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**ASSIGNMENT**

* **QUALITATIVE DATA COLLECTION WITH EXAMPLES**
* **QUANTITATIVE DATA COOLECTION WITH EXAMPLES**

QUANTITATIVE DATA COLLECTION

**Quantitative Data**

This type of data deals with things that are measurable and can be expressed in numbers or figures, or using other values that express quantity. That being said, quantitative data is usually expressed in numerical form and can represent size, length, duration, amount, price, and so on.

Quantitative data is defined as the value of data in the form of counts or numbers where each data-set has an unique numerical value associated with it.. It uses measurable data to formulate facts and uncover patterns in research. Quantitative data collection methods include various forms of surveys (online surveys, paper surveys, mobile surveys, kiosk surveys, etc.), face-to-face interviews, telephone interviews, longitudinal studies, website interceptors, online polls, and systematic observation Quantitative data makes measuring various parameters controllable due to the ease of mathematical derivations they come with.

**Quantitative Data: Collection Methods**

**Methods used for quantitative data collection**

A data that can be counted or expressed in numerical constitute the quantitative data. It is commonly used to study the events or levels of concurrence. And is collected through a structured questionnaire asking questions starting with “how much” or “how many.” As the quantitative data is numerical, it represents both definitive and objective data. Furthermore, quantitative information is much sorted for statistical and mathematical analysis, making it possible to illustrate it in the form of charts and graphs.

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. If research is conducted to find out the number of vehicles owned by the American household, then we get a whole number, which is an excellent example of discrete data. When research is limited to the study of physical measurements of the population like height, weight, age, or distance, then the result is an excellent example of continuous data.

1. **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

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.
1. **Interviews**

Interviewing people is a standard method used for 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 F2F 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 F2F 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.
1. **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 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.

1. **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. 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.” Naturalistic observation is used to collect both types of data; qualitative and quantitative. 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. 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.

1. **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**

**Qualitative Data**

Unlike quantitative data, which deals with numbers and figures, qualitative data is descriptive in nature rather than numerical. Qualitative data is usually not easily measurable as quantitative and can be gained through observation or open-ended survey or interview questions.

Qualitative research is a market research method that focuses on obtaining data through open-ended and conversational communication. This method focuses on the “why” rather than the “what” people think about you. Qualitative research is used to gain an understanding of underlying reasons, opinions, and motivations. It provides insights into the problem or helps to develop ideas or hypotheses for potential quantitative research. Qualitative data collection methods include focus groups (group discussions), individual interviews, and participation/observation.

Examples of qualitative data include sex (male or female), name, state of origin, citizenship, etc. A more practical example is a case whereby a teacher gives the whole class an essay that was assessed by giving comments on spelling, grammar, and punctuation rather than score

**Types of qualitative research methods**

Qualitative research methods are designed in a manner that they help reveal the behavior and perception of a target audience regarding a particular topic. The most frequently used qualitative research methods are one-on-one interviews, focus groups, ethnographic research, case study research, record keeping, and qualitative observation.

**1. One-on-one interviews**

Conducting one-on-one interviews is one of the most common qualitative research methods. One of the advantages of this method is that it provides a great opportunity to gather precise data about what people think and their motivations. Spending time talking to customers not only helps marketers understand who their clients are, but it also helps with customer care: clients love hearing from brands. This strengthens the relationship between a brand and its clients and paves the way for customer testimonials.

These interviews can be performed face-to-face or on the phone and usually last between half an hour and two hours or more. When a one-on-one interview is conducted face-to-face, it also gives the marketer the opportunity to read the body language of the respondent and match the responses.

**2. Focus groups**

Focus groups are another commonly used qualitative research method. The ideal size of a focus group is usually between five and eight participants. If the topic is of minor concern to participants, and if they have little experience with the topic, then a group size of 10 could be productive. But, as the topic becomes more important, if people have more expertise on the topic, or if they are likely to have strong feelings about the topic, then the group size should be restricted to five or six people.

The main goal of a focus group is to find answers to the “why”, “what”, and “how” questions. One advantage that focus groups have is that the marketer doesn’t necessarily have to interact with the group in person. Nowadays focus groups can be sent as online surveys on various devices. Focus groups are an expensive option compared to the other qualitative research methods, which is why they are typically used to explain complex processes. Focus groups are especially useful when it comes to market research on new products and testing new concepts.

**3. Ethnographic research**

Ethnographic research is the most in-depth observational method that studies individuals in their naturally occurring environment. This method aims at understanding the cultures, challenges, motivations, and settings that occur. Ethnographic research requires the marketer to adapt to the target audiences’ environments (a different organization, a different city, or even a remote location), which is why geographical constraints can be an issue while collecting data. This type of research can last from a few days to a few years. It’s challenging and time-consuming and solely depends on the expertise of the marketer to be able to analyze, observe, and infer the data

**4. Case study research**

The case study method has grown into a valuable qualitative research method. This type of research method is usually used in education or social sciences. Case study research may seem difficult to operate, but it’s actually one of the simplest ways of conducting research as it involves a deep dive and thorough understanding of the data collection methods and inferring the data.

**5. Record keeping**

Record keeping is similar to going to the library: you go over books or any other reference material to collect relevant data. This method uses already existing reliable documents and similar sources of information as a data source.

**6. Qualitative observation**

Qualitative observation is a method that uses subjective methodologies to gather systematic information or data. This method deals with the five major sensory organs and their functioning, sight, smell, touch, taste, and hearing. Qualitative observation doesn’t involve measurements or

**Qualitative Data Collection Techniques /Tools**

When collecting qualitative data, researchers are interested in how, i.e., specific details around the occurrence of an event, with a particular interest in the perspective of the subject of study. Some of the techniques used in collecting qualitative data are explained below:

**Observation**

This is the process of studying a subject for a given period to access some information. This may be done with or without consent of the subject that is being observed. Observation may be done in several ways. It is not necessarily done by looking at the subject for a long period.It may be through reading materials written by or about the subject, stalking on social media, asking about them, etc.

**Direct observation**

Direct observation is one of the most passive qualitative data collection methods. Here, the data collector takes a participatory stance, observing the setting in which the subjects of their observation are while taking down notes, video/audio recordings, photos, and so on.Due to its participatory nature, direct observation can lead to bias in research, as the participation may influence the attitudes and opinions of the researcher, making it challenging for them to remain objective. Plus, the fact that the researcher is a participant too can affect the naturalness of the actions and behaviors of subjects who know they’re being observed.

**Interview**

An interview means a one-on-one conversation between two groups of people where one part interrogates the other party. The word group is being used because at times we may have two or more interviewers and two or more interviewees. In recent times, we now have phone interviews and Skype (video) interviews. The subject may be interviewed to collect qualitative data directly from them. . 1-on-1 Interviews

One-on-one (or face-to-face) interviews are one of the most common types of data collection methods in qualitative research. Here, the interviewer collects data directly from the interviewee. Due to it being a very personal approach, this data collection technique is perfect when you need to gather highly-personalized data. Depending on your specific needs, the interview can be informal, unstructured, conversational, and even spontaneous (as if you were talking to your friend) – in which case it’s more difficult and time-consuming to process the obtained data – or it can be semi-structured and standardized to a certain extent (if you, for example, ask the same series of open-ended questions).

**Surveys/Questionnaires**

This is a very common technique for collecting qualitative data from a group of respondents. Traditional questionnaires are printed on paper and given to the respondents to fill and handed back to the researcher. Researchers can now create online surveys and send them to respondents to fill. This is better than the traditional method because it automatically collects the data and prepares for analysis.

Open-Ended Surveys and Questionnaires

Opposite to closed-ended are open-ended surveys and questionnaires. The main difference between the two is the fact that closed-ended surveys offer predefined answer options the respondent must choose from, whereas open-ended surveys allow the respondents much more freedom and flexibility when providing their answers.

 **Focus groups**

The focus groups data collection method is essentially an interview method, but instead of being done 1-on-1, here we have a group discussion. Whenever the resources for 1-on-1 interviews are limited (whether in terms of people, money, or time) or you need to recreate a particular social situation in order to gather data on people’s attitudes and behaviors, focus groups can come in very handy. Ideally, a focus group should have 3-10 people, plus a moderator. Of course, depending on the research goal and what the data obtained is to be used for, there should be some common denominators for all the members of the focus group.

For example, if you’re doing a study on the rehabilitation of teenage female drug users, all the members of your focus group have to be girls recovering from drug addiction. Other parameters, such as age, education, employment, marital status do not have to be similar.