

7. Primary and Secondary Data Collections and Methods

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7.1 Definition of Data:

Primary data collecting techniques and Secondary data collection methods are the two basic categories into which data gathering methods are typically categorised. Figure 1 illustrates a few primary and secondary data collection techniques. [1] Primary data is unpublished material that was obtained directly from a source and has not been altered by anyone. In other words, researchers employ a variety of techniques to obtain and compile primary data for a certain objective. As a result, primary data have higher levels of validity, trustworthiness, objectivity, and authenticity than secondary data kinds. In some research methodologies, like statistical surveys, these characteristics are crucial because the information used must be relevant to an issue and cannot be obtained from published references. [2]

Consequently, even though the research can be carried out utilising secondary data, a meaningful conclusion cannot be drawn without the use of primary data as well. because third parties often alter and modify secondary data. Using primary sources allows you to obtain high-quality data that can enhance outcomes and gives you the chance to add more material as needed throughout the research process. The definition of words used in primary data collection, such as the objectives of data collection, the types of data to be collected, when to collect them, and how to do so, can be challenging. The majority of the research money is obtained through this method, which is equally expensive and requires sponsorship from numerous organisations. By precisely gathering data, removing extraneous information, and avoiding the use of fabricated or fabricated data, you may ensure the calibre of the data that has been acquired. [3]

When data is collected from published sources, it is considered secondary data because it has previously been collected for another reason and can be used for other research reasons. The literature review component of every publication draws on secondary data sources. Therefore, secondary data is a crucial component of research that can assist in obtaining information from previous studies as a basis for doing research or as the necessary background knowledge. The design of a study and the provision of a baseline for contrasting primary outcomes can also be helpful. It should be mentioned, nonetheless, that for genuine results, researchers need to reevaluate the accuracy and dependability of these backdrops. [4]



Figure 7.1: Data Collection Methods [5]

Secondary data can be found in a variety of places, including documents, books, scholarly publications, and online content. These sources are nonetheless crucial for scientific investigations even though they don't have the same level of validity as primary data sources because it can be difficult or impossible to collect primary data. Additionally, in some circumstances, the respondents do not permit the release of information, therefore the study must be undertaken using secondary data. Secondary data is typically less expensive and simpler to get than primary data, and as it is only being reported in the study, no responsibility for its quality is assumed. Due to the possibility that it is not dependable or accurate, it also has certain drawbacks.

Additionally, it cannot be applied to diverse circumstances. For instance, environmental factors might impact the data, and timing is crucial because it is occasionally necessary to use current data. [6]

7.2 The Advantages of Using These Two Types of Data:

7.2.1 Primary Data:

Utilizing primary data has the benefit of allowing researchers to gather data specifically for their study's objectives. Fundamentally, the questions the researchers pose are designed to elicit the information they need for their investigation. By conducting their own surveys, interviews, and direct observations, researchers gather the data.

For instance, a researcher may conduct direct observations by seeing people at work in the field of workplace health research. The researcher could keep track of and code instances of practices or behaviors that are of interest to her, such as instances of incorrect lifting posture or the frequency of unpleasant or disrespectful interactions staff members have with clients and consumers over time.

For another illustration, suppose a study team is interested in learning about how employees adjust to returning to work following an injury sustained at work. Telephone interviews with employees on their length of absence from work and their experiences with the return-to-work process may be a part of the research. The workers' responses—which are regarded as primary data—will give the researchers detailed information about the return-to-work process; for instance, they may find out how frequently employers offer work accommodations and why some employees decline them.

7.2.2 Secondary Data:

Secondary data might be of various forms. They may contain data from other government databases, such as the national population census and other data gathered by Statistics Canada. Administrative data is one category of secondary data that is being used more and more. Data that is routinely gathered as part of a company, institution, or agency's daily activity is referred to by this phrase. There are numerous instances, including documents from workers' compensation claims, hospital admission and discharge records, and automobile registrations.

Secondary data is typically easier to find and less expensive to acquire than main data. Additionally, because administrative data are routinely and thoroughly collected, they frequently have large samples. Additionally, administrative data—along with many other kinds of secondary data—are gathered over an extended period of time. This enables scientists to spot changes over time.

Recalling the return-to-work study from earlier, the researchers had the option of looking at secondary data in addition to the knowledge they had gained from their main data (i.e., survey findings). To find out how long workers were getting wage replacement benefits, they might examine lost-time claims data from workers' compensation. The researchers may

be able to identify the variables that indicate a shorter work absence among wounded workers using a combination of these two data sources. The return to work for other injured workers could then be enhanced with the aid of this information. [7]

7.3 Primary Data Collection Methods:

Primary data collecting techniques are also known as raw data collection techniques. Through tests, interviews, recordings, surveys, and observations, it is information that is legally obtained from the original source. The following are the five conventional techniques for gathering primary data:

- Direct, one-on-one conversations
- Interviews with people informally
- Data gathering with a questionnaire
- Data gathering with Enumerators
- Obtaining information from local sources

Primary data collection methods are further classified into two types namely:

- A. Quantitative Data Collection Methods
- B. Qualitative Data Collection Methods

7.3.1 Quantitative Data Collection Methods:

With the quantitative data collection method, each data set is associated with a particular numerical value that expresses the data value as numbers or counts. The data gathered via the quantitative data collecting approach can be quantified and used for statistical and mathematical calculations. To provide answers to questions like "How many", "How often?", and "How much?", quantitative data gathering techniques are utilised. Using various mathematical techniques, this data can be simply reviewed and confirmed. For instance, asking "How much did those vegetables cost" can yield quantifiable information.

7.3.2 Qualitative Data Collection Methods:

Qualitative data is descriptive rather than numerical, in contrast to quantitative data collection techniques that deal with numbers and statistics. Qualitative data can be gathered by observation, open-ended survey questions, or interviews but cannot be as easily measured as quantitative data. We typically receive responses to queries like "why" and "how" in qualitative research.

Since qualitative data may be categorised, it is often referred to as categorical data. Think of a pupil reading a section of an English book in class, for instance. Feedback on the student's reading of that paragraph is given by the student's English teacher, who is also listening to the student. If the teacher provides feedback without assigning a grade based on fluency, tone, word choice, and pronunciation clarity, this is seen as an example of qualitative data.

A. Here are the methods to collect Qualitative Data:

a. Surveys:

The most popular method of data collection is surveys. It seeks to create a well-informed theory or judgement. When used to gather information by asking open-ended questions that force the respondent to express their point of view or opinion regarding a certain topic or circumstance, this strategy is advantageous. There are two categories into which surveys can be subdivided: paper surveys and online surveys.

Paper Survey - Questionnaires are the primary form of paper surveys. Open-ended and brief questions are included in the paper survey, and respondents are asked to provide a detailed response. It is employed to compile data from a sizable sample size on a certain subject.

Online Surveys - The web surveys are created with software or put online on the website, and they are used to conduct the online surveys. The most popular tool for gathering data from online surveys is the Google survey form. Additionally, as opposed to a paper survey, an internet survey is more frequently employed because it allows researchers to conduct surveys with anybody, anywhere, at any time.

7.4 Secondary Data Collection Methods:

The term "secondary data collection" refers to information that has previously undergone statistical analysis and has been obtained by others for a purpose other than the researcher's ongoing endeavour. There are no particular collection methods because the secondary data can be easily obtained from various sources. Both quantitative and qualitative data can be collected from secondary sources. Newspapers, diaries, interviews, transcripts, and other sources of information can be used to gather qualitative data, whereas surveys, financial accounts, and statistics can be used to gather quantitative data. In secondary data, the researcher might gather information from both internal and external sources within the firm. The following internal resources are used to gather secondary data: Sales Reports and Organisation Financial Records

- Information on the customer, such as name, age, and contact information.
- A distributor, dealer, retailer, etc. report and comments.

System for Management Information.

The External Sources of Collecting Secondary Data are:

- Business Journals
- Social Books
- Business Magazines
- Libraries
- Internet, where comprehensive formation about different areas is readily available.

- Information from other government departments such as tax records, social security, etc. [8]

7.5 Primary Data Collection Methods in Research:

Data gathered through first-hand experience and taken straight from the original source is referred to as primary data. It refers to information that has never before been used. The best type of data for study is typically thought to be that which is obtained using primary data collection techniques. Quantitative data collection methods (which deal with aspects that can be tallied) and qualitative data collection methods (which deal with factors that are not always of a numerical nature) can be used to further categorize the techniques for gathering primary data.

7.5.1 Here Are Some of The Most Common Primary Data Collection Methods:

A. Interviews:

The direct approach of gathering data is through interviews. It is only a process in which the interviewee answers questions that are posed by the interviewer. It offers a great level of flexibility because questions can be modified and changed as necessary depending on the circumstance.

B. Observations:

Researchers use this technique to observe their surroundings and document their results. It can be used to assess how various people behave in scenarios that are controlled (everyone is aware that they are being watched) and uncontrolled (no one is aware that they are being watched). Because it is simple and independent of other participants, this strategy is quite effective. To evaluate whether or not to start a pet food business, for instance, a person might observe random people walking their dogs on a busy street.

C. Surveys and Questionnaires:

Surveys and questionnaires offer a comprehensive viewpoint from sizable populations. They can be carried out in-person, by mail, or even posted online to collect responses from people all over the world. Yes or no, true or false, multiple choice, and even open-ended questions are acceptable as responses. However, surveys and questionnaires have the disadvantage of delayed responses and the potential for confusing responses.

D. Focus Groups:

Similar to an interview, a focus group is done with a group of people who all share a same interest. Similar to in-person interviews, the data gathered provides a greater insight of why a certain set of people believes the way they do. However, this approach has certain limitations, including lack of privacy and interview dominance by one or two people. Focus groups might take a lot of time and be difficult, but they can help disclose some of the best information for difficult circumstances.

E. Oral Histories:

Similar to interviews and focus groups, oral histories also entail questioning participants. However, it is more specifically defined, and the information gathered is connected to a single phenomenon. It entails compiling the viewpoints and firsthand accounts of those who participated in a specific event. For instance, it can be useful in researching the impact of a new product on a certain community.

7.6 Secondary Data Collection Methods in Research:

Data that has already been gathered by another party is referred to as secondary data. Compared to primary data, it is significantly more accessible and less expensive to obtain. Although primary data collecting yields more authentic and unique data, secondary data collection frequently offers organizations a lot of value.

7.6.1 Here are Some of the most Common Secondary Data Collection Methods:

A. Internet:

One of the most often used secondary data collection techniques in recent years is the usage of the Internet. On the Internet, there is a significant selection of both free and paid research resources. Despite the fact that this method is quick and simple, you should only use reliable websites for gathering data.

B. Government Archives:

You can use a lot of the data that is available in the government archives. The fact that the information in official archives can be verified and is authentic is the biggest benefit. The problem, though, is that data isn't always easily accessible for a variety of reasons. Criminal records, for instance, may fall under the category of classified information and are difficult for anybody to access.

C. Libraries:

Most scholars donate multiple copies of their scholarly works to libraries. Based on several study circumstances, you can gather pertinent and reliable information. Business directories, annual reports, and other comparable papers that aid firms in their investigation are also kept in libraries. [9]

7.7 Principal Difference between Primary and Secondary Data:

A. Difference in Objective: The specified objective is always the focus of the investigator's initial data collection. Therefore, no modifications are required for the study's objectives. However, the investigator's secondary data was already gathered by someone else for a different reason. As a result, the researcher must modify the data as needed to meet the primary goal of the current study.

B. Difference in Originality: The data is original because it was first obtained directly from the source of origin. However, the secondary data is not original because it is already out there.

C. Difference in Cost of Collection: In terms of time, effort, and money, acquiring primary data is more expensive than collecting secondary data. It's because the data is being gathered from the original source for the first time. However, because secondary data is acquired from published or unpublished sources, the cost is lower. [10]

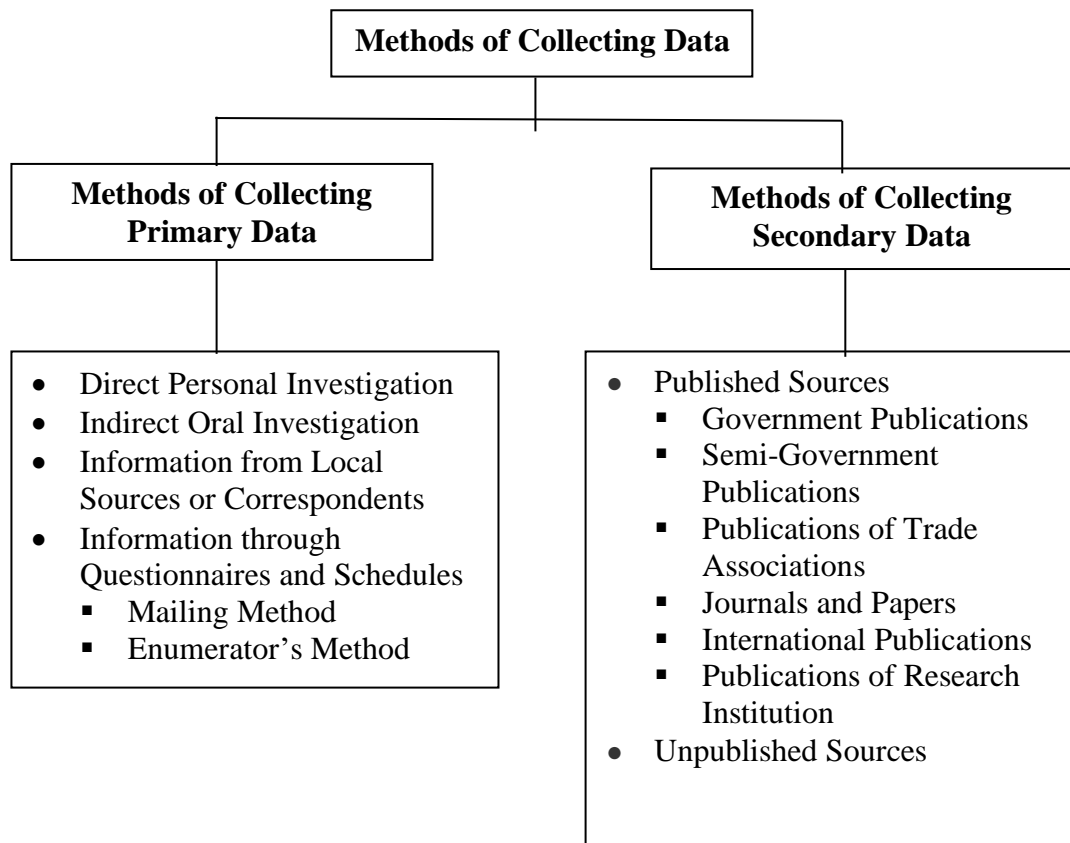


Figure 7.2: Methods of Collecting Data

D. Challenges in Collecting What is Primary Data and Secondary Data in Research Methodology:

Accurate participant response collection is one of the challenges in primary and secondary data collection. Another problem could occur if there is too much bias in some datasets (such as political opinion polls), which makes it challenging for researchers to properly interpret findings. Additionally, depending on the kind of personal information needed for research (like medical studies), there can also be some privacy concerns.

7.8 Analyzing Primary and Secondary Research Results:

The first step in analyzing primary and secondary research results is to identify the key points from each study. This includes understanding what was studied, who participated in the study, how it was conducted, and any other relevant information about the study’s methodology. Once this information has been gathered, it can be used to draw conclusions about the findings. Additionally, researchers should compare their own findings with those of other studies on similar topics to gain a more comprehensive understanding of their topic area. [11] This article discusses the numerous distinctions between primary and secondary data. The primary data is factual and original, whereas secondary data is only an analysis and interpretation of the primary data, and this is the most significant distinction. Secondary data is gathered for reasons other than the ones for which primary data is gathered, which is to find a solution to the issue at hand.

A. Comparison Chart:

Table 7.1: Comparison Chart for Primary and Secondary Data

Basis For Comparison	Primary Data	Secondary Data
Meaning	Primary data refer to the first-hand data gathered by the researcher himself	Secondary data means data collected by someone else earlier
Data	Real time data	Past data
Process	Very involved	Quick and easy
Source	Survey, observations, experiments, questionnaire, personal interview, etc.	Government publications, websites, books, journal articles, internal records etc.
Cost effectiveness	Expensive	Economical
Collection time	Long	Short
Specific	Always specific to the researcher’s needs.	May or may not be specific to the researcher’s need
Available in	Crude form	Refined form
Accuracy and Reliability	More	Relatively less

7.9 Differences Between Primary and Secondary Data:

The following points address the key distinctions between primary and secondary data:

The word "primary data" refers to information that was first created by the researcher. Secondary data is information that has already been compiled by the investigating agencies and entities.

Real-time data are called primary data, whilst historical data are called secondary data.

While secondary data is gathered for objectives unrelated to the situation at hand, primary data is gathered to address the current issue.

Primary data gathering is a labor-intensive procedure. On the other hand, gathering secondary data is a quick and simple operation.

Surveys, observations, experiments, questionnaires, in-person interviews, and other primary data gathering methods are some examples. On the other hand, secondary data gathering sources include internal documents, books, journals, websites, and government publications.

Primary data collecting demands a significant investment of time, money, and labour. On the other hand, secondary data is easily and cheaply accessible.

The researcher always uses primary data that is unique to his purposes, and he oversees the calibre of the study. The researcher has no control over the quality of the secondary data, and it is not tailored to his needs.

While secondary data is a polished version of primary data, primary data is only available in its raw form. Additionally, when statistical techniques are used on main data, secondary data is produced.

In comparison to secondary sources, data obtained from primary sources is more trustworthy and accurate. [12]

After a researcher has distinctly identified and stated his or her study challenges, data collecting would start. There are two methods for gathering data: using primary sources and using secondary sources. After going to the field, the main data is gathered. As a result, it serves as first-hand information to solve a particular research issue. The secondary data was gathered by another party and put through an exhaustive statistical process. The type of data the researcher will use for the study must be decided before beginning data collection. In contrast to secondary data, which is simply a compilation of the primary data, secondary data collection methods involve actually acquiring the primary data. [13]

7.10 Steps for Data Collection:

Determine problems and opportunities with data collection: Each data collection tool has advantages and disadvantages. As a result, it's critical to spot problems and chances for gathering data in accordance with the method before choosing the best one. To evaluate our instruments and sample size, it could be beneficial to do a pilot research.

Setting objectives and goals the researcher must develop his or her approach in accordance with how data will be used to answer the study questions. As a result, each instrument the researcher uses must have specific goals that might be applied to answering these queries after analysis.

Planning approach and methods: The researcher would decide on the project's duration, the subjects of the survey, the manner in which the data would be gathered, and the sources and instruments that will be used.

Collect data: It's crucial to recognise logistical difficulties and make appropriate preparations while organising the data collection.

7.10.1 Selection of Appropriate Method for Data Collection:

Nature, scope and object of enquiry: This serves as the foundation for selecting the data gathering method. It must be appropriate for the type of investigation the researcher intends to conduct. This would also assist the researcher in deciding whether primary or secondary sources should be used to gather data.

Availability of funds: The availability of funding is a crucial component of research because it enables the researcher to select an approach that is efficient, effective, and will enable data collection given the resources at hand.

Time: A good researcher emphasises time allocation in addition to their study plan in order to complete each stage of the research process. Time is also a crucial consideration because different approaches take different amounts of time.

Precision: The level of precision required for authoring a thorough research, impact assessment, or evaluation study would also necessitate a proper assessment of data collection methods. [14]

7.11 Conclusion:

While secondary data is gathered from already-existing sources like books, journals, newspapers, and websites, primary data is gathered through surveys, interviews, experiments, or observations. To ensure accuracy and dependability, substantial planning and execution must go into collecting both types of data.

In order to help innovation teams make informed decisions or develop effective strategies, it might be helpful to analyse the findings of primary and secondary research to pinpoint industry trends. Depending on the source from which the data was gathered, the data could be classified into two categories: primary, or the raw data, and secondary data. The researchers gather primary data directly, and secondary data are pre-made data sets that are used for additional analysis.

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