DAY 1

Monday, April 22, 2024   2:41 PM

- *DATA ANALYTICS:*
                    To convert raw data into meaningful or useful data by using
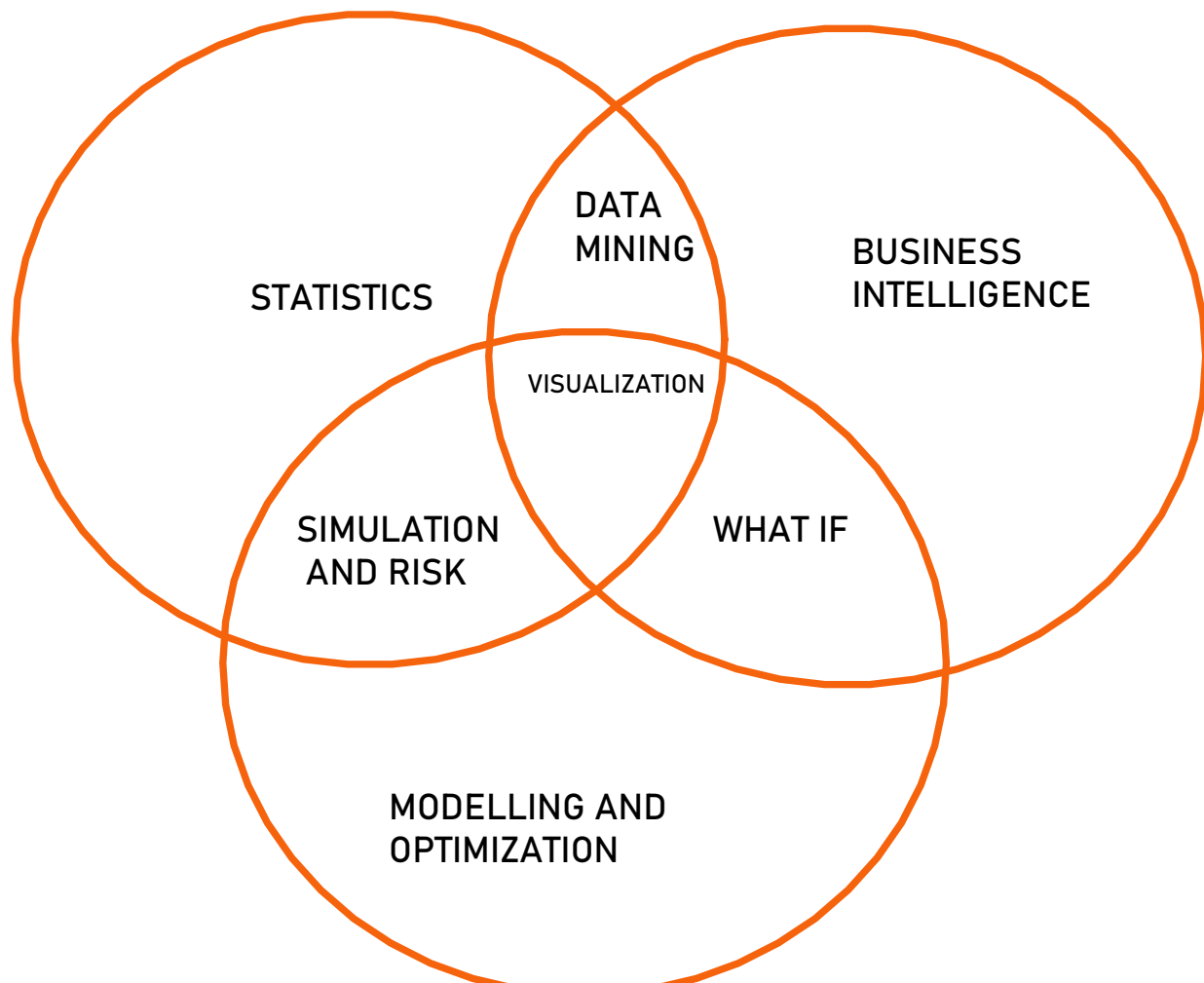rules and techniques. A good data must have: Validity , Reliability , Sensitivity.

- *VALIDITY:*
                Validity is ability of measure to measure what it is supposed to measure.

- *RELIABILITY:*
                    Reliability is the ability to get consistent result when same measure is
repeated.

- *SENSITIVITY:*
                    Sensitivity is the ability of measure to measure variability of responses

BUSINESS INTELLIGENCE	BUSINESS ANALYTICS
Looking backward	Looking forward

- VRIO term in market:

1. VALUEABLE : Benefits/Cost
2. RARE   : Product should be rare
3. IMITATE   : Not easy to imitate
4. ORGANIZED : Organized mechanisms

DATA MINING:

It is focused on better understanding characteristics and patterns among variables in large database using variety of statistical and analytical tools.

TYPES / SCOPES / EVOLUTION OF DATA ANALYTICS:

1. DESCRIPTIVE :

- *What is happening in my business or what is already happened?*
- Counting, percentages
- Central Tendencies – Mean , Mode, Median
- Measures of Dispersion – Range , Mean Deviation , Standard Deviation , Quartile Deviation, Variance
- Shape of Data
- Visualization

2. DIAGNOSTICS :

- *Why is it happening*
- Ability to drill down to the root cause
- Ability to isolate all confounding information
- Ability to isolate all confounding information

3. PREDICTIVE :

- *What is likely to happen*
- Historical patterns being used to predict specific outcomes using algorithms
- Decisions are made using algorithms and technology

4. **PRESCRIPTIVE :**

- *What do I need to do*
- Applying advanced analytics techniques to make specific recommendations

COMPLEXCITY
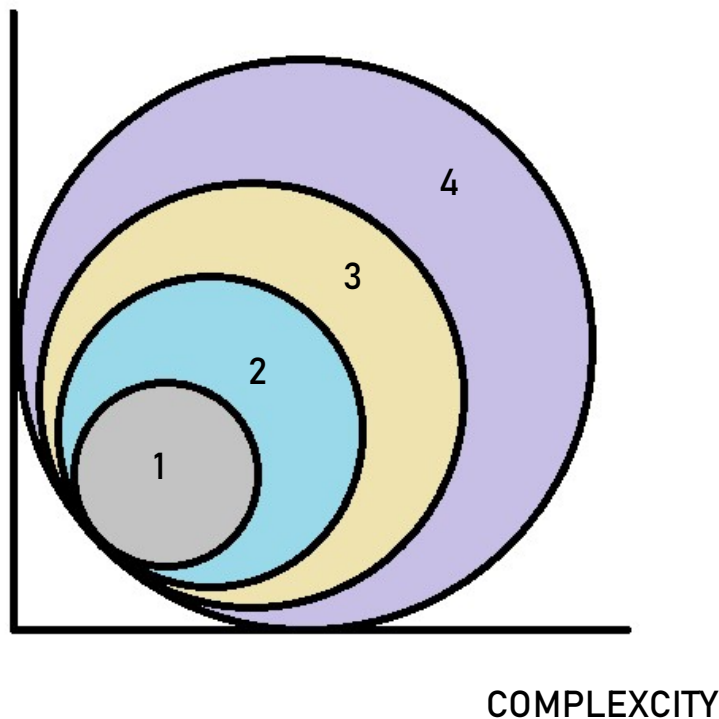
POPULATION:
- Population is collection of all possible observations of specified characteristics of interest

SAMPLES:
- Sample is subset of population
- It is a finite part of population which is selected in particular fashion
- It is not possible to collect all population data every time due to lack of time or high cost.

PARAMETERS	STATISTICS
POPULATION	SAMPLE
N, σ , μ	n, s , x bar

TYPES OF DATA:

1. **Qualitative Data :**
   Data will be in form of words and sentences. Also known as Unstructured Data
   Ex. age , marital status , etc.

2. **Quantitative Data:**
   Data in the form of number or can be converted in form of numbers. Also known as Structured Data
   Ex. profit, sales, etc.

STEPS INVOLVED IN DATA / BUSINESS ANALYTICS:

1. **DECIDE ON THE OBJECTIVES:** You must begin with right set of questions

2. **DATA COLLECTION:** Collect data

3. **DATA CLEANING:** Outliers , missing values, etc.
4. **ANALYSIS OF DATA :** Various data analysis can be used understand and derive conclusions based on requirements.
5. **INTERPRETING THE RESULTS :**