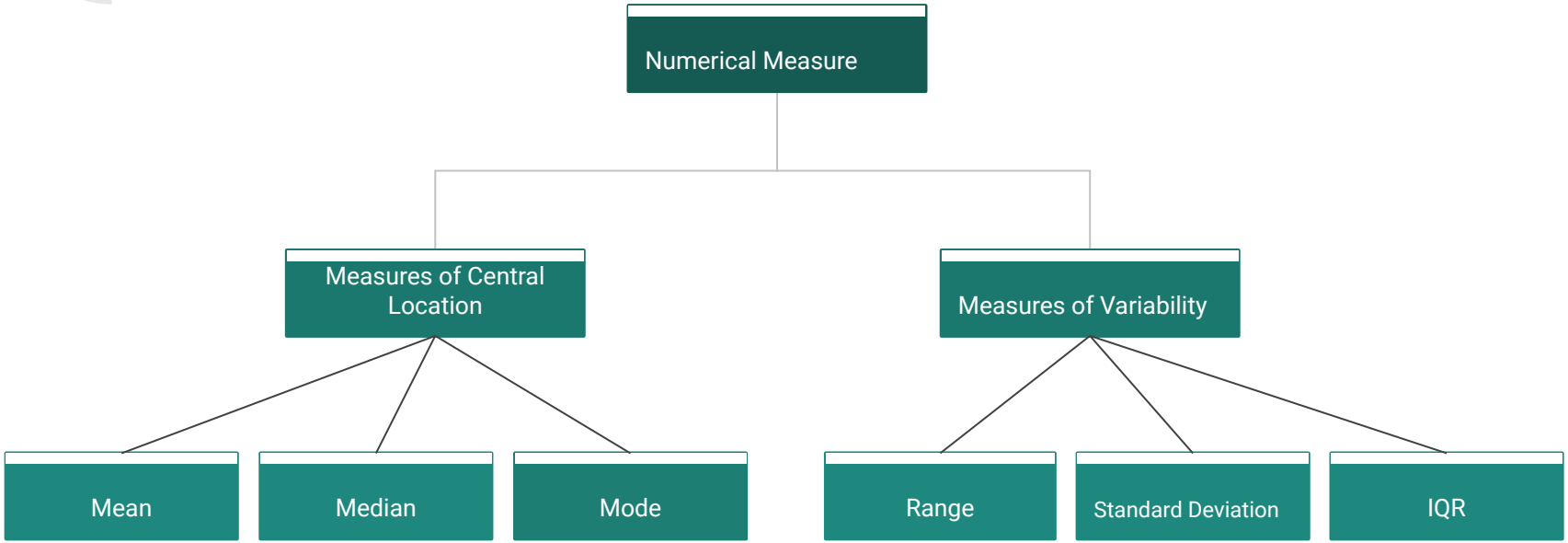
Week 6/7 Summary and Applications

Wrap-Up of Numerical Summary



Measures of Central Location

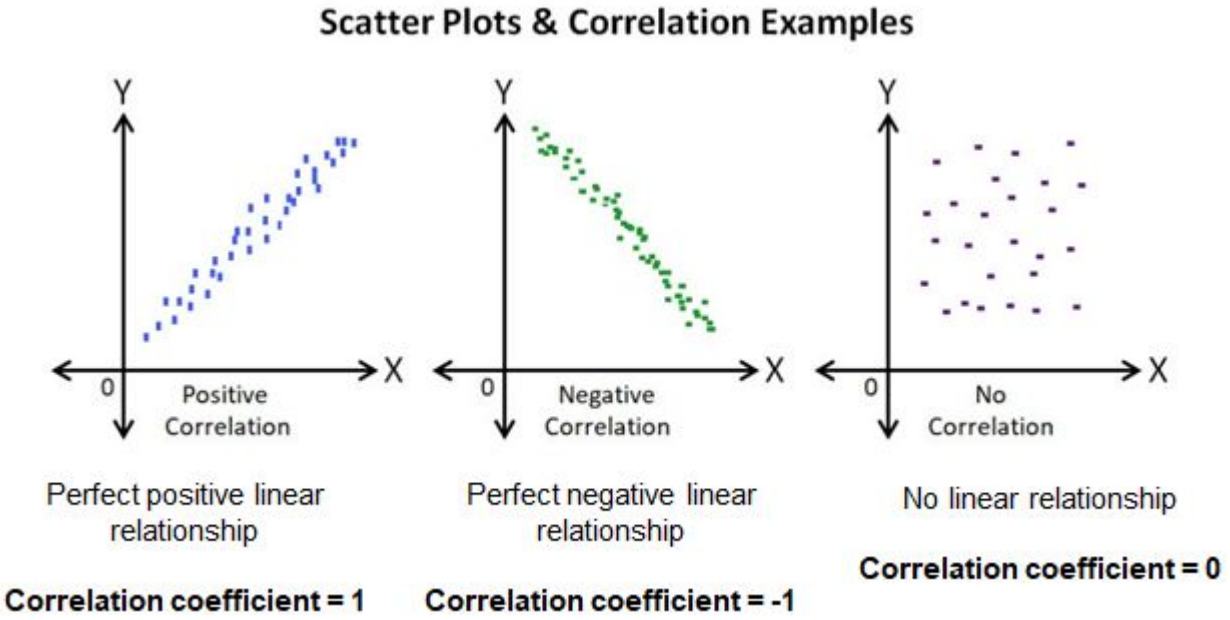
- Mean (Average)
  - Sum all observations and divide by number of observations
  - Sensitive to extreme values
- Median
  - The middle value of the observation
  - Not sensitive to extreme values
- Mode
  - The value that is seen the most in the observation

Measures of Variability

- Range
  - Range is the maximum value minus the minimum value
  - This is a very simple measure to compute but we only rely on the extremes in the data
- Standard Deviation
  - Standard Deviation measures the variation between a set of values
- Interquartile Range (IQR)
  - This measures the percentiles and quartiles in the data
  - Example: if you score a 70th percentile on a test, then 70% of the scores are below your score while 30% are above

Measures of Linear Relationships

- Correlation Coefficient
- What is its range (-1 to +1) and what do those numbers mean?



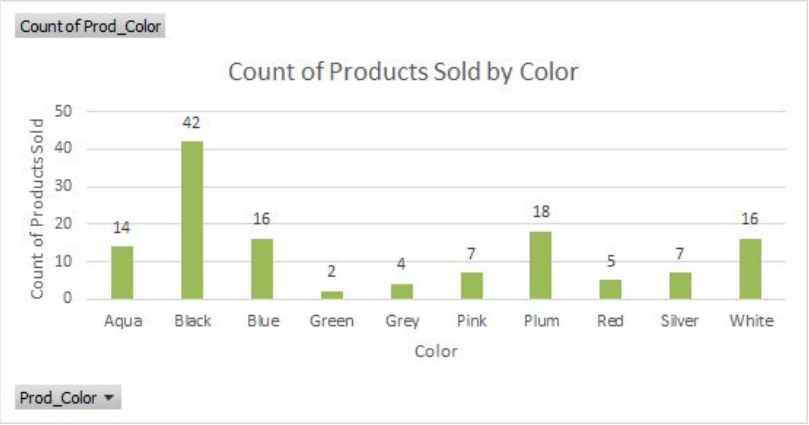
Pivot Tables

- What are they?
  - A pivot table is a way to summarize a large amount of data
- What are they used for?
  - They are typically used to summarize sales transaction data by multiple dimensions
- Example -- How many items were sold by color?

3	Count of Prod_Color	
4	Prod_Color	Total
5	Aqua	14
6	Black	42
7	Blue	16
8	Green	2
9	Grey	4
10	Pink	7
11	Plum	18
12	Red	5
13	Silver	7
14	White	16

Pivot Tables Continued

- Slicers
  - A slicer provides buttons that you can use to easily filter PivotTables
- Pivot Chart
  - A pivot chart is a visual representation of a pivot table
  - Example (Using the same pivot table as previous slide)



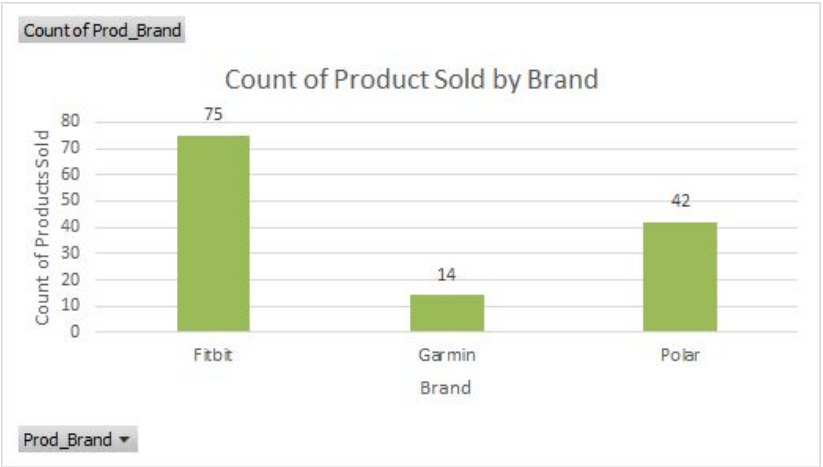
Pivot Table and Chart Example

How many items were sold by brand? (Question 1 from slides)

Pivot Table

3	Prod_Brand	Count of Prod_Brand
4	Fitbit	75
5	Garmin	14
6	Polar	42

Pivot Chart



Business Decision Making

How can bad decisions be avoided?

- Using data analytics
  - Trend Analysis
  - Cost / Benefit analysis
- Data needs to be analyzed and defined in order to make smarter decisions.

How have business decisions changed?

- Business decisions used to be based mainly on intuition. (A gut feeling)
- Now, business decisions need to be based off of data and intuition.