

Data Analytics Project

13. The Data Visualization Guide



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PARAMETERS for Visualization

1. **Number of Variables**: Determines visualization complexity.

KEY QUESTION: *How many variables are being displayed?*

2. **Data Point Quantity**: Influences clarity and scalability.

KEY QUESTION: *What is the volume of data points for each variable?*

3. **Temporal Aspect**: Guides time-series or cross-sectional visualizations.

KEY QUESTION: *Is the data represented over time or at a specific point?*



LINE CHART

Visualizes trends in *continuous data over time*.

USAGE:

1. Compares trends effectively.
2. Handles continuous data with many points.

EXAMPLES: Quarterly sales over five years,
Weekly customer count for a new retail shop.

BEST PRACTICES:

1. Use Clear axis labels.
2. Use solid lines for continuity.
3. Limit data sets to avoid clutter.
4. Minimize gridlines for clarity.
5. Optimize the y-axis for optimal slope.



COLUMN CHART

Vertical charts to display values across categories.

USAGE:

1. Ideal for comparing values of a variable across similar categories.

EXAMPLES: Population of BRICS Nations,
Last year's sales for top car companies

BEST PRACTICES:

1. Use Clear axis labels.
2. Plot Time on the X-axis if applicable.
3. Fill the columns with Solid Color.
4. Limit categories for clear visuals.
5. Start the Y-axis at zero.
6. Maintain appropriate spacing in columns.



BAR CHART

Horizontal charts to display values across categories.

USAGE:

1. Suitable for comparing values when names for each data point are long.

EXAMPLES: Exam Scores for each student, GDP of top countries

BEST PRACTICES:

1. Use Clear axis labels.
2. Order bars from longest to shortest for clarity.
3. Fill the bars with Solid Color.
4. Start the X-axis at zero.
5. Maintain appropriate spacing in bars.



PIE CHART

Represent the composition of a total using segments of different sizes.

USAGE:

1. Ideal for showing percentages of a whole.

EXAMPLES: Annual expenses for a corporation, Survey results for favourite movie genres.

BEST PRACTICES:

1. Limit categories to maintain clarity.
2. Consolidate smaller segments if necessary.
3. Use distinct colours or greyscale.
4. Order segments clockwise by size.
5. Ensure the sum of segments equals 100%.



SCATTER PLOT CHART

Used to visualize correlations or distribution of data points.

USAGE:

1. Effective for demonstrating clustering or identifying outliers.

EXAMPLES: Life expectancy vs. GDP for countries, Weight vs. Height for individuals

BEST PRACTICES:

1. Use Clear axis labels.
2. Ensure sufficient data for visualization.
3. Start the Y-axis at zero.
4. Add trend lines for correlation.
5. Limit to two trend lines.



THANK YOU!!! FOR YOUR SUPPORT! For Now...

Keep Learning, Keep Sharing & Keep Following
Aagam Deolasi.

