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Collection Of Data

Computer Oriented Numerical and Statistical Methods

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Outline

- Collection Of Data
- Primary and Secondary Data

Introduction

- A statistical inquiry is nothing but a systematic search for truth.
- It seeks some authentic answers to a problem which is quantifiable and therefore amenable to statistical treatment.
- Statistical inquiry, like many other scientific inquiries has to pass through the following four stages:
 - Observation
 - Laying down of hypothesis
 - Prediction
 - Verification

Planning Of Statistical Inquiry

- Purpose
 - Scope of enquiry
 - Definition of terms
 - Preparation of dummy reports
 - Laying down hypothesis.
 - Type of enquiry:
 - Official, semi-official or unofficial
 - Initial or repetitive
 - Confidential or non-confidential
 - Direct or indirect
 - Regular or ad-hoc
 - Primary or secondary
 - Census or sample.
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Collection of Data

- Source of information : Internal & External
 - Degree of precision required
 - Primary and secondary data.
 - Statistical data may be classified into primary and secondary depending upon the nature of data and mode of collection.
 - The data gathered by actual observation, measurements and count and direct recording during the course of an investigation is called primary data.
 - This is called primary because it is collected from the very source where the information got generated.
 - But any data detached from the original source, one which is reprocessed for one's own purpose and published by agency other than which originally gathered it, becomes secondary data.
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Collection of Data

- The difference between the primary and the secondary data is only one of degree of detachment with the original source.
 - The data which is primary in the hands of one may become secondary in the hands of others.
 - A primary source usually has more detailed information particularly on the procedures followed in collecting and compiling the data.
 - It may be noted that a given source may be partly primary and partly secondary.
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Use Of Primary Source Wherever Possible

- The secondary source may contain mistakes due to errors in transcription made when the figures were copied from the primary source.
 - The primary source frequently includes definitions of terms and units used.
 - The primary sources often includes a copy of the schedule and a description of the procedure used in selecting the sample and in collecting the data.
 - Primary source usually shows data in greater detail.
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Secondary Data Offers The Following Advantages

- It is highly convenient to use information which someone else has compiled. There is no need for printing data collection forms, hiring enumerators, editing and tabulating the results, etc. Researchers alone or with some clerical assistance may obtain information from published records compiled by someone else.
 - If secondary data are available they are much quicker to obtain than primary data.
 - Secondary data may be available on some subjects where it would be impossible to collect primary data. For example, census data cannot be collected by an individual or research organization, but can only be obtained from Government publications.
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Major Problems Encountered In Using Secondary Data

- The difficulty of finding data which exactly fit the need of the present project.
 - Finding data which are sufficiently accurate.
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Methods of Collecting Primary Data

- Direct personal interviews
- Indirect oral interviews
- Information from correspondents or local agents
- Mailed questionnaires and schedules
- Schedules (questionnaires) to be filled in by enumerators.

Sources Of Secondary Data

- Published sources
 - Official publications of central government
 - Publication of semi-government organization
 - Publication of research institution
 - Publication of commercial and financial institutions
 - Newspapers and periodicals
 - Reports of various committees and commissions appointed by the government
 - Publication of international bodies.
- Unpublished source
 - Documents prepared for purpose of registration, applications for permits, licenses, loans etc.
 - Record relating to internal activities of institution.

Secondary Data

- Thus, before using such data, the investigator should consider the following aspects:
 - Suitability
 - Adequacy
 - Reliability

Distinction between Primary and Secondary Data

Primary Data	Secondary Data
Primary data is first hand information and original in nature.	Secondary data is in the form of compilation of existing data or already published data.
The collection of primary data involves huge resources in terms of money and time, finance and energy.	Secondary data is relatively less costly.
Primary data is usually collected by keeping in mind the purpose for which it is collected so its suitability will be more.	Secondary data may or may not suit the purpose.
Primary data may be used as it is in its original form.	The use of secondary data requires lot of care and precaution.
Primary data are more reliable, accurate and adequate.	Secondary data are not always, reliable, accurate and adequate.

Difference between Primary and secondary data

Points	Primary Data	Secondary Data
1. Originality	Primary data are original i.e., collected first time.	Secondary data are not original, i.e., they are already in existence and are used by the investigator.
2. Organisation	Primary data are like raw material.	Secondary data are in the form of finished product. They have passed through statistical methods.
3. Purpose	Primary data are according to the object of investigation and are used without correction.	Secondary data are collected for some other purpose and are corrected before use.
4. Expenditure	The collection of primary data require large sum, energy and time.	Secondary data are easily available from secondary sources (published or unpublished).
5. Precautions	Precautions are not necessary in the use of primary data.	Precautions are necessary in the use of secondary data.

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