

CHAPTER 1

Introduction

Low-cost computing and the rapid development of technology have created new environments for conducting survey research. Like all research methods, online survey research has benefits and drawbacks; the method works well for some research projects but is by no means appropriate for all research objectives. This book provides practical information for researchers who are considering using the Internet, mobile devices, and other technologies to conduct surveys. We will evaluate the advantages and disadvantages of using digital surveys and offer guidelines for the creation and implementation of these surveys. The topics covered herein will be of interest to survey researchers in a wide variety of academic and professional settings who wish to evaluate their options for data collection and analysis.

In this chapter, we begin by setting the context within which digital surveys are conducted. We review the research process generally, discuss concepts common to all surveys, and evaluate the conditions under which online surveys are optimal.

The Research Process

The research process typically begins with a question that needs an answer or a problem that must be solved. In the case of commissioned research, the questions will be provided to you at the start of the project. Researcher-initiated studies allow investigators more discretion in terms of the specification of the research goals and objectives. Before framing the goals and objectives of a particular project, it is useful to identify the purpose of the research. Social research projects can be classified into three categories: exploratory, descriptive, and explanatory research. An individual study can have multiple purposes or may be part of a program of research that spans two or all three purposes.

Exploratory Research

The goal of exploratory research is to formulate problems, clarify concepts, and form hypotheses. Exploration can begin with a literature search, a focus group discussion, or case studies. If a survey is conducted for exploratory purposes, no attempt is made to examine a random sample of a population; rather, researchers conducting exploratory research usually look for individuals who are knowledgeable about a topic or process. Exploratory research typically seeks to create hypotheses rather than test them. Data from exploratory studies tends to be qualitative. Examples include brainstorming sessions, interviews with experts, and posting a short survey to a social networking website.

Descriptive Research

Descriptive studies have more guidelines. They describe people, products, and situations. Descriptive studies usually have one or more guiding research questions but generally are not driven by structured research hypotheses. Because this type of research frequently aims to describe characteristics of populations based on data collected from samples, it often requires the use of a probability sampling technique, such as simple random sampling. Data from descriptive research may be qualitative or quantitative, and quantitative data presentations are normally limited to frequency distributions and summary statistics, such as averages. Customer satisfaction surveys, presidential approval polls, and class evaluation surveys are examples of descriptive projects.

Explanatory Research

The primary purpose of explanatory research is to explain why phenomena occur and to predict future occurrences. Explanatory studies are characterized by research hypotheses that specify the nature and direction of the relationships between or among variables being studied. Probability sampling is normally a requirement in explanatory research because the goal is often to generalize the results to the population from which the sample is selected. The data are quantitative and almost always require the use of a statistical test to establish the validity of the relationships. For example, explanatory survey research may investigate the factors that contribute to customer satisfaction and determine the relative weight of each factor, or seek to model the variables that lead to shopping cart abandonment.

An exploratory survey posted to a social networking website may uncover the fact that an organization's customers are unhappy. A descriptive study

consisting of an e-mail survey sent to a random selection of customers who made a purchase in the past year might report the type and degree of dissatisfaction. The explanatory research would attempt to understand how different factors are contributing to customer dissatisfaction.

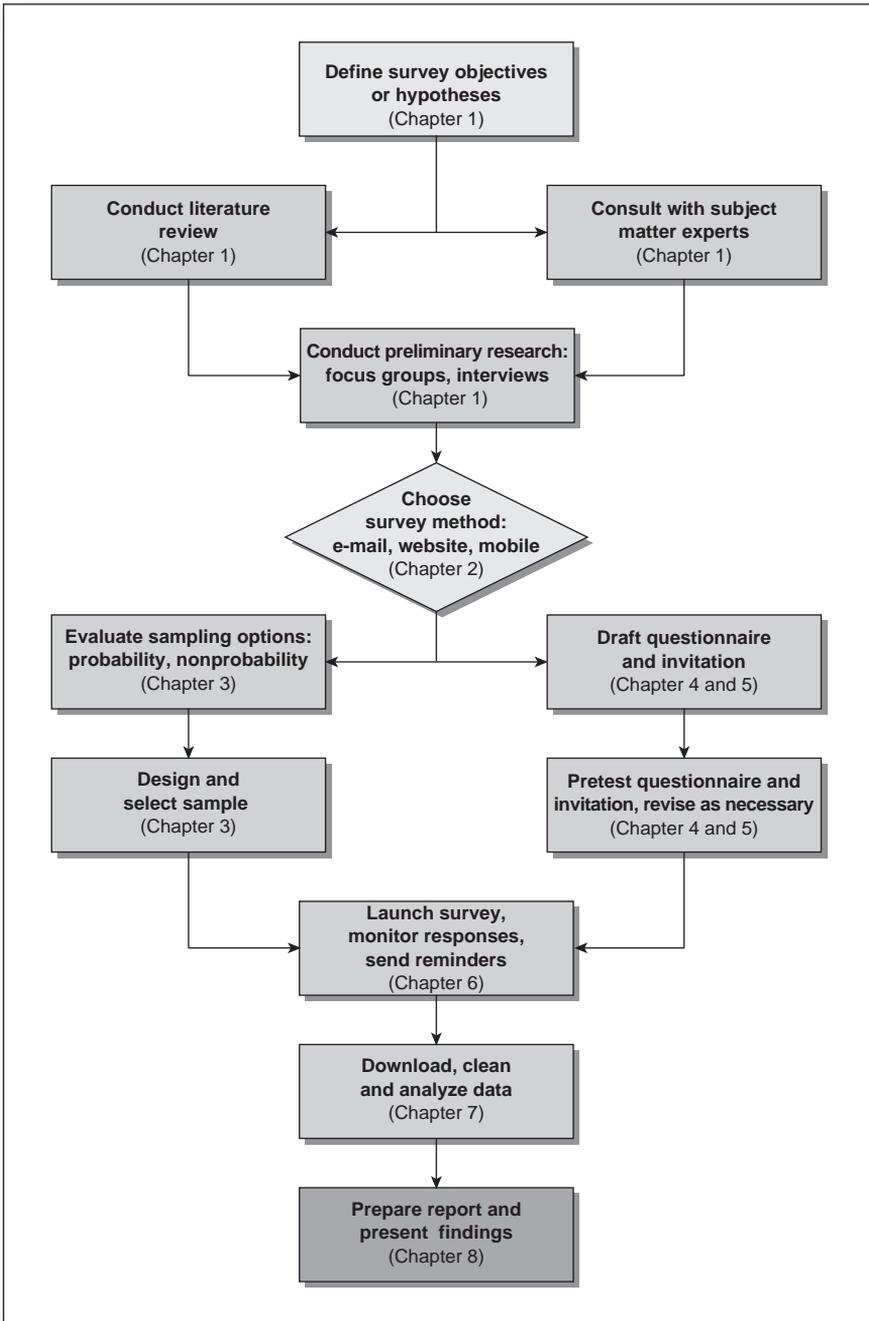
What Is a Survey?

A survey is a system for collecting information. Often, in discussions about conducting surveys, emphasis is incorrectly placed on questionnaires. To employ surveys most effectively, it is important to understand that a questionnaire is one element of a process that begins with defining objectives and ends with data analysis and reporting of results (Dillman, 2000). In explicating total survey design, Fowler (2002) emphasized that taking a view of the entire survey process is critical to the success of a research project. Total survey design requires that researchers take a holistic approach by considering all aspects of the survey process. In doing so, one increases the likelihood of collecting data that adequately address the study's objectives while balancing time and cost constraints.

The basic steps in the survey process (see Figure 1.1) are the same for all types of surveys. The process begins with defining the study's goals and objectives and continues with a literature review and consultation with experts. Many researchers also choose to conduct preliminary research, such as focus group discussions or personal interviews with members of a target audience. Results of this type of investigation are used as a basis for deciding on the survey type to employ (or if a survey is even appropriate). Focus group transcripts also can be a useful starting point for developing the survey questionnaire. Selecting a sample of participants can be challenging and sometimes represents the point in the process when the survey project is abandoned in favor of a different research method. If a sample cannot be identified or reached, a survey will not be possible. The period between the launch of a survey and the downloading of data is typically spent monitoring the survey responses and preparing for data analysis. Finally, all survey studies, like most research projects, culminate with some sort of report and/or presentation of findings.

The methods for administering surveys include telephone interviewing, self-administered mail questionnaires, and face-to-face interviewing. Added to these methods are a host of new techniques made available by the development of technology—notably e-mail, web-based, and mobile surveys. In e-mail surveys, the questionnaire is accessed by a link in a survey invitation. In most cases, the **respondent** completes the questionnaire by clicking on the link, responding to the questions, and submitting the completed questionnaire by using a submit button on the final page of

Figure 1.1 Survey Research Process Flow



the questionnaire. In web-based surveys, the questionnaire resides on a website. Respondents visit the site and access the survey either by clicking on a **hyperlink** located somewhere on the page or by responding to a pop-up invitation to complete the questionnaire. Mobile surveys take advantage of the pervasiveness of cell phones by inviting respondents to participate in SMS (short message service) surveys or those designed to be answered using **smartphone** applications.

Online surveys provide a wealth of opportunities and challenges for researchers. It is important that researchers recognize these opportunities and limitations so that they may make informed decisions when selecting a data collection method (see Table 1.1). It is doubtful that digital surveys will replace other modes of data collection; rather, these methods most likely will be used to complement existing techniques.

Table 1.1 Comparison of Survey Methods

Survey Type	Advantages	Disadvantages
Postal mail	<ul style="list-style-type: none"> • Low cost • Wide geographic reach • No interviewer bias • Anonymity allows for sensitive questions 	<ul style="list-style-type: none"> • Low response rate • Lengthy response period • Contingency questions not effective • Don't know who is responding to the survey
Telephone interview	<ul style="list-style-type: none"> • Limited coverage bias • Fast response • Can ask complex questions • Wide geographic reach 	<ul style="list-style-type: none"> • Fewer land phone lines • Confusion with sales calls • Intrusive • Call screening
Face-to-face interview	<ul style="list-style-type: none"> • Good response rates • Can ask complex questions • Longer interviews may be tolerated 	<ul style="list-style-type: none"> • Limited geographic reach • Time-consuming • Expensive • Susceptible to interviewer bias • Sensitive topics difficult to explore
Online	<ul style="list-style-type: none"> • Can be low cost • Fast • Efficient • Contingency questions effective • Direct data entry • Wide geographic reach 	<ul style="list-style-type: none"> • Coverage bias • Reliance on software • Too many digital surveys, causing overload

Research Goals and Objectives

After identifying the purpose of the research project and deciding that an online survey is an appropriate mode of data collection, it is next necessary to define the study's goals and objectives. What are you trying to find out by conducting a survey? The objectives of the project determine whom you will survey and what you will ask them. If your objectives are unclear, the results probably will be unclear. Commit to these objectives in writing to help keep the survey focused. Make sure that you can tie in every questionnaire item to one or more of the survey's objectives.

A research goal is more broadly defined than the objectives. Goals are distinguished from objectives in that they are not necessarily measurable. For example,

Goals:

- (A) Establish a solid foundation for Acme's economic future.
- (B) Investigate the need for local networking between our industrial and service sectors.

Objectives: To conduct a needs assessment survey of our suppliers to determine

- (A) current use of resources,
- (B) resource gaps, and the
- (C) need for outsourcing.

Goals:

- (A) Determine the current state of breast cancer screening among Asian-American women.
- (B) Understand the psychological, economic, and cultural barriers to breast cancer screening among Asian-American women.
- (C) Create culturally appropriate, persuasive messages encouraging breast cancer screening among Asian-American women.

Objectives:

- (A) to describe the incidence of breast cancer screening among Asian-American women in the Tri-Valley area;
- (B) to identify the psychological, economic, and cultural barriers preventing Asian-American women from getting screened for breast cancer; and
- (C) to test three messages designed to persuade Asian-American women to get screened for breast cancer.

Guidelines for Writing Survey Objectives

1. *Make objectives specific.* To write specific objectives, it is useful to start with a general goal statement that begins with the word *to* followed by an action verb, such as *describe, explain, explore, identify, investigate, gauge,*

measure, assess, or test—for example, “To investigate customer satisfaction levels.” A list of specific objectives can then be generated from this goal statement. Example 1.1 shows a general research goal followed by a list of objectives. The level of specificity in the objectives will guide the researcher when writing questionnaire items.

Example 1.1

Goal: To assess credit union members’ satisfaction with the current services

Objectives: To assess credit union members’ satisfaction regarding the following:

- A. The waiting time to speak to a customer service representative
 - B. The loan application process
 - C. Membership fees
 - D. Telephone banking services
 - E. Checking account services
 - F. Savings account services
 - G. Bilingual services
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Be sure that the survey objectives are in alignment with the format you choose to administer the survey; e-mail, website, and mobile surveys have innate coverage biases. For example, if your objective is to determine the satisfaction level of residents of the XYZ Retirement Village, then placing that survey on the village’s website may not target the correct set of respondents. Evidence indicates that people aged 65 and older access the Internet less often than younger people. The website of a retirement village may be viewed more often by family members of the residents than by the residents themselves.

2. *Write measurable objectives.* Whether an objective is measurable should be evaluated in light of the proposed survey format. Some objectives, such as those involving physiological variables, may very well be measurable but not in an e-mail or mobile survey. Example 1.2 presents some measurable digital survey objectives.

Example 1.2

- A. To assess students’ opinions about the proposed mascot
 - B. To determine the percentage of citizens who are likely to vote for Candidate A
 - C. To determine employees’ attitudes about the new delivery system
 - D. To collect members’ ratings of the workshop
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3. *Have your objectives reviewed by experts.* There are two types of experts to consider: (a) subject-matter experts and (b) methodologists. Subject-matter experts have in-depth knowledge in specific areas. For example, if you are conducting an election study, you might seek out political scientists or sociologists with expertise in voting behavior. These individuals can offer advice about the topic of the survey and provide a context for the research. Methodologists, on the other hand, are experts in the survey process. They can help you create specific and measurable objectives and offer advice about the feasibility of achieving your objectives with an online survey.

4. *Review the literature related to your topic.* A literature review is a basic component of most academic and many applied research papers. Even if your project does not require a formal literature review, it is valuable to conduct one anyway. In doing so, you can learn from the work of others; specifically, you will see how others have formulated their research objectives and approached specific problems in the research process. In addition, you may find that the data you are seeking to collect already exist. Numerous research consortiums and institutes routinely collect a host of social data (e.g., the General Social Survey conducted by researchers at the University of Chicago) and make it available to member institutions and their constituents.

Survey Timelines

Timelines need not be complicated. They can be as simple as listing what you plan to accomplish each week. If there is an external project deadline, you will need to start from that deadline and work backward to the present. In this scenario, researchers often find that they need more time than is available. There are two options for this situation: (a) limit the research objectives to only those that can be adequately addressed in the available time or (b) decrease the acceptable sample size, thereby reducing the amount of time the survey stays in the field. Note that by decreasing the sample size, you will increase the error associated with the statistical estimates obtained from the sample data.

Figure 1.2 is a timeline organized by week showing the major steps in conducting a digital survey research project. We have not included the review and selection of survey software in this timeline. The vendor selection and procurement process can be lengthy and subject to many legal and organizational obstacles. We assume that as the researcher begins the process of

Figure 1.2 Research Timeline

Week 1	<ul style="list-style-type: none"> • Define survey objectives • Begin literature review
Week 2	<ul style="list-style-type: none"> • Continue literature review • Have objectives reviewed by experts
Week 3	<ul style="list-style-type: none"> • Revise objectives • Conduct preliminary research • Choose survey method
Week 4	<ul style="list-style-type: none"> • Choose sampling strategy • Locate or compile sampling frame • Select sample
Week 5	<ul style="list-style-type: none"> • Draft questionnaire and invitation
Week 6	<ul style="list-style-type: none"> • Pretest questionnaire and invitation • Revise questionnaire and invitation
Week 7	<ul style="list-style-type: none"> • Launch survey • Send reminders
Week 8	<ul style="list-style-type: none"> • Send additional reminders
Week 9	<ul style="list-style-type: none"> • Download and clean data • Analyze data
Week 10	<ul style="list-style-type: none"> • Continue data analysis • Write first draft of report
Week 11	<ul style="list-style-type: none"> • Write second draft of report
Week 12	<ul style="list-style-type: none"> • Finalize report • Prepare presentation
Week 13	<ul style="list-style-type: none"> • Present survey results

developing a particular digital survey project, appropriate software has been procured and staff has been adequately trained on its use.

Obviously, timelines for research vary greatly depending on the nature of the project, the hours per week devoted to the research, the number of researchers involved, and the complexity of the data analysis required. Figure 1.2 is intended to outline the major tasks to be accomplished and not to suggest time limits for the completion of each task.

When Should an Online Survey Be Used?

Digital surveys are not appropriate for every research project. What follows are some questions for researchers who are considering using technology for survey data collection.

1. *What is the desired sample size, and how is the sample distributed geographically?* If the sample size is fairly large and widely distributed geographically, digital administration is a good option. E-mail and web-based surveys typically involve higher start-up costs than other methods but become cost-effective as the number of completed questionnaires increases. It is, therefore, most efficient to conduct an Internet survey when a large number of participants are to be contacted. Additionally, if the respondents are concentrated in a narrow geographic region, telephone or face-to-face interviews are feasible—albeit more expensive—options, which may result in a higher response rate, thereby reducing nonresponse error.

2. *What are the time constraints?* Digital surveys have the potential for fast turnaround. E-mail communication is fast, and text messages delivered to mobile phones are instantaneous, whereas postal mail must be physically delivered, obviously taking more time. Researchers should be cautioned, however, about making the general conclusion that digital surveys are always faster than other methods. It is important to consider the total time required to administer the survey; this may include an advance letter or e-mail message plus one or more follow-up reminders. Moreover, to achieve a sufficiently high response rate, a researcher may choose to keep a digital survey in the field for an extended period of time.

3. *Does the questionnaire contain sensitive information?* If so, anonymity might be a concern. Participants who are asked to respond to an e-mail questionnaire may lose their anonymity. If, however, participants are directed to a website to complete the questionnaire, some measure of anonymity can be promised. With regard to socially desirable responses, e-mail and website surveys are similar to self-administered postal mail questionnaires. Because there is no interviewer on the phone or in person, respondents tend to feel safer providing honest answers in an online environment.

4. *Who is your target?* Clearly, digital surveys require that target respondents have access to the appropriate technology, either Internet access or a mobile phone. Physical, psychological, or financial limitations to technology may prohibit the use of digital surveys for certain populations. Digital surveys work well in closed populations where the potential respondents are known

to have e-mail or Internet access—for example, a group of employees at a company, students at a university, or members of a professional association. They are less ideal when attempting to collect general public opinion data.

5. *Is there a sampling frame?* Responses to digital surveys are greatest when respondents are prenotified of the upcoming survey request. If you do not have an e-mail list, can one be created or obtained? Government agencies, businesses, and educational institutions maintain e-mail lists of their constituencies. Access to the appropriate list makes an e-mail or mobile survey a reasonable choice. Alternatives to using an organization's list include (a) advertising the survey, perhaps on websites (such as Craig's List), in promotional literature, or in an online community bulletin board; and (b) purchasing a list from a vendor. Using these alternatives deprives the researcher of the benefits of speed and efficiency that an existing list provides and introduces validity concerns related to the integrity of the sample.

6. *Is a convenience sample sufficient, or is a probability sample necessary?* To make inferences about underlying populations based on sample statistics, selecting a **probability sample** of respondents is necessary. Because there is no general population e-mail list and currently no Internet equivalent to telephone random digit dialing, researchers requiring data gathered from probability samples are best advised to consider other types of surveys. The **nonprobability samples** that can be selected quickly for Internet or mobile surveys work well for exploratory research or as part of a multimethod approach.

7. *Would multimedia or interactive features enhance the questionnaire?* Unlike paper questionnaires, electronic surveys may include streaming audio or video. Additionally, online questionnaires are arguably the most effective self-administered format for asking contingency questions. Web questionnaires can be programmed to avoid logical inconsistencies in follow-up questions. While programming errors may still exist, the automation of skip patterns eliminates the possibility of respondents answering the wrong questions—for example, participants who were not registered to vote responding that they had selected Candidate A in a recent election.

8. *Does the researcher have the technical ability to create an online survey, or are funds available to hire someone?* If the researcher does not have the technological knowledge or skills to create the digital survey, then either a consultant must be included in the budget or another method should be employed. There are presently hundreds of commercial services available to aid researchers in the creation, distribution, and analysis of digital surveys. These businesses vary greatly in the quality of customer service and data they provide as well as in their pricing structures.

Summary

The field of online survey research is rapidly developing. Electronic methods of survey data collection have been touted as the wave of the future, with supporters citing speedy response, low cost, and easy fielding as major benefits, while detractors lob harsh criticism about the low response rates and claims that samples do not adequately represent populations. Although the particulars of the technology may be new, the controversy surrounding the research methodology is not. In fact, much of the current debate about digital surveys is reminiscent of a previous era when mail and telephone surveys were met with suspicion. More than 30 years ago, survey authority Don Dillman (1978) noted,

Neither mail nor telephone has been considered anything more than a poor substitute for the much heralded face-to-face interview. Perhaps this view is justified, because the two methods had many deficiencies and problems. Surveys by mail typically elicited extremely low response rates, even with short questionnaires. . . . Further, it is not possible to reach many people with mail questionnaires; among those to whom questionnaires could be delivered, the best educated were far more likely to respond. Even completed questionnaires left much to be desired. . . . It is not surprising, then, that users of the mail questionnaire treated response rates well below 50 percent as “acceptable” and explained away problems of data quality with disclaimers such as, “this is the best we can expect from a mail questionnaire.” (pp. 1–2)

Substitute the word *online* in place of *mail* in the above quotation, and you will have a good indication of the contemporary discussion surrounding the use of online surveys. In the decades since Dillman wrote these words, a plethora of methodological research has resulted in techniques for mitigating the deficiencies inherent in the mail and telephone survey methods. In the decades to come, researchers will likely develop procedures to similarly compensate for the limitations of online surveys. Although there is still a great deal to learn about electronic surveys, the research to date provides valuable guidance to digital survey developers and forms the basis for our recommendations throughout this text.

All surveys, whether conducted in person, by mail, e-mail, or mobile phone, have common features. All require clear objectives, well-crafted questionnaires, a sampling strategy, and so on. However, the idiosyncrasies of the technology associated with electronic surveys, with respect to planning, development, distribution, and analysis of the results, warrant detailed attention.

Internet and mobile surveys are effective for gathering information quickly and relatively inexpensively from geographically dispersed participants. E-mail

and web-based surveys are useful in many situations, and mobile surveys can be effective for many exploratory research projects. However, it is important to emphasize that these methods are not appropriate for all types of survey research. Researchers should carefully assess the target audience, research objectives, and data reporting needs when selecting a survey format.

Exercises

1. Identify and describe the three main purposes for conducting social research. Describe how an online survey may serve each purpose.
2. Imagine you were assigned to conduct a customer satisfaction survey for a local credit union.
 - a. What sort of preliminary research would you conduct in preparation for designing the survey?
 - b. Whom would you contact for information and advice on your survey questionnaire?
 - c. Would you recommend an online survey for this project? Why or why not?
 - d. Write one goal and one objective for this survey project.
 - e. Create a timeline for the project outlining the major activities that would need to be completed.