**1.4 Methodology of the report:**

**1.4.1 Framework of the report:**

The whole report has been arranged in nine specific parts. Part one named as Introduction, which includes the origin, objectives, significance and methodology of the report. Part two named as Organization Overview, which includes the description of the overall organization of Dhaka WASA. Part three named as Job experience which includes my job responsibility and activities in the organization as employee for past ten years. Part four points out key areas of automation. Part five discusses about. Part six mentions the digitized processes and services. Part seven includes case study of automated AIS and billing. Part eight includes recommendation and conclusion and Part nine is Appendix.

**1.4.2 Target population**

The target populations for the study are –

* Internal employees.
* Vendors of the organization.
* Consumers
* Key executives of Dhaka WASA.
* Government Regulators
* International Agencies

**1.4.3 Study Area**

The study will be conducted within the organization to study the automation process of Dhaka WASA.

**1.4.4 Data Sources**

For the information of the report mainly both internal and external - primary and secondary sources of data have been collected. But mostly the primary data are used. Primary sources of data consist various data collected by informal interview with the employees. Secondary sources including study on Dhaka WASA automation, information of the websites, publications have been used for this purpose. Some Tertiary sources were also used for information also.

For accurate study we have to follow some rules & regulations. The study materials were collected from these sources:

**Primary sources**:

Practical work.

Face to face conversation with the associates of The Westin Dhaka.

Direct observations.

**Consultation with the Following Persons:**

–

–

**Secondary sources:**

– Files & Folders.

– Daily diary (containing my activities in internship) maintained by me.

– Websites.

**1.5 Limitation of the study:**

While doing this project I had to face some limitations. These are as follows-

* This study has been kept limited on analysis of case studies and present information only. There is no formal test on any hypothesis as this is not a research work.
* Time is the key constraints of this report.
* To perform employee survey involved in Accounting and Revenue/Billing Departments became very hard because I was not directly involved with the Accounting and Revenue/Billing Departments team; rather I worked with Engineering team.
* All the Information is not easily accessible or not permitted to disclose according to the organization policy, rules and regulations had been followed on the disclosure of confidential information.
* It was also difficult to collect information from different vendors of automation works.
* I also faced problem in communicating with my University Internship supervisor, Employees, Management members and Vendors of Dhaka WASA- face to face, due to COVID-19 situation.

[Primary, Secondary and Tertiary Sources, UMD Libraries (archive.org)](https://web.archive.org/web/20130726061349/http:/www.lib.umd.edu/ues/guides/primary-sources)

* **Primary, Secondary and Tertiary Sources**

**Scope:** As you conduct research, you will consult different sources of information. A professor may request **primary**, **secondary**, or **tertiary** sources. What does that mean? This guide explains these terms and gives examples for each category. Contact a subject specialist librarian in [User Education Services](https://web.archive.org/web/20130726061349/http:/www.lib.umd.edu/ues) for more information.

**Table of Contents**

* [Primary sources](https://web.archive.org/web/20130726061349/http:/www.lib.umd.edu/ues/guides/primary-sources#primary)
* [Secondary sources](https://web.archive.org/web/20130726061349/http:/www.lib.umd.edu/ues/guides/primary-sources#secondary)
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* [Need help?](https://web.archive.org/web/20130726061349/http:/www.lib.umd.edu/ues/guides/primary-sources#help)

|  |
| --- |
| **IMPORTANT NOTE:**  The types of information that can be considered primary sources may vary depending on the subject discipline, and also on how you are using the material.  **For example:**   * A magazine article reporting on recent studies linking the reduction of energy consumption to the compact fluorescent light bulb would be a secondary source. * A research article or study proving this would be a primary source. * However, if you were studying how compact fluorescent light bulbs are presented in the popular media, the magazine article could be considered a primary source. |

**Primary sources**

**Definition:**

Primary sources are original materials. They are from the time period involved and have not been filtered through interpretation or evaluation. Primary sources are original materials on which other research is based. They are usually the first formal appearance of results in physical, print or electronic format. They present original thinking, report a discovery, or share new information.

**Note:** The definition of a primary source may vary depending upon the discipline or context.

**Examples include:**

* Artifacts (e.g. coins, plant specimens, fossils, furniture, tools, clothing, all from the time under study);
* Audio recordings (e.g. radio programs)
* Diaries;
* Internet communications on email, listservs;
* Interviews (e.g., oral histories, telephone, e-mail);
* Journal articles published in peer-reviewed publications;
* Letters;
* Newspaper articles written at the time;
* Original Documents (i.e. birth certificate, will, marriage license, trial transcript);
* Patents;
* Photographs
* Proceedings of Meetings, conferences and symposia;
* Records of organizations, government agencies (e.g. annual report, treaty, constitution, government document);
* Speeches;
* Survey Research (e.g., market surveys, public opinion polls);
* Video recordings (e.g. television programs);
* Works of art, architecture, literature, and music (e.g., paintings, sculptures, musical scores, buildings, novels, poems).
* Web site.

**Secondary sources**

**Definition:**

Secondary sources are less easily defined than primary sources. Generally, they are accounts written after the fact with the benefit of hindsight. They are interpretations and evaluations of primary sources. Secondary sources are not evidence, but rather commentary on and discussion of evidence. However, what some define as a secondary source, others define as a tertiary source. Context is everything.

**Note:** The definition of a secondary source may vary depending upon the discipline or context.

**Examples include:**

* Bibliographies (also considered tertiary);
* Biographical works;
* Commentaries, criticisms;
* Dictionaries, Encyclopedias (also considered tertiary);
* Histories;
* Journal articles (depending on the disciple can be primary);
* Magazine and newspaper articles (this distinction varies by discipline);
* Monographs, other than fiction and autobiography;
* Textbooks (also considered tertiary);
* Web site (also considered primary).

**Tertiary sources**

**Definition:**

Tertiary sources consist of information which is a distillation and collection of primary and secondary sources.

* Almanacs;
* Bibliographies (also considered secondary);
* Chronologies;
* Dictionaries and Encyclopedias (also considered secondary);
* Directories;
* Fact books;
* Guidebooks;
* Indexes, abstracts, bibliographies used to locate primary and secondary sources;
* Manuals;
* Textbooks (also be secondary).

**Comparison across the disciplines**

|  |  |  |  |
| --- | --- | --- | --- |
| **SUBJECT** | **PRIMARY** | **SECONDARY** | **TERTIARY** |
| **Art and Architecture** | Painting by Manet | Article critiquing art piece | ArtStor database |
| **Chemistry/Life Sciences** | Einstein's diary | Monograph on Einstein's life | Dictionary on Theory of Relativity |
| **Engineering/Physical Sciences** | Patent | NTIS database | Manual on using invention |
| **Humanities** | Letters by Martin Luther King | Web site on King's writings | Encyclopedia on Civil Rights Movement |
| **Social Sciences** | Notes taken by clinical psychologist | Magazine article about the psychological condition | Textbook on clinical psychology |
| **Performing Arts** | Movie filmed in 1942 | Biography of the director | Guide to the movie |

|  |  |
| --- | --- |
| **Primary** | *diaries*   world war |
| **Secondary** | *biography*   world war |
| **Tertiary** | *encyclopedia*   world war |

[Primary, Secondary, and Tertiary Sources | University of Minnesota Crookston (umn.edu)](https://crk.umn.edu/library/primary-secondary-and-tertiary-sources)

1. Primary, Secondary, and Tertiary Sources

Sources of information or evidence are often categorized as primary, secondary, or tertiary material. These classifications are based on the originality of the material and the proximity of the source or origin. This informs the reader as to whether the author is reporting information that is first hand or is conveying the experiences and opinions of others which is considered second hand. Determining if a source is primary, secondary or tertiary can be tricky. Below you will find a description of the three categories of information and examples to help you make a determination.

1. Primary Sources

These sources are records of events or evidence as they are first described or actually happened without any interpretation or commentary. It is information that is shown for the first time or original materials on which other research is based.  Primary sources display original thinking, report on new discoveries, or share fresh information.

**Examples of primary sources:**  
Theses, dissertations, scholarly journal articles (research based), some government reports, symposia and conference proceedings, original artwork, poems, photographs, speeches, letters, memos, personal narratives, diaries, interviews, autobiographies, and correspondence.

1. Secondary Sources

These sources offer an analysis or restatement of primary sources. They often try to describe or explain primary sources. They tend to be works which summarize, interpret, reorganize, or otherwise provide an added value to a primary source.

**Examples of Secondary Sources:**  
Textbooks, edited works, books and articles that interpret or review research works, histories, biographies, literary criticism and interpretation, reviews of law and legislation, political analyses and commentaries.

1. Tertiary Sources

These are sources that index, abstract, organize, compile, or digest other sources. Some reference materials and textbooks are considered tertiary sources when their chief purpose is to list, summarize or simply repackage ideas or other information. Tertiary sources are usually not credited to a particular author.

**Examples of Tertiary Sources:**  
Dictionaries/encyclopedias (may also be secondary), almanacs, fact books, Wikipedia, bibliographies (may also be secondary), directories, guidebooks, manuals, handbooks, and textbooks (may be secondary), indexing and abstracting sources.

[Primary, Secondary and Tertiary Information Sources - Research Skills Tutorial - LibGuides at Empire State College (esc.edu)](https://subjectguides.esc.edu/researchskillstutorial/primary)

**Primary, Secondary and Tertiary Information Sources**

* **What does primary vs. secondary vs. tertiary mean?**

The distinction between primary, secondary and tertiary sources hinges on how far from the original event or phenomenon the information source is created. Is it first-hand knowledge? A second-hand interpretation? A third-hand synthesis and summary of what is known?

* **Primary sources** are created as close to the original event or phenomenon as it is possible to be. For example, a photograph or video of an event is a primary source. Data from an experiment is a primary source.
* **Secondary sources** are one step removed from that. Secondary sources are based on or about the primary sources. For example, articles and books in which authors interpret data from another research team's experiment or archival footage of an event are usually considered secondary sources.
* **Tertiary sources** are one further step removed from that. Tertiary sources summarize or synthesize the research in secondary sources. For example, textbooks and reference books are tertiary sources.

Why is this important? Because different kinds of research call for using primary, secondary, and tertiary sources in different ways. For example, a research paper usually requires a combination of primary and secondary sources.

* **Primary, Secondary, and Tertiary Sources**

The video below describes in greater detail more about the differences between primary, secondary and tertiary sources, and how each is used in research.

* **Examples of Primary Sources**

| This chart offers some examples of topics you might research, along with examples of what might be considered primary sources for those topics. | |
| --- | --- |
| **Topic** | **Example of an Appropriate Primary Source** |
| Ancient Greek drama | Ancient Greek plays; ancient Greek essays about drama. |
| Learning styles of children | Data from observational studies; data from experiments |
| Performance of a company | Annual reports; SEC filings |
| Ancient Chinese textiles | Contemporary paintings of the textiles; an ancient Chinese manual on weaving |
| Hmong immigrants' attitudes toward libraries | Recordings or transcripts of interviews with Hmong immigrants |
| President F. Roosevelt's speeches | Recordings of his Fireside Chat radio broadcasts; his speech notes |
| Sinking of a ship in 1920 | Newspapers and newsreels about the event; a memoir |
| Effects of different bleach concentrations on a virus | Data from an experiment |

* **Where To Find Primary Sources**

Unlike articles and books, primary sources are often unpublished, and that can make them harder to find. But there are many tools to help you locate them.

* + **The Web**
    - Use a search engine to search for your topic, adding phrases like "primary sources," "letters," "newsreel," etc.
  + **Primary source databases**
    - Many libraries subscribe to databases of primary sources. Empire State College Online Library's primary source databases can be found in the [Primary Sources subject guide](http://subjectguides.esc.edu/primarysources).
  + **Newspapers**
    - Newspapers are key primary sources for past current events. Try searching newspaper databases with deep archives, like[New York Times Archive](http://library.esc.edu/login?url=http://search.proquest.com/hnpnewyorktimes) and websites like the Library of Congress's [Chronicling America: Historic American Newspapers](http://chroniclingamerica.loc.gov/).
  + **Scientific research articles**
    - In the sciences, peer-reviewed research articles are considered primary sources. This makes sense, because they are full of direct evidence in the form of data.
  + **Project Gutenberg**
    - If your topic is literature, then old literature counts as a primary source. [Project Gutenberg](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CB8QFjAA&url=http%3A%2F%2Fwww.gutenberg.org%2F&ei=bZ69U_rYE4WryASEroLQDw&usg=AFQjCNEwWvhQCQqfxd5f1CbKz4kDmWOgtw&sig2=C6goBgoEIKiFWQveMiYc9g&bvm=bv.70138588,d.aWw) has digitized an incredible amount of public domain literature.
  + **Museums, archives, historical societies, civic and cultural groups, religious institutions, and public libraries**
    - Cultural institutions often collect pictures, letters, diaries, archival materials, ephemera, etc. As it becomes faster and cheaper to do so, they are preserving this material and providing public access to it by scanning it and making it available on the Web. You will likely gain access to even more resources if you are able to visit the institution housing it in person. For starters, try [Library of Congress | American Memory](http://memory.loc.gov/ammem/index.html).
  + **Government agencies and non-governmental organizations (NGO)**
    - If you need statistics and datasets, try [UNdata](http://data.un.org/) or [USA.gov | Reference Center | Data and Statistics](http://www.usa.gov/Topics/Reference-Shelf/Data.shtml)
* **Primary Sources and Gray Literature**

You may have noticed that there is an overlap between the topic of gray literature and the topic of primary sources. Long story short - Not all Gray Literature is Primary Sources, and not every Primary Source is an example of Gray Literature. But here are some examples of things that are both:

* Annual reports
* Government reports
* Unpublished manuscripts
* Data sets
* A researcher's notes or logs.

Innovation Team

**Service/ Product Development**

Development New services/ Products to existing customer what is service/ product development.

**Limitation of the study**

In undertaking this study, a number of problems were faced. Thus the study has several limitations. The limitations are:

**a) Lack of knowledge:**

As a student, in the research field, I have no past practical experience of data collection, data processing, data analyzing, integrating and presenting. So it is a limiting factor for obtain accurate information.

**b) Lack of time**

For the time limitation I could not gather more information to justify exact condition. The time constraints are limiting factors.

**c) Small sample size:**

The study is limited by the size of the sample. As the sample size is very small, geographical and regional differences could not be included.

**f) Fund unavailability**

I don’t have much financial support to conduct this study. I could not interview with more respondents covering the survey area.

**g. Customers willingness**

Most of the customer of the banks businessman and employee. So, they could not give me enough time to fill up questionnaire. Also they are not willing or afraid to provide appropriate data.

### Sample area and size

**Sample**

Sample is a representative unit of a population. Few or all of the characteristics of population may possess by the sample. But it is mentionable that sample must be representative to the population. My samples are Branch managers, executives, officers and clients of the four banks.

**Sample Area**

Sample area means the scope of a research that will be conducted. Sample area is an important factor for conducting research. I have taken Rajshahi Metropolitan City as my research area.

**Sample size**

Sample size means the range of sample that is how many samples are collected. Sample size is the great factor for getting tremendous result. The more sample size indicates the more accuracy of the research. I have tried to collect more samples as much as possible. My samples are shown in the below chart.

**Table: Number of Different Sample Size**

|  |  |
| --- | --- |
| **Sample unit** | **Number of sample** |
| Branch managers | 4 |
| Executives | 16 |
| Officers | 20 |
| Clients | 60 |
| **Total** | **100** |

### Methodology

**Methodology**

In order to find out the marketing strategies and measure the customer satisfaction level of private scheduled bank of Brac Bank, Dhaka Bank, Islami Bank and Prime Bank I have used various method to collect and present data.

**Internal V/S External Sources Of Data Collection**

|  |  |  |
| --- | --- | --- |
|  | Internal Sources | **External Sources**  Advertisement |
| Meaning | Internal sourcesof data collection means data collected from the documents available with the company | External sources of data   collection means the use of data published by external agencies. |
| Use   of   information | Information available from internal sources can be used directly for research purpose. Modifications are not required | Information available from external sources cannot be used directly as it is. Modifications as per the nature of research work are   required. |
| Examples | Purchase records, sales records, periodical sales reports and annual reports are the examples of internal sources of data collection | Trade journals, annual   reports of companies, surveys conducted by press, census reports etc. are examples of external sources of data collection. |
| Coverage | Limitedcoverage as they relate to company only. | Wide coverage as they are   varied in character |
| Reliability | Internal sources are more reliable as they supply accurate data. Verification of data is not required | External sources may not supply accurate data. Naturally, a verification of data before actual use is necessary |
| Availability | Internal sources areeasily available and that too without any extra cost. | External sources arenot easily available Money is required   to be spent on them. |

1. **What is internal and external sources of data?**

Asked By: Javed Vladimirov | Last Updated: 16th June, 2020

Category: **technology and computing** **databases**

**4.4/5** (7,698 Views . 27 Votes)

**Internal sources** include **data** that exists and is stored inside your organization. **External data** is **data** that is collected by other people or organizations from your organization's **external** environment.

[Click to see full answer](https://findanyanswer.com/goto/289788)

In this regard, what are internal sources of data?

Internal data is data retrieved from inside the company to make decisions for successful operations. There are four different areas a company can gather internal data from: sales, **finance**, marketing, and human resources. Internal sales data is collected to determine revenue, profit, and the **bottom line**.

Beside above, what is external data? **External data** is **data** that is stored outside the current database. **External data** may be **data** that you store in another Microsoft Access database, or it might be **data** that you store in a multitude of other file formats-including ISAM (Indexed Sequential Access Method), spreadsheet, ASCII, and more.

In respect to this, what is the difference between internal and external sources of data?

**Internal data** is information generated from within the business, covering areas such as operations, maintenance, personnel, and finance. **External data** comes from the market, including customers and competitors. It's things like statistics from surveys, questionnaires, research, and customer feedback.

What Does sources of data mean?

In computer programming, **source data** or **data source** is the primary location from where **data** comes. The **data source** can be a database, a dataset, a spreadsheet or even hard-coded **data**. Computer applications can have multiple **data sources** defined, depending on its function.

* [**What are the four sources of data?**](https://findanyanswer.com/open-detail/289788A4)

**Sources of Data**

* Observation Method.
* Survey Method.
* Experimental Method.

1. 5**TYPES OF SECONDARY RESEARCH DATA**

*PHOTO BY*[*WILLIAM IVEN*](https://unsplash.com/@firmbee?utm_source=unsplash&utm_medium=referral&utm_content=creditCopyText)*ON*[*UNSPLASH*](https://unsplash.com/s/photos/primary-research?utm_source=unsplash&utm_medium=referral&utm_content=creditCopyText)

Secondary sources allow you to broaden your research by providing background information, analyses, and unique perspectives on various elements for a specific campaign. Bibliographies of these sources can lead to the discovery of further resources to enhance research for organizations.

There are two common types of secondary data: Internal data and External data. Internal data is the information that has been stored or organized by the organization itself. External data is the data organized or collected by someone else.

**Internal Secondary Sources**

Internal secondary sources include databases containing reports from individuals or prior research. This is often an overlooked resource—it’s amazing how much useful information collects dust on an organization’s shelves! Other individuals may have conducted research of their own or bought secondary research that could be useful to the task at hand. This prior research would still be considered secondary even if it were performed internally because it was conducted for a different purpose.

**External Secondary Sources**

A wide range of information can be obtained from secondary research. Reliable databases for secondary sources include Government Sources, Business Source Complete, ABI, IBISWorld, Statista, and CBCA Complete. This data is generated by others but can be considered useful when conducting research into a new scope of the study. It also means less work for a non-for-profit organization as they would not have to create their own data and instead can piggyback off the data of others.

**Examples of Secondary Sources**

1. **GOVERNMENT SOURCES**

A lot of secondary data is available from the government, often for free, because it has already been paid for by tax dollars. Government sources of data include the Census Bureau, the Bureau of Labor Statistics, and the National Centre for Health Statistics.

For example, through the Census Bureau, the Bureau of Labor Statistics regularly surveys individuals to gain information about them (Bls.gov, n.d). These surveys are conducted quarterly, through an interview survey and a diary survey, and they provide data on expenditures, income, and household information (families or single). Detailed tables of the Expenditures Reports include the age of the reference person, how long they have lived in their place of residence and which geographic region they live in.

1. **SYNDICATED SOURCES**

A syndicated survey is a large-scale instrument that collects information about a wide variety of people’s attitudes and capital expenditures. The Simmons Market Research Bureau conducts a National Consumer Survey by randomly selecting families throughout the country that agree to report in great detail what they eat, read, watch, drive, and so on. They also provide data about their media preferences.

1. **OTHER TYPES OF SOURCES**

Gallup, which has a rich tradition as the world’s leading public opinion pollster, also provides in-depth reports based on its proprietary probability-based techniques (called the Gallup Panel), in which respondents are recruited through a random digit dial method so that results are more reliably generalizable. The Gallup organization operates one of the largest telephone research data-collection systems in the world, conducting more than twenty million interviews over the last five years and averaging ten thousand completed interviews per day across two hundred individual survey research questionnaires (GallupPanel, n.d).

**Attribution**

This page contains materials taken from:

Bls.gov. (n.d). U.S Bureau of Labor Statistics. Retrieved from <https://www.bls.gov/>

Define Quantitative and Qualitative Evidence. (2020). Retrieved July 23, 2020, from <http://sgba-resource.ca/en/process/module-8-evidence/define-quantitative-and-qualitative-evidence/>

GallupPanel. (n.d). Gallup Panel Research. Retrieved from [http://www.galluppanel.com](http://www.galluppanel.com/)

Secondary Data. (2020). Retrieved July 23, 2020, from <https://2012books.lardbucket.org/books/advertising-campaigns-start-to-finish/s08-03-secondary-data.html>

1. Top Six Difference Between Primary Data And Secondary Data

In statistical analysis, collection of data plays a significant part. The method of collecting information is divided into two different sections, namely primary data and secondary data. In this process, the primary data is assembling data or information for the first time, whereas the secondary data is the data that has already been gathered or collected by others.

The most important characteristics of the primary data is that it is original and first-hand, whereas the secondary data is the interpretation and analysis of the primary data.

*Quick link:*[*Sources of data*](https://byjus.com/commerce/what-are-the-sources-of-data/)

Primary Data Definition

Primary data is the data that is collected for the first time through personal experiences or evidence, particularly for research. It is also described as raw data or first-hand information. The mode of assembling the information is costly, as the analysis is done by an agency or an external organisation, and needs human resources and investment. The investigator supervises and controls the data collection process directly.

The data is mostly collected through observations, physical testing, mailed questionnaires, surveys, personal interviews, telephonic interviews, case studies, and focus groups, etc.

Secondary Data Definition

Secondary data is a second-hand data that is already collected and recorded by some researchers for their purpose, and not for the current research problem. It is accessible in the form of data collected from different sources such as government publications, censuses, internal records of the organisation, books, journal articles, websites and reports, etc.

This method of gathering data is affordable, readily available, and saves cost and time. However, the one disadvantage is that the information assembled is for some other purpose and may not meet the present research purpose or may not be accurate.

Explore link: [*Sources of secondary data*](https://byjus.com/commerce/what-is-secondary-data-meaning-and-sources/)

The differences between the primary and secondary data are represented in a comparison format as follows:

|  |  |
| --- | --- |
| **Primary Data** | **Secondary Data** |
| **Definition** | |
| Primary data are those that are collected for the first time. | Secondary data refer to those data that have already been collected by some other person. |
| **Originality** | |
| These are original because these are collected by the investigator for the first time. | These are not original because someone else has collected these for his own purpose. |
| **Nature of Data** | |
| These are in the form of raw materials. | These are in the finished form. |
| **Reliability and Suitability** | |
| These are more reliable and suitable for the enquiry because these are collected for a particular purpose. | These are less reliable and less suitable as someone else has collected the data which may not perfectly match our purpose. |
| **Time and Money** | |
| Collecting primary data is quite expensive both in the terms of time and money. | Secondary data requires less time and money; hence it is economical. |
| **Precaution and Editing** | |
| No particular precaution or editing is required while using the primary data as these were collected with a definite purpose. | Both precaution and editing are essential as secondary data were collected by someone else for his own purpose. |

This article covers the concepts and differences between the primary and secondary data, which is crucial for Commerce students. Stay tuned to our website for more such exciting concepts.

1. What are the Sources of Data?

**Sources of Data**

The sources of data can be classified into two types: statistical and non-statistical. Statistical sources refer to data that is gathered for some official purposes, incorporate censuses, and officially administered surveys. Non-statistical sources refer to the collection of data for other administrative purposes or for the private sector.

1. What are the different sources of data?

The following are the two sources of data:

1. **Internal sources**

* When data is collected from reports and records of the organisation itself, they are known as the internal sources.
* For example, a company publishes its annual report’ on profit and loss, total sales, loans, wages, etc.

1. **External sources**

* When data is collected from sources outside the organisation, they are known as the external sources. For example, if a tour and travel company obtains information on Karnataka tourism from Karnataka Transport Corporation, it would be known as an external source of data.

Types of Data

**A) Primary data**

* Primary data means first-hand information collected by an investigator.
* It is collected for the first time.
* It is original and more reliable.
* For example, the population census conducted by the government of India after every ten years is primary data.

**B) Secondary data**

* Secondary data refers to second-hand information.
* It is not originally collected and rather obtained from already published or unpublished sources.
* For example, the address of a person taken from the telephone directory or the phone number of a company taken from Just Dial are secondary data.

*Students can also refer to*[*Meaning and Sources of Secondary Data*](https://byjus.com/commerce/what-is-secondary-data-meaning-and-sources/)

1. Methods of Collecting Primary Data
2. Direct personal investigation
3. Indirect oral investigation
4. Information through correspondents
5. Telephonic interview
6. Mailed questionnaire
7. The questionnaire filled by enumerators

|  |  |
| --- | --- |
| **1. Give the meaning of the following terms:**  **(A) Investigator**  **(B) Enumerator**  **(C) Informant/Respondent** | |
| **Answer:** | |
| **Investigator** | ●     One who conducts investigation, i.e., statistical enquiry and seeks information is known as an investigator.  ●     It can be an individual person or an organisation. |
| **Enumerator** | ●     An enumerator is a person who helps investigators in the collection of data. |
| **Informant** | ●     An informant is the respondent who supplies the information to the investigators or enumerators. |

**Direct Personal Investigation**

|  |  |
| --- | --- |
| **Q.1 Explain direct personal investigation method of collecting primary data. Discuss its merits and demerits.** | |
| **Answer:** | |
| **(A) Direct personal investigation** | ●     Under this method, the investigator obtains the first-hand information from the respondents themselves.  ●     He personally visits the respondents to collect the information (data). |
| **(B) Following are the merits of direct personal investigation:** | |
| **(1) Reliable and Accurate** | ●     The data collected is first-hand and original in nature. So, it is more reliable and accurate. |
| **(2) Flexibility** | ●     In this method, the questions can be modified according to the level of the respondent or other situations. |
| **(3) Additional information** | ●     Some additional information may also be collected along with the required information.  ●     This additional information can be used in future investigations. |
| **(C) Following are the demerits of direct personal investigation:** | |
| **(1) Not suitable for a wide area** | ●     It is not suitable when the area of coverage is considerably wide. |
| **(2) Time-consuming** | ●     This method is time-consuming as the investigator personally visits various places and meets different people to collect information. |
| **(3) Expensive** | ●     This method is expensive, particularly when the field of investigation is large. |
| **(4) Personal bias** | ●     The data collected in this method is subjected to personal bias. |

**Indirect Oral Investigation**

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| **Q.1 Explain indirect oral investigation method of collecting primary data. Give its merit and demerits.** | |
| **Answer:** | |
| **(A) Indirect oral investigation** | Under this method, instead of directly approaching the informants, the investigators interview several other persons who are directly or indirectly in touch with the informants. |
| **(B) Following are the merits of indirect oral investigation:** | |
| **(1) Wide coverage** | ●     A wide area can be brought under investigation through this method. |
| **(2) Economical** | ●     It is economical in terms of time, money, and manpower. |
| **(C) Following are the demerits of indirect oral investigation:** | |
| **(1) Indirect information** | ●     Since the information is not collected directly from the party, there is a possibility that it will not be fully true. |
| **(2) Lack of accuracy** | ●     As compared to direct personal investigation, the degree of accuracy of the data is likely to be lower. |
| **(3) Lack of uniformity** | ●     Information collected from different persons for the same party may not be homogeneous and comparable. |
| **(4) Possibility of biased information** | ●     Respondent/witness can modify the information according to his personal interest. |

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| **You Might Also Like To Read:**   * [Meaning of Liberalisation](https://byjus.com/commerce/liberalisation/) * [Meaning of Globalisation](https://byjus.com/commerce/globalisation/) * [Meaning of Privatisation](https://byjus.com/commerce/privatisation/) |

**Information through Correspondents**

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| **Q.1 Explain information through correspondents’ method of collecting primary data. Give its merit and demerits.** | |
| **Answer:** | |
| **(A) Information through correspondents** | Under this method, local agents or correspondents are appointed and trained to collect the information from the respondents. |
| **(B) Following are the merits of information through correspondents:** | |
| **(1) Wide coverage** | ●     This method is useful where the field of investigation is very wide and the information is to be collected from different parts of the country. |
| **(2) Economical** | ●     This method is quite economical and time-saving. |
| **(3) Suitable for special purposes** | ●     This method is suitable for some special purpose investigations. |
| **(4) Continuity** | ●     It is very useful for collecting information on a regular basis. |
| **(C) Following are the demerits of information through correspondents:** | |
| **(1) Lack of uniformity** | ●     The information supplied by different correspondents often lacks homogeneity; hence it is not comparable. |
| **(2) Lack of reliability** | ●     Data obtained using this method may not be very reliable because of the possibility of personal bias and prejudice of the enumerator. |
| **(3) Less accuracy** | ●     This method cannot be used where a high degree of accuracy is required. |
| **(4) Costly** | ●     A lot of time and money is spent to collect the information through correspondence. |

**Telephonic interviews**

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| **Q.1 Explain the telephonic interviews method of collecting primary data. Give its merit and demerits.** | |
| **Answer:** | |
| **(A) Telephonic interviews** | Under this method, data is collected through interviews over the telephone. |
| **(B) Following are the merits of telephonic interviews:** | |
| **(1) Wide coverage** | ●     This method is useful where the field of investigation is very wide and the information is to be collected from different parts of the country. |
| **(2) Economical** | ●     This method is quite economical and time-saving. |
| **(3) Reliability** | ●     The collected data is reliable as it is obtained directly from the party. |
| **(C) Following are the demerits of telephonic interviews:** | |
| **(1) Limited use** | ●     The disadvantage of this method is limited accessibility to people. This method is not possible for people who do not own a telephone or mobile. |
| **(2) Visual feedback is not possible** | ●     Telephone interviews also obstruct visual reactions of the respondents, which become helpful in obtaining information on sensitive issues. |

**Mailed Questionnaire Method**

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| **Q.1 Discuss the mailed questionnaire method of collecting primary data. What are its merits and demerits?** | |
| **Answer:** | |
| **(A) Mailed questionnaire method** | ●     Under this method, a questionnaire containing a number of questions related to the investigation is prepared.  ●     It is then sent to informants by post along with the instructions to fill.  ●     The informants, after filling up the questionnaire, send it back to the investigator. |
| **(B) Following are the merits of the mailed questionnaire method:** | |
| **(1) Wide coverage** | ●     This method is useful where the field of investigation is very wide and the information is to be collected from different parts of the country. |
| **(2) Economical** | ●     This method is quite economical as it requires less money and labour. |
| **(3) Originality** | ●     The data is very much original because informants are directly involved in the collection of data. |
| **(4) Free from bias** | ●     Every question is interpreted by the respondent in his own way. Hence, it is free from the personal bias of the investigator. |
| **(5) Maintains secrecy** | ●     This method is suitable for sensitive questions and maintains the anonymity of respondents. |
| **(C) Following are the demerits of the mailed questionnaire method:** | |
| **(1) Limited scope** | ●     This method is applicable only where the respondents are educated. |
| **(2) Less response** | ●     Most informants do not return the questionnaire.  ●     The informants are least interested in the investigation; hence, there is a lack of response from their side. |
| **(3) Chance of misinterpretation** | ●     Informants may not understand the correct sense of some questions, and may not answer them. Sometimes, informants may provide vague and ambiguous answers. |
| **(4) Time-consuming** | ●     The process is time-consuming, particularly when the information is to be obtained by post. |

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| **Q.2 What is a questionnaire? State the prerequisites of a good questionnaire.**  **Or**  **What are the qualities of a good questionnaire?** | |
| **Answer:** | |
| **(A) Meaning of questionnaire** | A questionnaire is a list or set of printed questions, which is filled by the informants. If it is filled by the enumerators, then it is known as a schedule. |
| **(B) A good questionnaire should have the following characteristics:** | |
| **(1) Simple and short questions** | Questions should be short, simple, and straightforward. |
| **(2) Limited questions in a proper order** | The number of questions should be limited and they should be in a logical order. |
| **(3) Clear instructions** | To assist the informants, clear instructions should be given. |
| **(4) Pre-testing** | To know the shortcomings of a questionnaire, it should be tried on a small selected group. |
| **(5) Avoid mathematical calculations** | Questions containing mathematical calculations should be completely avoided. |
| **(6) Avoid personal or controversial questions** | Personal questions affecting sentiments and controversial questions related to religion, politics, etc., should be avoided. |
| **(7) Secrecy assurance** | Respondents should be given assurance that their response will not be shared with anyone. |
| **(8) Cover letter** | To convey the purpose of how it will help the parties involved, a precise cover letter should be enclosed. |

1. Questionnaire Filled By Enumerators Method

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| **Q.1 Explain the questionnaires filled by enumerators method of collecting primary data along with its merits and demerits.** | |
| **Answer:** | |
| **(A) Questionnaires filled by enumerators** | Under this method, an enumerator personally visits informants along with a questionnaire, asks questions, and notes down their response in the questionnaire in his own language. |
| **(B) Following are the merits of questionnaires filled by enumerators:** | |
| **(1) Accurate and reliable** | Since the investigator has direct contact with the respondents, it is possible to get accurate and reliable information. |
| **(2) Better responses** | The presence of the enumerator may induce the respondents to give information.  So, the chances of no response like in the case of mailed questionnaire method are less. |
| **(3) Useful in case of illiterate respondents** | Unlike the mailed questionnaire method, this method can be used even if the respondents are illiterate. |
| **(C) Following are the demerits of questionnaires filled by enumerators:** | |
| **(1) Costly method** | This method is very expensive as expenditure on training, remuneration, and conveyance is to be borne by the investigator. |
| **(2) Time consuming** | This method is very time consuming as the enumerator has to visit the informants personally. |
| **(3) Inefficiency and personal bias** | Inefficiency or inability on the part of the enumerators due to the lack of proper training, coupled with personal bias, may adversely affect the results of the enquiry. |

**Students can explore this important concept by clicking on this link provided below:**

[**Meaning of Statistical Enquiry, Meaning of Collection of Data and Sources of Data**](https://byjus.com/commerce/statistical-enquiry/)

1. Collection Of Secondary Data

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| **Q.1 What is secondary data? Discuss the various sources of secondary data.** | |
| **Answer:** | |
| **(A) Meaning of secondary data** | ●     Secondary data refers to the data that has already been collected by some other person or agency and is used by us. |
| **(B) Sources of secondary data can broadly be classified under two**  **categories:**  **1. Published sources**  **2. Unpublished sources** | |
| **(1) Published sources** | Published sources mean data available in printed form. It includes the following:   1. Magazines, journals, and periodicals published by various government, semi-government, and private organisations; Data related to birth, death, education, etc., by the government at various levels; data regarding prices, production, etc., published by Economic Times, Financial Express, etc. 2. Reports of various committees or commissions like reports of pay commission report, finance commission report, etc. 3. Reports of international agencies that are regularly published by agencies like UNO, WHO, IMF., etc. |
| **(2) Unpublished sources** | ●     All the statistical material is not always published.  ●     This category includes the records maintained by various government and private offices.  ●     It includes the research done by scholar students or some institutions.  ●     Sources like reports prepared by private investigation companies can also be used depending upon the need. |

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| **Q.2 What precautions shall we take while using secondary data?** | |
| **Answer:** | |
| **Following are the main precautions to be taken while using secondary data:** | |
| **(1) Reliable agency** | ●     We must ensure that the agency that has published the data should be reliable. |
| **(2) Suitability for the purpose of enquiry** | ●     The investigator must ensure that the data is suitable for the purpose of the present enquiry.  ●     The suitability of the data is determined by investigating the nature, objectives, time of collection etc., of the secondary data. |
| **(3) Adequacy and accuracy to avoid impact of bias** | ●     It is necessary to use adequate data to avoid biases and prejudices leading to incorrect conclusions. |
| **(4) Method of collecting data used** | ●     The investigator should also ascertain as to what method was used in collecting the data.  ●     Sampling methods may be biased depending upon the mode of selection of samples.  ●     All these should be ascertained before making use of the secondary data. |

The above-mentioned concept is for CBSE Class 11 Statistics for What are the Sources of Data. For solutions and study materials for Class 11 Statistics, visit BYJU’S or download the app for more information and the best learning experience.

Frequently Asked Questions on Sources of Data

1. What are the types of sources of data?

There are two types of sources of data which are:

1. Internal sources
2. External sources
3. What are the 3 sources of data?

The three sources of data are primary, secondary and tertiary.

1. What are the methods of primary data collection?

The following are basic or traditional methods of primary data collection:

1. Direct personal interviews
2. Indirect personal interviews
3. Questionnaires
4. Focus groups
5. Observation

**Primary vs Secondary Data:15 Key Differences & Similarities**

[](https://www.formpl.us/blog/primary-secondary-data)By Formplus Blog  | Last updated: Aug 11    |     12 min read

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1. [Home](https://www.formpl.us/blog/)
2. [Data Collection](https://www.formpl.us/blog/data-collection/home)
3. Primary vs Secondary Data:15 Key Differences & Similarities

In a time when data is becoming easily accessible to researchers all over the world, the practicality of utilizing secondary data for research is becoming more prevalent, same as its questionable authenticity when compared with primary data.

These 2 types of data, when considered for research is a double-edged sword because it can equally make a research project as well as it can mar it.

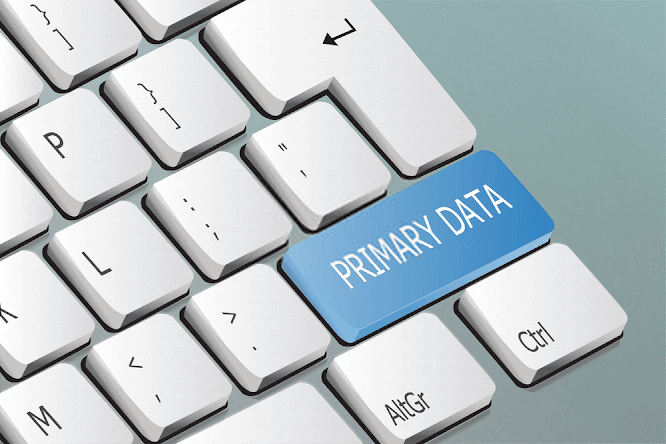
In a nutshell, primary data and[secondary data](https://formpl.us/blog/secondary-data) both have their advantages and disadvantages. Therefore, when carrying out research, it is left for the researcher to weigh these factors and choose the better one.

It is therefore important for one to study the similarities and differences between these data types so as to make proper decisions when choosing a better data type for research work.

**What is Primary Data?**

Primary data is the kind of data that is collected directly from the data source without going through any existing sources. It is mostly collected specially for a research project and may be shared publicly to be used for other research

Primary data is often reliable, authentic, and objective in as much as it was collected with the purpose of addressing a particular research problem. It is noteworthy that primary data is not commonly collected because of the high cost of implementation.



A common example of primary data is the data collected by organizations during market research, product research, and competitive analysis. This data is collected directly from its original source which in most cases are the existing and potential customers.

Most of the people who collect primary data are government authorized agencies, investigators, research-based private institutions, etc.

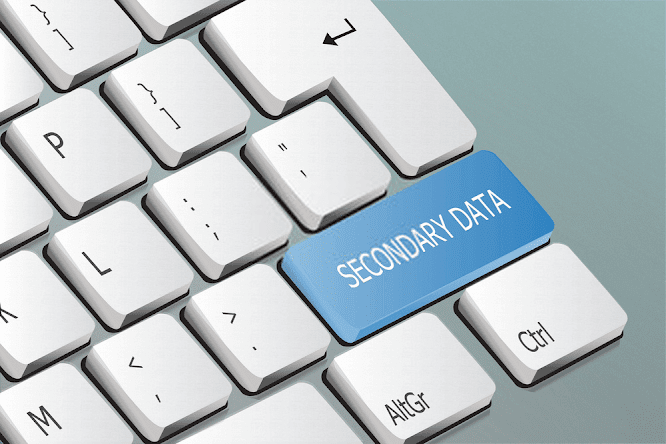
[**Read More: Primary Data: Definition, Examples & Collection Techniques**](https://www.formpl.us/blog/primary-data)

* **Pros**
* Primary data is specific to the needs of the researcher at the moment of data collection. The researcher is able to control the kind of data that is being collected.
* It is accurate compared to secondary data. The data is not subjected to personal bias and as such the authenticity can be trusted.
* The researcher exhibit ownership of the data collected through [primary research](https://www.formpl.us/blog/primary-research). He or she may choose to make it available publicly, patent it, or even sell it.
* Primary data is usually up to date because it collects data in real-time and does not collect data from old sources.
* The researcher has full control over the data collected through [primary research](https://www.formpl.us/blog/primary-research). He can decide which design, method, and data analysis techniques to be used.
* **Cons**
* Primary data is very expensive compared to secondary data. Therefore, it might be difficult to collect primary data.
* It is time-consuming.
* It may not be feasible to collect primary data in some cases due to its complexity and required commitment.

**What is Secondary Data?**

Secondary data is the data that has been collected in the past by someone else but made available for others to use. They are usually once primary data but become secondary when used by a third party.

[Secondary data](https://formpl.us/blog/secondary-data) are usually easily accessible to researchers and individuals because they are mostly shared publicly. This, however, means that the data are usually general and not tailored specifically to meet the researcher's needs as primary data does.



For example, when conducting a research thesis, researchers need to consult past works done in this field and add findings to the literature review. Some other things like definitions and theorems are secondary data that are added to the thesis to be properly referenced and cited accordingly.

Some common sources of secondary data include trade publications, government statistics, journals, etc. In most cases, these sources cannot be trusted as authentic.

[**Read More: What is Secondary Data? + [Examples, Sources, & Analysis]**](https://www.formpl.us/blog/secondary-data)

* **Pros**
* Secondary data is easily accessible compared to primary data. Secondary data is available on different platforms that can be accessed by the researcher.
* Secondary data is very affordable. It requires little to no cost to acquire them because they are sometimes given out for free.
* The time spent on collecting secondary data is usually very little compared to that of primary data.
* Secondary data makes it possible to carry out longitudinal studies without having to wait for a long time to draw conclusions.
* It helps to generate new insights into existing primary data.
* **Cons**
* Secondary data may not be authentic and reliable. A researcher may need to further verify the data collected from the available sources.
* Researchers may have to deal with irrelevant data before finally finding the required data.
* Some of the data is exaggerated due to the personal bias of the data source.
* Secondary data sources are sometimes outdated with no new data to replace the old ones.

**Here are 15 differences between primary and secondary data**

* **Definition**

Primary data is the type of data that is collected by researchers directly from main sources while secondary data is the data that has already been collected through primary sources and made readily available for researchers to use for their own research.

The main difference between these 2 definitions is the fact that primary data is collected from the main source of data, while secondary data is not.

The secondary data made available to researchers from existing sources are formerly primary data that was collected for research in the past. The availability of secondary data is highly dependent on the primary researcher's decision to share their data publicly or not.

* **Examples:**

An example of primary data is the national census data collected by the government while an example of secondary data is the data collected from online sources. The secondary data collected from an online source could be the primary data collected by another researcher.

For example, the government, after successfully the national census, share the results in newspapers, online magazines, press releases, etc. Another government agency that is trying to allocate the state budget for healthcare, education, etc. may need to access the census results.

With access to this information, the number of children who needs education can be analyzed and hard to determine the amount that should be allocated to the education sector. Similarly, knowing the number of old people will help in allocating funds for them in the health sector.

* **Data Types**

The type of data provided by primary data is real-time, while the data provided by secondary data is stale. Researchers are able to have access to the most recent data when [conducting primary research](https://www.formpl.us/blog/primary-research), which may not be the case for secondary data.

Secondary data have to depend on primary data that has been collected in the past to perform research. In some cases, the researcher may be lucky that the data is collected close to the time that he or she is conducting research.

Therefore, reducing the amount of difference between the secondary data being used and the recent data.

* **Process**

Researchers are usually very involved in the primary data collection process, while secondary data is quick and easy to collect. This is due to the fact that primary research is mostly longitudinal.

Therefore, researchers have to spend a long time performing research, recording information, and analyzing the data. This data can be collected and analyzed within a few hours when conducting secondary research.

For example, an organization may spend a long time analyzing the market size for transport companies looking to talk into the ride-hailing sector. A potential investor will take this data and use it to inform his decision of investing in the sector or not.

* **Availability**

Primary data is available in crude form while secondary data is available in a refined form. That is, secondary data is usually made available to the public in a simple form for a layman to understand while primary data are usually raw and will have to be simplified by the researcher.

Secondary data are this way because they have previously been broken down by researchers who collected the primary data afresh. A good example is the Thomson Reuters annual market reports that are made available to the public.

When Thomson Reuters collect this data afresh, they are usually raw and may be difficult to understand. They simplify the results of this data by visualizing it with graphs, charts, and explanations in words.

* **Data Collection Tools**

Primary data can be collected using surveys and questionnaires while secondary data are collected using the library, bots, etc. The different ones between these [data collection tools](https://www.formpl.us/blog/data-collection-method) are glaring and can it be interchangeably used.

When collecting primary data, researchers lookout for a tool that can be easily used and can collect reliable data. One of the best primary data collection tools that satisfy this condition is Formplus.

[Formplus is a web-based primary data collection tool](https://www.formpl.us/data-collection) that helps researchers collect reliable data while simultaneously increasing the response rate from respondents.

* **Sources**

Primary data sources include; Surveys, observations, experiments, questionnaires, focus groups, interviews, etc., while secondary data sources include; books, journals, articles, web pages, blogs, etc. These sources vary explicitly and there is no intersection between the primary and secondary data sources.

Primary data sources are sources that require a deep commitment from researchers and require interaction with the subject of study. Secondary data, on the other hand, do not require interaction with the subject of study before it can be collected.

In most cases, secondary researchers do not have any interaction with the subject of research.

* **Specific**

Primary data is always specific to the researcher's needs, while secondary data may or may not be specific to the researcher's needs. It depends solely on the kind of data the researcher was able to lay hands on.

Secondary researchers may be lucky to have access to data tailored specifically to meet their needs, which mag is not the case in some cases. For example, a market researcher researching the purchasing power of people from a particular community may not have access to the data of the subject community.

Alternatively, there may be another community with a similar standard of living to the subject community whose data is available. The researcher mag uses to settle for this data and use it to inform his conclusion on the subject community.

* **Advantage**

Some common advantages of primary data are its authenticity, specific nature, and up to date information while secondary data is very cheap and not time-consuming.

Primary data is very reliable because it is usually objective and collected directly from the original source. It also gives up-to-date information about a research topic compared to secondary data.

Secondary day, on the other hand, is not expensive making it easy for people to conduct secondary research. It doesn't take so much time and most of the secondary data sources can be accessed for free.

* **Disadvantage**

The disadvantage of primary data is the cost and time spent on data collection while secondary data may be outdated or irrelevant. Primary data incur so much cost and takes time because of the processes involved in carrying out primary research.

For example, when physically interviewing research subjects, one may need one or  more professionals, including the interviewees, videographers who will make a record of the interview in some cases and the people involved in preparing for the interview. Apart from the time required, the cost of doing this may be relatively high.

Secondary data may be outdated and irrelevant. In fact, researchers have to surf through irrelevant data before finally having access to the data relevant to the research purpose.

* **Accuracy and Reliability**

 Primary data is more accurate and reliable while secondary data is relatively less reliable and accurate. This is mainly because the secondary data sources are not regulated and are subject to personal bias.

A good example of this is business owners who lay bloggers to write good reviews about their product just to gain more customers. This is not the case with primary data which is collected by being a researcher himself.

One of the researcher's aims when gathering primary data for research will be gathering accurate data so as to arrive at correct conclusions. Therefore, biases will be avoided at all costs (e.g. same businesses when collecting feedback from customers).

* **Cost-effectiveness**

Primary data is very expensive while secondary data is economical. When working on a low budget, it is better for researchers to work with secondary data, then analyze it to uncover new trends.

In fact, a researcher might work with both primary data and secondary data for one research. This is usually very advisable in cases whereby the available secondary data does not fully meet the research needs.

Therefore, a little extension on the available data will be done and cost will also be saved. For example, a researcher may require a market report from 2010 to 2019 while the available reports stop at 2018.

* **Collection Time**

The time required to collect primary data is usually long while that required to collect secondary data is usually short. The primary data collection process is sometimes longitudinal in nature.

Therefore, researchers may need to observe the research subject for some time while taking down important data. For example, when observing the behavior of a group of people or particular species, researchers have to observe them for a while.

Secondary data can, however, be collected in a matter of minutes and analyzed to dead conclusions—taking a shorter time when compared to primary data. In some rare cases, especially when collecting little data, secondary data may take a longer time because of difficulty consulting different data sources to find the right data.

**Similarities Between Primary & Secondary Data**

* **Contains Same Content:**

Secondary data was once primary data when it was newly collected by the first researcher. The content of the data collected does not change and therefore has the same content as primary data.

It doesn't matter if it was further visualized in the secondary form, the content does not change. A common example of these are definitions, theorems, and postulates that were made years ago but still remain the same.

* **Uses**

Primary data and secondary data are both used in research and statistics. They can be used to carry out the same kind of research in these fields depending on data availability. This is because secondary data and primary data have the same content. The only difference is the method by which they are collected.

Since the method of collection does not directly affect the uses of data, they can be used to perform similar research. For example, whether collected directly or from an existing database, the demography of a particular target market can be used to inform similar business decisions.

**Conclusion**

When performing research, it is important to consider the available data options so as to ensure that the right type of data is used to arrive at a feasibility conclusion. A good understanding of the different data types, similarities, and differences are however required to do this.

Primary data and secondary data both have applications in business and research. They may, however, differ from each other in the way in which they are collected, used, and analyzed.

The most common setback with primary data is that it is very expensive, which is not the case for secondary data. Secondary data, on the other hand, has authenticity issues.