MATRIC NO: 16/MHS01/069

COURSE CODE: NSC 414

**DATA COLLECTION METHOD**

[Data collection](https://ori.hhs.gov/education/products/n_illinois_u/datamanagement/dctopic.html) is defined as the “process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer queries, stated research questions, test hypotheses, and evaluate outcomes.”

**QUANTATIVE DATA COLLECTION METHOD**

Quantitative data is numerical in nature and can be mathematically computed. Quantitative data measure uses different scales, which can be classified as nominal scale, ordinal scale, interval scale and ratio scale. Often (not always), such data includes measurements of something. Quantitative approaches address the ‘what’ of the program. They use a systematic standardized approach and employ methods such as surveys and ask questions. The Quantitative data collection methods rely on random sampling and structured data collection instruments that fit diverse experiences into predetermined response categories. . Discrete and continuous are the two major categories of quantitative data where discreet data have finite numbers and the constant data values falling on a continuum possessing the possibility to have fractions or decimals.

**Examples of quantitative data collection method:**

**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.

There are three significant types of probability sampling

* **Simple random sampling:** More often, the targeted demographic is chosen for inclusion in the sample.
* **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.
* **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.
* **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.  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**

As the name suggests, it is a pretty simple and straightforward method of collecting quantitative data. 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. However, structured observation is more used to collect quantitative rather than qualitative data.

* **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.

**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. Apart from strengthening and supporting the research by providing supplementary research data document review has emerged as one of the beneficial methods to gather quantitative research data.

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.

**QUALITATIVE DATA COLLECTION METHOD.**

[**Qualitative research**](http://www.statswork.com/services/research-methodology/qualitative-research-methodology/) can be defined as the method of research which focuses on gaining relevant information through observational, open-ended and communication method. They are more exploratory which concentrates on gaining insights about the situation and dig a bit deeper to find the underlying reason. The central idea behind using this method is to find the answer to Why and How rather than How many. Data gathered during a qualitative research is what is termed as qualitative data.

**Examples of qualitative data collection method:**

**Surveys**[**Surveys**](http://www.statswork.com/services/quantitative-data-analysis/secondary-qualitative-data-collection/) are the commonest method used for collecting data to develop an informed hypothesis or conclusion. It is deemed to be more beneficial when used for obtaining information by asking open-ended questions which makes the individual render their point of view or opinion over a certain topic or situation. These can further be divided into two types which are a paper survey and online survey.

* **Paper Survey**Paper Survey comprises of questionnaires. These include open-ended questions and short questions in addition to a detailed answer by respondents. It is used to collect information about a certain issue from a large sample size.
* **Online Surveys**This is carried out in the form of a web survey developed using software or uploaded online on the website. Google survey form is the commonest method used to collect data through online surveys. Additionally, unlike a paper survey, an online survey is known to have a far wider reach which can be taken up by individuals anywhere anytime.

**Observation**[**Observation**](http://www.statswork.com/services/data-analysis/qualitative-data-analysis/qualitative-data-collection-tools/) is yet another most opted method for collecting qualitative data. This includes observing the behavior of the person and recording the events either in the form of notes, audio, or video. It aids in the process, reaction as well as individual behavior of how they interact, communicate with each other. The researcher herein is completely immersed in the situation to reach a logical conclusion. Observation includes two main methods which are.

**Covert and Overt**In a covert method, the researcher/ observer keeps his purpose concealed, without letting anybody know that they are conducting the observation. On the other hand, an overt method is where everyone is well aware of them being observed. This includes attending a wedding ritual and using a video recorder or camera to record and capture what is happening around.

**Interviews**This is one of the most opted and trusted methods of qualitative data collection. It includes direct interaction and face-to-face conversation between two people. Herein, an interview questionnaire is designed by the researcher to gain insight about the individual’s knowledge or perception surrounding a certain topic, issue or situation. Here, the questions can be more open-ended, [**Structured Interviews**](http://www.statswork.com/services/data-collection-coding-management/interview-data-collection/) or [**Unstructured Interviews**](http://www.statswork.com/services/data-collection-coding-management/interview-data-collection/) or informal depending on individual beliefs, experience and perspectives.

[**Focus Group Discussions**](http://www.statswork.com/services/quantitative-data-analysis/)  
Here, the interviewer may target a group of 8-10 people, the size of the sample is subject to differ based on the requirement put forth by the researcher. Furthermore, each participant is given an equal chance to put across their view on how they perceive a certain situation, with the freedom to agree and disagree with each other’s opinion.

**What is the purpose?**

A qualitative data is non-numerical and more textual which comprises mostly of images, written texts, recorded audios and spoken words by people. Moreover, one can conduct qualitative research online as well as offline too. Apart from this, the varied purpose of qualitative research is as follows:  
– To examine the purpose or reason for the situation  
– Gain an understanding of the experience of people  
– Understanding of relations and meaning  
– Varied norms including social and political as well as contextual and cultural practice which impact the cause.