Tableau Charts

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Text Chart

- Displays data in a straightforward text form.

- Useful for showing precise values and small datasets.

- Ideal for presenting exact numbers.

- Audience needs to compare specific values easily.

Expense Table Text

Category	January	Postdate February	March
Bills & Utilities	-505	-197	-55
Entertainment	-120	-13	-7
Fees & Adjustments	-80	-138	-126
Food & Drink	-323	-750	-305
Gas	-13	-49	-56
Groceries	-398	-413	-926
Health & Wellness	-270	-114	-31
Home	-536	-12	
Personal	-56		
Shopping		-1,072	-449
Travel	-75	-2,408	2,176
Grand Total	-2,377	-5,166	221

Characteristics of Text Chart

- Powerful for data presentation.

- Known as a text table or cross-tab.

- Displays data in rows and columns, similar to a spreadsheet.

- Ideal for listing names, counts, or specific details.

- Showing detailed information where exact values matter.

- Excellent for precise comparisons.

Highlight Tables

- Similar to text charts but with an added twist.

- Uses color to emphasize specific data points.

- Helps make patterns and outliers more visible.

- Ideal for heat maps.

- Highlighting highs and lows in data.

- The use of color adds an extra layer of insight.

- Makes it easier to spot trends and anomalies at a glance.
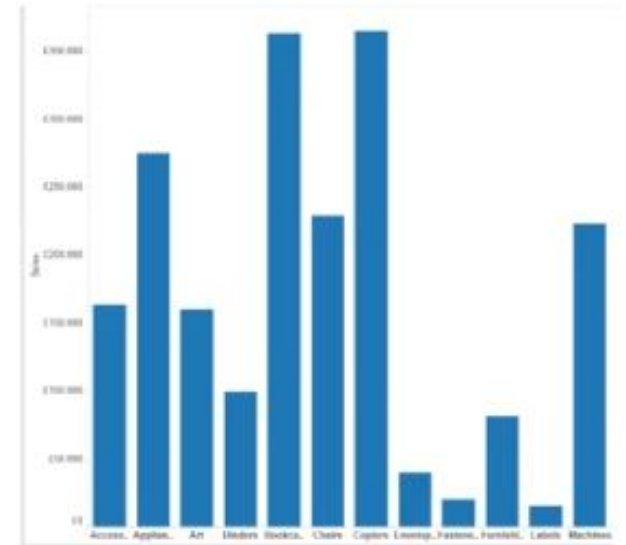
Characteristics of a Highlight Table

- Enhances text tables by adding color to emphasize important data points.
- Easier to spot patterns, trends, and outliers quickly.
- Background color of each cell is shaded based on its value,
  - Offering a visual representation of the data.
- Comparing values across multiple categories.
- Color highlights significant differences in the data.

Bar chart

- Represents data with rectangular bars.

- The length of each bar corresponds to its value.

- Comparing categories or showing changes over time.

- Being easy to read and interpret.

- Communicating key differences or trends quickly.
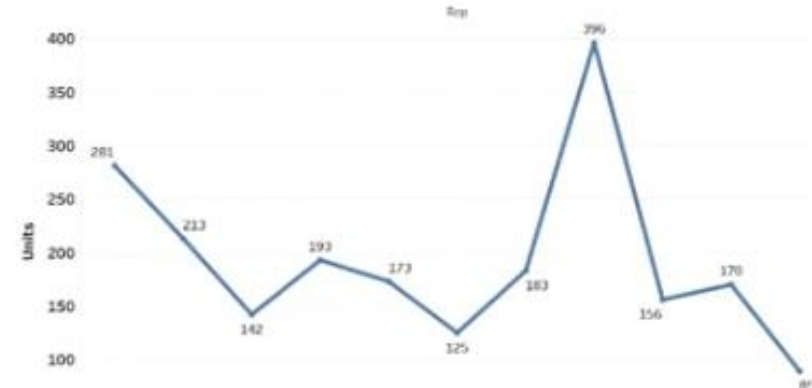
Characteristics of Bar Charts

- Most common and versatile chart types in Tableau.

- Uses horizontal or vertical bars to represent data.

- Makes it easy to see which categories are larger or smaller.

- Comparing discrete categories or groups.

- Highlights differences and trends at a glance.

- Analyzing data like sales by region or employee performance by department.

Line Chart

- Display data points connected by a continuous line.

- Clearly illustrates changes and movements in data.

- Ideal for time series analysis.

- Identify patterns, trends, and fluctuations over a specified period.

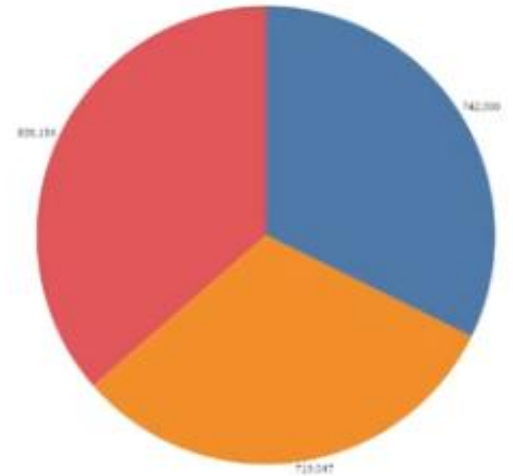# Characteristics of Line Charts

- Visualizing trends over time, showing how data points change and move.
- Represent continuous data, connecting points with a continuous line.
- Useful for time series analysis,
  - Identifying patterns and trends over a specific period.
- Can compare multiple data sets.
- Allowing for easy comparison of different trends.
- Easy to understand and interpret trends and changes.

Pie Charts

- Displays data as slices of a circle.

- Each slice represents a proportion of the whole.

- Showing the composition of a dataset.

- Effective for visual appeal, but should be used judiciously.

- Avoid using too many slices or small differences,
  - become hard to read.

- A quick snapshot of parts-to-whole relationships.

Characteristics of Pie Charts

- Circular diagrams that show data as slices of a circle.

- Each slice represents a category's share of the total.

- Makes it easy to see how each part compares to the whole.

- Ideal for displaying the relative sizes of a few categories.

- Shows the percentage each category represents.

- Few categories to compare.

Bubble Chart

- Displays data points as bubbles.

- Each bubble's position is determined by two variables (x and y axes).

- Vary in size and color to represent additional variables.

- Displaying relationships between three or four variables in a single view.

- Making it useful for multi-dimensional analysis.
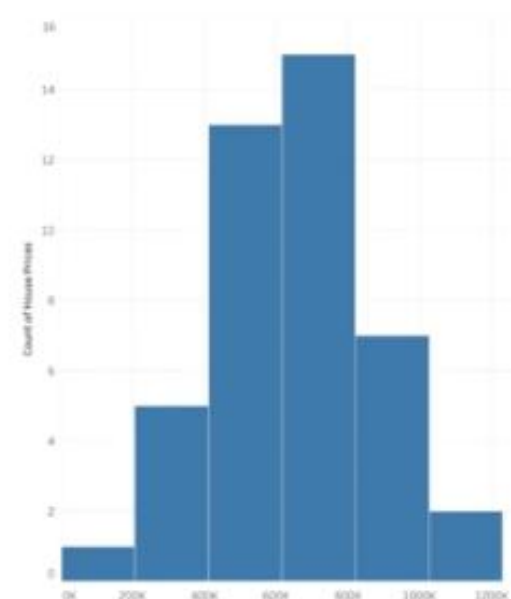
Characteristics of Bubble chart

- Visualizes multiple dimensions of data,

  - Position, size, and color.

- Position is determined by two variables (x and y axes),

- Size and color represent additional variables.

- Comparing and analyzing relationships.

  - Identify correlations and outliers.

- Varying sizes and colors,

  - Distinguish and interpret data points.

- Ideal for complex data sets,

  - Offering a appealing presentation.

Histogram

- Represents distribution of a continuous variable.

- Divides data into bins or intervals.

- Displays frequency of data points within each bin.

- Different from bar charts, which compare

  categories.

  - Focuses on the shape and spread of data.

- Understanding distribution and variability.

Characteristics of Histogram

- Visualize the distribution of a continuous variable.
- Data is divided into bins representing ranges of values.
- Bin height shows the frequency of data points.
- Helps identify the shape (e.g., normal, skewed) and spread of data.
- Useful for detecting clusters, gaps, and outliers.

Heat Map

- Uses color to represent data density or intensity.

- Ideal for visualizing complex data across two dimensions.

- Often used to uncover patterns, trends, and correlations.

FINANCE, BIOLOGY, AND WEB ANALYTICS

Characteristics of Heat Map

- Color intensity indicates data magnitude.
- Displays data in a grid or matrix format.
- Easily spot patterns, trends, and correlations.
- Comparing data across two dimensions,
  - **Example:** Time vs Category or Product vs Region.
- Highlights high and low values in data density.
- Applied in various fields like finance, biology, and web analytics.

Tree Map

- Visualizes hierarchical data as nested rectangles.

- Rectangle size is proportional to a metric.
  - Sales or population.

- Understand composition and distribution across different levels.
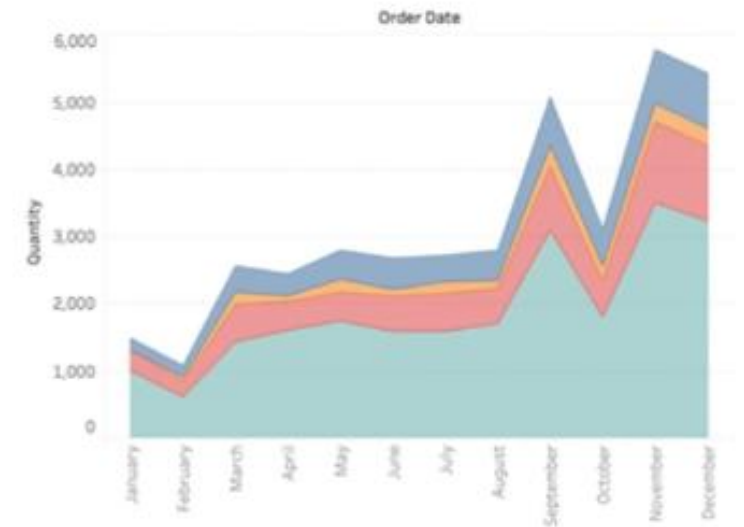
Characteristics of Tree Map

- Represents hierarchical data with categories and subcategories.
- Rectangle size reflects a specific metric.
  - Revenue, population.
- Nested rectangles illustrate relationships.
- Easily identify dominant categories and outliers.
- Supports interactive exploration,
  - Drill down and zoom out.
- Finance, marketing, and organizational management.

Area Chart

- Displays data as connected points with area filled beneath.

- Emphasizes the cumulative magnitude of values over time.

- Showing trends and patterns over time or categories.

Characteristics of Area Chart

- Highlights cumulative values over time or categories.
- Filled area between line and x-axis emphasizes data series.
- Showing trends, highlighting increase and fluctuations.
- Comparison of multiple categories or data series.
- Smooth representation of changes over time.
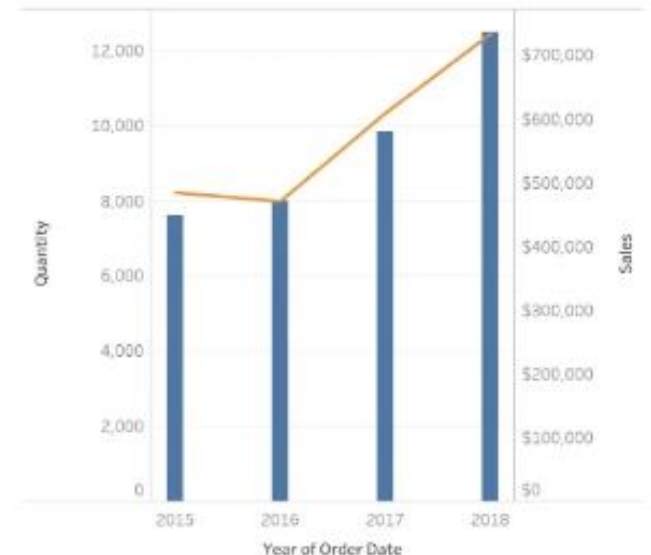- Presenting trends in reports and presentations.

Dual Axis Chart

- Combines two separate axes on one chart.

- Visualizes two different measures or metrics simultaneously.

- Comparing trends and relationships between different measures.

Characteristics of Dual Axis Chart

- Displays two measures with separate axes.

- Each axis can have its own scale for measures with different units.

- Combines multiple visual elements,
  - Lines, bars for correlation analysis.

- Shows interactions between two variables over time or categories.

- Enhances clarity by comparing trends.

- Versatile—can be applied to various chart types.

Scatter Plot

- Plots individual data points on an x and y-axis.

- Helps identify correlations, outliers, and trends in data.

- Used to visualize relationships between two variables.

Characteristics of Scatter Plot

- Identifies relationships or associations between two variables.
- Each point represents an observation.
- Position is determined by values,
  - x-axis and y-axis.
- Recognize patterns like clusters, trends, correlations, and outliers.
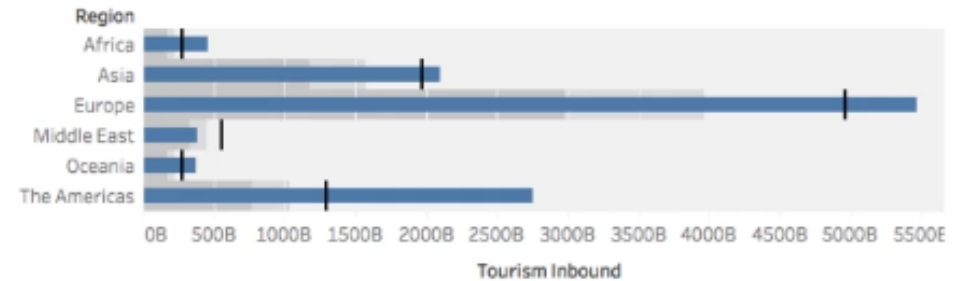
Characteristics of Scatter Plot

- Shows the spread/dispersion of data points to indicate variability.

- Often used in regression analysis to assess relationship strength.

- Data exploration in various fields like statistics and research.

Bullet Chart

- Specialized chart type in Tableau.

- Displays progress towards goals.

- Highlights performance against targets.

- Consists of a primary measure,
  - Current sales.

- Compares to secondary measures,
  - Previous performance, target values.

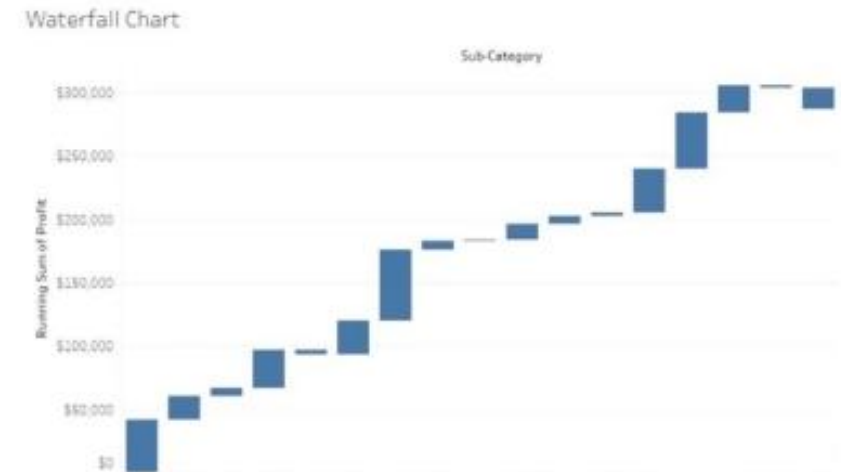- Concise view of performance metrics.

Characteristics of Bullet Chart

- Compares primary measures with targets and previous periods.

- Compact layout optimizes space.

- Conveying essential information.

- Includes reference line for easy goal assessment.

- Highlights trends and deviations for quick evaluation.

- Enhance analytical depth.

- Uses bars and markers for intuitive data presentation in dashboards.

Waterfall Chart

- Helps in understanding how a starting value changes due to different factors.

- Visualizes the cumulative effect of sequential positive and negative values.

- Commonly used in financial data
  - Profit and loss analysis.

- Each bar shows the impact of different factors on the total value.

Waterfall Chart

Characteristics of Waterfall Chart

- Illustrate cumulative impact of sequential positive/negative values on an initial value.

- Begin with a baseline value and show incremental changes leading to a final value.

- Bars represent increases/decreases, visually tracing the flow of changes.

Characteristics of Waterfall Chart

- Ideal for analyzing contributing factors to totals like revenue, expenses, and net profit.

- Provide clarity in understanding how factors impact a metric, highlighting trends and outliers.

- Used in financial contexts to simplify complex data transformations for decision-making.

Gantt Chart

- Represents project schedules using a bar chart format.

- Each task is shown as a bar positioned against time, indicating start and end dates.

- Project management, offering a clear timeline of activities.

- Teams coordinate tasks and meet deadlines.

Characteristics of Gantt Chart

- Represent tasks as bars on a timeline, showing start and end dates.

- Bar length reflects task duration, offering a clear timeline view.

- Visualize task dependencies, indicating which tasks rely on others.

- Aid in resource management by showing when resources are required.