UNIT-1

Statistical Data collection and types.

* Definition of Data :-

- A collection of raw facts and figures is called data.
- It is a collection of information gathered by observation, measurement, research or analysis.

They may consist of facts, numbers, names, figures or even description of things.

* Importance :-

- It helps in making better decision
- It helps in solve problems by finding the reason for under-performance.
- It helps one to evaluate the performance
- It helps one to improve processes
- It helps one to understand consumers and the market.

Classification of Data :-

Qualitative data | Quantitative data | Discrete data | Continous data

1. ~~Quali~~ Qualitative or categorial Data :-

- It describes the quality of something or someone.
- It is descriptive information.

e.g :- skin colour, eye colour, hair texture etc.

- It is a data that can't be measured or counted in the ~~form~~ forms of numbers.

- These data consist of audio, images, symbols or text. The gender of a person i.e. Male, female or other is qualitative data.
- It tells about the preception of a people

other examples :-

- what language do you speak.
- colours etc.

2. Quantitative Data :-

- It provides numerical information.
- It can be expressed in numerical value making it countable and including statical data analysis.
- It answers the question like "how much", "how many" and "how often".

e.g :- The price of a phone, the height or weight of a person, time, scores and marks etc.

- It can be used for statical manipulation.
- These data can be represented on a wide variety of graphs and charts such as - histograms, scatter plots, boxe plotes, pie charts etc.

3. Discrete Data :-

- The term 'discrete' means distinct or separate.
- It contains the value that fall under integral or whole numbers.

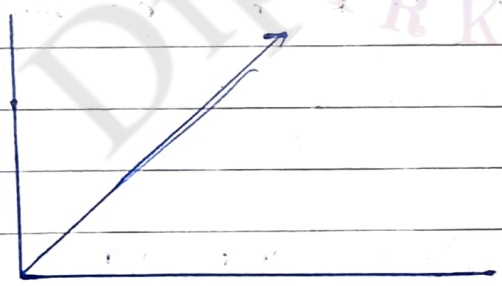
e.g :- The total number of student in a class
Number of employees.

- These data can be broken into decimal or fractional values.
- These are countable and have finite values, their sub division is not possible.
- These data are mainly represented by bar graph, number line or frequency table.

4. Continuous Data :-

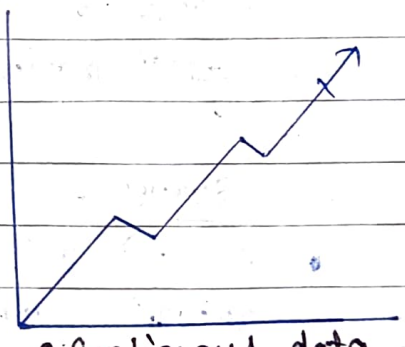
- Continuous data are in the form of fractional numbers.
- It can be version of an android phone, the height of a person, the length of an object.
- It represents information that can be divided into smaller levels.
- This continuous variable can take away value within a range.
- It stores the fractional numbers in record, different types of data such as temperature, height, width, time etc.

e.g :- - weight, height, speed of a vechicle.
- It can be measured and is not counted



- Discrete data

Graph do not possess a smooth continuous line but rather only plot points.



- Continuous data

Graphs posses a smooth continuous line.

- It is represented by Bar graph or pie chart
- It is represented by Histogram or a scatter plotter.

Data collection tools :-

(i) questionnaries
(ii) Survey
(3) Interview
(4) focus group discussion.

1. Questionnaries :-

- A questionnaries is a list of questions or items used to gather data from respondents about their attitudes experiences or openion.
- It can be used to collect quantitative or qualitative information.
- It is used in market research as in the social and health sci science.

eg :- A company may ask for feedback about a recent customer service experience, or psychology researches may investigate health risk perception using questionnaries.

2. Survey :-

- It is a method of gathering information using relevant questions from a sample of people with the aim of understanding populations as a whole.
- It provides a critical source of data and insights for everyone engaged in information economy from businesses to

media to goverment and academics.

3. Interviews :-

- Interviews are one-on-one conversation to explore ideas, opinions, values or other points of view.
- In face to face interview, the interviewer asks a series of questions to the interviewer in person and note down responses.
- It involves direct interaction betn the researcher and the respondent.
- It can be structured (with predefined questions), semi-structured (allowing flexibility) or unstructured (more conversational)

4. focus group discussion :-

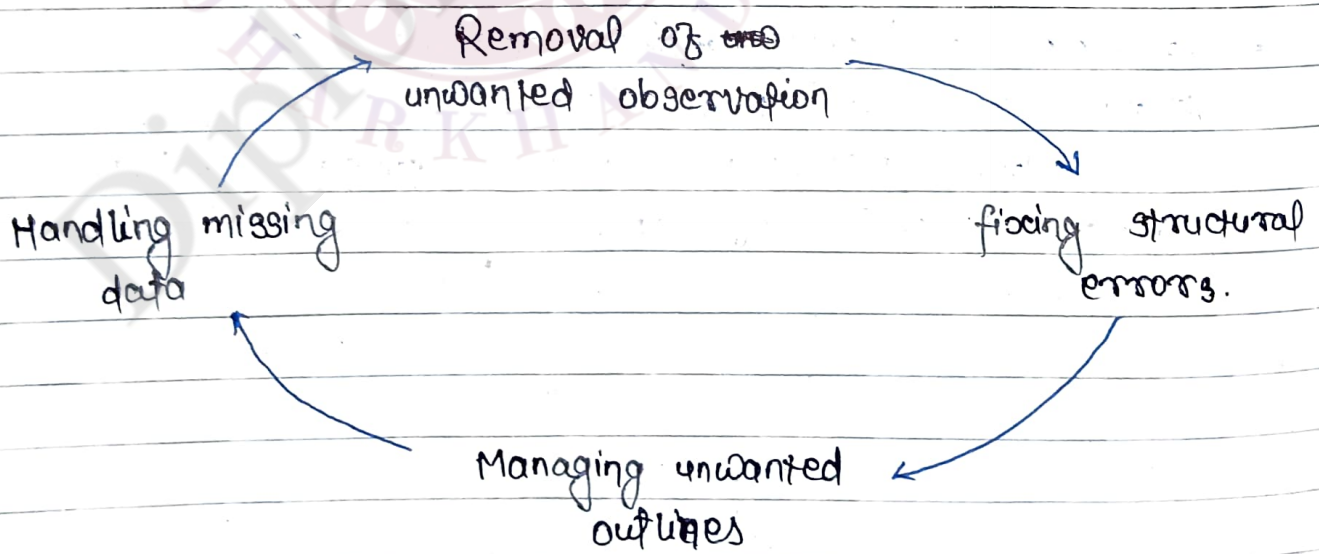
- focus groups bring together a small group of individuals who discuss specific topic in a moderated setting.
- It helps in understanding opinions, perceptions, experiences shared by the participants.
- It allow interviewing more individuals without a limited amount of time.

Data cleaning :-

- Data cleaning is the process of preparing data for analysis by removing or modifying data that is incorrect, incomplete, irrelevant duplicated or improperly formatted.
- It is also known as "Data cleaning".
- It is essential because raw data is often noisy, incomplete and inconsistent, which can negatively impact the accuracy and reliability of the insights dev derived from it.

* steps :-

i) Removal of unwanted observations
ii) fixing structural errors
iii) Managing unwanted activities
iv) Handling missing data.



Practical No. - 01

prepare a questionnaire (closed end) containing 25 question for a specified problem statement : for example experience of an individual in a restaurant.

close ended questions are questions that can only be answered by selecting from a limited number of options, usually multiple choice questions with a single word answer (yes or No) or a rating scale.

The questionnaire for an experience of an individual in a restaurant is :-

1. Gender :- (a) Male (b) female
2. Age :- (a) 18-25 (b) 26-35 (c) 36-45 (d) Above 45
3. How often do you eat at a restaurant.
   (a) once a week (b) Twice
   (b) Thrice (d) Every day.
4. What kind of food do you prefer most ?
   (a) Punjabi (b) Gujrati
   (c) South Indian (d) Mexican
5. What kind of taste you like ?
   (a) Sweet (b) spicy (c) Sour (d) Neutral
6. What meal you most likely to take in our restaurant ?
   (a) Breakfast (b) Lunch (c) Brunch (d) Dinner

7 How much do you spend on your visit to restaurent?
(a) less than 200 Rs. (b) 200 - 400 Rs.
(c) 400 - 800 Rs. (d) More than 800 Rs.

8 The waiting time in our restaurent was :-
(a) About what you expected
(b) A little longer than you expected
(c) Much longer than you expected.

9. were is serving hot ?
(a) Yes (b) No

10. Did the menu had an eccellent selection of items ?
(a) Yes (b) No

11. How was the quality of food ?
(a) poor (b) Moderate (c) Nice.

12. Was the restaurent clean and attractive inside ?
(a) Needs improvement (b) Good (c) Eccellent.

13. How was the ease of ~~ed~~ ordering ?
(a) poor (b) fair (c) Good (d) Eccellent.

14. were the eating areas clean ?
(a) Yes (b) No

15. A server was there to take your order quickly ?
(a) Yes (b) No.

16. Was the server friendly and patient while taking order ?
(a) Yes (b) No

17 The order was served on time ?
(a) Yes (b) No

18 The server was able to ans answer all your questions ?
(a) Yes (b) No

19 How were the greeting you received by our host
(a) Good (b) Excellent (c) Needs improvement.

20. were you seated properly ?
(a) Yes (b) No

21 How did you feel about the over all appearance of the restaurant ?
(a) Need improvement (b) Good (c) Excellent

22. How much would you like to rate us ?
(a) 2 Stars (b) 3 Stars (c) 4 Stars (d) 5 Stars.

23. will you visit our restaurant again ?
(a) Yes (b) No

24. Are you satisfied with your experience in our restaurant ?
(a) Yes (b) No

25. will you recommend our restaurant to your family or Collegues ?
(a) Yes (b) No