Introduction to Survey:

Using surveys is one way to conduct research. But before you decide to invest your time and resources in the survey approach, consider whether a survey is the best way to find out what you want to know.

What is a survey?

A survey is a data-gathering and analysis approach in which respondents answer questions or respond to statements that were developed in advance. In this document, the approach is described as a seven-stage process that includes the following steps:

1. Identify the research objectives.

2. Identify and characterize the target audience.

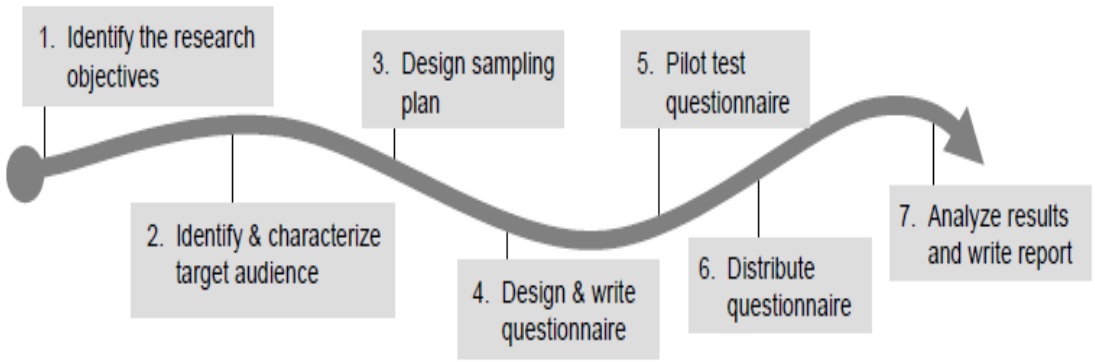
3. Design the sampling plan.

4. Design and write the questionnaire.

5. Pilot test the questionnaire.

6. Distribute the questionnaire.

7. Analyze the results and write a report.



Types of surveys

Surveys fall into two broad categories:

• self-administered questionnaires

• Interviews

Self-administered questionnaires

When most people think of a survey, they think of a self-administered questionnaire. This survey is the kind you might receive through the mail or complete on a set of Internet Web pages.

Interviews

A survey interview is one in which the interviewer asks questions from a prepared questionnaire and records the information. Interviews can be conducted by the researcher working directly with the respondent face-to-face or by telephone. An obvious disadvantage of this method is that it is both time-consuming and costly for the researcher. You would likely need a team of trained interviewers to conduct the survey interviews.

Characteristics of Survey:

Characteristic	Description
Systematic	The survey follows a specific set of rules; a formal and orderly logic of operations.
Impartial	The survey selects units of the population without prejudice or preference.
Representative	The survey includes units that together are representative of the problem under study and the population affected by it.
Theory-Based	The survey's operations are guided by relevant principles of human behavior and mathematical laws of probability and statistics.
Quantitative	The survey assigns numerical values to non-numerical characteristics of human behavior in ways that permit uniform interpretation of these characteristics.
Replicable	Other people using the same methods in the same ways can get essentially the same results.

Limitations of surveys

While surveys can provide significant advantages over other data-collecting approaches, there are certain limitations that should be understood.

• To generalize for a population, a survey must follow strict procedures in defining which participants are studied and how they are selected.

• Following the rules and implementing the survey with the rigor that is necessary can be expensive with respect to cost and time.

• Survey data is usually superficial It is not typically possible to go into any detail—that is, we are not capable of digging deeply into people's psyches looking for fundamental explanations of their unique understandings or behaviors.

• Surveys can be obtrusive. People are fully aware that they are the subjects of a study. They often respond differently than they might if they were unaware of the researcher's interest in them.

Information is self-reported and is not always the undiluted truth.

The Survey Research Process—Overview

1	Identify research objectives	What do you want the survey to accomplish? What information already exists about the problem you are asking questions about? Survey research must begin with a statement of the problem and how the survey will answer questions about the problem.
2	Identify & characterize target audience	Who, specifically, will respond to the survey? What assumptions can you make about their knowledge of the questions you have in mind, the terminology they understand, their willingness to participate in the survey, and so forth?
3	Design sampling plan	How big is the target audience population? Can the target audience be enumerated? How will you ensure that those who respond to the survey are representative of the target audience?
4	Design & write questionnaire	The survey objectives and internal questions must be translated into carefully-worded questionnaire items crafted to facilitate analysis and interpretation.
5	Pilot test questionnaire	The questionnaire instrument must be "tested" with members of the target audience to remove bugs and improve the instrument.
6	Distribute the questionnaire	The questionnaire should be distributed to selected members of the target audience as defined by the sampling plan.
7	Analyze results and write report	The results should be collected and translated into appropriate graphical displays that facilitate understanding. The charts can be compiled into a report and interpretations, inferences, generalizations, and caveats can be made based on evidence provided by the results.

Step: Survey Objectives

Introduction

A natural tendency is to jump into action and begin writing questions for the questionnaire the moment the decision to do a survey is made. However, successful questionnaires result from planning based on a careful examination of the problem that provided the motivation to do the survey in the first place.

What are survey objectives?

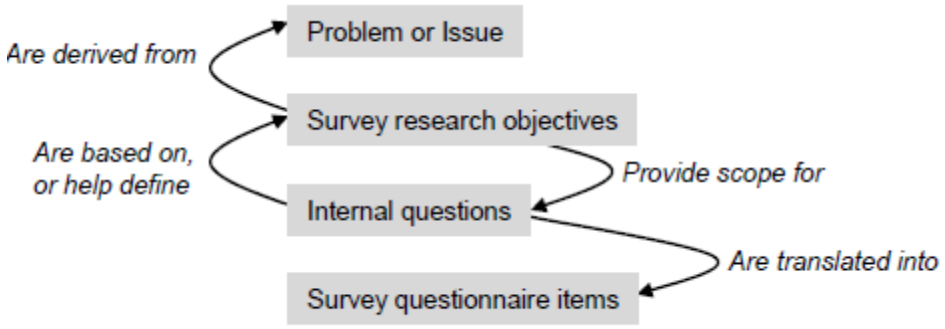
Objectives are derived from a careful understanding of the problem or issue under study.

The survey research objectives provide scope and guidance for internal questions the team has about the problem or issue.

In some cases, team members have difficulty defining objectives but can provide internal questions (sometimes called research questions) that are used to inform the research objectives. This represents a bottom-up sort of thinking where the objectives are defined as a result of first identifying the questions.

Internal questions will not appear in the actual survey questionnaire. Internal questions are seldom expressed in the way a respondent would understand, so they must be translated into the target audience language.

Also, internal questions can be complex and open-ended and must be broken into multiple simpler questionnaire items that are closed-ended. (Although well-scoped carefully worded open-ended questions can also provide useful information when used sparingly.)



Step: Design the Sampling Plan

During this stage, the researcher should determine

• How individuals will be selected to participate in the survey

• The required size of the sample

These considerations have significant consequences for how the results can be generalized beyond the sample and for how much precision and confidence you can express about the findings.

What kind of sample will you select?

During this stage, the researcher determines how the questionnaire will be distributed to the population of potential respondents. Two primary considerations that will drive your decision about this are listed below.

• Are the survey findings intended to be generalized to a larger population? If so, then a probability sample will be required.

• Will the survey findings be considered unique to the individuals who participate in the survey? If so, then a non-probability sample will suffice.

Census: a special case

A "census" is a sample that includes all individuals in the population. A census eliminates sampling error and provides information on all individuals in the population. In this case the sample is the population.

What are probability samples?

In statistics, the term "probability" means "chance." For a population of individuals under study, what is a person's chance of being selected for the survey?

A probability sample is designed to ensure each person in the population has a fair or equal chance of being selected. In this way, a sample that is representative of the population is obtained.

Probability samples are used so reliable estimates of the whole population can be made (even though not everyone in the population is part of the survey).

What are non-probability samples?

A non-probability sample uses human judgment in selecting respondents. Such judgmental samples have no theoretical basis for estimating population characteristics. Non-probability samples do not ensure that the sample is representative of the population. These types of samples are referred to in a number of ways, including

• convenience samples

• judgment samples

• self-selecting sample

Examples: non-probability samples

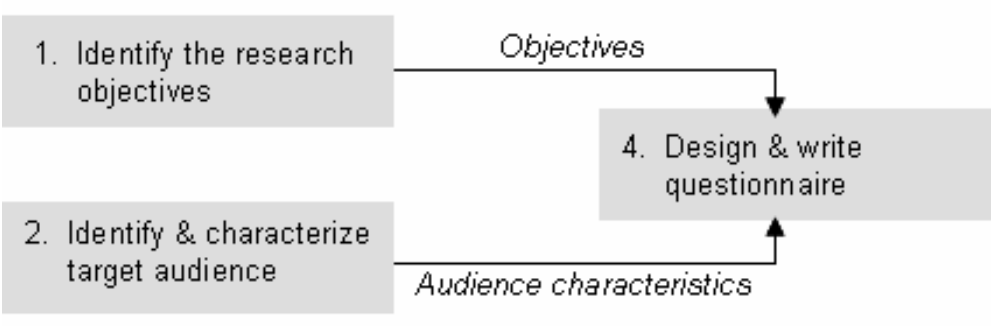
Examples of the use of non-probability samples include

• distributing questionnaires to participants at a conference or event

• polling a set of individuals considered to be experts in an area of interest

• distributing questionnaires using the Web and allowing individuals to decide for themselves whether they want to participate (in a probability sample, individuals are randomly selected to participate)

Step: Design and Write the Questionnaire—Overview



Designing the survey questionnaire

Questionnaire design addresses the questions listed below.

• How will the survey be mediated (e.g., via paper, email soft copy, Web)?

• How long should the questionnaire be?

• How should the questionnaire be structured and organized?

• What page design and formatting will be most effective?

• What other documents might promote survey effectiveness?

Types of questions

There are four main types of questions you might want to use in your survey. You can ask people about

• attributes

• attitudes

• beliefs

• behaviors

Types of Writing Questions

Questions must be rewritten so that the responses can be quantitatively assessed. This is usually done by transforming open-ended internal questions into closed-ended questions. In many cases, multiple closed-ended questions will be required to address a single open-ended internal question.

Open-ended questions are those that ask respondents to express themselves freely without any constraints. These questions have no answer choices from which respondents select their responses. Instead, respondents create their own answers and state them in their own words.

Closed-ended questions are questions that provide answer choices. Respondents choose from among the provided answer categories by evaluating each choice and selecting the one that best reflects their situations.

One disadvantage of using open-ended questions in self-administered questionnaires is the difficultly of constructing meaningful variables for statistical analysis.

Survey Question Structure:

Structure	Description
Open-ended	Respondents create their own answers to the question in their own words. There are no answer choices provided from which they select their responses.
Closed-ended with unordered choices	Respondents choose from among discrete, unordered categories by evaluating each choice and selecting the most appropriate response or responses.
Closed-ended with ordered choices	Answer choices are provided and the choices are represented as a graduated scale along some single dimension of opinion or behavior. The respondent chooses the most appropriate response from the choices provided.
Hybrid	Answer choices are provided (as in closed-ended questions), but the respondent can also create a response if the choices are inappropriate (as in an open-ended question).