BUSINESS ANALYTICS

Analytics

Analytics is a process of transforming data into insights for making a better decisions:

- **Statistics**
- **Data mining**
- **Technology**

Business Analytics

Developing **new insights and understating of business performance** based on data and statistical methods

Analytics Process

Descriptive

- What is/has happened
- Data Description

Predictive

- Statistics from past data to predict what might might happen
- Data Inference

Prescriptive

- Techniques and algorithms to reach our goals
- Data Modelling

3 A's of Analytics Process

Based on 3A's will develop new model to the problem-solving operation:

- **Analytics (What?)**
- **Attribution (How?)**
- **Algorithm (Solution?)**

Field where Business Analytics involved?

Finance

- Credit scoring, fraud detection, pricing, claims analysis

Retail

- Promotions, replenishment, demand forecasting, merchandising optimisation

Manufacturing

- Inventory replenishment, product customisation, supply chain optimisation

Health care

- Drug interaction, preliminary diagnosis, disease management

Energy

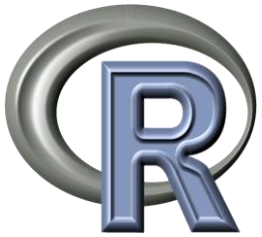
- Trading, supply, demand forecasting, compliance

Communications

- Customer retention, capacity planning, network optimisation

Software's for Analytics

- **R Programmer**



- **SAS**

- **IBM SPSS**

Other software available

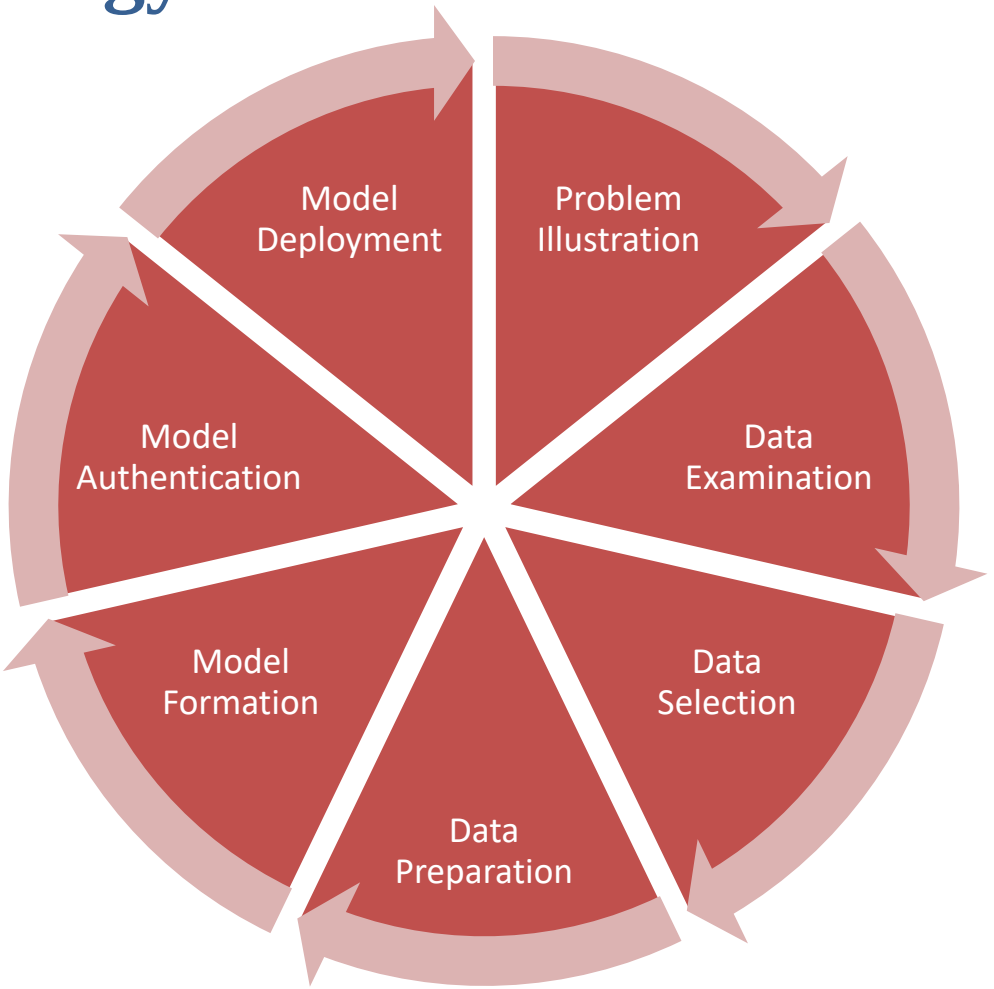
- **Excel**
- **SAP HANA**
- **Weka**
- **KXEN**
- **Mini TAB**
- **Rapid Miner**
- **Tableau**

Difference between Business Intelligence and Business Analytics

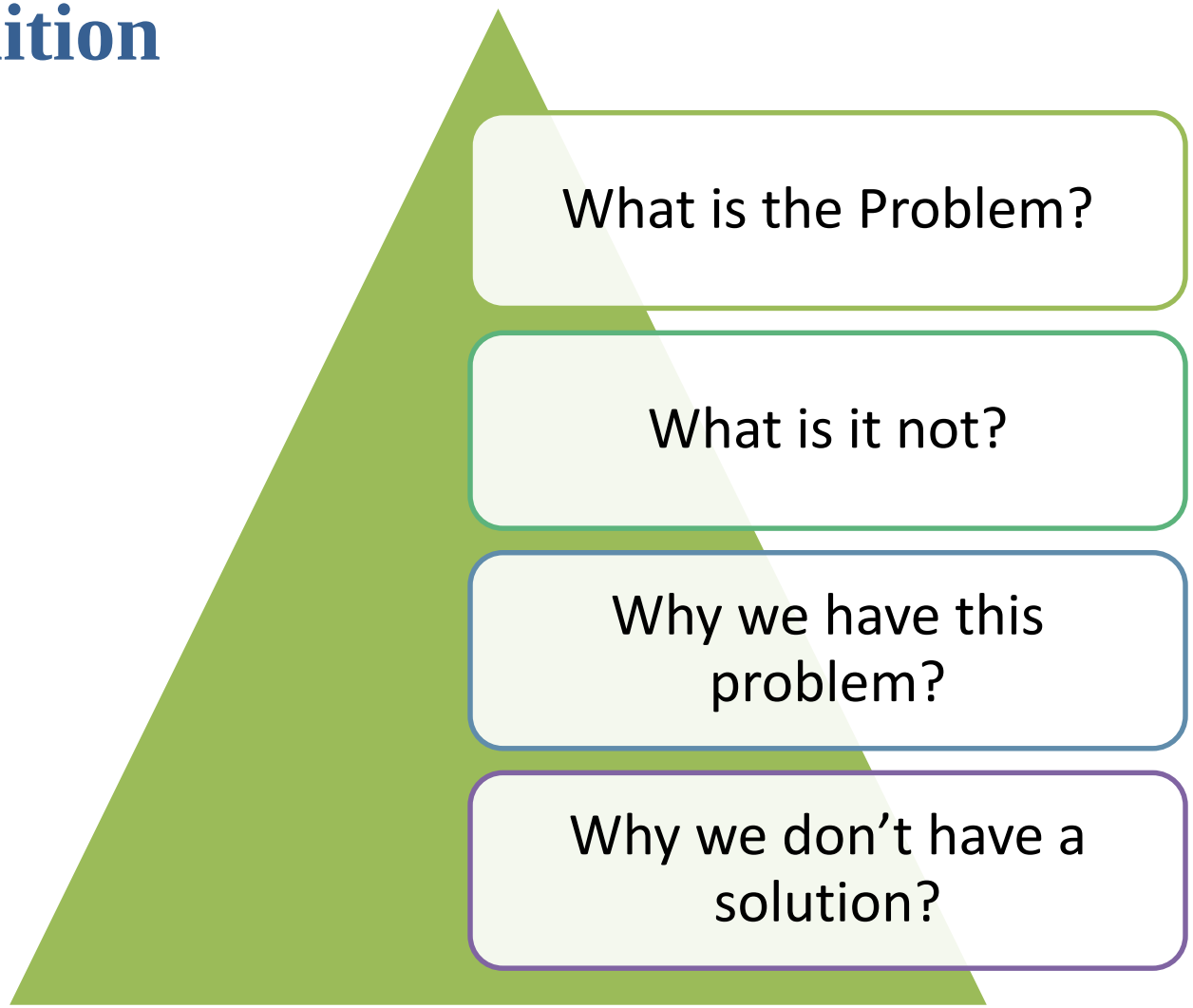
- Standard reports and dashboards
- Ad hoc reports – Current performance
- Query drill down
- Alerts

- Statistical Analysis
- Forecasting
- Predictive modelling
- Optimization

Analytics Methodology



Problem Definition



Data Collection

- Collecting data is very important when comes to analytics
- Accuracy and honest of data should exist
- Collection methods may vary:
  - **Census**
  - **Sample survey**
  - **Experiment**
  - **Observational study and so on.,**

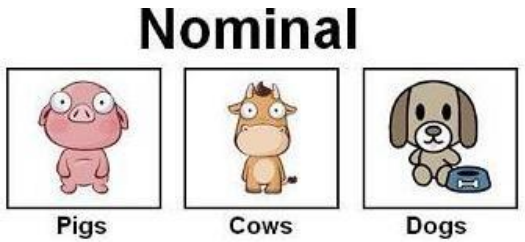
Types of Data

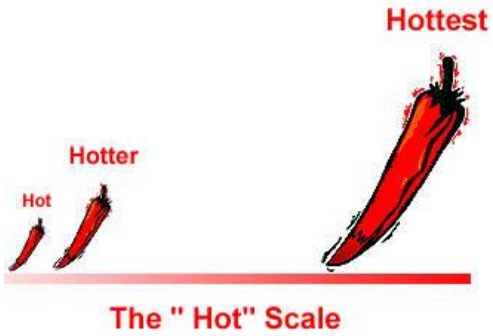
In General:

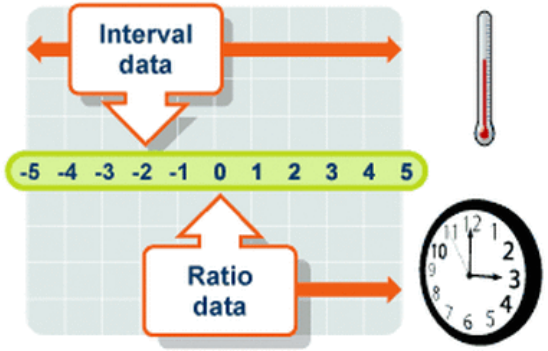
- Nominal
- Ordinal
- Interval
- Ratio

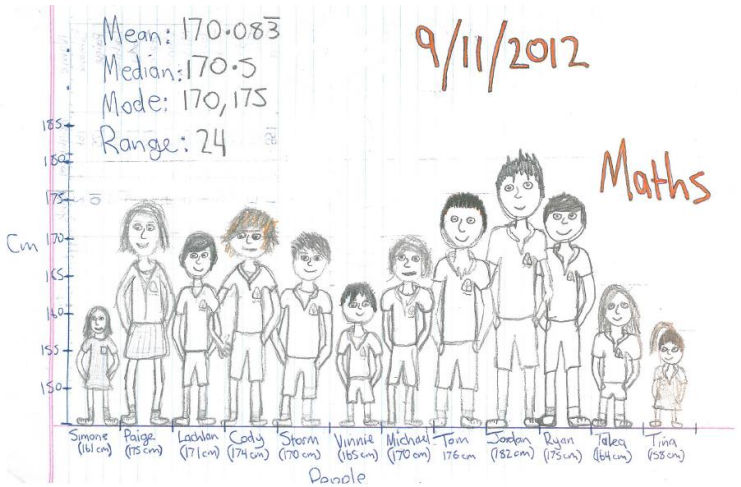
In Common:

- Continuous data
- Categorical data









Color	Number of toys
Brown	2
Yellow	5
Red	4
Blue	3
Green	6

Data Dictionary

- Collection of data for the benefit of programmer and for reference
- Information about data such as:
    - Name and structure
    - Description and format
    - Relationships between its element
- Used to control access to and manipulation of the database