

Data visualization

- Graphical representation of any information or data is known as Data visualization.
- This helps in segregating the data in an efficient manner by using various types of visuals, such as graphs, maps, charts, maps, and visualization tools.
- In addition to this, with the help of a data visualization tool, the data can be presented in a very unique and understandable manner.

Data visualization tools

Data visualization tools are software platforms that provide information in a visual format such as graph, chart, etc., to make it easily understandable and usable.

- Data visualization tools are so popular as they allow analysts and statisticians to create visual data models easily.

→ ~~Tool~~ Such Tools are

⇒ Tableau

⇒ ~~Power BI~~ Microsoft Power BI

⇒ Looker

⇒ Zoho Analytics

Tableau:-

Tableau is a data visualization tool that can be used by data analysts, scientists, statisticians, etc., to visualize the data and

→ DECISION

get a clear opinion based on the data analysis.

→ Tableau is very famous as it can take in data and produce the required data visualization output in a very short time.

→ And it provides highest level of security with guarantee to handle security issues.

Microsoft Power BI

Microsoft Power BI is a Data visualization Platform focused on creating a data-driven business intelligence culture in all companies.

→ It is also used for analysts tools to analyze, aggregate and share data in a meaningful fashion.

Types of data visualization:-

→ Charts

→ Tables

→ Graphs

→ Maps

→ Dashboards

Charts:-

Information presented in a tabular, graphical form with data displayed along two axes.

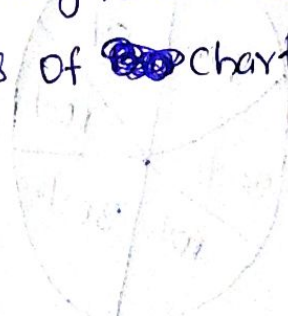
There are different types of ~~charts~~ charts.

1. Bar charts

2. Histogram charts

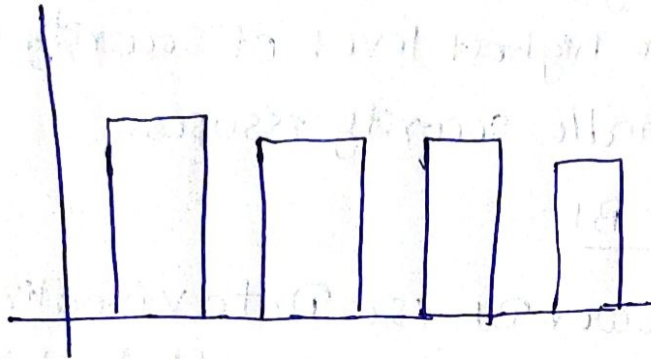
3. Pie chart

4. Line chart



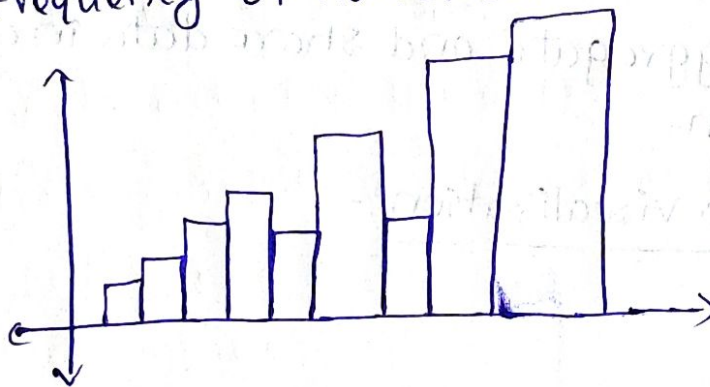
Bar chart:-

It Presents Categorical data with rectangular bars with heights or lengths Proportional to the values that they represent.



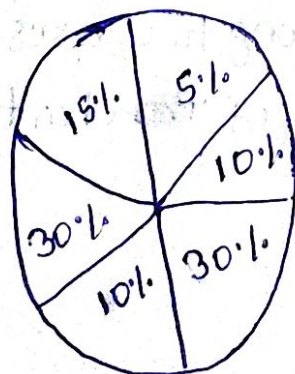
Histogram Charts:-

A Histogram charts is a graph that shows the frequency of numerical data using rectangles.



Pie chart:-

A Pie chart, sometimes called a circle chart; is a way of summarizing a set of nominal data for displaying the different values of a given variables.



Line chart:-

A Line chart is a type of chart used to show information that changes over time.



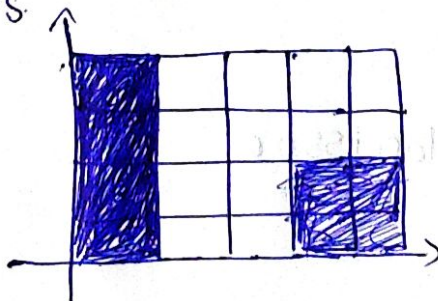
~~Case 2~~ Scatter Plot

A scatter plot uses dots to represent values for two different numeric variables.



Heat Map:-

A Heat map is a two-dimensional representation of data in which values are represented by colors.



Applications of Data Visualizations:-

1. Healthcare Industries

2. Military

3. Finance Industries

4. Marketing

5. Real estate business

6. Food delivery apps

7. Education

8. E-Commerce

9. Business Intelligence.

Advantages:-

1. Simple sharing of Data

2. Adjustment of informations.

3. Discovering relations b/w occasions.

4. A Superior method.

5. Better agreement.

Disadvantages:-

1. It gives assessment not exactness.

2. Absence of help.

3. Inappropriate plan issue.

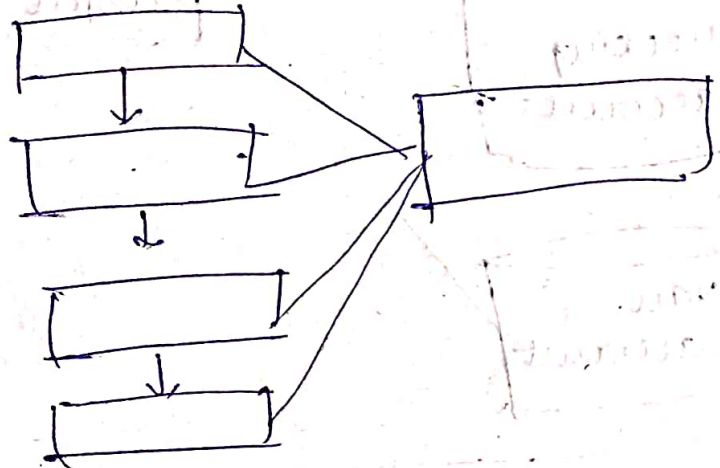
Business analytics:

Data warehouse:

- Data warehouse is a relational database.
- Data warehouse is a data management system that stores large amount of data.
- It includes historical data derived from transaction data from single & multiple sources.

Characteristics :-

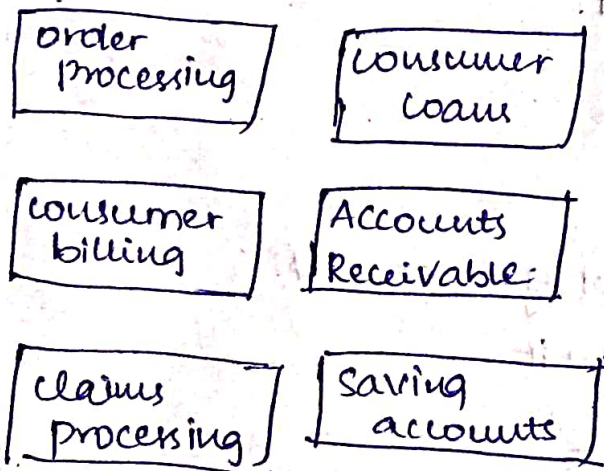
1. Subject oriented
2. Integrated
3. Time variant
4. Non volatile.



→ Subject oriented:

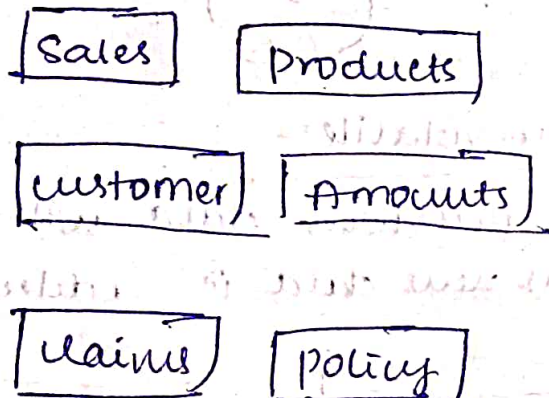
- Focuses on a specific area or subject such as sales, customers etc.

Operational Applications



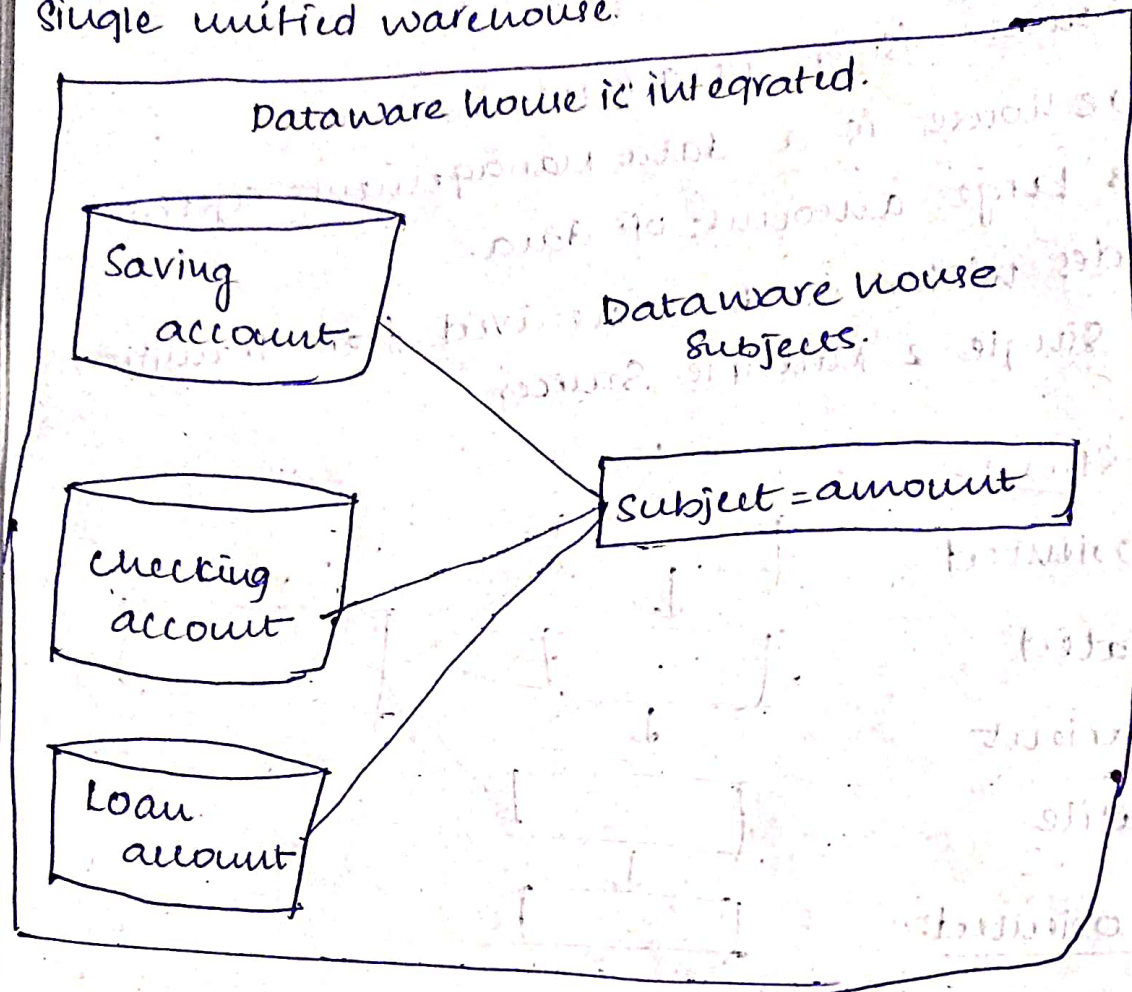
Data Ware house

Subjects.



Integrated:-

• Combines data from several sources into a single unified warehouse.



3. Time Variant:-

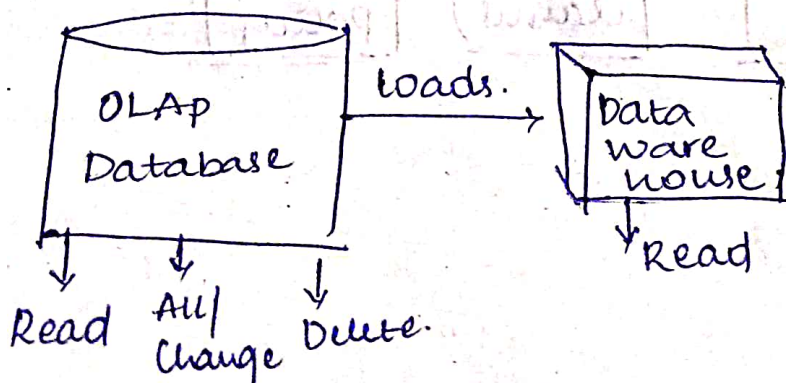
Historical information is kept in Data warehouse.



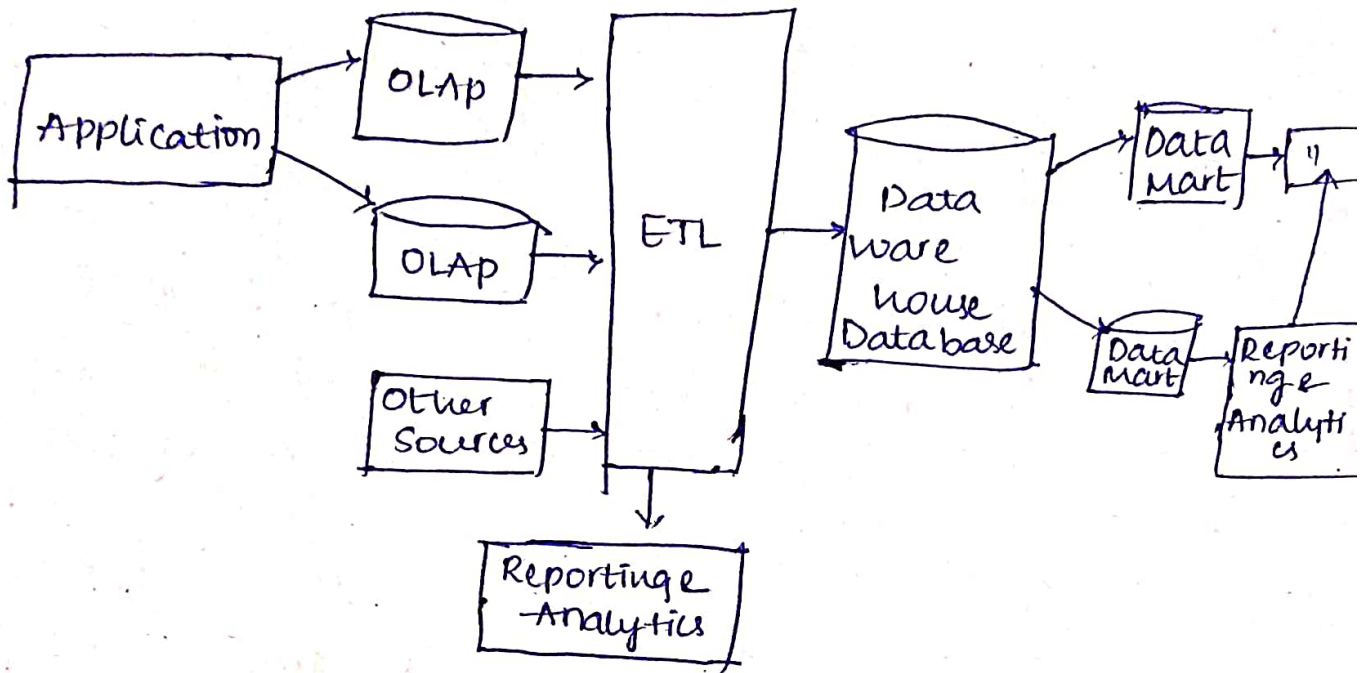
Time Variant.

4. Non-volatile:-

The previous data will not get erased when new data is added to it.



Data Warehouse components:-



Advantages:-

1. Fast responses.
2. High Quality of data.
3. Integrated data.
4. Managed services.

Disadvantages:-

1. Security issues.
2. New user needs.
3. Maintenance fees.