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**ASSIGNMENT**

Summarize Quantitative data collection methods and Qualitative data collection method

**DATA COLLECTION METHODS**

**QUANTITATIVE DATA COLLECTION METHOD**

 Quantitative methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. Quantitative research focuses on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon

The Quantitative data collection methods, rely on random sampling and structured data collection instruments that fit diverse experiences into predetermined response categories. They produce results that are easy to summarize, compare, and generalize.

Typical quantitative data gathering strategies include:

* **Probability sampling**

A definitive method of sampling carried out by utilizing some form of random selection and enabling researchers to make a probability statement based on data collected at random from the targeted demographic. One of the best things about probability sampling is it allows researchers to collect the data from representatives of the population they are interested in studying. Besides, the data is collected randomly from the selected sample rules out the possibility of sampling bias.

There are three significant types of probability sampling

1. **Simple random sampling:** More often, the targeted demographic is chosen for inclusion in the sample.
2. **Systematic random sampling:**Any of the targeted demographic would be included in the sample, but only the first unit for inclusion in the sample is selected randomly, rest are selected in the ordered fashion as if one out of every ten people on the list.
3. **Stratified random sampling:**It allows selecting each unit from a particular group of the targeted audience while creating a sample. It is useful when the researchers are selective about including a specific set of people in the sample, i.e., only males or females, managers or executives, people working within a particular industry.

* **Interviews**

Interviewing people is a standard method used for [data collection](https://www.questionpro.com/blog/data-collection/). However, the interviews conducted to collect quantitative data are more structured, wherein the researchers ask only a standard set of questionnaires and nothing more than that.

There are three major types of interviews conducted for data collection

* **Telephone interviews:** For years, telephone interviews ruled the charts of data collection methods. However, nowadays, there is a significant rise in conducting video interviews using the internet, Skype, or similar online video calling platforms.
* **Face-to-face interviews:**It is a proven technique to collect data directly from the participants. It helps in acquiring quality data as it provides a scope to ask detailed questions and probing further to collect rich and informative data. Literacy requirements of the participant are irrelevant as face to face interviews offer ample opportunities to collect non-verbal data through observation or to explore complex and unknown issues. Although it can be an expensive and time-consuming method, the response rates for face to face interviews are often higher.
* **Computer-Assisted Personal Interviewing (CAPI):** It is nothing but a similar setup of the face-to-face interview where the interviewer carries a desktop or laptop along with him at the time of interview to upload the data obtained from the interview directly into the database. CAPI saves a lot of time in updating and processing the data and also makes the entire process paperless as the interviewer does not carry a bunch of papers and questionnaires.
* **Surveys/questionnaires**

Surveys or questionnaires created using online survey software are playing a pivotal role in online data collection be is quantitative or qualitative research. The surveys are designed in a manner to legitimize the behavior and trust of the respondents. More often, checklists and rating scale type of questions make the bulk of quantitative surveys as it helps in simplifying and quantifying the attitude or behavior of the respondents.

There are two significant types of survey questionnaires used to collect online data for quantitative market research.

* **Web-based questionnaire**: This is one of the ruling and most trusted methods for internet-based research or online research. In a web-based questionnaire, the receive an email containing the survey link, clicking on which takes the respondent to a secure online survey tool from where he/she can take the survey or fill in the survey questionnaire. Being a cost-efficient, quicker, and having a wider reach, web-based surveys are more preferred by the researchers. The primary benefit of a web-based questionnaire is flexibility; respondents are free to take the survey in their free time using either a desktop, laptop, tablet, or mobile.
* **Mail Questionnaire:** In a mail questionnaire, the survey is mailed out to a host of the sample population, enabling the researcher to connect with a wide range of audiences. The mail questionnaire typically consists of a packet containing a cover sheet that introduces the audience about the type of research and reason why it is being conducted along with a prepaid return to collect data online. Although the mail questionnaire has a higher churn rate compared to other quantitative data collection methods, adding certain perks such as reminders and incentives to complete the survey help in drastically improving the churn rate. One of the major benefits of the mail questionnaire is all the responses are anonymous, and respondents are allowed to take as much time as they want to complete the survey and be completely honest about the answer without the fear of prejudice.
* **Observation**

In this method, researchers collect quantitative data through systematic observations by using techniques like counting the number of people present at the specific event at a particular time and a particular venue or number of people attending the event in a designated place. More often, for quantitative data collection, the researchers have a naturalistic observation approach that needs keen observation skills and senses for getting the numerical data about the “what” and not about “why” and ”how.”

* **Structured observation:** In this type of observation method, the researcher has to make careful observations of one or more specific behaviors in a more comprehensive or structured setting compared to naturalistic or participant observation. In a structured observation, the researchers, rather than observing everything, focus only on very specific behaviors of interest. It allows them to quantify the behaviors they are observing. When the observations require a judgment on the part of the observers – it is often described as coding, which requires a clearly defining a set of target behaviors.
* **Document Review**

Document review is a process used to collect data after reviewing the existing documents. It is an efficient and effective way of gathering data as documents are manageable and are the practical resource to get qualified data from the past.

Three primary document types are being analyzed for collecting supporting quantitative research data

* **Public Records:** Under this document review, official, ongoing records of an organization are analyzed for further research. For example, annual reports policy manuals, student activities, game activities in the university, etc.
* **Personal Documents:** In contrast to public documents, this type of document review deals with individual personal accounts of individuals’ actions, behavior, health, physique, etc. For example, the height and weight of the students, distance students are traveling to attend the school, etc.
* **Physical Evidence:**Physical evidence or physical documents deal with previous achievements of an individual or of an organization in terms of monetary and scalable growth.

**QUALITAITIVE DATA COLLECTION METHOD**

Qualitative data collection is exploratory in nature, it involves in-depth analysis and research. They are mainly focused on gaining insights, reasoning, and motivations hence they go deeper in terms of[research](https://www.questionpro.com/blog/what-is-research/). Since the qualitative data cannot be measured, this leads to the preference for methods or[data collection](https://www.questionpro.com/blog/data-collection/) tools that are structured to a limited extent. Qualitative data collection methods play an important role in impact evaluation by providing information useful to understand the processes behind observed results and assess changes in people’s perceptions of their well-being

Furthermore qualitative methods can be used to improve the quality of survey-based quantitative evaluations by helping generate evaluation hypothesis; strengthening the design of survey questionnaires and expanding or clarifying quantitative evaluation findings. These methods are characterized by the following attributes:

* They tend to be open-ended and have less structured protocols (i.e., researchers may change the data collection strategy by adding, refining, or dropping techniques or informants)
* They rely more heavily on interactive interviews; respondents may be interviewed several times to follow up on a particular issue, clarify concepts or check the reliability of data
* They use triangulation to increase the credibility of their findings (i.e., researchers rely on multiple data collection methods to check the authenticity of their results)
* Generally their findings are not generalizable to any specific population, rather each case study produces a single piece of evidence that can be used to seek general patterns among different studies of the same issue

Regardless of the kinds of data involved ,data collection in a qualitative study takes a great deal of time .The researcher needs to record any potentially useful data thououghly,accurately, and systematically, using field notes,sketches,audiotapes,photographs and other suitable means.The data collection methods must observe the ethical principles of research.

Qualitative data collection methods include:

* **One-to-One Interviews:**One of the most commonly used data collection instrument for qualitative research, mainly because of its personal approach. The interviewer or the researcher collects data directly from the interviewee on a one-to-one basis. The interview may be informal and unstructured – conversational. The questions asked are mostly [open-ended questions](https://www.questionpro.com/open-ended-questions.html), spontaneous, with the interviewer letting the flow of the interview dictate the next questions to be asked.
* [**Focus groups**](https://www.questionpro.com/blog/focus-group/)**:**This is done in a group discussion setting. The group is limited to 6-10 people and a moderator is assigned to moderate the ongoing discussion. Depending on the data which is sorted, the members of a group may have something in common. For example, a researcher conducting a study on track runners will choose athletes who are track runners or were track runners and have sufficient knowledge of the subject matter.
* **Record keeping:**This method makes use of the already existing reliable documents and similar sources of information as the data source. This data can be used in a new research. This is similar to going to a library. There one can go over books and other reference material to collect relevant data that can likely be used in the research.
* **Process of observation:**In this qualitative data collection method, the researcher immerses himself/ herself in the setting where his respondents are, and keeps a keen eye on the participants and takes down notes.
* [**Longitudinal studies**](https://www.questionpro.com/blog/longitudinal-study/)**:**This data collection method is performed on the same data source repeatedly over an extended period of time. It is an observational research method that goes on for a few years and in some cases can go on for even decades. The goal of this data collection method is to find correlations through an empirical study of subjects with common traits.
* **Case studies:**In this method, data is gathered by in-depth analysis of case studies. The versatility of this method is demonstrated in how this method can be used to analyze both simple and complex subjects. The strength of this method is how judiciously it uses a combination of one or more qualitative data collection methods to draw inferences.