Visualizations

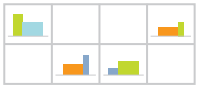
What would you like to show?

Comparison

- Among items
  - Two variables per item
  - One variable per item
    - Many categories
    - Few categories
- Over time
  - Cyclical data
  - Non-cyclical data
  - Many periods
  - Single or few categories
  - Few periods
  - Many categories

Variable width chart

Table or tables with embedded charts



Bar chart horizontal

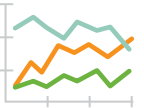
Bar chart vertical

Circular area chart

Line chart

Bar chart vertical

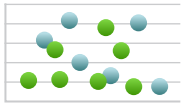
Line chart



Relationship

- Two variables
- Three variables

Scatter plot



Scatter plot bubble size

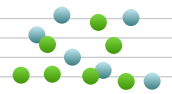
Distribution

- Single variable
  - Few data points
  - Many data points
- Two variables

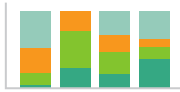
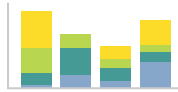
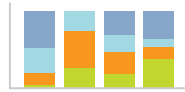
Bar histogram

Line histogram

Scatter plot

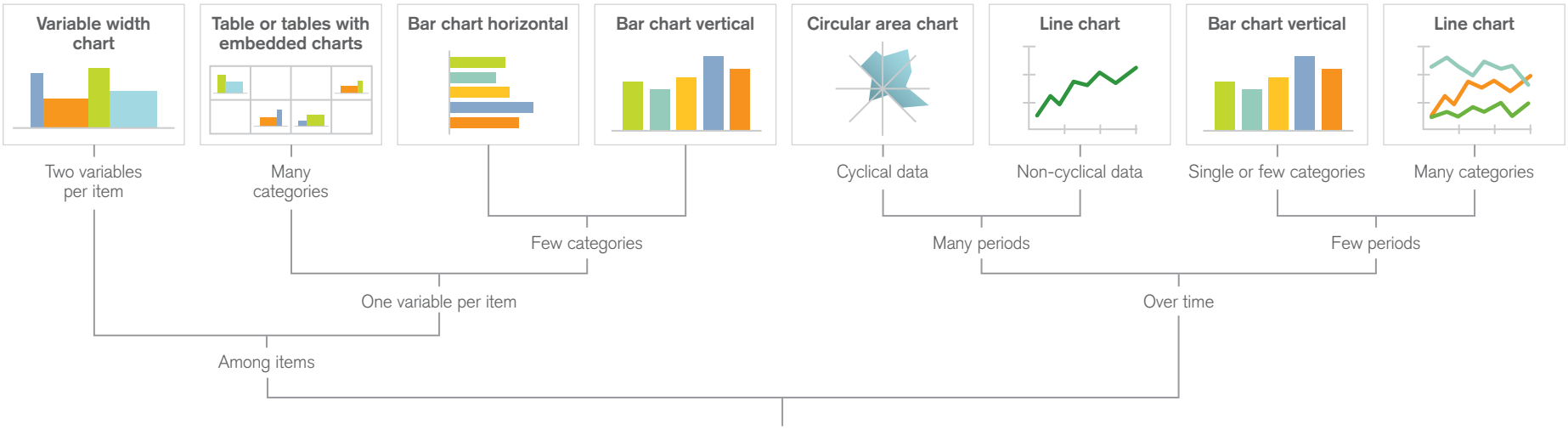


Composition

- Changing over time
  - Few periods
    - Only relative differences matter
      - **Stacked 100% bar chart**
      - 
    - Relative and absolute differences matter
      - **Stacked bar chart**
      - 
  - Many periods
    - Only relative differences matter
      - **Stacked 100% area chart**
      -
    - Relative and absolute differences matter
      - **Stacked area chart**
      -
- Static
  - Simple share of total
    - **Pie chart**
    -
  - Accumulation or subtraction to total
    - **Waterfall chart**
    -
  - Components of components
    - **Stacked 100% bar chart w/subcomponents**
    - 
  - Accumulation to total & absolute difference matters
    - **Tree map**
    -

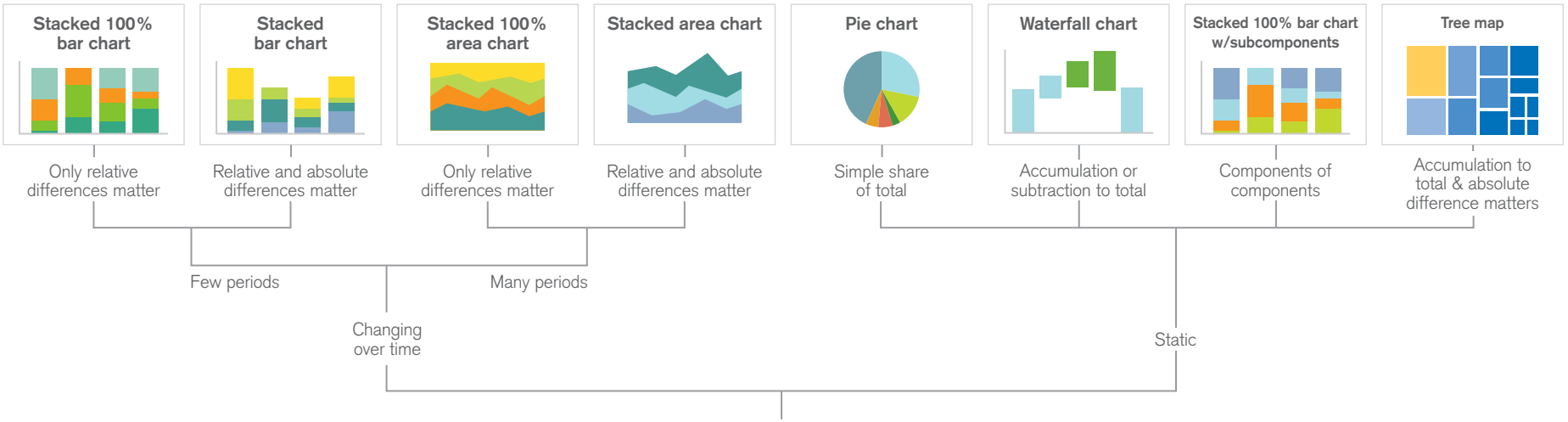
Source: ©A. Abela, 2010. www.ExtremePresentation.com

Comparison Visualizations



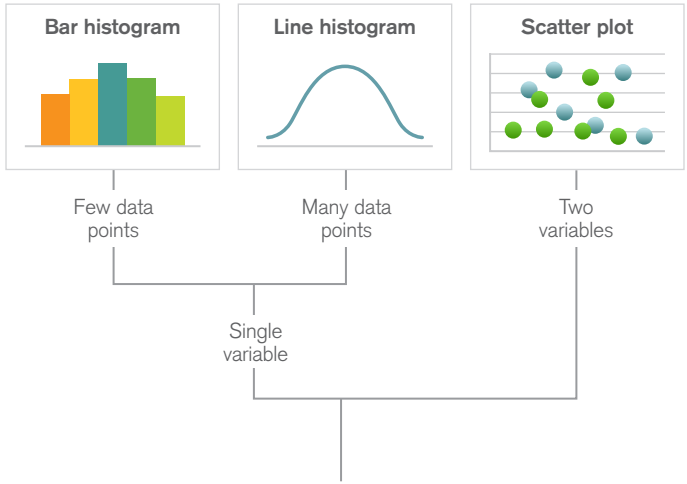
Comparison charts are used to compare the magnitude of values to each other and can be used to easily find the lowest and highest values in the data. It can also be used to compare current values versus old to see if the values are increasing or decreasing. Common questions are “what products sells best” and “how are our sales compared to last year”.

Composition Visualizations



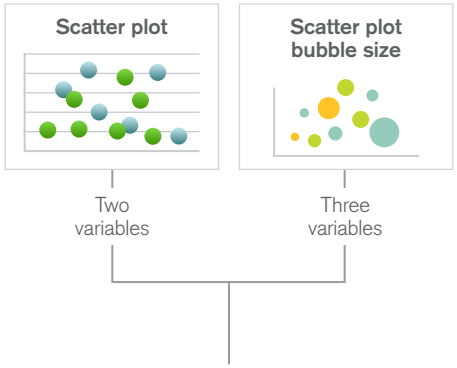
Composition charts are used to see how a part compares to the whole and how a total value can be divided into shares. A composition charts shows the relative value, but some charts can also be used to show the absolute difference. The difference is between looking at percentage of total and value of total. Commons questions are “how big part of the market to we have in a region” or “what areas is our budget divided into”.

Distribution Visualizations



Distribution charts are used to see how quantitative values are distributed along an axis from lowest to highest. Looking at the shape of the data a user can identify characteristics such as the range of values, central tendency, shape and outliers. It can be used to answer questions such as “number of customers per age group” or “how many days late are our payments”.

Relationship Visualizations



Relationship charts are used to see the relationship between the data and can be used to find correlations, outliers and clusters of data. Common questions are “is there a correlation between advertising spend and sales for our products” or “how does expenses and income vary per region and what’s the deviation”.