SNS COLLEGE OF ENGINEERING

Kurumbapalayam (po), Coimbatore – 641 107

Accredited by NAAC-UGC with 'A' Grade

Approved by AICTE & Affiliated to Anna University, Chennai

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

19AD504 – DATA VISUALIZATION

UNIT- IV CORRELATION AND REGRESSION

4.5 VISUALIZING QUALITATIVE DATA

Qualitative data is a type of data that is not numerical in nature, but rather descriptive. It can be used to gain insights into people's opinions, behaviors, and experiences. This type of data is often collected through interviews, surveys, and observations.

Visualizing qualitative data can be challenging, but using diagrams can help to make it more understandable. In this presentation, we will introduce several types of diagrams that can be used to visualize qualitative data.
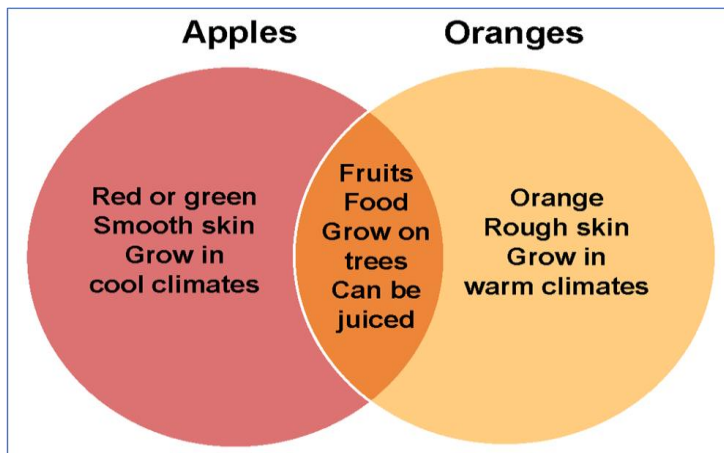
Types of Diagrams

Venn Diagrams

A diagram used to show logical relationships between sets of items.

A Venn diagram is a diagram that shows all possible logical relations between a finite collection of different sets.

Examples

- Comparing and contrasting different products or services
- Identifying commonalities and differences between different groups of people
- Visualizing the overlap between different concepts or ideas

Apples / Oranges Venn diagram:
- Apples: Red or green, Smooth skin, Grow in cool climates
- Fruits, Food, Grow on trees, Can be juiced
- Oranges: Orange, Rough skin, Grow in warm climates

Mind Maps

A diagram used to visually organize information around a central concept.

A visual tool that helps organize and connect ideas or concepts around a central theme or topic.

Uses

- Brainstorming sessions
- Organizing complex information
- Studying or memorizing information
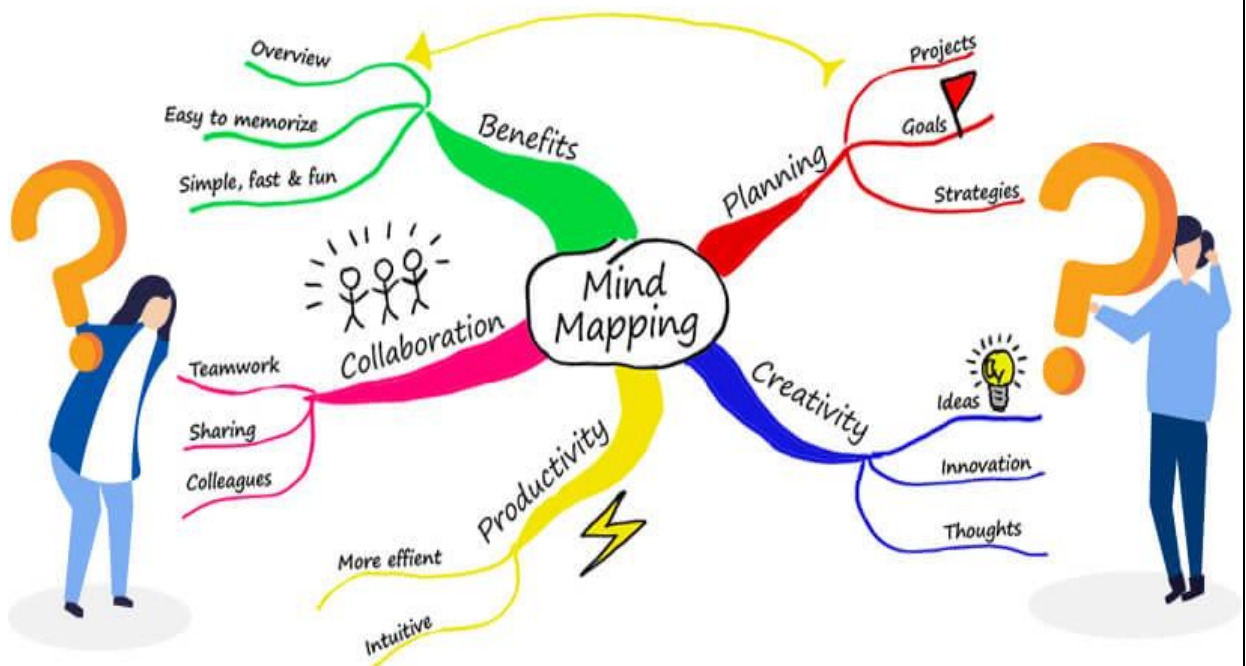
Fishbone Diagrams

Fishbone diagrams, also known as Ishikawa diagrams or cause-and-effect diagrams, are used to identify the root causes of a problem or issue.

- The diagram is shaped like a fish skeleton, with the problem at the head and the potential causes branching off the spine.
- This diagram is useful for identifying all the possible causes of a problem and can help teams brainstorm solutions.
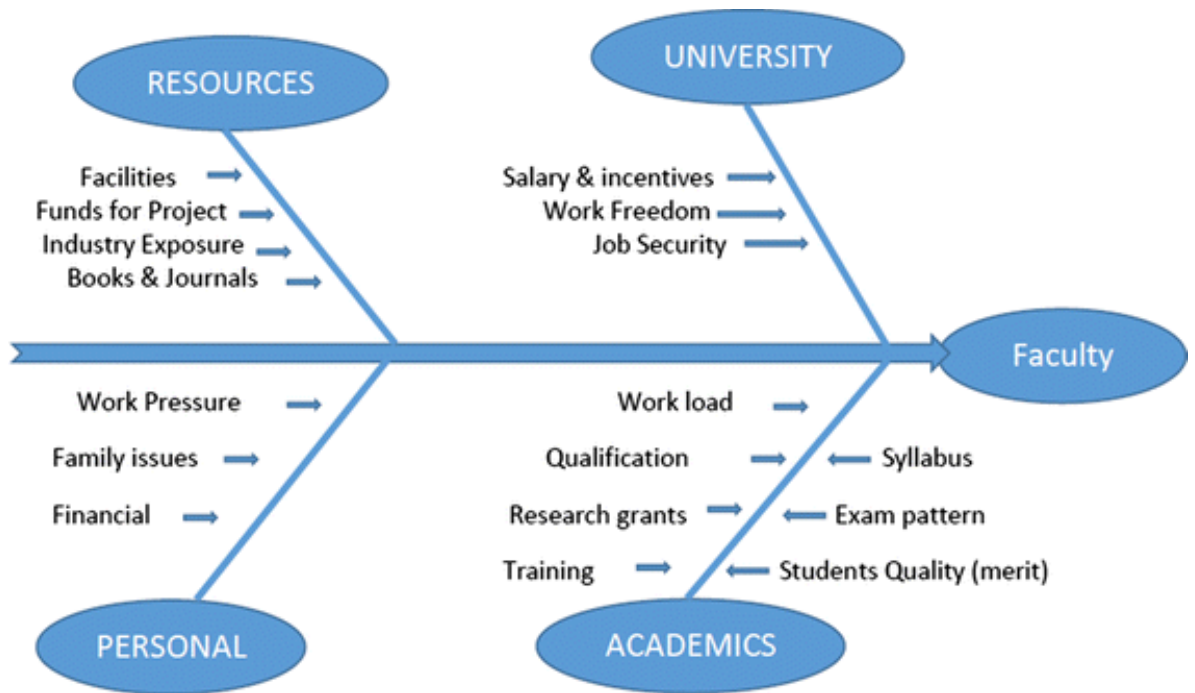
Gantt Charts

A chart used to illustrate a project schedule and track progress.
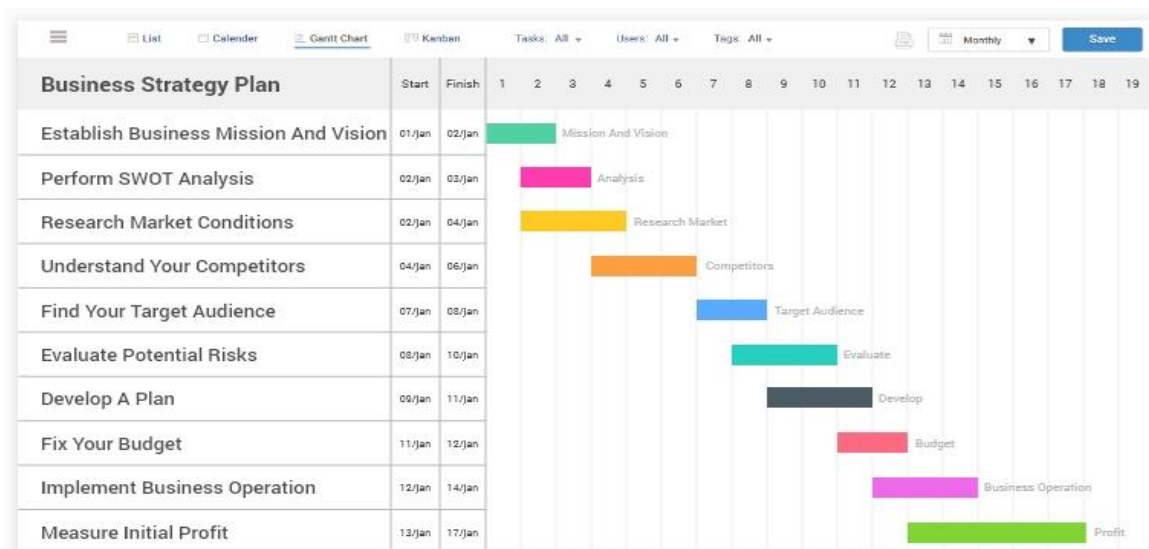
Flowcharts

A diagram used to represent a process or system, with different steps or stages shown as boxes or shapes connected by arrows or lines.

Flowcharts are a powerful tool for visualizing processes and workflows. They use a series of symbols and arrows to depict the steps in a process, making it easy to understand and analyze complex systems.

At their core, flowcharts are all about identifying the steps in a process and the relationships between those steps. By breaking down a process into its component parts, you can identify areas for improvement, streamline workflows, and eliminate inefficiencies.
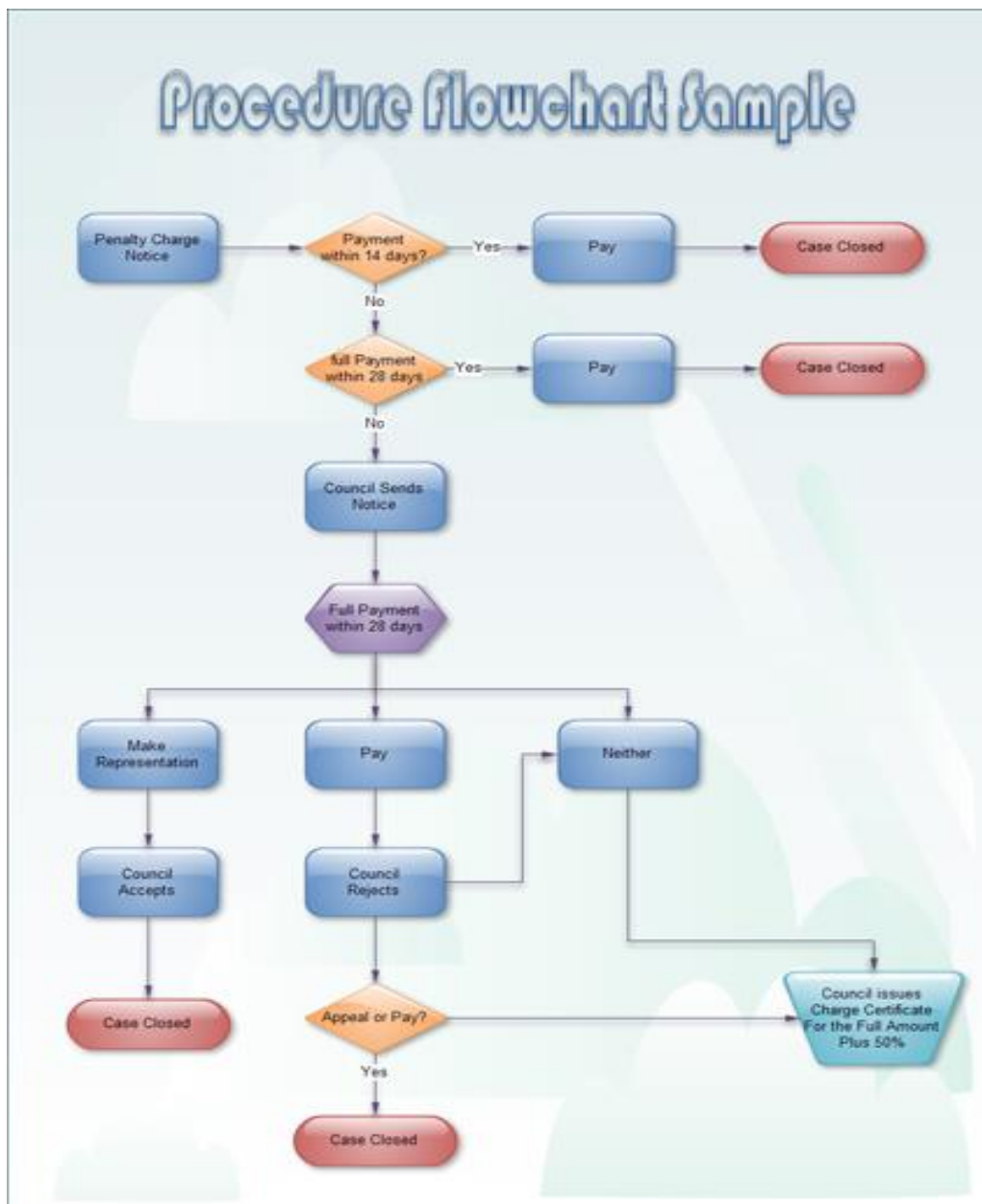
Case Studies

A detailed examination of a particular situation or scenario, often used in qualitative research to provide a rich understanding of a phenomenon.

What is a Case Study?

A case study is a research method that involves an in-depth examination of a single subject or group. It is often used in qualitative research to gain a deeper understanding of a particular phenomenon, such as a specific event, person, or organization.

How are Case Studies Used?

Case studies can be used in a variety of fields, including business, education, and healthcare. They are often used to illustrate a particular problem or challenge, and to explore potential solutions or strategies. Case studies can also be used to evaluate the effectiveness of a particular intervention or program.