

UNIT 6

Quantitative Research: The Survey

Overview

In Unit 5 we began planning and designing the project. We discussed sampling and the various methods for choosing an adequate sample to collect data from in order to address or answer your main research questions. In the next two units we will discuss the actual data collection and the various methods which you can employ to collect your data. The survey is one method that is often used by social researchers for collecting data and measurement/testing of important variables. The survey method falls under the quantitative approach which stems from the positivist tradition. The survey is most often used when social researchers conduct quantitative research. This unit will begin by looking at the quantitative approach to research, the survey as a method within this approach and the two main types of surveys that are possible: questionnaires and interviews. The unit will end with a discussion on how to go about constructing a survey for data collection.

Learning Objectives

By the end of this Unit you will be able to:

1. Explain what the quantitative method is.
2. Describe the survey method.
3. Discuss the two main types of surveys (interviews and questionnaires).
4. Assess the advantages and disadvantages of the survey method.
5. Discuss the steps involved in conducting a survey.
6. Construct a survey for a research project.

This Unit is divided into three Sessions as follows:

Session 6.1: Introduction to Quantitative Approach and the Survey

Session 6.2: Types of Survey – Interview and Questionnaire

Session 6.3: Constructing a Survey – Questions to Include, Sequencing, Administering



Readings & Resources

Required Readings

- Creswell, J. (2003). *Research design: Qualitative, quantitative and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: SAGE Publications.
- Leedy, P. & Ormrod, J. (2001). *Practical research: Planning and design* (7th ed.). NJ: Upper Saddle River.
- Robson, C. (2002). *Real world research*. Blackwell Publishing.
- Trochim, W.M.K. (2006). "Research Methods Knowledge Base". Retrieved at:
<http://www.socialresearchmethods.net/kb/contents.php>
- Williams, C. (2007). Research Methods. *Journal of Business and Economic Research*, Vol. 5, No. 3, 9 67-71.
- Sample Surveys. Retrieved at:
<http://www.esourceresearch.org/eSourceBook/SampleSurveys/6DevelopingaSurveyInstrument/tabid/484/Default.aspx>

You are also advised to locate and read: Additional papers relevant to the topics covered.

Session 6.1

Introduction to the Quantitative Approach and the Survey

Introduction

Quantitative research is used to answer questions about relationships among measurable variables with the purpose of explaining, predicting and controlling phenomena (Leedy and Ormrod 2001). In quantitative research, standardized procedures are used to collect numerical data. This type of data then allows for statistical analysis and interpretation of the data. Quantitative researchers seek explanations and predictions which they can generalize to other persons and places. They seek explanations through the use of a sample of the population being examined and then make generalizations based on these. “Quantitative researchers seek explanations and predictions that will generalize to other persons and places. The intent is to establish, confirm, or validate relationships and to develop generalizations that contribute to theory” (Leedy and Ormrod, 2001, p. 102).

Quantitative research begins with a problem statement and involves the formation of a hypothesis/hypotheses based on that research problem, a literature review, and quantitative data collection and analysis. Creswell (2003) states, quantitative research “employ strategies of inquiry such as experiments and surveys and collect data on predetermined instruments that yield statistical data” (p. 18). The findings from quantitative research can be predictive, explanatory, and confirming. In this session we look at the survey, which is one of the main methods used under the quantitative approach to social research.

The Survey

According to Williams (2007), in the survey research method, the researcher tends to capture phenomena at the moment. This method is used for sampling data from respondents that are representative of a population and uses a closed-ended instrument (questionnaire) or open-ended items (as in an interview). In other words, the survey is a method of data collection that asks questions of respondents. It can range from short paper to pencil feedback questionnaire to telephone interview, mail questionnaire to one-on-one or face-to-face interview.

Selecting the survey method and the specific type of survey entails making some critical decisions in social research. First, you need to decide if the research questions are more suited to quantitative or qualitative research. Can the variables involved in the research questions be quantified and measured? For instance, a research question on 'rates of suicide' in a particular country would be more suited to a quantitative research than a question of the 'perceptions of suicide'. Rates of suicide can be quantified, measured, analyzed and predictions made while perceptions of suicide cannot be so easily measured. Some other considerations for selecting the survey method include:

- Can the population be enumerated? For some populations, you have a complete listing of the units that will be sampled. For others, such a list is difficult or impossible to compile. For instance, there are complete listings of registered voters or person with active drivers licenses. But no one keeps a complete list of homeless people. If you are doing a study that requires input from homeless persons, you are very likely going to need to go and find the respondents personally. In such contexts, you can pretty much rule out the idea of mail surveys or telephone interviews.
- Will the population cooperate? People who do research on immigration issues have a difficult methodological problem. They often need to speak with undocumented immigrants or people who may be able to identify others who are. Why would we expect those respondents to cooperate? Although the researcher may mean no harm, the respondents are at considerable risk legally if information they divulge should get into the hands of the authorities. The same can be said for any target group that is engaging in illegal or unpopular activities.
- Is the population accessible? Are there geographic restrictions? Is your population of interest dispersed over too broad a geographic range for you to study feasibly with a personal interview? It may be possible for you to send a mail instrument to a nationwide sample. You may be able to conduct phone interviews with them. But it will almost certainly be less feasible to do research that requires interviewers to visit directly with respondents if they are widely dispersed.
- Sampling issues. This includes questions such as, who will be the respondents, and can they be easily found? If you are having issues getting a complete list of the population, then will the sample be representative of the population? Is it even necessary to have a representative sample?
- Questions issues. Sometimes the nature of the questions will determine the type of survey used. You may need to consider also, what types of question can be asked. Would personal questions be met with resentment and suspicion? How complex and lengthy can questions be? Can the answers to questions be predetermined and thus included in a structured questionnaire or should the questions be left open to allow respondents flexibility in their responses?

- Cost issues are an important consideration when deciding whether to conduct a survey or not. If you are constrained by funds, then it probably won't be possible to conduct a large scale survey where you would incur costs for hiring additional researchers to help with data collection and analysis, transportation costs (covering various geographical locations as in a household survey).
- Clearly, there are lots of issues to think about when you are considering the survey method and further, selecting which type of survey you wish to use for your research project. There is no clear and easy way to make this decision in many contexts. There may not be one approach which is clearly the best. You may have to make tradeoffs while considering the various points above. As designer of the research project, this would involve personal judgment on your part. Knowing the advantages and disadvantages of the various types of survey would aid in that decision making process. The advantages and disadvantages of the survey will be discussed later on in this unit.



LEARNING ACTIVITY 6.1

Reflect on your problem statement and research questions. Discuss with your peers in the Learning Exchange whether your research questions are suited to quantitative or qualitative research. If quantitative, discuss and share in the forum some things that you need to consider in planning the survey. Give feedback to the postings of at least one of your peers.

Session 6.2

Types of Survey – Interview and Questionnaire

Introduction

Surveys can be divided into two broad categories: the **questionnaire** and the **interview**. Questionnaires are usually paper-and-pencil instruments that the respondent completes. Interviews are completed by the interviewer based on the responses provided by the interviewee. Sometimes it's hard to tell the difference between a questionnaire and an interview. For instance, some people think that questionnaires always ask short, closed-ended questions while interviews always ask broad, open-ended ones. But you will see questionnaires with open-ended questions (although they do tend to be shorter than in interviews) and there will often be a series of closed-ended questions asked in an interview.

Survey research can take many forms and is used not only in academic social research but also by a wide range of companies today. We have automated telephone surveys that use random dialing methods. Increasingly, survey research is tightly integrated with the delivery of service or customer service of modern day companies in the Caribbean. Your hotel room has a survey on the desk requesting feedback on level of customer satisfaction. You are often asked to complete a short survey when you visit a web site. Whatever the form or objective, surveys can be categorized into two major types: questionnaires and interviews.

Questionnaires

When most people think of questionnaires, they think of the **mail survey, sometimes called the postal questionnaire**. The questionnaire is a list of written questions where questions can be closed ended or open type questions. All of us have at one time or another received a questionnaire in the mail. There are many advantages to mail surveys. They are relatively inexpensive to administer. The mail questionnaire can also be sent to a wide number of people covering wide geographic regions. Mail questionnaires allow the respondent to fill it out at their own convenience. But there are some disadvantages as well. Response rates from mail surveys are often very low as respondents may ignore them or not be motivated to mail back responses. Further, mail questionnaires are not the best vehicles for asking for detailed written responses.

A second type is the **group-administered questionnaire**. A sample of respondents is brought together and asked to respond to a structured sequence of questions. Traditionally, questionnaires were administered in group settings for convenience. The researcher could give the questionnaire to those who were present and be fairly sure that there would be a high response rate. If the respondents were unclear about the meaning of a question they could ask for clarification. And, there were often organizational settings where it was relatively easy to assemble the group (in a company or business, for instance).

What's the difference between a group-administered questionnaire and a group interview or focus group? In the group-administered questionnaire, each respondent is *handed an instrument* and asked to complete it while in the room. Each respondent completes the questionnaire. Alternatively, in a group interview or focus group, the interviewer facilitates the session. People work as a group, listening to each other's comments and answering the questions. Someone takes notes for the entire group -- people don't complete an interview individually.

The questionnaire has several advantages:

- The researcher is able to contact large numbers of people quickly, easily and efficiently using a postal questionnaire.
- Questionnaires are relatively quick and easy to create, code and interpret or analyze (especially when closed ended questions are used). There are statistical packages which can be used to quickly analyze data obtained from questionnaires.
- Questionnaires can be used to explore private and embarrassing issues (such as sexual and criminal matters) more easily than other methods. The questionnaire can, for example, be both anonymous and completed in privacy. This increases the chances of people answering questions honestly compared to when in a focus group or during an interview.

Interviews

Interviews are a far more personal form of research than questionnaires. In the interview, the interviewer asks questions of the respondent who then verbally responds. This can be done face to face (personal interview) or over the telephone (telephone interview). The interview is generally open ended but can also include closed-ended questions. Unlike with the postal questionnaire, the interviewer has the opportunity to probe or ask follow-up questions of the respondent. This means therefore that the interview is not as structured as the questionnaire. Interviews are generally easier for the respondent, especially if what is sought is opinions or impressions. Interviews can be very time consuming and they are resource intensive. The interviewer is considered a part of the measurement instrument and interviewers have to be well trained in how to respond to any contingency.

Almost everyone is familiar with the **telephone interview**. Telephone interviews enable a researcher to gather information rapidly. Most of the major public opinion polls that are reported are based on telephone interviews. Like personal interviews, they allow for some personal contact between the interviewer and the respondent. Also, they allow the interviewer to ask follow-up questions. But they also have some major disadvantages. Many people don't have publicly-listed telephone numbers. Some don't have telephones. People often don't like the intrusion of a call to their homes. In addition, telephone interviews have to be relatively short or people will feel imposed upon.

The interview has several advantages:

- During face-to-face interviews, the researcher can learn a lot not only from the verbal responses given but also from the facial expressions, mood and attitude of the respondent. This can enhance the researcher's understanding on an issue.
- The interview allows the researcher to probe or ask follow-up questions when the respondent's answer is not clear.
- The interviewer can ensure that the questions are clearly asked or explained so that the respondent fully understands what is being asked of him or her. This increases reliability in responses.

Advantages and Disadvantages of the Survey Approach

Robson (2002) has summarized the advantages and disadvantages of the survey:

Advantages

General

- They provide a relatively simple and straightforward approach to the study of attitudes, values, beliefs and motives.
- They may be adapted to collect generalizable information from almost any human population.
- High amounts of data standardization.

Postal and other self-administered surveys

- Often the only, or the easiest, way of retrieving information about the past history of a large set of people.
- Can be extremely efficient at providing large amounts of data, at a relatively low cost, in a short period of time.
- They allow anonymity, which can encourage frankness when sensitive areas are involved.

Interview surveys

- The interviewer can clarify questions.
- The presence of the interviewer encourages participation and involvement.

Disadvantages

General

- Data are affected by the characteristics of the respondents.
- Respondents will not necessarily report their beliefs, attitudes etc. accurately.

Postal and other self-administered surveys

- Typically have a low response rate. As you don't usually know the characteristics of non-respondents you don't know whether the sample is representative.
- Ambiguities in, and misunderstandings of, the survey questions may not be detected.
- Respondents may not treat the exercise seriously; and you may not be able to detect this.

Interview surveys

- Data may be affected by characteristics of the interviewers.
- Data may be affected by interactions of interviewer/respondent characteristics.
- Respondents may feel their answers are not anonymous and be less forthcoming or open.



LEARNING ACTIVITY 6.2

List the pros and cons of employing a survey for the data collection phase in a research project. After you have done this, revisit your sampling plan. Does the sampling plan fit with the type of survey that you would like to do for your research project?

Session 6.3

Constructing a Survey – Questions to Include, Sequencing, Administering, a Survey – Things to Consider

In constructing your survey, you need to consider the following things:

- What are your objectives and what questions will you include in the survey to meet these objectives?
- What response format would you like for the survey (this would determine the type of survey). For instance, if you want short responses that can be easily grouped and coded, then you would ask close ended questions and thus you would use the questionnaire type survey.
- How will you word your questions? This is important so that questions are not vague, ambiguous and difficult to understand. Where there is misinterpretation of questions this will affect responses and thus reliability of data collected.
- How will you order or sequence the questions so that there is a natural flow to the questionnaire or interview. In an interview most times you ask all questions related to a specific issue or aspect of the questions consecutively. That way you benefit more from having the respondent focus their attention and thinking on that issue rather than moving from the issue to another and back again and having the respondent' mind and focus all over the place.
- Should certain questions be grouped together in one section of the survey to make it easier for the respondent in terms of focus and mindset?
- How to avoid repetition in questions. Sometimes repetition is good in that you ask the same thing in different ways and benefit from getting all aspects of an issue. However, as researcher you need to know how best to balance repetition because at the same time you do not want the respondent getting fed up and irritated by too much repetition.

In general, survey questions should:

- Contain only one idea or question
- Define the scope to consider, such as the time period or activities that are relevant to the question.
- Be written with neutral language to avoid leading the respondent to a specific answer.
- Use language that enables less educated persons to easily understand the question.
- Contain response options that are simple, clear, consistent, and include the full range of responses that might occur.
- For categorical responses, be mutually exclusive and exhaustive so that a respondent can pick one and only one option.
- For numeric responses, guide the respondent to provide the response in a consistent format and units.

(Source: <http://www.esourceresearch.org/eSourceBook/SampleSurveys/6DevelopingaSurveyInstrument/tabid/484/Default.aspx>)

Types of Question that can Comprise a Survey

1. Demographic questions are questions dealing with the overall characteristics of your respondents. Gender, income, age, and level of education are examples of the sort of demographic characteristics that you may want to account for in your survey.

Example of demographic question:

Tick one: Male Female

2. Closed-ended questions provide responses and the respondent selects the one that is most appropriate. When constructing closed questions, you need to provide choices that will allow you to make meaningful interpretations. Closed questions allow the researcher to deal with the responses in a more efficient manner than open-ended questions.

Closed Question Example:

How often do you study?

- a. less than 6 hours a week
- b. 6-10 hours a week

- c. 11-15 hours a week
- d. more than 15 hours a week

3. Rank-order question presents respondents with several alternatives and requests that they rank them according to priority:

Example of rank-ordered question:

Please rank your five most important reasons for not contributing to our company's blood drives. Put a #1 by your most important concern, a #2 by your second most important concern, and so forth.

- _____ Lack of time
- _____ Lack of awareness of former blood drives
- _____ Perception that the blood bank has plenty of blood
- _____ Concern about possible pain
- _____ Concern about infection
- _____ Concern about fainting
- _____ Concern about vomiting
- _____ Concern about bruising
- _____ Concern about being infected with AIDS
- _____ Belief company should provide some compensation

4. Open-ended questions require respondents to answer in their own words, like a short-answer or essay type response. Open questions allow for free-flowing responses and are less restrictive than the closed ended questions.

Open Question Example:

What are your views on legalizing marijuana in your country?

(Ans)

In constructing a survey, here are some things to consider in question wording (Robson 2002):

- Keep the language simple.
- Keep questions short.
- Avoid double-barrelled questions.
- Avoid leading questions.
- Avoid questions in the negative.
- Only ask questions where respondents are likely to have the knowledge needed to answer.
- Try to ensure that the questions mean the same thing to all respondents.
- Avoid a prestige bias.
- Remove ambiguity.
- Avoid direct questions on sensitive topics (in interview situations).
- Ensure question's frame of reference is clear.
- Avoid creating opinions.
- Use personal wording if you want the respondents' own feelings etc.
- Avoid unnecessary or objectionable detail.
- Avoid prior alternatives.
- Avoid producing response sets (from de Vaus, 1991; pp.83-6)



LEARNING ACTIVITY 6.3

Go to the following link of a sample of a survey:

<http://www.sun-associates.com/masscue/closed/closedwpstudent.html>.

Pay close attention to the structure of the questions and the sequencing of the questions. You will also notice that the survey mixed closed ended with open-ended questions. Afterwards, construct a short questionnaire of your own, including both closed ended and open-ended questions. Your questionnaire needs to reflect the key objectives of your research project through the types of questions asked.

UNIT SUMMARY

In unit one we discussed the two traditions impacting social research today: positivism and post positivism. In this unit we have discussed the quantitative approach to research. This approach falls within the positivist tradition. Quantitative research views social phenomena as facts which can be quantified, measured and used to make predictions about the world around us. Quantitative researchers therefore see themselves as detached and having an objective view of the social world. Their understanding of what they study is based on data that can be verified through measurement and testing. The survey is one method frequently used by quantitative researchers for collection and observation of data. The unit has discussed the types of surveys, its advantages and disadvantages and how you as the researcher can go about constructing a survey. This survey has been presented as one method or tool available for conducting social research. In the next unit you will be exposed to other methods.

References

- Creswell, J. (2003). *Research design: Qualitative, quantitative and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: SAGE Publications.
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