24 November 2023 06:31 PM

Data → Quantitative → variables

↓

Qualitative data (attributes)

1. Quantitative v/s Qualitative data (variable v/s attribute)

2. (a) discrete variables v/s (b) continuous variables.

(a) ↓ countable (whole nos.) finite.

Ex: No. of books in library
No. of family members. etc.

(b) ↓ fractions / decimals

↓

Ex: height, weight, grain

3. Time series and Cross section data

Ex: production of wheat in West Bengal from 2010 - 2020. [time changes but place / geographical location is same.]

Ex: production of wheat in different states of India during 2010 - 2011 (Time period same. Geographical location are different)

4. Time series + Cross → Panel Data

4. Time series + Cross section → (Panel Data)

Ex: Collection of data on production of wheat from different states of India during time period 2010-2020

5. Primary Data v/s Secondary Data

Primary Data → those data which are collected for a specific purpose directly from the field of Enquiry and hence are original/raw in nature. Such data are published by authorities who themselves are responsible for their collection.

Secondary Data → numerical information which have previously been collected by some agency for one purpose and are merely compiled from that source for use in a different connection.

That is data collected by someone when used by another, or collected for one purpose when used for another will be called Secondary Data.

purpose when used for [illegible] be called Secondary Data.

Primary Data is preferable to Secondary Data because of the following:

a) Such data usually show detailed information and a description regarding the definition of terms used.

b) more reliable numbers than secondary data due to less chances of error.

c) Secondary data usually contain error due to transcription, rounding etc. and hence are hardly reliable.

Despite of all the above mentioned advantages of primary data, secondary data are used when either due to limitations of time and money at the disposal of the investigator the data cannot be collected directly, or if becomes necessary to compare the data collected over a period of time, or utmost accuracy is not essential.

— * —

Various Methods of collecting Primary Data:

1. observation ✓

Various Methods of Collection

1. Direct personal observation ✓
2. Indirect oral investigation
3. Questionnaires sent by email.
4. Schedule sent through investigator ✓
5. Telephonic Interview

Secondary data: (i) official publications of State and Central Govt such as ILO, UNO etc.

(ii) Publications and reports of trade associations, Chambers of Commerce, Co-operative societies etc.

(iii) Journals and magazines

(iv) Unpublished reports prepared by research scholars, labour and trade unions etc.

6. Population ✓ vs Sample ✓

Population → census method (collection of data from population)

Sample → representative of population.

✓ sample is a subset of population.

population

(*) Distinguish between Census Method and Sample Survey Method.

(*) Discuss the advantage of Sampling methods over the census method of collecting statistical information.

1, 1, 1, 5, 5, 3, 3, 10, 10, 12, 12

Relative Frequency = class frequency / Total frequency

x	frequency (f)	Relative Frequency
1	3	3/11
5	2	2/11
3	2	2/11
10	2	⋮
12	2	2/11
	$\Sigma f = 11$	$\frac{11}{11} = 1$

Grouped-frequency

Obs, n = 50

5 ... 49

Class limits	Class Boundary	frequency	Relative frequ
5 - 14	4.5 - 14.5	5	5/50 =
15 - 24	14.5 - 24.5	5	5/50 =
25 - 34	24.5 - 34.5	20	20/50 =

25 - 34	24.5 - 34.5	20	20/50 =
35 - 44	34.5 - 44.5	15	15/50 =
45 - 54	44.5 - 54.5	5	5/50 =
		Total frequency = 50	1

Frequency Density = $\frac{\text{class frequency}}{\text{class size}}$