



# SNS COLLEGE OF ENGINEERING

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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 –I

#### INTRODUCTION TO DATA VISUALIZATION

#### 1.8 CHOOSING AN EFFECTIVE VISUAL

Choosing an effective visual for data visualization involves selecting the most appropriate chart type or visual representation that best communicates your data and supports your message.

Here are some considerations to help you choose an effective visual:

##### 1. Data Type:

- Consider the type of data you have—whether it is quantitative, categorical, time-based, or geospatial.
- Different data types lend themselves better to certain chart types. For example, bar charts are suitable for comparing categories, line charts for showing trends over time, and scatter plots for examining relationships between variables.

##### 2. Relationship between Variables:

- Determine the relationship you want to illustrate or explore.
- Are you looking to show a comparison, distribution, correlation, composition, or hierarchy? Understanding the relationship will guide you towards selecting the appropriate chart type.
- For instance, if you want to show proportions, a pie chart or stacked bar chart might be suitable.

##### 3. Audience Understanding:

- Consider the familiarity and expertise of your audience with data visualization.
- Choose a visual that is familiar and easily interpretable for your specific audience. For example, bar charts and line charts are widely understood and commonly used, making them accessible to a broad range of viewers.



#### 4. **Data Complexity:**

- Evaluate the complexity of your data. If your data has multiple dimensions or variables, consider using visualizations that can effectively handle the complexity, such as scatter plots or parallel coordinate plots.
- However, be cautious not to overload the visual with too much information, as it may become cluttered and difficult to interpret.

#### 5. **Message Clarity:**

- Think about the clarity and effectiveness of the visual in conveying your message.
- Will the chosen visual make it easy for the audience to understand the key insights or patterns in your data? Choose a visual that presents the data in a clear and straightforward manner, without unnecessary distractions.

#### 6. **Context and Constraints:**

- Take into account the context in which your visualization will be presented.
- Consider any constraints, such as space limitations, technical requirements, or platform restrictions, that might affect your visual choices.
- Adapt your visualizations to fit the specific context while maintaining their effectiveness.

#### 7. **Design and Aesthetics:**

- Pay attention to the design and aesthetics of your visualizations.
- Choose color schemes, fonts, and other design elements that enhance readability and visual appeal.
- Make sure the visualizations are visually appealing and engaging, while avoiding excessive ornamentation that can distract from the data.

#### 8. **Iteration and Feedback:**

- Iterate on your visualizations and gather feedback from others, especially from your intended audience.
- Solicit feedback on the clarity, effectiveness, and comprehension of the visuals. Incorporate the feedback received to refine and improve your visualizations.

Remember that there is no one-size-fits-all approach to selecting an effective visual. It requires thoughtful consideration of the data, message, audience, and context. Experimentation, iteration, and feedback play a vital role in refining your visualizations to ensure they effectively communicate your data-driven insights

