nighttime shoppers.

3. A manufacturer of golf equipment purchased a list of 5,000 men (68 percent) and women (32 percent) who subscribe to golfing magazines, live in the Northeast, and have an annual household income of $100,000 or more. Age was not included in the descriptive factors and yet it is an important factor for your client. A telephone survey is being planned. Explain how that survey should be conducted given the above information and the need to use a quota sampling method to address gender and two age ranges: 49 or younger and 50 and older. Statistics suggest that the 49 and younger group would represent approximately 38 percent of this group and 62 percent would fall in the older age group.

   a. Assuming that the client requested a sample size of 600, what would be the quota needed for a sample of female golfers to ensure the sample was in the correct proportion to the target population?

   b. Assuming that the client requested a sample size of 600, what would be the quota needed for a sample of male golfers to ensure the sample was in the correct proportion to the target population?

   c. Assuming that the client requested a sample size of 600, what would be the quota needed for a sample of female golfers in the age range 49 and younger to ensure the sample was in the correct proportion to the target population?

   d. Assuming that the client requested a sample size of 600, what would be the quota needed for the sample of male golfers in the age range 50 and older to ensure the sample was in the correct proportion to the target population?

continued

e. Given the refusal rate and problems with incomplete surveys, how many contacts would you suggest to satisfy the sample size requirements for the golf equipment survey of men and women golfers in the two age groups, noted in 3 a, b, c, and d? Why?

f. The golf equipment company would also like to get the opinions of golfers who have a handicap of 10 or lower (very good golfers). Explain how the snowball sampling method could be implemented for this purpose.

g. Use Table 7.1 Sample Size Table (page 118) to determine the sample size required for a marketing research study of professional golfers, assuming the USGA (United Stated Golf Association) provided a complete list of all professional golfers in the United States. Let's say that list contained 10,000 names and the golf company wants you to use a probability sample that has a .05 confidence level.

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 7 Sampling

Your Marketing Research Project

Use a word processing application to write two or more paragraphs explaining how you will select the respondents for your research study. This will ultimately be part of the research methodology section of your research report and will be included in the section that details steps taken to administer the study. To complete this endeavor, perform the following steps:

1. Determine your target population. Write one sentence to identify your target population. Be very specific.
2. Determine the method of selecting participants for your sample by answering the following questions in complete sentences so they can be part of your written report.
   a. Do you have a list of all the members of your target population? If no, skip to step 2c.
   b. If you answered yes to question a, will you use a census or a sample? Explain the rationale behind your decision. If you are conducting a census, explain how a census controls for sample bias and why it is so effective, and skip the remaining steps.
   c. Your sample must be a _____ sample.
3. Explain in detail whether you will use a probability or a non-probability sampling method, and why. Tell how you will select people for your sample. (Write several paragraphs if you need to describe a complex methodology). Your goal for this section is to explain your sampling methodology in enough detail so readers could replicate the process if they were conducting a similar study.
4. In the next paragraph, explain how your sampling plan controls for sample bias.
5. In one or two paragraphs tell the readers about the sample size requirement for your study and the number of people who need to be contacted to achieve the sample size requirement. Emphasize how this sample size will be adequate and will not create sample bias.

Chapter 8 Data Collection, Reporting, and Analysis

What You'll Do

- Check your questionnaire for completeness.
- Code the questionnaire, questionnaire items, and questionnaire responses.
- Tally the questionnaires.
- Select the appropriate method for presenting the data for each question on your questionnaire.
- Create tables and charts to see how your data will appear in your report.
- Analyze data.
- Write conclusions for your data.

Why It's Important

In this chapter, you will learn about the procedures that will help you with the monumental task of transforming your data into useable information. The better organized you are when validating, editing, and coding your questionnaires, the faster you will be able to complete those tasks. Generating the tables and graphs for the presentation of the study's findings will make it easier for you to interpret, analyze, and report your research data, as well as to explain it to others.

Key Terms

validation
editing
coding
computerized data entry
optical scanner
data analysis
percentage
cross tabulation
weighted average
pie chart
line chart
bar chart

The Task at Hand

Suppose that you've completed your survey and have a few hundred questionnaires on your desk. The task of transforming that information into useable data is next. Where do you start? How do you tabulate the results? How do you get that information into the computer? Should the data be presented in graphic format? In this chapter, you will learn about the procedures that will help you tackle this monumental task. These procedures include validation and editing, coding, data entry, error check, and tabulation and analysis.

Validation, Editing, and Coding

Whenever you have others conducting the research or you use a self-administered questionnaire, the questionnaires need to be validated and edited. This involves making sure surveys were conducted properly and evaluating responses for inconsistencies.

If you conducted all the surveys yourself, you would know whether the questionnaires were completed correctly and whether all the data represented the correct respondents. In this case, you would not need to validate or edit the questionnaires. In this case, you would not need to validate or edit the questionnaires.

Once you have validated and edited the questionnaires, the next step is to code them. Coding involves categorizing responses for tabulation.

Validation

Validation is making sure all surveys were actually conducted and that they were completed properly. When others conduct the surveys, it is important to have them obtain the respondent's name and telephone number so you can validate the surveys. The respondents should be informed of the purpose for asking their name and phone number and that their personal information will not be used in the study, nor will it be distributed to any other company.

Validation is needed because some interviewers falsify questionnaires. To reach the required quotas set by the research study, interviewers may simply complete a few questionnaires on their own. When a respondent stops the interview midstream, the interviewer might finish the questionnaire with erroneous information. Other times, the interviewer might sense that the respondent is in a hurry, so long questions might be skipped, creating an incomplete survey.

To validate the survey, you must call a few respondents who were surveyed by each interviewer to determine the following:

1. Did the interview actually take place? A simple question, such as, "Do you recall taking part in a survey at (location) last week?" might be sufficient to determine if the respondent was actually interviewed.
2. Did the respondent meet the qualifications to be included in the sample? Ask the screener question(s) on the survey to see if the person met the requirements.
3. Was the interview conducted properly? Sometimes interviewers will ask their friends to help them reach certain quotas. In that case, the interview would take place somewhere other than the prescribed location. It is important to see that the procedures for administering the survey were followed exactly. If they were not followed, bias would be created in the study.
4. Did the respondent complete the survey? To check if all questions were asked of the respondent, questions from different parts of the questionnaire could be asked again to see if the respondent recalls the question and if the same answer is given the second time.

Editing

Editing involves checking for mistakes made by the interviewer or the respondent by evaluating questionnaire responses for inconsistencies and skipped questions. In a personal interview, you are checking to see that the interviewer followed all directions, asked all the required questions, and recorded the answers. In a self-administered questionnaire, you are checking to see that the respondent followed all directions and answered all required questions. This is a tedious process but it must be done to ensure the accuracy of the data. Common problems that should be checked include the following:

1. Were all questions answered? If a question or two were skipped, you could contact the respondent and ask the skipped quetions(s). If that is not possible, the questionnaire should be discarded.
2. Were directions followed? In some instances, respondents answer questions that do not pertain to them because they misunderstand or do not read the part of a filter question that tells them to skip a question or questions. For this reason, all filter questions should be checked to make sure respondents answered only those questions that pertain to them. Other checks involve respondents' ability to follow directions for specific questions. A possible misunderstanding of directions could involve respondents not comprehending the difference between rating and ranking scales.
3. Were open-ended questions answered completely? When interviewers administer the survey, they should probe respondents if answers to the open-ended questions are not adequate. If they don't, the answers are often useless. In self-administered questionnaires, open-ended questions may be skipped all together because people do not like to write out long responses. Even if they are answered, the quality of the response is often questionable. For that reason, open-ended questions are not suggested for self-administered surveys. If the rest of the questionnaire is complete, you could try to contact respondents who provided limited information to see if they can provide additional rationale for their responses.

Coding

Coding involves organizing questionnaire responses into categories and assigning a unique code to each response prior to data entry. All closed-ended questions should have numeric codes pre-recorded on the questionnaire for each question. For example, each option would be numbered in sequence: 1, 2, 3, 4, and 5 for a question with five options. For a question with two options, the numeric codes would simply be 1 and 2. The following is an example:

Are you male or female?

Male	Female
1	2

As you can see, assigning numbers to closed-ended questions is simple. The task becomes much more difficult when coding open-ended questions. The first step in coding open-ended questions is to list all responses. The next step would be to look for responses that can be consolidated. Here is an example. Suppose that a question asks respondents to indicate why they do not get a flu shot each year. Responses might include: *"I'm too busy." "I never find the time." "My schedule is so hectic that I just don't get around to doing it."* All three responses could be consolidated into a category of "time." Once the list is consolidated, the next step involves assigning number codes to the consolidated topics. Finally, the numeric codes must be recorded on each questionnaire. To accomplish that task, each response for the open-ended questions must be read and classified into one of the consolidated categories. Then the code for that consolidated category must be recorded directly on the questionnaire to get the questionnaire ready for data entry.

Data Entry

After the questionnaires have been validated, edited, and coded, it is time to start tallying them. You may want to prepare a coding form to tally the questionnaires by hand. On the coding form you would list all questions and their coded numbers for the options. Then you would record all of the responses for each questionnaire on the coding form and tally the results after you finished recording all of the questionnaires.

Computerized Data Entry

A sophisticated database or simple spreadsheet program can be used for programmed or computerized tallying of questionnaires. **Computerized data entry** is the act of putting data into a computer application.

Some software applications can be programmed specifically for tallying your questionnaire. You can program the application to reject any entry that does not conform to the parameters of the given question. For example, suppose that a question has four options, coded as 1, 2, 3, and 4. If the person entering the data enters a 6 for that question, the entry would be rejected, and the person entering the data would not be able to continue entering data until it was corrected. Some programs provide a pop-up message to communicate the nature of the data entry problem. However, this safeguard is not fail safe. This safeguard only works when the data entry is outside the parameters of the acceptable options. In the preceding example, if a 3 was entered instead of a 1, the computer program would not detect that error because 3 is programmed as an acceptable answer.

Another convenient feature of using a computer for data entry is that the program can be designed to automatically skip to the correct question when a skip pattern is used. For example, the entry of a response to a filter question would cause the program to skip to the next appropriate question. This type of feature makes it easier for data entry purposes, as the data entry person does not have to tab through one or more questions to get to the correct one for the next entry. The next appropriate entry automatically appears on the screen. This type of feature also makes it easier for the data entry person to detect respondent error, because the questionnaire responses should follow the same pattern as the computer program.

When a computerized data entry system is used, three codes are used to keep track of the data. Those codes involve: (1) the questionnaire; (2) each questionnaire item/question; and (3) each option provided as a response to a given question.

The questionnaire code is a unique number assigned to each questionnaire as it is recorded into the computer program. That number is important because if you want to check the data from a given questionnaire later in the process, the number is the means of identifying it. If you have over 100 questionnaires, but less than 1,000, your numbers should begin with 001. This number must be recorded in the computer program as the questionnaire entry number and also written in the same place on all questionnaires.

Each question on the questionnaire is also given a number, which serves as its code. Sometimes the question number as printed on the questionnaire is the code and other times it is not, because one question may have more than one part, therefore, each part must be coded. Thus, questionnaire numbers are not complete for data entry purposes. If a number is assigned to a question, that number should be written in parentheses on the questionnaire.

Lastly, as you already know, each question response option is given a code. The following is an example of all three types of codes:

Questionnaire #22

(12) *9. What is your annual household income?*

a. less than $25,000	1
b. $25,000–$49,999	2
c. $50,000–$74,999	3
d. $75,000–$99,999	4
e. $100,000 or more	5

In this example, the questionnaire code is 22. This was the 22nd questionnaire to be entered into the computer program. The number in the parentheses to the left of the question—in this example (12)—is the question code. In this case the question code does not match the question number. This is because some of the previous questions on the survey instrument had more than one part. Each response option was also given a code; in this case the response options were coded sequentially from 1 to 5.

Optical Scanning Data Entry

Optical scanning data entry involves having an optical scanner read questionnaire responses. An **optical scanner** is a device that converts printed images and text into digital information that can be stored as a computer file and processed by computer software. Standardized tests are often scored with an optical scanning device. For that system to work properly, respondents must record their responses in a small oval with a #2 pencil on specially designed forms. The form is then fed into the optical scanning device, and the results are recorded directly on the form. Some more sophisticated scanners, normally used in educational settings, can tally survey data as well. The only glitch is that data entry coding is limited to the five responses generally used for multiple-choice questions (A, B, C, D, and E). Optical scanning companies also market special machines and forms that can be used by professional researchers. However, their costs are prohibitive for smaller surveys.

A more cost-efficient option for studies that involve more than 500 surveys is the use of a scanner that can be attached to a personal computer. Questionnaires can be printed on regular paper, and respondents are not limited in their writing utensils. The manner in which they respond is also not limited to filling in a small oval. An X or a check mark could be used. As long as the respondent places the mark in the middle of the box or circle provided for the answer, the scanner is able to read and record it.

Error Check

Some computer programs can be designed to check for logical errors in the data recorded, if the original program did not prevent data entry personnel from inputting erroneous data. For example, if there are only two options available for a question and a code other than 1 or 2 was recorded, the computer program would identify that entry as being in error. Then the original survey could be reviewed to see what response should have been entered for that question and the correction could be made.

If such a program is not available, it is still a good idea to check to see if the total number of responses to a question matches the total number of respondents who should have answered the question. To accomplish that task, totals for each question need to be tabulated. If the total number of responses is less than the number responding, check to see if there was a skip pattern on the questionnaire that could account for the difference. If a skip pattern was not responsible, check to see if any questionnaires were not input into the computer system. Sometimes, data entry personnel get sidetracked and forget where they left off when inputting data. In those cases, it is possible for them to miss the inputting of a questionnaire or part of a questionnaire.

Using Teamwork for Data Analysis

For DECA Chapter Projects, the tasks of data collection, recording, and analysis can be doled out to many chapter members to reach the goal of 100 percent participation. Before the project begins, DECA members could be assessed to see who is proficient with spreadsheets and designing charts, as well as who would like to help tally and analyze data. Once the data are put into readable charts and tables, the entire DECA chapter could help analyze the findings, draw conclusions, and make recommendations resulting from the findings of the study. Teams could be responsible for different objectives to make the work manageable.

Data Analysis

Once totals have been determined, data analysis can begin. **Data analysis** involves separating the data into separate parts and examining those parts in order to discover underlying principles and relationships. To accomplish that task, percentages, cross tabulations, and weighted averages are used.

Percentages

One of the easiest methods of data analysis is the use of percentages. A **percentage** is an amount, number, or rate stated as a proportion of a whole. The question arises, however, as to what the whole should comprise. There are three options: all respondents, respondents who were asked the question, and respondents who actually answered the question. Regardless of which method is used, it is important to alert the reader to how the percentages were calculated.

One option is to use respondents who were administered the questionnaire as the percentage calculation basis for all items on the questionnaire. So, if there were 200 respondents, then 200 would constitute the whole.The data generated with this method might be a skewed if there were questions that some respondents did not answer. Thus, it is best to use this option for questions that all respondents did answer.

A second option for the basis of calculating the percentages is to use only the respondents who were asked the questions. For example, suppose that a survey of 200 respondents presented the filter question, "Do you own a home?" If 80 homeowners responded yes and went on to answer two related questions, then 80 would be the base from which the percentages would be calculated.

The third option is to use only those respondents who actually answered the question as the percentage calculation basis. For questions that involve an option of "I don't know" or "no basis for evaluation," you can eliminate those respondents from the base to calculate the responses for that question. If there are 200 respondents, and in one question, 35 respondents select "I don't know," you could use 165 as the basis for calculating the percentages. This option should not be used if you are trying to show whether respondents know anything about a given subject. For example, if a question asked teens to select the correct description of meningitis from four options given and one option was "I don't know," you might want to include that percentage in your results. That finding may be quite relevant to the objectives of the study, one of which may be to determine if teens know what meningitis is. When in doubt, it is best to include all respondents who were asked the question as the basis for calculating the percentages on a questionnaire.

Check All That Apply

When more than one option is permitted for a question, the basis for calculating percentages will be more than the total number of respondents participating in the study. In this situation, you can simply prepare a bar graph and show the total number of responses for each option, as will be explained later in this chapter. Otherwise, you can calculate percentages, but you must calculate a percentage for each option based on the number of respondents answering the question. In the following example, the frequency of response for a question regarding features that respondents deem important for their cellular phones produced the following results:

190	Voice mail	Percentage	190/200	95.0%
75	Call waiting	Percentage	75/200	37.5%
30	Web access	Percentage	30/200	15.0%
150	Redial	Percentage	150/200	75.0%
30	E-mail	Percentage	30/200	15.0%

In the above case, each option would be divided by 200 (total number of respondents) to determine the percentage for each option. That way, the importance of each response can be compared to one another.

Cross Tabulations

Cross tabulation is the simultaneous tabulation of two or more variables. Comparing responses of one question in relation to another question or questions is the basis for cross tabulations. Characteristics such as age and gender, or user versus nonuser of a product may be used to see if there are any differences in such things as product preferences or likelihood of purchasing a given product or service, or even attitudes about an organization. To create a cross tabulation, set up your data in a table with the characteristic you want to compare listed as the column headings (across the top of the table) and the other criteria listed down the side (rows). A total column is also needed to show the number used as the basis for the percentages you will calculate for each cell on the table. Figure 8.1 is an example of a cross tabulation that compares age and computer use in response to a survey question that asked, "Based on your current employment, would you say you use your home computer more for work-related purposes or personal use?"

Only those cross tabulations that satisfy the study's objectives should be performed. Additionally, they should be planned in advance so the questions required to perform the cross tabulations are included in the questionnaire.

Weighted Averages

Weighted averages are used when analyzing rating scales. A **weighted average** is a number that is derived from multiplying the number of responses for each rating times the value of that rating, totaling those figures, and then dividing by the total number of respondents answering that question. What is calculated could be considered an index (average) of the rating for the quality being rated. For example, suppose that respondents are asked to rate the service they received in a fast food restaurant on a scale of 1 to 5, with 1 being poor and 5 being excellent. The following are tallied responses to that question for 250 respondents with an index or rating of 3.6:

	Poor				Excellent
Criteria	1	2	3	4	5
Service	(22)	(31)	(34)	(95)	(68)
	×1	×2	×3	×4	×5
	22	62	102	380	340

Total = 906
(22 + 62 + 102 + 380 + 340)

906 *(total value of all ratings)* ÷
250 *(total number of responses)* = 3.624 = 3.6

If several factors were rated, you could prepare a table with all the criteria listed in a rank order to see the degree of customer satisfaction.

Figure 8.1 *Cross-Tabulation of Age and Computer Use*

Computer Use	Age			
	Total	**18–36**	**37–55**	**Over 55**
	400	130	150	120
	(100%)	(100%)	(100%)	(100%)
Work-Related	212	60	58	94
	(53.0%)	(46.2%)	(38.7%)	(78.3%)
Personal Use	178	67	87	24
	(44.5%)	(51.5%)	(58.0%)	(20.0%)
Don't Know	10	3	5	2
	(2.5%)	(2.3%)	(3.3%)	(1.7%)

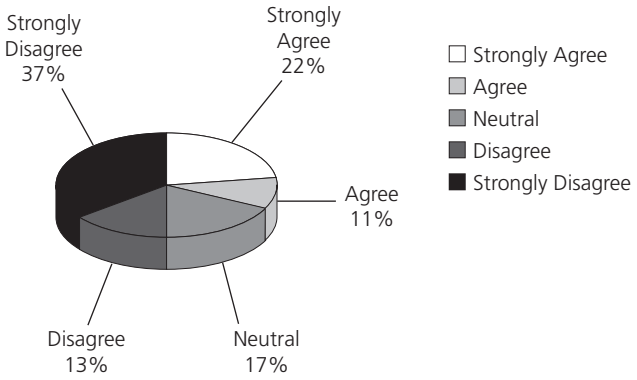
Data in Graphic Format

Graphs are an excellent way to visually communicate large amounts of information in a sweeping glance. Whenever possible, convert data into graphic format using a spreadsheet application. Each type of graph is used in different situations.

Pie Charts

A **pie chart** is a graphic representation of quantitative information by means of a circle divided into sectors, in which the relative sizes of the areas of the sectors correspond to the relative sizes or proportion of the quantities. Pie charts are used for displaying data when respondents select one option from a list of several items. They are not used when respondents can select more than one option. Responses from multiple-choice questions and certain scaled-response questions lend themselves to a pie chart format, as each response represents part of the whole. Figure 8.2 is an example of a pie chart for a scaled-response question.

Figure 8.2 Scaled Response Pie Chart

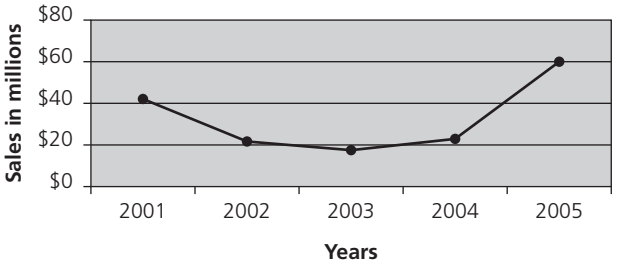


Line Charts

A **line chart** is a chart in which a series of data points are connected by a continuous line. Line charts are well suited for presenting data over time, such as sales, price, and profit figures, yearly figures over a five-year period or monthly figures over a year. Figure 8.3 is an example of a line chart for winter boot sales for the Bradshaw Boot Company from 2001 to 2005.

This chart shows that sales were declining from 2001 to 2003, started to pick up in 2004, and significantly increased in 2005.

Figure 8.3 Line Chart



Bar Charts

Unlike pie and line charts, which require certain types of data, bar graphs are flexible. A **bar chart** is a drawing made up of parallel bars with lengths that are proportional to the data being compared. More complex bar charts are also good for showing cross tabulations. See Figures 8.4 and 8.5 for examples of simple and more complex bar charts.

Figure 8.4 Simple Bar Chart

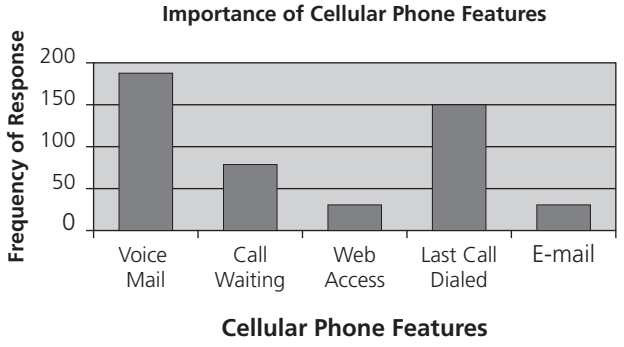
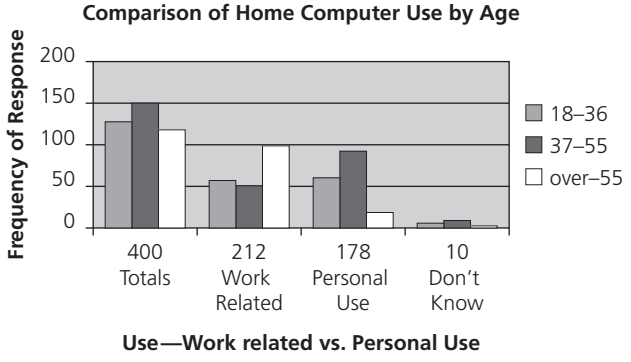


Figure 8.5 Clustered Bar Chart Showing Cross Tabulations



Student _____ Date _____

Class _____ Teacher _____

CHAPTER 8 Data Collection, Reporting, and Analysis

Vocabulary Review

Match each definition with the correct term. Write the letter of the term on the line.

_____ **1.** A graphic representation of quantitative information by means of a circle divided into sectors, in which the relative sizes of the areas of the sectors correspond to the relative sizes or proportion of the quantities.

_____ **2.** The act of putting data into a computer application.

_____ **3.** A device that converts printed images and text into digital information that can be stored as a computer file and processed by computer software.

_____ **4.** Checking for mistakes made by the interviewer or the respondent by evaluating questionnaire responses for inconsistencies and skipped questions.

_____ **5.** Making sure all surveys were actually conducted and that they were completed properly.

_____ **6.** A graphic representation of quantitative information by means of a chart in which a series of data points are connected by a continuous line.

_____ **7.** An amount, number, or rate stated as a proportion of a whole.

_____ **8.** The simultaneous tabulation of two or more variables.

_____ **9.** A graphic representation of quantitative information by means of a drawing made up of parallel bars with lengths that are proportional to the data being compared.

_____ 10. A number that is derived from multiplying the number of responses for each rating times the value of that rating, totaling those figures, and then dividing by the total number of respondents answering that question.

_____ **11.** Organizing questionnaire responses into categories and assigning a unique code to each response prior to data entry.

_____ **12.** Separating the data into individual parts and examining those parts in order to discover the underlying principles.

a. bar chart

b. coding

c. computerized data entry

d. cross tabulation

e. data analysis

f. editing

g. line chart

h. optical scanner

i. percentage

j. pie chart

k. validation

l. weighted average

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 8 Data Collection, Reporting, and Analysis

Fact and Idea Review

Review your understanding of the important concepts in this chapter by answering the following questions.

1. What is validation and how is it performed?

2. What does editing involve?

3. How is coding performed for closed-ended and open-ended questions?

4. What has replaced manual tallying of questionnaires and how does it help improve the tallying process?

5. Why is it important that all questionnaires be numbered as they are entered into the computer program?

continued

Student Date

Class Teacher

6. How does optical scanning work for tallying questionnaires?

7. What type of error check is needed after data entry?

8. Explain the three options for calculating percentages, as well as how percentages are calculated for questions that have respondents "record all that apply."

9. What is the basis for cross tabulations?

10. What types of data are most appropriate for the following graphic formats?

a. pie charts

b. line charts

c. bar charts

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 8 Data Collection, Reporting, and Analysis

Marketing Research Applications

A. Validating Survey Data

To validate a survey, telephone calls are made to participants in the study. Write one question for each of the following four issues used to validate a survey on the use of credit cards by businesspeople in job-related situations.

1. The participant actually took the survey.

2. The participant qualified for the study.

3. The survey was conducted properly and in the place where it was supposed to be administered.

4. The participant completed the entire survey.

Student Date

Class Teacher

B. Coding Responses

Coding involves assigning numbers to responses to make it easier to input data into a computer. Prepare the response codes for the following questions. Place the code between the parentheses on the line to the right of each potential response.

1. Did your firm issue a corporate credit card to you for business purposes?

_____ Yes (_____)

_____ No (_____)

2. In the last three months, how many times did you use your corporate credit card to entertain customers?

_____ none (_____)

_____ 1–3 times (_____)

_____ 4–6 times (_____)

_____ 7–9 times (_____)

_____ 10 or more times (_____)

C. Checking for Errors

Checking for errors on a questionnaire is an important step in processing data. Study the following three questionnaire items that were included in a survey of 350 people, and identify the problems with each one and the potential sources for the problems on the lines that follow. The numbers on the lines to the left of the response options are the tallied responses.

1. *Did your firm issue a corporate credit card to you for business purposes?*

Yes 265

No 75

(If no, skip question #2)

2. *In the last three months, how many times did you use your corporate credit card to entertain customers?*

9 0 times

80 1–3 times

50 4–6 times

89 7–9 times

37 10 or more times

continued

3. *Rank the following features of a credit card service in the order of importance to you. Record 1 for the feature you feel is the most important, 2 for the next most important, 3 for the next feature of importance to you, 4 for the one that is next-to-last in importance to you, and 5 for the least important feature.*

2	$10,000 or higher credit limit
3	Ability to check balance online
3	Itemized record of purchases at the end of the year
1	Credit fraud protection with a liability limit of $50
5	Photo identification

D. Calculating Percentages

Carefully review the following questions that were asked in a survey of 200 people. The numbers on the lines to the left of the response options are the tallied responses. Then calculate the percentages (rounding to the tenths place) for survey question 2 to illustrate the three methods that may be used in this case. For each one, indicate the base number used to calculate the percentages. Then identify the one you think best represents the data you would present to the client.

Survey Question 1

Do you have a personal credit card that you use for business purposes?

120	Yes
80	No (If no, skip question #2.)

Survey Question 2

What is the current credit limit on the personal credit card you use for business purposes?

5	less than $3,000
10	between $3,000 and $5,999
22	between $6,000 and $8,999
33	between $9,000 and $11,999
14	$12,000 or higher
30	don't know

1. Percentage calculations based on all respondents (N = 200):

Percentages	Raw Data	Response Categories
	5	Less than $3,000
	10	Between $3,000 and $5,999
	22	Between $6,000 and $8,999
	33	Between $9,000 and $11,999
	14	$12,000 or higher
	30	Don't know

continued

Student Date

Class Teacher

2. Percentage calculations based on only those asked the question (N = 120):

Percentages	Raw Data	Response Categories
	5	Less than $3,000
	10	Between $3,000 and $5,999
	22	Between $6,000 and $8,999
	33	Between $9,000 and $11,999
	14	$12,000 or higher
	30	Don't know

3. Percentage calculations based on respondents answering the question (N = ___):

Percentages	Raw Data	Response Categories
	5	Less than $3,000
	10	Between $3,000 and $5,999
	22	Between $6,000 and $8,999
	33	Between $9,000 and $11,999
	14	$12,000 or higher
	30	Don't know

4. Which one of the above three methods of calculating the percentages for the questionnaire item would you use in reporting the findings to your client? Explain your answer.

continued

E. Calculating Percentages

Calculate the percentages for the following question, which asks respondents to check all that apply. The question was asked in a survey of 400 people. Record percentages to the hundredth place. Then specify a better way to present these data.

Which of the following newspapers or magazines do you read on a monthly basis or more often? Check all that apply.

95	*Money* magazine
154	*Investor's Business Daily*
310	*BusinessWeek*
78	*The New York Times*
125	*The Wall Street Journal*
44	*People* magazine
192	*TV Guide*
50	Other, please specify _____

1. Percentage calculations based all respondents (N = ____):

Percentages	Raw Data	Response Categories
	95	*Money* magazine
	154	*Investor's Business Daily*
	310	*Business Week*
	78	*The New York Times*
	125	*The Wall Street Journal*
	44	*People* magazine
	192	*TV Guide*
	50	Other

2. What is the best way to present the above data on magazines or newspapers read on a monthly basis or more often? Why?

continued

Student Date

Class Teacher

F. Calculating Weighted Averages

For the following question that asks respondents to rate a bank, calculate a weighted average for each criterion. Then rank the criteria in a table by listing the one with the highest rating first, down to the one with the lowest rating. The total number of respondents was 200.

Please rate the bank based on the following criteria, using a scale of 1 to 5, with 1 being poor and 5 being excellent.

Criteria	Rating				
	Excellent				Poor
Banking hours (number responding)	5 (100)	4 (67)	3 (23)	2 (10)	1 (0)
Bank tellers' service (number responding)	5 (10)	4 (12)	3 (60)	2 (105)	1 (13)
Bank statement format (number responding)	5 (35)	4 (95)	3 (70)	2 (0)	1 (0)
Bank's interest rates on loans (number responding)	5 (5)	4 (20)	3 (170)	2 (5)	1 (0)
Bank's certificate of deposit rates (number responding)	5 (77)	4 (93)	3 (30)	2 (0)	1 (0)

1. Ratings of bank's services and personnel in rank order:

Rank (Highest to Lowest Rating)	Bank Criteria Being Evaluated	Weighted Average (Index)
1		
2		
3		
4		
5		

2. Based on the weighted averages, which of the bank's services needs improvement?

continued

G. Preparing Charts

Use a spreadsheet program to prepare appropriate charts for the following questions and data. Attach the charts to this page.

1. *In which town do you reside?* (N = 200)

55	Allendale
32	Ho-Ho-Kus
79	Upper Saddle River
24	Saddle River
10	Other, please specify _____

2. *In the last year, how many of the following banking services did you use at least once? Check all that apply.* (N = 200)

130	Savings account
120	Checking account
45	Loan
25	Brokerage services
160	ATM (Automatic Teller Machine)

3. *The bank's record of business accounts for the last five years are as follows:*

Year	Number of Business Accounts
2001	70
2002	125
2003	230
2004	260
2005	300

Student Date

Class Teacher

CHAPTER 8 Data Collection, Reporting, and Analysis

Your Marketing Research Project

Regardless of whether you have finished conducting your marketing research study, you can begin planning how you will analyze and display the findings. To help you in this endeavor, perform the following steps using a word processing application:

1. Even if you have not yet conducted your marketing research study, explain how you will display the findings for each questionnaire item.
2. Using real or fake data, prepare sample charts and tables to see how that data should be reported in your report. Prepare a heading for the chart or table and number them in order. Always include the "N" or number of respondents answering the question.
3. If you have already conducted your research, validate, edit, and code your questionnaire responses to get them ready for data entry. Process the data and check for errors. Then prepare the necessary charts and tables for presenting those data in your report.

Chapter 9 The Report and Presentation

What You'll Do

- Write a complete marketing research report based on the work you completed in this workbook or based on an actual survey you conducted.
- Prepare a computer presentation for your client to highlight the findings of your research study.
- Present your report to your client in a written, oral, and computer presentation.

Why It's Important

Now that the research data are analyzed it is time to communicate those findings to your client in a professional manner. Your client will expect a written report and an oral presentation. In this chapter, you will assemble the materials from all of the previous chapters into one research report.

Key Terms

research report
title page
table of contents
executive summary
introduction
research methodology
limitations
appendix

The Research Report

The **research report** is the document that the researcher develops at the conclusion of the research project. For your research to be understood and accepted by your client as credible, your written report must be well organized and error free. Therefore, you can expect to write, edit, and rewrite your paper several times before you are assured that it is ready to present to the client.

Organization

A typical final report includes the following ten elements: a title page, a table of contents, an executive summary, an introduction, a summary of the research methodology used, a review of the key findings, the conclusions of what the findings mean in light of the research objectives, recommendations for the client's next steps based on the conclusions of the research, limitations, and appendices.

Title Page and Table of Contents

The **title page** is a page of the report that bears the full title of the research study, name of the client, the researcher's name and organization, and the date. The **table of contents** is the page of the report that lists the major sections or headings in your report and the page on which each section begins.

Executive Summary

An **executive summary** is the portion of the research report that summarizes all of the sections of the report. It is a very important aspect of the written report because, in addition to being part of the report, it is also often distributed by itself. In other words, you should be able to hand someone the executive summary without providing the entire report, and the reader should understand the research study. To accomplish that end, the following information should be included: the research objectives, a brief explanation of the research methodology, a summary of the findings, and conclusions and recommendations.

Introduction

The **introduction** is the section of the research report that includes all relevant background information, such as the research problem, the objectives of the study, and appropriate published research that applies to the study. The background information should provide an easy transition to identifying the research problem and objectives of the study.

Research Methodology

Research methodology is the way in which the data are collected for the research project. The research methodology section of the research report should include the primary and secondary research that was conducted, and explain the identification of your target population, what sampling method was used, what research method was used (observation, experiment, survey), and what was done to prevent bias in the study. Provide the rationale for why you used this particular methodology. An explanation of exactly how the study was administered will help readers who may want to replicate this study in the future.

When trying to decide which details to include in this section, ask yourself, *"Am I providing enough information for someone to conduct this same study a year from now?"* In this section, refer the reader to the Appendix to see a copy of the survey questionnaire or whatever measurement instrument or materials were used as part of the research design.

Findings

The findings of the study are a summary, but not an interpretation of, the facts from the research on which the interpretation will be based. This involves reporting and analyzing data from the actual study. As you learned in Chapter 8, the best way to represent that data is to use tables and charts, which condense a lot of information into an easy-to-understand format.

It is important to present the findings in a logical manner. The easiest way to present the findings is to revisit the objectives of the study and the table that correlated the research objectives with the questionnaire items. Use that chart to organize the findings around the research objectives. That means you may be selecting the results from questions found throughout the questionnaire for each objective.

Conclusions

The conclusions section of the research report includes the interpretation of the data in light of the research objectives. To write the conclusions section, ask yourself, "What do these findings mean? It is your responsibility to explain what the research revealed and to interpret that information for the reader. Then write generalized statements without any statistics or numbers that depict the true meaning of the data.

The best way to organize conclusions statements is around the objectives of the study. Use inductive reasoning to piece

together the parts of the puzzle (all data related to a given objective) to arrive at relevant conclusions. For example, suppose that one objective of the study was to decide if the business should invest in a Web site, and if so, if it should be an e-commerce Web site. The results of three questions on the questionnaire that relate to that objective are as follows:

1. *In the last six months did you visit a retail store's Web site?* *Yes* (132) *No* (68)

If no, go to question #3.

2. *In the last six months did you purchase anything online from one of those retail store's Web sites?* *Yes* (25) *No* (107)

If yes, go to question #4

3. *Check the primary reason why you have not purchased anything online in the last six months from a retail store's Web site.*

_____ I do not have Internet access. (4)

_____ I am worried about the lack of security with my credit card. (40)

_____ I like to see the actual product before I buy it. (55)

_____ I do not know how to use a computer. (3)

_____ I find it easier to go shopping in person. (5)

_____ Other, please specify (0)

The following is a suggested conclusion to the preceding example: "Although retail Web sites are visited frequently, most respondents did not purchase anything because they like to see the actual product and are worried about credit card security on the Internet."

Recommendations

Recommendations explain the next action a client could take, based on the conclusions of the research. Use the conclusions to write recommendations for solving the original research problem. It is here where you will designate strategies to help your client to gain an advantage in the marketplace. It is not uncommon for researchers to suggest additional research studies in their recommendations, as some research studies are exploratory in nature and require future study for action to be taken.

For recommendations to be well received by your client, they must be consistent with the study's findings and be directly related to the study's objectives. They also must be realistic and practical. It is best to find supporting evidence to justify the recommendations and also to provide concrete examples of the suggestions. For example, if you suggest a new image for a product or company, you may want to supply a sample advertisement or slogan that demonstrates the new image in action. Other suggestions to support that recommendation may involve suggesting seminars to educate the staff about the new image.

The recommendations section of your report is where you can demonstrate your marketing expertise and creativity. Also note that in some instances, a recommendation involves counseling the client to not take a certain action. Based on the example noted in the previous section, the recommendation might be that the retail Web site should be designed for informational purposes, but not for e-commerce.

Limitations

The **limitations** section of the marketing research report explains any flaws in the research design. This helps explain why certain findings are different than expectations. Very few marketing research studies are without some flaws.

Some reasons for a limitation are based in reality, such as a snowstorm that prevented the researchers from getting the desired number of participants for the study. Other practical limitations may have come from the budget or time restrictions. There may be errors in the measurement instrument that were only

Following DECA Guidelines

It is absolutely essential that you follow DECA Guidelines exactly and that you review DECA's Written Entry Checklist, so that no penalty points can be levied on your final written report. The DECA Written Entry Checklist and Guidelines are published in the DECA Guide. Some items you may want to check: use of an official DECA folio; a statement of assurances to verify you did not plagiarize and to ensure you followed the regulations set forth for each written entry; and the limitations on the number of pages permitted, and where artwork is permitted. DECA guidelines also require double-spacing for most of the written entry, with some exceptions. DECA imposes a 10- or 15-minute time limit for the oral presentation on most marketing research events. It is best to check DECA Guidelines to see the exact time allocated for set-up and delivery of your presentation, as well as the time allotted for judge's questions. There also may be restrictions on the type of presentation aids you may use.

detected after the study was conducted, such as wording that was misleading or instructions that were not clear for a given question.

Any sampling error is a limitation and must be reported to warn the client not to generalize the results of the study beyond the type of sample that was used. For example, non-respondents may be different from respondents on certain issues in a survey and generalizing the results to everyone in the target population would be erroneous.

Appendices

The **appendix** includes all related information and examples that would otherwise disrupt the flow of information in the actual report. Detailed charts and graphs belong in the appendix, as do any special mathematical calculations used to analyze the data. For any survey research study, a copy of the questionnaire and special directions used in administering the surveys should be included. Supplemental materials with examples of recommended plans could be placed in the appendix, such as sample advertisements or brochures.

The appendices are titled with letters of the alphabet in the order they appear in the text. The first appendix mentioned in the report would be Appendix A, the next one mentioned would be Appendix B, and so on. All appendices should be identified in the text.

Writing Tips

Regardless of how good your research study is, if it is not communicated properly to your client, your efforts will not be taken seriously. This report will be a reflection on you and your organization. Your report must follow the rules of the English language and the guidelines for preparing a formal report. The following writing tips will help you.

Consider Your Audience

Before you start writing, you need to consider your audience: Who will be reading this report? Strive to communicate your ideas, concepts, and information in a manner that others can understand. Your purpose should never be to show how smart you are or how hard you have worked. Ask yourself the following questions: What are the issues and concerns that the audience is most interested in? What are the major points you want your audience to get? What level of detail is important to your audience?

Write Succinctly

Research writing must be clear, succinct, and to the point. Say exactly what you want to say and do not excessively elaborate. Each sentence should contain no more than 25 words. Check to be sure that you have covered what you intended to say, as succinct does not mean without detail.

Organize Around the Study's Objectives

Organize the findings, conclusions, and recommendations around the objectives of the study. Judge the importance of each issue or concept and apportion space proportional to their importance. The quality of the organization and the writing style will play a significant role in how credible your findings are to the reader.

Avoid Personal Pronouns

Since this research report is a fact-filled document, it is an example of expository writing. In expository writing, you do not use personal pronouns, such as, "I" or "my." If you must refer to anything you did, you may say, "the researcher..."

Editing and Proofreading

Writing is a skill that is developed by practice. You learn by doing and re-doing and carefully reading every word, sentence, and paragraph. Assume it will take you a minimum of three drafts to get a decent version that can be shared with others.

Once you have a suitable draft, ask a friend or classmate to read it and give you feedback. Take that feedback and revise your report at least once more. After you've revised it, have a different person review your work and note any difficulties they have understanding the information. Invite constructive criticism. The more you understand about how others perceive your report, the better you will be able to develop it to communicate precisely what you want. Your report may be used in future research studies, so treat it as an important document that must withstand scrutiny.

Look for Discrepancies

Look for discrepancies between what you report and general findings from other studies or current literature on the topic. Try to explain those discrepancies. Also, look for discrepancies in your conclusions and recommendations. Are the recommendations based on the research findings? Far too often, the researcher suggests ideas that have nothing to do with what the research data indicated as the course of action to take. In some cases, the course of action may be suggesting no action at all. A discrepancy may also be a reason for conducting a second study.

Charts and Tables

All charts and tables must have a number and a heading that describes the chart or table. Charts should be numbered in sequence as they occur in the report. Tables should also be numbered in sequence as they occur in the report. Charts and tables are numbered separately. So you will have a Table 1 and a Chart 1.

It is okay if the heading is long because the chart or table should be able to stand on its own merit. If you were to show someone the chart or table out of the context of the report, they should be able to get enough information from the heading to understand it.

When reporting research findings in a table or chart, report the number of respondents the data represents by including (N = [number]) on the same line as the heading. If there were 150 respondents, you would type (N = 150).

Whenever you include a table or chart you must first introduce it in the text that precedes it. Here are a few examples of terminology that is appropriate to use.

"As seen in Table 3...."

"Chart 3 presents the results from..."

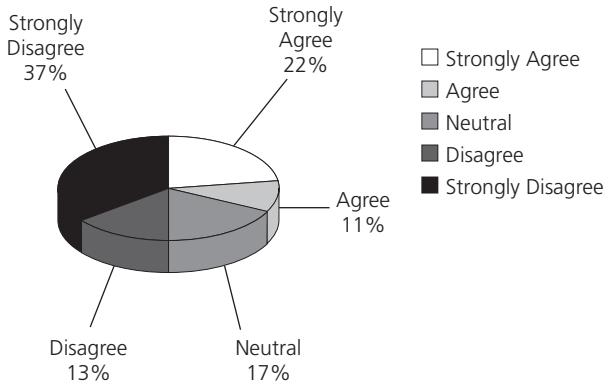
"The banking hours were given the highest ratings, as seen in Chart 4."

"Table 4 provides a cross-tabulation of respondents' age with the number of banking services they utilized during the last year."

When writing about the data in the chart or table, do not repeat everything in the table or chart. Analyze the data and report only significant findings in the text. The following are three examples to demonstrate how to analyze and write about the data found in a chart or table.

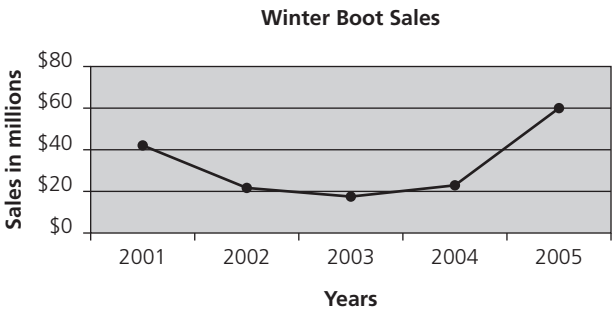
Example 1 As seen in Chart 1, a total of 50 percent of the respondents did not agree with the statement, "Using e-mail to communicate with customers has improved productivity at work."

Chart 1 Level of agreement with statement: *"Using e-mail to communicate with customers has improved productivity at work." (N = 300)*



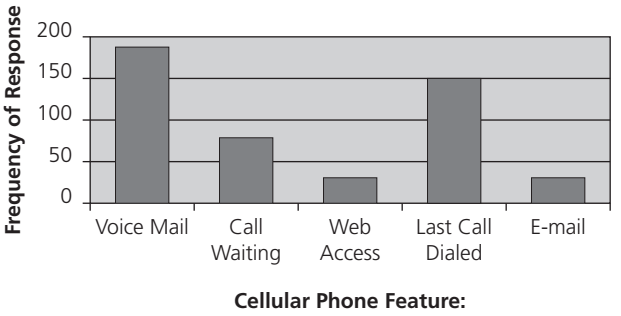
Example 2 Chart 2 depicts the winter boot sales for the Bradshaw company from 2001 to 2005 and reveals an upward trend for 2005, which began in 2004.

Chart 2 Winter Boot Sales for Bradshaw Boot Company from 2001 to 2005



Example 3 Chart 3 suggests that voice mail and last call dialed are the two most important features selected by respondents in this study.

Chart 3 Importance of Cellular Phone Features (N = 200)



Data Analysis

Data analysis is separating the data into its individual parts and examining those parts in order to discover the underlying principles. When analyzing data from the survey, you cannot say that the data "proved" anything because survey findings are not scientific, as you would have in an experimental design. If you conducted the same study a few months from now, the results could differ because you are dealing with human beings who change their minds and attitudes regularly. The terminology that is appropriate for reporting survey findings include phrases such as "the data suggest..." or "the data reveal..." Please note that the word data is plural (datum is singular) when discussing research studies. Thus, write "the data are...."

Headings

Be consistent in the way you present Level 1, Level 2, and Level 3 headings. A Level 1 heading is a major heading in a report. It is often typed in all uppercase letters and centered in the middle of the page. Level 2 headings may either be centered or typed at the left margin. These headings are typed in upper and lower case and either bolded or underlined. Level 1 and 2 headings each occupy a separate line.

Whichever method you use for each heading, you must be consistent throughout the report. You cannot bold some Level 2 headings and underline the others. You cannot type some Level 2 headings at the left margin and center others.

Level 3 headings are paragraph headings. A paragraph heading is typed at the beginning of a paragraph followed by a period. The text begins on the same line as the heading.

The Presentation

Your personal presentation is extremely important in making your research believable. How you present yourself in the meeting with your client and your client's decision-makers will have a bearing on how your research study is received. Conduct yourself in a professional manner, dress in business attire, and practice your presentation. Practice helps you gain confidence and permits you to speak without looking at notes. The following are some helpful hints for planning your presentation.

Helpful Hints

Prepare an outline of the key points you want to make. Provide a brief background on the original research problem. Then organize the outline around the research problem and objectives of the study. Communicate the results of the study in relation to the objectives of the study. Stay focused on those objectives when you provide the recommendations as well.

In order to make your presentation come alive, use audio-visual aids. Overhead projectors can be used to present information. A television and VCR can be used to show relevant parts of a focus group session. A flip chart or easel may be useful to show enlarged charts and tables.

Learn how to use presentation software, such as PowerPoint, to create interesting presentation slides that include charts, tables, pictures, and other graphics. When designing the slides, do not use a lot of text. Each slide should provide a graphic that represents the topic, whether a scanned photograph or advertisement or clip art. Graphic illustrations of topics should serve as reinforcement, not as a distraction. With a little creativity you can present the topics with flair.

When covering the findings, use the graphs and tables that are easy to understand and read. To stay organized, include short bulleted lists of the topics you are covering.

When presentation software is used, you will need a computer, a special projector, and a screen if you are presenting to a group of individuals. If you are simply presenting the report to one individual, you could use a laptop computer. It is a smart idea to print a copy of your computer presentation in case something goes wrong with the computer or the projector. That way, you have a backup. If something does go wrong, you can show the paper version in flip-chart fashion by using a three-ring binder and flipping from page to page.

Timing and Practice

Time your presentation so it is long enough to cover the subject matter and short enough to be interesting. Always leave time for questions at the end of your presentation. Prepare yourself for questions by having others watch your presentation in order to provide a critique. What may appear to you as very logical may be confusing to someone who is hearing what you have to say for the first time. Also note at what point you seem to lose your listener's attention. Improve those sections that are dull and slow moving. You want your presentation to grab the audience's attention at the beginning and keep them interested throughout the presentation.

While practicing your presentation, watch your mannerisms, both verbally and through body language. Your posture is important, as well as your eye contact. Maintain eye contact with your client at all times. Check to be sure you are not using verbal clutter, such as "like" or "umm," in your presentation. Speak clearly and use voice inflection to emphasize important points.

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 9 The Report and Presentation

Vocabulary Review

Match each definition with the correct term. Write the letter of the term on the line.

_____ **1.** The way in which the data are collected for the research project.

_____ **2.** The page of the report that lists the major sections or headings in your report and the page on which each section begins.

_____ **3.** The section of the research report that includes all relevant background information, such as the research problem, the objectives of the study, and appropriate published research that applies to the study.

_____ **4.** A page of the report that bears the full title of the research study, name of the client, the researcher's name and organization, and the date.

_____ **5.** The portion of the research report that summarizes all of the sections of the report.

_____ **6.** The document that the researcher develops at the conclusion of the research project.

_____ **7.** The section of a research report that includes all related information and examples that might disrupt the flow of information in the report.

_____ **8.** The section of a research report that explains any flaws in the research design.

a. appendix

b. executive summary

c. introduction

d. limitations

e. research methodology

f. research report

g. table of contents

h. title page

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 9 The Report and Presentation

Fact and Idea Review

Review your understanding of the important concepts in this chapter by answering the following questions:

1. List the organization for the written report.

2. What is an executive summary? Why is it so important?

3. What is included in the research methodology section of the written report?

4. What are the differences between the findings, conclusions, and recommendations?

5. Why are the limitations of the research included in the written report?

continued

Student Date

Class Teacher

6. What kind of information belongs in the appendix?

7. List and explain five of the many writing tips for the written report noted in this chapter.

8. Why is it okay for a chart heading to be long? What additional tips are there for including charts or tables in the text and for analyzing the data in them?

9. Why can't you say that the data proved anything in a questionnaire-based study?

10. What key topics should be included in the personal presentation?

Student _____ Date _____

Class _____ Teacher _____

CHAPTER 9 The Report and Presentation

Marketing Research Applications

A. Presenting Findings, Conclusions, and Recommendations

Use the raw data provided below to present the findings, draw conclusions, and suggest recommendations for a local sporting goods store. Prepare your findings, conclusions, and recommendations using a word processing application, and prepare charts to illustrate the findings using a spreadsheet application. A total of 100 respondents were included in the sample. The study's goal was to learn what needs to be done to improve sales. Specific objectives were: (1) to determine customer satisfaction with the store's sales staff, merchandise, and layout; and (2) to identify the most effective advertising media. *Note:* The responses for each option are provided in parentheses.

1. *On a scale of one to five, with one being poor and five being excellent, how would you rate the following characteristics of Bob's Sports?*

	Poor				**Excellent**
Sales staff					
merchandise knowledge	1 (22)	2 (28)	3 (40)	4 (10)	5 (0)
attentiveness	1 (18)	2 (43)	3 (32)	4 (7)	5 (0)
Merchandise					
variety	1 (0)	2 (12)	3 (20)	4 (47)	5 (21)
quality	1 (0)	2 (0)	3 (29)	4 (23)	5 (48)
prices	1 (0)	2 (0)	3 (31)	4 (60)	5 (9)

2. *Please rate your level of agreement with the following statements about Bob's Sports.*

	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
I always find what I am looking for at Bob's Sports.	SA (10)	A (52)	D (25)	SD (13)
The sales staff is very helpful.	SA (3)	A (4)	D (63)	SD (30)
I do not like the layout of the store.	SA (20)	A (24)	D (30)	SD (26)

continued

Student Date

Class Teacher

3. *During the last month, in which of the following media did you see or hear an advertisement for Bob's Sports?* (Check all that apply.)

local newspaper (65)

local cable television (10)

radio (0)

direct mail coupon in Value Pak (45)

I did not see any ads for Bob's Sports. (25)

Note: Bob's Sports did not advertise on the radio in the last month. Radio was put in as an option to see if respondents answered this question honestly.

continued

Student Date

Class Teacher

B. Preparing a Presentation

Now that you have written the findings, conclusions, and recommendations for Bob's Sports, it is time to personally present all that information to Bob, the owner of Bob's Sports. Using presentation software, prepare those sections of the personal presentation by following these steps:

1. Prepare an outline of the topics you will cover and the slides that will correspond to those topics. Be sure to organize your report around and focus on the study's objectives; do not report the results of the questions in the order they appear on the questionnaire.
2. Prepare a minimum of five slides. As a reminder, limit the number of words you use and select graphics that complement the topic being presented.
3. Print a copy of your computer-generated presentation.
4. Time permitting, present your presentation to classmates.

Student Date

Class Teacher

CHAPTER 9 The Report and Presentation

Your Marketing Research Project

Using all the data you have generated from completing the activities for each chapter in this workbook, prepare a written report and computer presentation for your marketing research project. Be sure to include a title page, a table of contents, an executive summary, an introduction, research methodology, findings, conclusions, recommendations, limitations, and appendices. Use double spacing and 12-point font size. The following is a list of the sections of the research report that were addressed in each chapter of this workbook:

Chapter 1: The introduction

Chapter 2: The first part of research methodology

Chapter 3: The part of the research methodology section on designing the study, where you indicate the primary research method that will be used in this study

Chapter 4: The research methodology section on designing the study (if, in fact, qualitative measures are used in the study)

Chapter 5: The research methodology section on designing the study

Chapter 6: The research methodology section on designing the study and the appendix. A copy of the questionnaire and supporting materials, such as a cover letter, would be included in the appendix

Chapter 7: The research methodology section on administering the study

Chapter 8: The findings section

Chapter 9: The conclusions and recommendations

Glossary

actionable Describes research that can show management specific action to take to solve a problem.

all-inclusive All options are provided.

appendix The section of a research report that includes all related information and examples that might disrupt the flow of information in the report.

bar chart A graphic representation of quantitative information by means of a drawing made up of parallel bars with lengths that are proportional to the data being compared.

before-and-after with control group design A type of experimental design in which subjects or settings are randomly assigned to each of two groups (experimental and control).

bias A prejudice or preference favoring some outcomes over others that causes research data to be inaccurate.

census A study that includes data about or from every member of the target population.

client A business or organization that could benefit from your marketing research design.

close-ended question A question that requires respondents to choose their answers from prescribed options.

coding Organizing questionnaire responses into categories and assigning a unique code to each response prior to data entry.

computerized data entry The act of putting data into a computer application.

conclusions The interpretation of market research data in light of the research objectives.

concomitant variation A correlation involving a statistical and predictable relationship between two variables.

constant sum scale A scale that asks respondents to use a set sum, such as 100 points, to assign among attributes of a product or service in order to determine the intensity or comparative importance of each attribute under study.

continuum scale A scale that uses numbers that respondents use to identify their rating, such as 1 to 5 with 1 being poor and 5 being excellent.

convenience sample A type of non-probability sample in which the respondents have been selected because they are convenient for the researcher.

cross tabulation The simultaneous tabulation of two or more variables.

data analysis Separating the data into its individual parts and examining those parts in order to discover the underlying principles.

demographics A method of segmenting people based on objective and quantifiable characteristics of a population such as age, gender, income, ethnicity, occupation, education level, parental status, or marital status.

dependent variable A variable that is influenced to some extent by one or more other (independent) variables (also known as an *effect variable*).

dichotomous question A type of close-ended question that asks respondents to choose between only two options.

direct observation A research technique in which a researcher observes and records behavior or an event as it occurs.

discussion guide A detailed written outline of topics the moderator will cover during a focus group discussion.

disguised observation A research technique in which the research subjects do not know they are being observed.

drop off survey A survey that is delivered to the respondents and then mailed back, faxed back, or picked up by the researcher.

editing Checking for mistakes made by the interviewer or the respondent by evaluating questionnaire responses for inconsistencies and skipped questions.

elimination of extraneous causes Eradicating any other factors that could cause the change in the dependent variable in order to show that the one variable caused an observable change in another variable.

e-mail survey A survey in which respondents are contacted by e-mail and they respond to the survey via e-mail.

executive interview A special type of in-office interview that is generally focused on industrial goods and services.

executive summary The portion of a research report that summarizes all of the sections of the report.

experimentation method A research technique in which the researcher has control over one or more independent variables and manipulates them to see the observable effect.

external secondary data source Published information from outside the organization.

external validity The ability to replicate findings in the outside world with real people and real settings.

extraneous factors Factors that are not manipulated as part of an experiment, but may exert some influence on the dependent variable under study.

fax survey A survey in which respondents are faxed the questionnaire, accompanied by a cover letter, and asked to respond by fax.

feedback The receiver's response to the message.

field experiments Tests conducted outside the laboratory in an actual market environment.

filter question A survey question that is used to identify respondents who have the information required to answer the next question.

focus group A qualitative market research technique in which a group of participants (usually eight to twelve people) are led through a discussion of a given topic by a trained moderator.

geographics A method of segmenting people based on geographic location.

homogeneous Having common demographics, attitudes, purchase patterns, and needs.

house organs In-house publications that communicate happenings in the company and among the company's employees.

human observation A research technique in which people monitor and record the action under study.

incentive The payment to participants for coming to a focus group.

independent variable A variable that is controlled or manipulated by the researcher and exerts some influence on another (dependent) variable (also known as a *causal variable*).

indirect observation A research technique that makes use of pre-recorded behavior from secondary sources, such as telephone records or sales records.

industry and trade journals Specialized magazines that cater to a specific type of business or business sector.

in-person survey A survey that involves a face-to-face encounter with the respondent.

instrument error An error that occurs when a questionnaire used for a survey is not constructed properly.

internal secondary data source Data that comes from within the organization itself; a company's own records.

internal validity The ability to show that the independent variable was responsible for the change in the dependent variable because the researcher was able to control all the variables.

Internet sample A type of non-probability sample in which respondents are identified through their use of the Internet.

Internet survey A survey that is conducted via the Internet.

interviewer error Inaccurate information produced because of errors by the person administering the survey.

introduction The section of a research report that includes all relevant background information, such as the research problem, the objectives of the study, and appropriate published research that applies to the study.

itemized rating scale A scale that uses words instead of numbers for respondents to identify their rating, such as "definitely will buy" or "definitely will not buy."

judgment sample A type of non-probability sample that is made up of respondents who are selected on the basis of someone's judgment that their attitudes or behavior will be representative of the target population.

laboratory experiments Experiments conducted in a controlled setting.

leading question A question that suggests an answer by the way in which the question is worded (also called a loaded question).

Likert scale A scale in which respondents indicate their level of agreement with statements that express a favorable or unfavorable attitude toward a concept being measured.

limitations The section of a research report that explains any flaws in the research design.

line chart A graphic representation of quantitative information by means of a chart in which a series of data points are connected by a continuous line.

mail survey A survey in which respondents are sent the questionnaire, accompanied by a cover letter, and asked to respond by mail.

mall-intercept interview An interview in which shoppers are intercepted in malls and interviewed face-to-face.

marketing research The systematic gathering, recording, and analyzing of market information for management decision-making purposes.

mechanical observation A research technique in which some form of mechanical device records the behavior of interest.

methodology The approach, strategy, and methods used in market research.

moderator The leader of a focus group who facilitates discussion and ensures the agenda is covered in the allotted time period.

multiple-choice question A question that provides more than two options for respondents to choose from.

mutually exclusive Each option is distinct from all other options.

non-probability sample A research sample in which the selection of members is based on factors other than random chance; also called a non-random sample.

non-random sample A sample in which a complete list of respondents is not available, so the respondents are

selected based on other characteristics; also called a non-probability sample.

objective Independent of the mind and based on observable phenomena.

observation method A research technique in which the behavior of research subjects is watched and recorded without any direct contact or interaction.

observation room The room from which client personnel observe and listen to focus group proceedings through a one-way mirror.

one-group case study design A type of experimental design that does not use a control group and pre-measurement but does use post-measurement.

one-group with pre-measurement and post-measurement design A type of experimental design that uses pre- and post-measurements but no control group.

one-way mirror A special mirror that permits observers to watch the proceedings in the focus group without the participants being able to see the observers.

online focus group A focus group in which respondents in separate locations use their computers to participate in a virtual group discussion in a private Internet chat room.

open-ended questions A form of question that requires the participant to answer in his or her own words; also known as subjective questions.

optical scanner A device that converts printed images and text into digital information that can be stored as a computer file and processed by computer software.

parameters Fixed measurable factors that establish and limit how something must be done.

Pareto 80/20 rule A rule that states that 80 percent of a company's business is generated by 20 percent of its customers.

percentage An amount, number, or rate stated as a proportion of a whole.

pie chart A graphic representation of quantitative information by means of a circle divided into sectors, in which the relative sizes of the areas of the sectors correspond to the relative sizes or proportion of the quantities.

primary research Original research conducted to collect new data to answer a research problem or solve a marketing information need.

probability sample A research sample in which all members of the target population have an equal and independent chance of being selected for the study; also called a random sample.

processing error An error that occurs when information is incorrectly transferred from the measurement instrument to the computer.

purchase intent scale A scale used to measure a respondent's intention to buy a particular product or service.

purchase intercept Interviews initiated immediately after a customer buys something.

qualitative research A free-form research technique that is used to gain insight into the underlying issues surrounding a research problem by gathering non-statistical feedback and opinions rooted in people's feelings, attitudes, motivations, values, and perceptions, often from small samples; also called soft data.

quantitative research A research technique in which scientific, concrete, and projectable numerical data that can be statistically analyzed is gathered, often from large samples; also called hard data.

questionnaire A prepared set of questions designed to generate data necessary for accomplishing the objectives of the research project.

quota sample A type of non-probability sample that includes specified numbers of respondents based on percentages of specific characteristics that have been predetermined as representative of the target population.

random sample A sample in which all members of the target population have an equal and independent chance of being selected for the study; also known as a probability sample.

rank order scale A scale that asks respondents to put a list of attitudes or characteristics into a sequence that best represents their relationship to one another.

recommendations Suggestions for the next actions a client could take based on the conclusions of market research.

recruited Internet sample An Internet survey method in which respondents are recruited through non-Internet sources and given a password to access the questionnaire on the Internet.

reliability All the respondents will interpret the questionnaire items the same way.

representative Similar to or typical of the population as a whole.

research confidence level A percentage that reflects the probability that the data generated from a sample will be representative of the entire target population.

research findings A summary, but not an interpretation of, facts from market research on which the interpretation will be based.

research methodology The way in which the data are collected for the research project.

research problem A question your client wants answered.

research report The document that the researcher develops at the conclusion of the research project.

respondent error An error that results from survey participants deliberately falsifying their responses or unconsciously providing inaccurate answers.

sample A subset of the population of interest chosen for a research study.

sample bias Skewed data caused by the selection of a sample that is not representative of the target population.

sample population The population of interest from which the sample is obtained; also known as the target population.

sampling The method of selecting a subgroup of consumers to participate in a study.

sampling error The estimated inaccuracy of the results of a study when a population sample is used to explain the behavior of the total population.

scaled-response question A question that provides respondents with a rule or continuum for providing an answer.

screened Internet samples A screening method that involves setting up an Internet survey with certain quotas for various demographic characteristics, such as age, gender, income range, geographic location, or some product-related characteristic, such as a past purchase or use of the product.

screener A question that is used to identify qualified respondents.

secondary research Published or recorded data that have already been collected for some purpose other than the current study.

self-administered survey A survey in which respondents answer questions directly on a questionnaire without an interviewer's interaction.

semantic differential scale A scale that presents extreme opposite (dichotomous) pairs of words or phrases for respondents to rate a product or image of a company on a seven-point scale.

single-minded Each option has only one thought or message.

snowball or referral sample A type of non-probability sample in which initial respondents refer additional respondents who share the same characteristic(s).

Solomon four-group design A type of experimental design in which there are two control groups and two experimental groups in order to control for pre-testing and experimental effects.

Stapel scale A variation of the semantic differential scale that ranges from 15 to 25 and requires the respondent to rate how close and in what direction a descriptor fits the attribute being measured.

strata Groups of people with similar characteristics.

stratified sample A type of probability sample that is made more representative of the target population by dividing the target population into groups called strata and taking simple random samples from each of the strata.

structured observations A research technique in which the characteristics that will be observed are determined prior to the market research.

subjective Produced by the mind and determined by the thoughts or temperament of the subject.

survey The means by which quantitative research is conducted.

survey method A research technique in which information is gathered from people through the use of surveys or questionnaires.

systematic sample A type of probability sample that starts at a random position on a list and selects every Nth unit (skip interval) of a population until the desired sample size is reached.

table of contents The page of a report that lists the major sections or headings in your report and the page on which each section begins.

target population The group of people a researcher wants to study; also called the universe.

telephone focus group A focus group that is conducted via a conference call.

telephone sample A group of individuals who are surveyed by telephone.

telephone survey A personal interview conducted via the phone.

test marketing The initial launching of a new product into one or more selected geographic areas for a trial period to test its marketing mix (product, place, price, and promotion) prior to a full-scale launch.

time order sequence A sequence in which the cause must precede the effect.

title page A page of a report that bears the full title of the research study, name of the client, the researcher's name and organization, and the date

undisguised observation A research technique in which the research subjects know they are being observed.

unstructured observation A research technique in which the characteristics that will be observed are not predetermined.

validation Making sure all surveys were actually conducted and that they were completed properly.

validity The survey actually measured what it was supposed to measure.

weighted average A number that is derived by multiplying the number of responses for each rating times the value of that rating, totaling those figures, and then dividing by the total number of respondents answering that question.

write-down period The time for participants to write their views on a topic during a focus group.