CONTINUOUS AND DISCONTINUOUS VARIABLES

SIVASANGARI SHANMUGAM

VARIABLES IN RESEARCH

➤ A variable is something that can change, such as 'gender' and are typically the focus of a study.

➤ A variable is a measurable characteristic that varies.

➤ It may change from group to group, person to person, or even within one person over time.
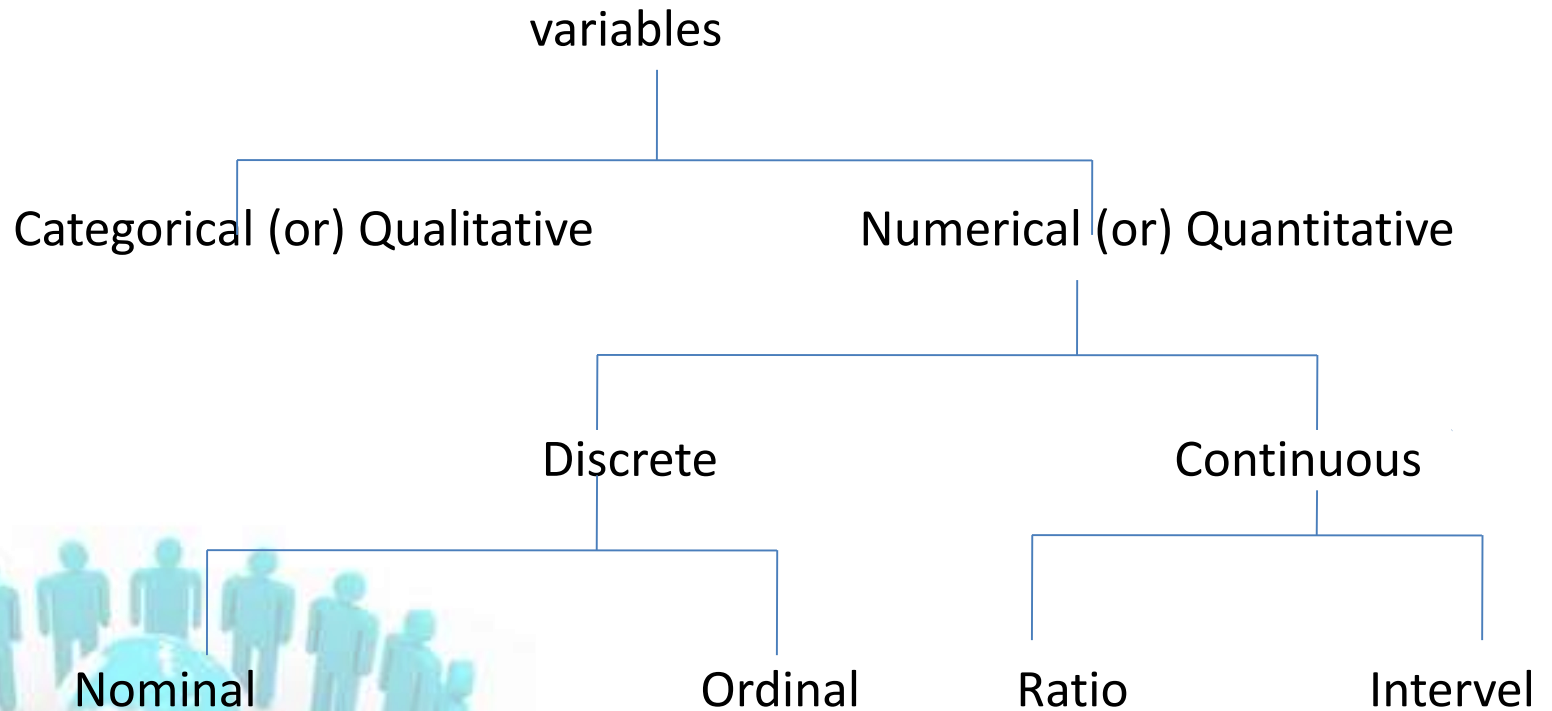
CHARACTERISTICS OF VARIABLE

1. Capable of assuming several values representing a certain category.

2. Values that may arise from counting and or form measurement.

3. Raw data or figure gathered by a research for statistical purpose.

4. Predicted values for one variable on the basis of another.

5. Observable characteristics of a person (or) object being studied.
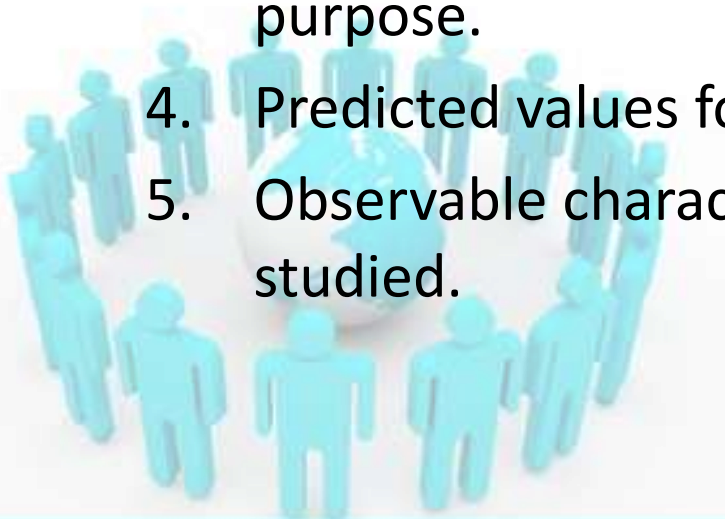
TYPES OF VARIABLES

variables

Categorical (or) Qualitative   Numerical (or) Quantitative

Discrete   Continuous

Nominal   Ordinal   Ratio   Intervel

CATEGORICAL (or) QUALITATIVE VARIABLES

➢ Described in words.

➢ Particularly important for observing changes.

➢ EX; Color,Gender

NUMERICA (or) QUANTITATIVE VARIABLES

➤ Described in numbers.

➤ Easy to count.

➤ EX; Age,Salary,

➤ They are divided into two types;

    1.   Discontinuous variables

    2.   Continuous variables

DISCRETE VARIABLE

➢ It is a type of statistical variable.

➢ Can assume only fixed number of distinct values and lacks an inherent order.

➢ Also known as a categorical variable , because it has separate, invisible categories.

➢ Can only take on discrete specific values.

➢ Not continuous.

➢ A limited number of values which cannot be divided into fractions.

DISCRETE VARIABLE

➢ They are divided into 2 variable scale measurements;

1. Nominal

2. Ordinal

DISCRETE VARIABLE

NOMINAL VARIABLES

- Named variables .

- A scale that categorizes items.

- No ordering , No direction.

- EX; Marital status (married/unmarried).

ORDINAL VARIABLES

- Named variables + Ordered variables

- Rankings,Orders or Scalling.

- EX; Student letter grade,

EXAMPLES OF DESCRETE VARIABLE

Number of printing mistakes in a book.

Number of road accidents in new Delhi.

Number of siblings of an individual.

A person (Live/Dead).

Result (Fail/Pass).

CONTINUOUS VARIABLE

➢It is a random variable that assumes all the possibles values in a continuum.

➢It can take any value within the given range.

➢It defined over an interval of values,meaning that can suppose any values in between the minimum and maximum value.

➢Infinite number of value.

CONTINUOUS VARIABLE

➢ They are divided into two types of variables scale measurements;

1. Interval

2. Ratio

CONTINUOUS VARIABLE

INTERVAL VARIABLES:

➢ Named variables + Ordered variables + difference between measurements.

➢ No true zero.

➢ EX; Temperature in Fahrenheit,Standardized exam score.

RATIO VARIABLES:

➢ Named variables + Ordered variables + Difference between measurements+ Accommodate absolute zero.

➢ True zero exit.

➢ EX; Height ,Weight,Age.

EXAMPLES OF CONTINUOUS VARIABLE

Height of a person.

Age of a person.

Profit earned by the company or other.

Temperature of a day.

Income of employee.

COMPARISON CHART

BASIS FOR COMPARISON	DISCRETE VARIABLE	CONTINUOUS VARIABLE
Meaning	The variable that assumes a finite number of isolated values.	Which assumes infinite number of different values.
Range of specified number	Complete	Incomplete
Values	Obtained by counting.	Obtained by measuring.
Classification	Non-overlapping	Overlapping
Assumes	Distinct or separate values.	Any value between the 2values.
Represented by	Isolated points.	Selected points.

COMMON TYPES OF VARIABLES

Continuous variable

Discrete variable

Dependent variable

Independent variable

Moderate variable

Control variable

Intervening variable

TYPES OF VARIABLES

Continuous variable
- Infinite set of values between 2 levels of variables.
- They are result of measurements.

Discontinuous variable
- Only a finite.
- Potentially countable set of values.

Independent
- A stimulus variable which is chosen by the researcher to determine its relationship to an observed phenomena.

Control variable
- The research in which the effects can be neutralized by removing the variable.

Dependent variable
- A response variable which is observed & measured to determine the effect of the independent variable.

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THANK YOU