1).Quantitative data collection methods with related examples

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### **Quantitative Data Collection Methods**

Data can be readily quantified and generated into numerical form, which will then be converted and processed into useful information mathematically. Unlike qualitative methods, these quantitative techniques usually make use of larger sample sizes because its measurable nature makes that possible and easier.

#### **Quantitative Surveys**

Unlike the open-ended questions asked in qualitative questionnaires, quantitative paper surveys pose closed questions, with the answer options provided. The respondents will only have to choose their answer among the choices provided on the questionnaire.

#### **Interviews**

Personal one-on-one interviews may also be used for gathering quantitative data.

**1.Face-to-face interview**

 **2.Telephone and/or online, web-based interviews.**

 **3. Computer-assisted interviews.**

#### **Quantitative Observation**

 Data may be collected through systematic observation by, counting the number of users present and currently accessing services in a specific area, or the number of services being used within a designated vicinity.

When quantitative data is being sought, the approach is naturalistic observation, which mostly involves using the senses and keen observation skills to get data about the “what”, and not really about the “why” and “how”.

#### **Experiments**

 These methods involve manipulation of an independent variable, while maintaining varying degrees of control over other variables, most likely the dependent ones.

Quantitative researches often make use of experiments to gather data, and the types of experiments are:

* **Laboratory experiments.**This is your typical scientific experiment setup, taking place within a confined, closed and controlled environment (the laboratory), with the data collector being able to have strict control over all the variables.
* **Field experiments.**This takes place in a natural environment, “on field” where, although the data collector may not be in full control of the variables, he is still able to do so up to a certain extent.

**Natural experiments.**This time, the data collector has no control over the independent variable whatsoever, which means it cannot be manipulated.

### **Qualitative Data Collection Methods**

 Exploratory in nature, these methods are mainly concerned at gaining insights and understanding on underlying reasons and motivations, so they tend to dig deeper. Since they cannot be quantified, measurability becomes an issue. This lack of measurability leads to the preference for methods or tools that are largely unstructured or, in some cases, maybe structured but only to a very small, limited extent.

Generally, qualitative methods are time-consuming and expensive to conduct, and so researchers try to lower the costs incurred by decreasing the sample size or number of respondents.

#### **Face-to-Face Personal Interviews**

 This is considered to be the most common data collection instrument for qualitative research, primarily because of its personal approach. The interviewer will collect data directly from the subject (the interviewee), on a one-on-one and face-to-face interaction. This is ideal for when data to be obtained must be highly personalized.

The interview may be informal and unstructured – conversational, even – as if taking place between two casual to close friends. The questions asked are mostly unplanned and spontaneous, with the interviewer letting the flow of the interview dictate the next questions to be asked.

However, if the interviewer still wants the data to be standardized to a certain extent for easier analysis, he could conduct a semi-structured interview where he asks the same series of open-ended questions to all the respondents.But if they let the subject choose her answer from a set of options, what just took place is a closed, structured and fixed-response interview.

**Qualitative Surveys**

* + **Paper surveys or questionnaires.**Questionnaires often utilize a structure comprised of short questions and, in the case of qualitative questionnaires, they are usually open-ended, with the respondents asked to provide detailed answers, in their own words.
* **Web-based questionnaires.**This is basically a web-based or internet-based survey, involving a questionnaire uploaded to a site, where the respondents will log into and accomplish electronically. Instead of a paper and a pen, they will be using a computer screen and the mouse.

#### **Focus Groups**

[Focus groups method](https://www.cleverism.com/lexicon/focus-group/%22%20%5Ct%20%22_blank) is basically an interview method, but done in a group discussion setting.When the object of the data is behaviors and attitudes, particularly in social situations, and resources for one-on-one interviews are limited, using the focus group approach is highly recommended. Ideally, the focus group should have at least 3 people and a moderator to around 10 to 13 people maximum, plus a moderator.

Depending on the data being sought, the members of the group should have something in common. For example, a researcher conducting a study on the recovery of married mothers from alcoholism will choose women who are (1) married, (2) have kids, and (3) recovering alcoholics. Other parameters such as the age, employment status, and income bracket do not have to be similar across the members of the focus group.

The topic that data will be collected about will be presented to the group, and the moderator will open the floor for a debate

**Documental Revision**

 This method involves the use of previously existing and reliable documents and other sources of information as a source of data to be used in a new research or investigation. This is likened to how the data collector will go to a library and go over the books and other references for information relevant to what he is currently researching on.

#### **Observation**

 In this method, the researcher takes a participatory stance, immersing himself in the setting where his respondents are, and generally taking a look at everything, while taking down notes.

Aside from note-taking, other documentation methods may be used, such as video and audio recording, photography, and the use of tangible items such as artifacts, mementoes, and other tools.

#### **Longitudinal studies**

 This is a research or data collection method that is performed repeatedly, on the same data sources, over an extended period of time. It is an observational research method that could even cover a span of years and, in some cases, even decades. The goal is to find correlations through an empirical or observational study of subjects with a common trait or characteristic.

#### **Case Studies**

In this qualitative method, data is gathered by taking a close look and an in-depth analysis of a “case study” or “case studies” – the unit or units of research that may be an individual, a group of individuals, or an entire organization.This methodology’s versatility is demonstrated in how it can be used to analyze both simple and complex subjects.