

9

Exploring Primary Sources

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Workplace decisions often rely on primary research—an original, firsthand study of the topic, involving sources like those in Figure 9.1.

INFORMATIVE INTERVIEWS

An excellent primary source for information unavailable in any publication is the personal interview. Much of what an expert knows may never be published (Pugliano 6). Also, a respondent might refer you to other experts or sources of information.

Of course, an expert's opinion can be just as mistaken or biased as anyone else's (page 125). As medical patients, for example, we would seek second opinions about serious medical conditions. As researchers we should seek a balanced range of expert opinions about a complex problem or controversial issue—not only from a company engineer and environmentalist, for example, but also from independent and presumably more objective third parties such as a professor or journalist who has studied the issue.

Selecting the Best Interview Medium

Once you decide whom to interview about what, select your medium carefully:

- *In-person interviews* are most productive because they allow human contact (Hopkins-Tanne 24).
- *Phone interviews* are convenient, but they lack the human contact of in-person interviews—especially when the interviewer and respondent have not met.
- *Email interviews* are convenient and inexpensive, and they allow plenty of time for respondents to consider their answers.
- *Fax interviews* are highly impersonal, and using them is generally a bad idea.

Whatever your medium, obtain a respondent's approval *beforehand*—instead of waylaying this person with an unwanted surprise.

A Sample Interview

Figure 9.2 shows the partial text of an interview on persuasive challenges in the workplace. Notice how the interviewer probes, seeks clarification, and follows up on responses from XYZ's Director of Corporate Relations.

SURVEYS AND QUESTIONNAIRES

Surveys help you to develop profiles and estimates about the concerns, preferences, attitudes, beliefs, needs, or perceptions of a large, identifiable group (a *target population*) by studying representatives of that group (a *sample*).

- Do consumers prefer brand A or brand B?
- What percentage of students feel safe on our campus?
- Is public confidence in technology increasing or decreasing?
- Are people able to use this product safely and efficiently?

NOTE A “census” is a survey of an entire target population.

The tool for conducting surveys is the questionnaire. While interviews allow for greater clarity and depth, questionnaires offer an inexpensive way to survey a large group.

Respondents can answer privately and anonymously—and often more candidly than in an interview.

Questionnaires carry certain limitations, though:

- *A low rate of response (often less than 30 percent).* People refuse to respond to a questionnaire that seems too long, too complicated, or in some way threatening. They might be embarrassed by the topic or afraid of how their answers could be used.
 - *Responses that might be non-representative.* A survey will get responses from the people who want to respond, but you will know nothing about the people who didn't respond. Those who responded might have extreme views, a particular stake in the outcome, or some other motive that represents inaccurately the population being surveyed (Plumb and Spyridakis 625–26).
 - *Lack of follow-up.* Survey questions do not allow for the kind of follow-up and clarification possible with interview questions.

Even surveys by professionals carry potential for error. As consumers of survey research, we need to understand how surveys are designed, administered, and interpreted, and what can go wrong in the process. The following is an introduction to creating surveys and to avoiding pitfalls along the way.

Defining the Survey's Purpose and Target Population

Why is this survey being performed? What, exactly, is it measuring? How much background research do you need? How will the survey findings be used?

Who is the exact population being studied (the chronically unemployed, part-time students, computer users)? For example, in its research on science and technology activity, the *Statistical Abstract of the United States* differentiates “scientists and engineers” from “technicians”:

Scientists and engineers are defined as persons engaged in scientific and engineering work at a level requiring a knowledge of sciences equivalent at least to that acquired through completion of a 4-year college course. Technicians are defined as persons engaged in technical work at a level requiring knowledge acquired through a technical institute, junior college, or other type of training less extensive than 4-year college training. Craftspersons and skilled workers are excluded. (U. S. Department of Commerce 603)

Identifying the Sample Group

How will intended respondents be selected? How many respondents will there be? Generally, the larger the sample surveyed, the more dependable the results (assuming a well-chosen and representative sample). Will the sample be randomly chosen? In the statistical sense, “random” does not mean “haphazard”: a random sample means that each member of the target population stands an equal chance of being in the sample group.

Even a sample that is highly representative of the target population carries a measure of *sampling error*.

The particular sample used in a survey is only one of a large number of possible samples of the same size which could have been selected using the same sampling procedures. Estimates derived from the different samples would, in general, differ from each other. (U. S. Department of Commerce 949)

The larger the sampling error (usually expressed as the *margin of error*, page 185), the less dependable the survey findings.

Defining the Survey Method

What type of data (opinions, ideas, facts, figures) will be collected? Is timing important? How will the survey be administered—in person, by mail, by phone? How will the

data be collected, recorded, analyzed, and reported (Lavin 277)?

Phone, email, and in-person surveys yield fast results and high response rates, but respondents consider phone surveys annoying and, without anonymity, people tend to be less candid. Mail surveys are more confidential.

Electronic surveys conducted, via a Web form or an email message, are the least expensive. But these methods can have pitfalls. Computer connections can fail and you have less control over how many times the same person completes the survey. Also, because online text usually takes longer to read, people may give up or refuse to complete the survey.

A Sample Questionnaire

The student-written letter and questionnaire in Figures 9.3 and 9.4, sent to presidents of local companies, is designed to elicit responses that can be tabulated easily. (For a usability questionnaire, see page 372.)

Written reports of survey findings often include an appendix (page 650) that contains a copy of the questionnaire as well as the tabulated responses.

NOTE *For excellent, in-depth advice about planning and conducting surveys and interviews, go to William M. K. Trochim's "Survey Research" page at <<http://trochim.human.cornell.edu/KB/survey.htm>>, and click on the various links.*

INQUIRY LETTERS, PHONE CALLS, AND EMAIL INQUIRIES

Letters, phone calls, or email inquiries to experts listed in Web pages are handy for obtaining specific information from government agencies, legislators, private companies, university research centers, trade associations, and research foundations.

NOTE *Keep in mind that unsolicited inquiries, especially by phone or email, can be intrusive and offensive.*

PUBLIC RECORDS AND ORGANIZATIONAL PUBLICATIONS

The Freedom of Information Act and state public record laws grant access to an array of government, corporate, and

organizational documents. Obtaining these documents (from state or federal agencies) takes time, but in them you can find answers to questions like these (Blum 90–92):

- Which universities are being investigated by the USDA (Dept. of Agriculture) for mistreating laboratory animals?
- Are IRS auditors required to meet quotas?
- What are the results of state and federal water-quality inspections in this region?

Organization records (reports, memos, computer printouts, and so on) are good primary sources. Most organizations also publish pamphlets, brochures, annual reports, or prospectuses for consumers, employees, investors, or voters.

NOTE *Be alert for bias in company literature. If you were evaluating the safety measures at a local nuclear power plant, you would want the complete picture. Along with the company's literature, you would also want studies and reports from government agencies and publications from environmental groups.*

PERSONAL OBSERVATION AND EXPERIMENT

Observation should be your final step because you now know what to look for. Have a plan. Know how, where, and when to look, and jot down observations immediately. You might even take photos or make drawings.

Informed observations can pinpoint real problems. Here is an excerpt from a report investigating low morale at an electronics firm. This researcher's observations and interpretation are crucial in defining the problem:

Our on-site communications audit revealed that employees were unaware of any major barriers to communication. More than 75 percent of employees claimed they felt free to talk to their managers, but the managers, in turn, estimated that fewer than 50 percent of employees felt free to talk to them.

The problem involves misinterpretation. Because managers don't ask for complaints, employees are afraid to make them, and because employees never ask for an evaluation, they never get one. Each side has inaccurate perceptions of what the other side expects, and because of ineffective communications, each side fails to realize that its perceptions are wrong.

NOTE *Even direct observation is not foolproof: for instance, you might be biased about what you see (focusing on the wrong*

events or ignoring something important); or, instead of behaving normally, people being observed might behave in ways they think observers expect. (Adams and Schvaneveldt 244)

An experiment is a controlled form of observation designed to verify an assumption (e.g., the role of fish oil in preventing heart disease) or to test something untried (the relationship between background music and worker productivity). Each field has its own guidelines for experiment design.

ANALYSIS OF SAMPLES

Workplace research can involve collecting and analyzing samples: water or soil or air, for contamination and pollution; foods, for nutritional value; ore, for mineral value; or plants, for medicinal value. Investigators analyze material samples to find the cause of an airline accident. Engineers analyze samples of steel, concrete, or other building materials to determine their load-bearing capacity. Medical specialists analyze tissue samples for disease.

EXERCISES

1. Revise these questions to make them appropriate for inclusion in a questionnaire:
 - a. Would a female president do the job as well as a male?
 - b. Don't you think that euthanasia is a crime?
 - c. Do you oppose increased government spending?
 - d. Do you think welfare recipients are too lazy to support themselves?
 - e. Are teachers responsible for the decline in literacy among students?
 - f. Aren't humanities studies a waste of time?
 - g. Do you prefer Rocket Cola to other leading brands?
 - h. In meetings, do you think men are more interruptive than women?
2. Identify and illustrate at least six features that enhance the effectiveness of the questionnaire in Figure 9.4. (Review pages 157–59 for criteria.) Be prepared to discuss your evaluation in class.
3. Arrange an interview with someone in your field. Decide on general areas for questioning: job opportunities, chances for promotion, salary range, requirements, outlook for the next decade, working conditions, job satisfaction, and so on. Compose specific interview questions; conduct the interview, and summarize your findings in a memo to your instructor.
4. Return to Exercise 6 in Chapter 4 (page 70) and arrange an interview with a respondent who can provide the information you need.

COLLABORATIVE PROJECT

Divide into small groups and decide on a survey of views, attitudes, preferences, or concerns about some issue affecting your campus or the community. Expand on this short list of possible survey topics:

- campus codes prohibiting hate speech or offensive language in general
- campus alcohol policy
- campus safety
- facilities for disabled students
- campus racial or gender issues
- access to computers

Once you have identified your survey's exact purpose and your target population, follow these steps:

- a. Decide on the size and makeup of a randomly selected sample group.
- b. Try to identify all sources of potential error.
- c. Develop a questionnaire that will measure accurately what your survey intends to measure. Design questions that are engaging, unambiguous, unbiased, and easy to answer and tabulate.
- d. Administer the survey to a representative sample group.
- e. Tabulate, analyze, and interpret the responses.
- f. Prepare a written report summarizing your survey purpose, process, findings, and conclusions. Discuss any survey limitations. Include a copy of the questionnaire as well as the tabulated responses.
- g. Appoint one group member to present your findings to the class.

In addition to reviewing pages 157–59, look over Chapter 10, especially the section on validity and reliability (page 188).

SERVICE-LEARNING PROJECT

Plan and conduct an on-site interview at the agency you are working with. Write a memo report to your instructor summarizing what you learned from the interview.

FIGURE 9.1

SOURCES FOR PRIMARY RESEARCH

JOB...

JOB...

on the

HOW INTERVIEW MEDIA COMPARE

GUIDELINES for Informative Interviews*

Planning the Interview

1. *Focus on your purpose.* Determine exactly what you hope to learn from this interview. Write out your purpose.

I will interview Anne Hector, Chief Engineer at Northport Electric, to ask her about the company's approaches to EMF risk avoidance—within the company as well as in the community.

2. *Do your homework.* Learn all you can about the topic beforehand. If the respondent has published anything relevant, read it before the interview. Don't waste time asking questions you could have answered yourself.
3. *Contact the intended respondent.* Do this by phone, letter, or email, and be sure to introduce yourself and your purpose. (See Karen Granger's letter on page 439.)
4. *Request the interview at your respondent's convenience.* Give the respondent ample notice and time to prepare, and ask whether she/he objects to being quoted or taped. If you use a tape recorder, insert fresh batteries and a new tape and set the recording volume loud enough. If possible, submit a list of questions well before the actual interview.

Preparing the Questions

1. *Make each question clear and specific.* Vague, unspecific questions elicit vague, unspecific answers.

How is this utility company dealing with the problem of electromagnetic fields?

Which problem—public relations, potential liability, danger to electrical workers, to the community, or what?

What safety procedures have you developed for risk avoidance by electrical work crews?

2. *Avoid questions that can be answered with "yes" or "no."*

In your opinion, can technology find ways to decrease EMF hazards?

Instead, phrase your question to elicit a detailed response:

Of the various technological solutions being proposed or considered, which do you consider most promising?

This is one instance in which your earlier homework pays off.

3. *Avoid loaded questions.* A loaded question invites or promotes a particular bias:

Wouldn't you agree that EMF hazards have been overstated?

An impartial question does not lead the interviewee to respond in a certain way.

In your opinion, have EMF hazards been accurately stated, overstated, or understated?

4. *Save the most difficult, complex, or sensitive questions for last.* Leading off with your toughest questions might annoy respondents, making them uncooperative.
5. *Write out each question on a separate blank page.* Use a three-ring binder with 8¹/₂" ∞ 11" pages to arrange your questions in logical order. You can then flip to a new page for each question and record responses easily.

Conducting the Interview

1. *Make a good start.* Dress appropriately and arrive on time. Thank your respondent; restate your purpose; explain why you believe he/she can be helpful; explain exactly how you will use the information .
2. *Be sensitive to cultural differences.* If the respondent belongs to a culture different from your own, then consider the level of formality, politeness, directness, relationship building, and other behaviors seen as appropriate in that culture. (See pages 59–61.)
3. *Let the respondent do most of the talking.* Keep opinions to yourself.
4. *Be a good listener.* Don't doodle or let your eyes wander. People reveal more when their listener seems genuinely interested. (For advice about active listening, see pages 106–07.)
5. *Stick to your interview plan.* If the respondent wanders, politely nudge the conversation back on track (unless the added information is useful).
6. *Ask for clarification or explanation.* If you don't understand an answer, say so. Request an example, an analogy, or a simplified version—and keep asking until you understand.

◦ Could you go over that again?

◦ Is there a simpler explanation?

Science writer Ronald Kotulak argues that “[no] question is dumb if the answer is necessary to help you understand something.... Don't pretend to know more than you do” (144).

7. *Keep checking on your understanding.* Repeat major points in your own words and ask if the technical details are accurate and if your interpretation is correct. But don't put words into the respondent's mouth.
8. *Be ready with follow-up questions.* Some answers may reveal new directions for the interview.

- Why is it like that?
- Could you say something more about that?
- What more needs to be done?

What happened next?

9. *Keep note-taking to a minimum.* Record statistics, dates, names, and other precise data, but not every word. Jot key terms or phrases that later can refresh your memory.

Concluding the Interview

1. *Ask for closing comments.* Perhaps the respondent can lead you to additional information.

- Would you care to add anything?
- Is there anyone else I should talk to?
- Is there anyone who has a different point of view?
- Are there any other sources you are aware of that might help me better understand this issue?

2. *Request permission to follow up.* If additional questions arise, you might need to contact the respondent again, perhaps by phone, email, or fax—depending on the complexity of the questions and on the respondent’s preference.

3. *Invite the respondent to review your version.* If the interview is to be published, ask the respondent to check your final draft (for misspelled names, inaccurate details, misquotations, and so on) and to approve it. Offer to provide copies of any document in which this information appears.

4. *Thank your respondent and leave promptly.*

5. *As soon as you leave the interview, write a complete summary (or record one verbally).* Do this while responses are fresh in your memory.

Purpose statement

9.1

For more resources on interviewing techniques visit www.ablongman.com/lannonweb

A vague question

A clear and specific question

*Several guidelines are adapted from Blum 88; Dowd 13-14; Hopkins-Tanne 23, 26; Kotulak 147; Lambe 32; McDonald, ‘‘Covering Physics’’ 190; Rensberger 15; Young 114, 115, 116.

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Guidelines (continued)

An unproductive question

A productive question

A loaded question

An impartial question

Clarifying questions

Follow-up questions

Concluding questions

Limitations of survey research

Probing and following up

Seeking clarification

Seeking clarification

Following up

Probing

FIGURE 9.2 Partial Text of an Informative Interview

Target populations clearly defined
A type of survey error

9.2

For more qualitative
and quantitative survey techniques visit
<[www.ablongman.com/
lannonweb](http://www.ablongman.com/lannonweb)>

GUIDELINES for Developing a Questionnaire

1. *Decide on the types of questions* (Adams and Schvaneveldt 202–12; Velotta 390). Questions can be *open-ended* or *closed-ended*. Open-ended questions allow respondents to answer in any way they choose:

- How much do you know about electromagnetic radiation at our school?
- What do you think should be done about electromagnetic fields (EMFs) at our school?

It is more time-consuming to measure the data gathered, but open-ended questions provide a rich source of information.

When you want to measure exactly where people stand on an issue, choose closed-ended questions:

Are you interested in joining a group of concerned parents?
YES NO

Rate your degree of concern about EMF's at our school.
HIGH MODERATE LOW NO CONCERN

Circle the number that indicates your view about the town's proposal to spend \$20,000 to hire its own EMF consultant.

1	2	3	4	5	6	7
Strongly Disapprove			No Opinion			Strongly Approve

Respondents may be asked to *rate* one item on a scale (from high to low, best to worst), to *rank* two or more items (by importance, desirability), or to select items from a list. Other questions measure percentages or frequency:

How often do you ...?

ALWAYS OFTEN SOMETIMES RARELY NEVER

Although they are easy to answer, tabulate, measure, and analyze, closed-ended questions might elicit biased responses. Some people, for instance, automatically prefer items near the top of a list or the left side of a rating scale (Plumb and Spyridakis 633). Also, respondents are more prone to agree than to disagree with assertions in a questionnaire (Sherblom, Sullivan, and Sherblom 61).

2. *Design an engaging introduction and opening questions.* Persuade respondents that the survey relates to their concerns, that their answers matter, and that their anonymity is assured. Explain how respondents will benefit from your findings, or offer an incentive (say, a copy of your final report).

Your answers will help our school board to speak accurately for your views at our next town meeting. Results of this survey will appear in our campus newspaper. Thank you.

Researchers often include a cover letter with the questionnaire.

Begin with the easiest questions, which usually are the closed-ended ones. Once respondents commit to these, they are likely to complete more difficult questions later.

3. *Make each question unambiguous.* All respondents should be able to interpret identical questions identically. An ambiguous question leaves room for misinterpretation.

Do you favor weapons for campus police? YES NO

“Weapons” might mean tear gas, clubs, handguns, all three, or two out of three. Consequently, responses to the above question would produce a misleading statistic, such as “Over 95 percent of students favor handguns for campus police” when the accurate conclusion might be “Over 95 percent of students favor some form of weapon.” Moreover, the limited “yes/no” format reduces an array of possible opinions to an either/or choice.

Do you favor (check all that apply):

- Having campus police carry mace and a club?
- Having campus police carry nonlethal “stun guns”?
- Having campus police store handguns in their cruisers?
- Having campus police carry small-caliber handguns?
- Having campus police carry large-caliber handguns?
- Having campus police carry no weapons?
- Don’t know

To ensure a full range of possible responses, include options such as “Other,” “Don’t know,” “Not Applicable,” or an “Additional Comments” section.

4. *Make each question unbiased.* Avoid *loaded questions* that invite or advocate a particular viewpoint or bias:

Should our campus tolerate the needless endangerment of innocent students by lethal weapons?
YES NO

Emotionally loaded and judgmental words (“endangerment,” “innocent,” “tolerate,” “needless,” “lethal”) in a survey are unethical because their built-in judgments manipulate people’s responses (Hayakawa 40).

5. *Make it brief, simple, and inviting.* Long questionnaires usually get very few replies. And when people do reply to a long survey, they tend to give less thought to their answers.

Try to limit questions and their response spaces to two sides of one page. Include a stamped, return-addressed envelope, and give a specific return date. Address each respondent by name; sign your letter or your introduction; and give your title.

Open-ended questions

Closed-ended questions

9.3

Can any question be free of bias? Find out more at

www.ablongman.com/lannonweb

(continues)

A survey introduction

An ambiguous question

A clear and incisive question

A loaded question

Public records may hold answers to tough questions

FIGURE 9.3 A Questionnaire Cover Letter

FIGURE 9.4 A Questionnaire

9.4

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Direct observation is often essential

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