

Introduction
to BI and ETL
Workflow

IRON
HACK

Structure of class

In today's class we will cover:

- What is Business Intelligence (BI)
- Components of BI
- BI Concepts
- Tableau



Business Intelligence vs Data Science

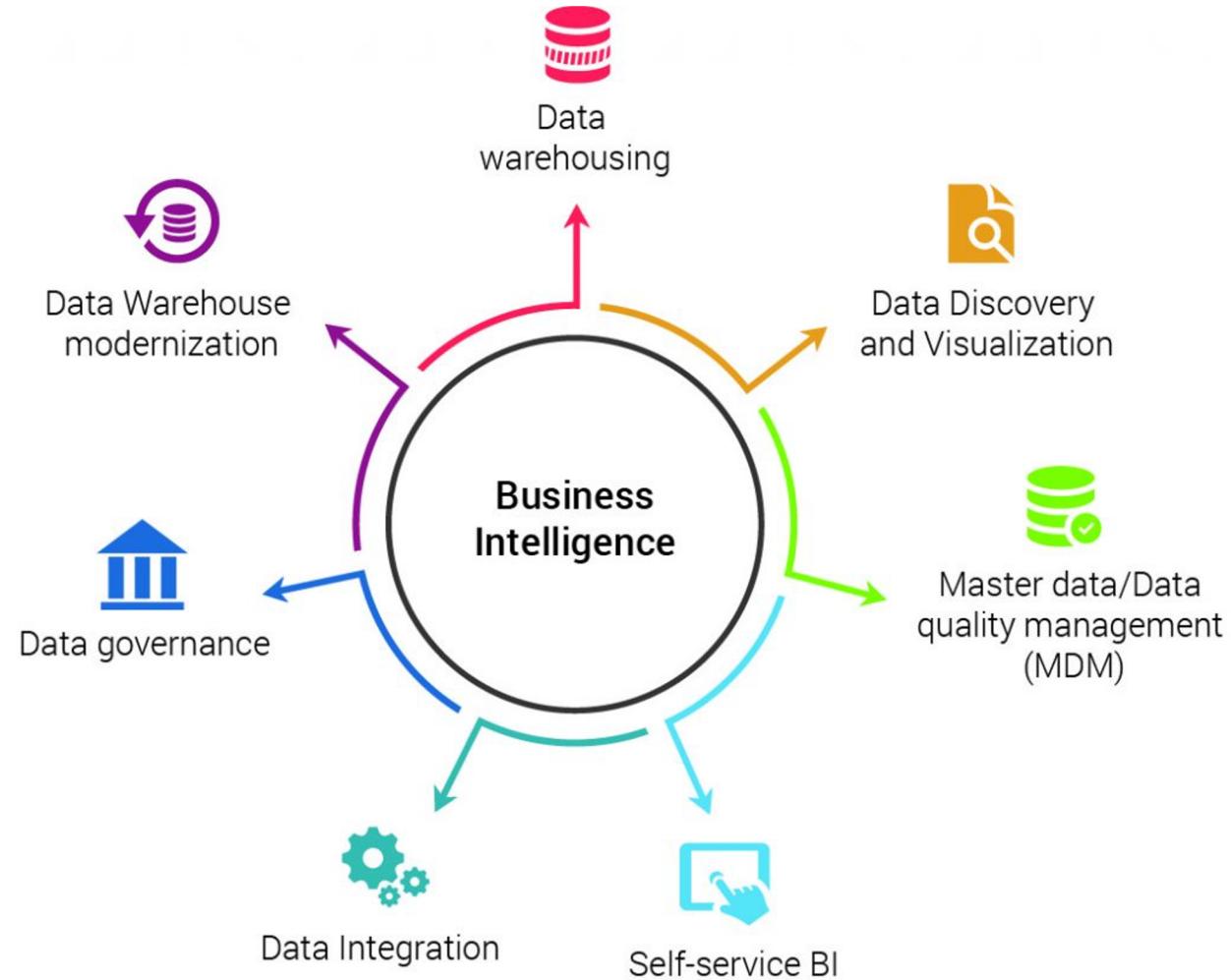


Data Science



Business Intelligence

Components of Business Intelligence



Components of Business Intelligence

Data Analyst Mentality

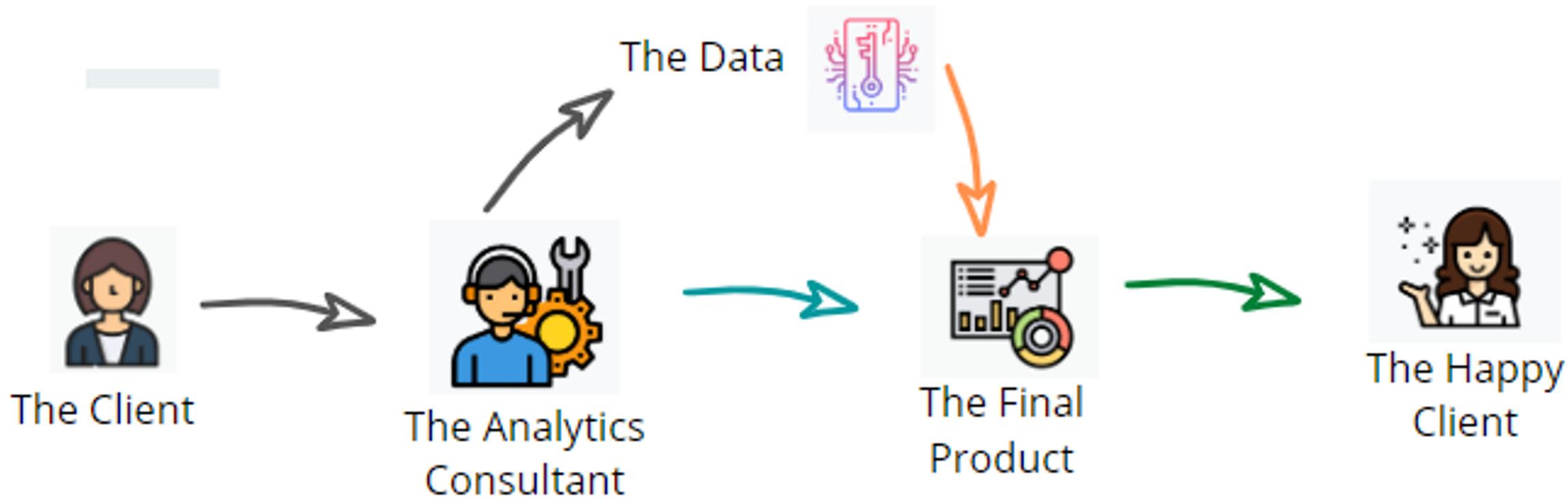


Product Development
Mentality



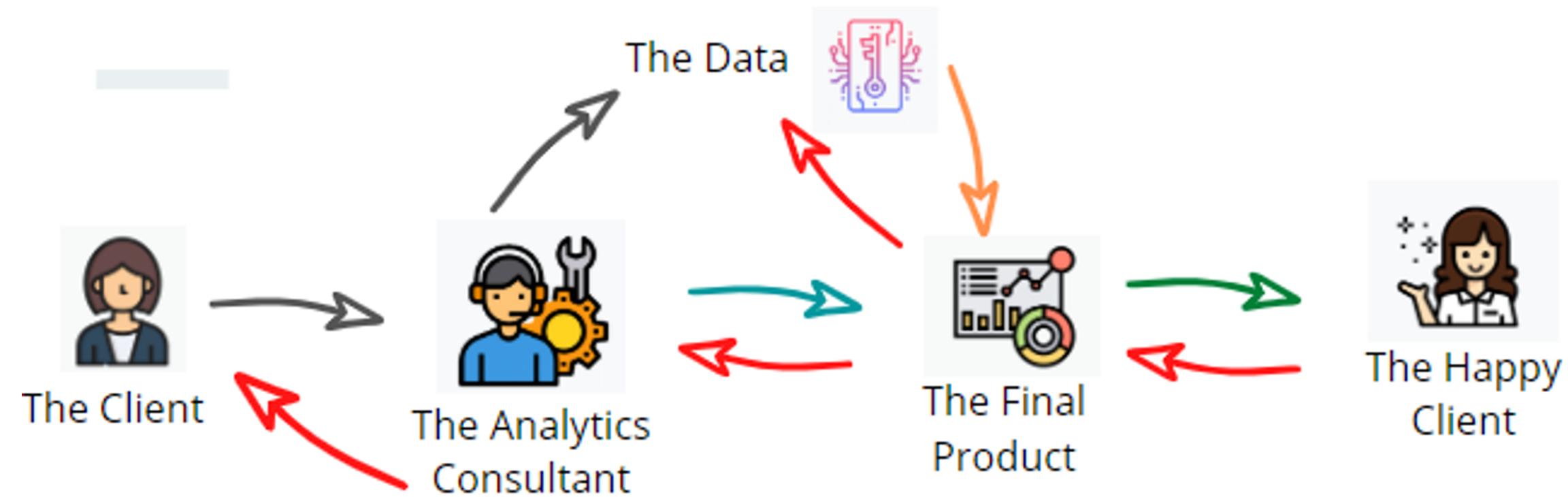
Analytics Consulting Project

ANALYTICS CONSULTING OVERVIEW



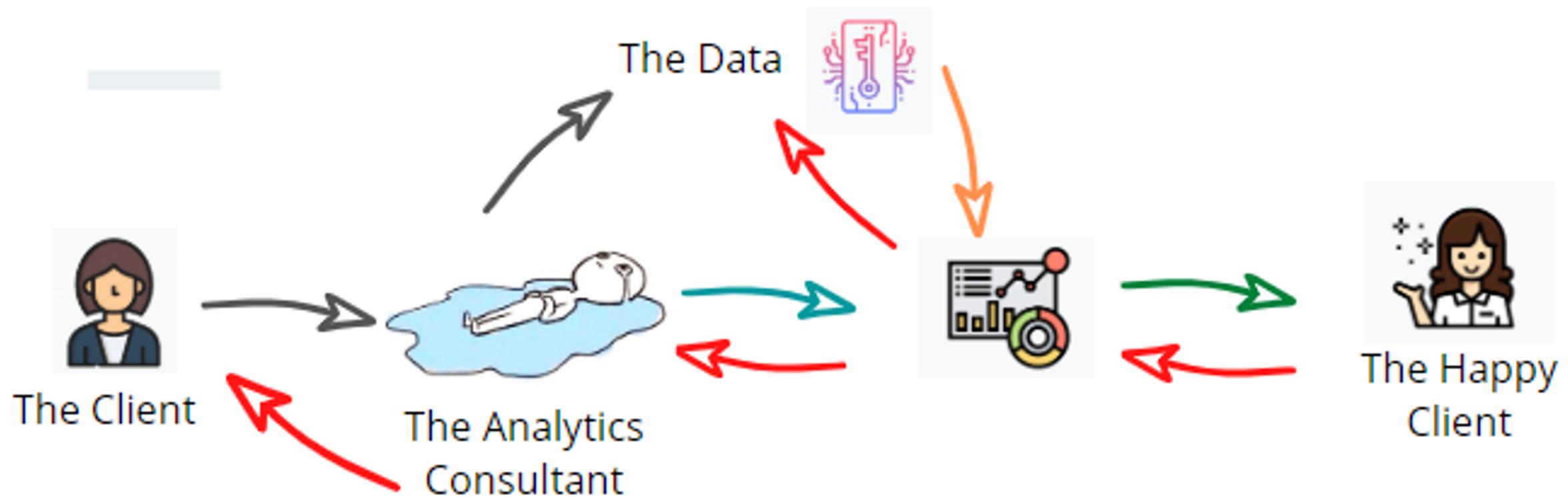
Analytics Consulting Project

ANALYTICS CONSULTING OVERVIEW : IN PRACTICE



Analytics Consulting Project

ANALYTICS CONSULTING OVERVIEW : IN PRACTICE



Traditional Business Intelligence Process

Traditional BI workflow has 3 main steps:

ETL

Data Warehousing

Reporting

Traditional Business Intelligence Process

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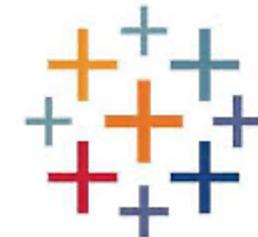
ETL

Data Warehousing

Reporting

alteryx

python™



+a bleau®

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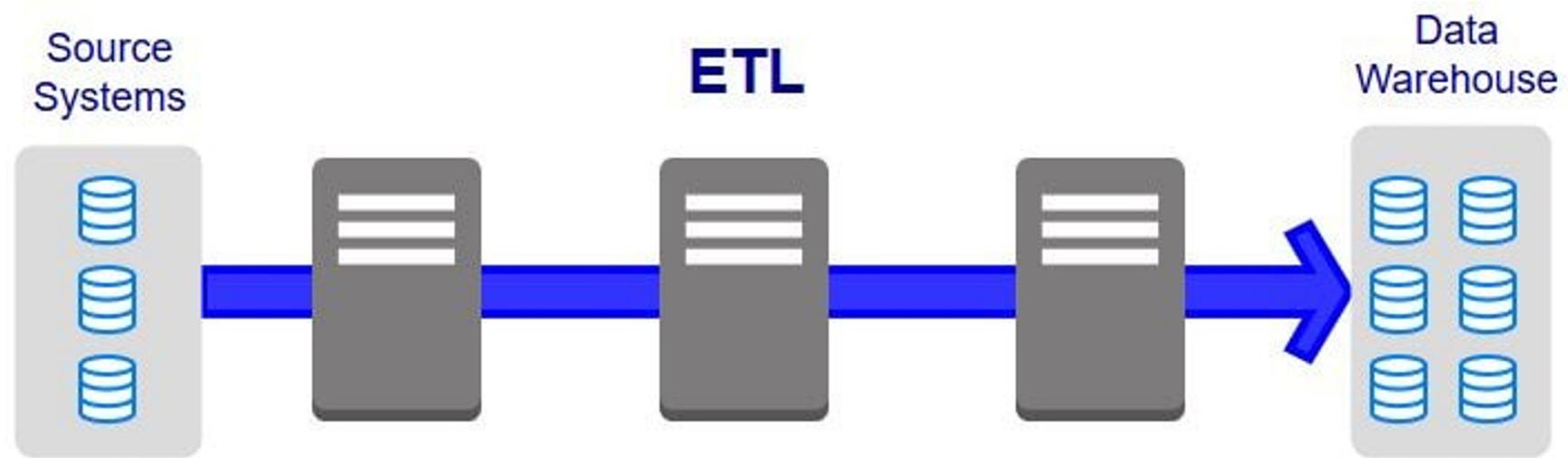
ETL – Extract Transform Load

Extracting the data from several data sources

Transforming the data into the desired structure and data model

Loading the final data into the destination target

Traditional Business Intelligence Process



ETL Deep-Dive

The ETL process encompasses a wide variety of use-cases and stages that you will require or not depending on:

- How many data sources you have
- Data source format: are they all in the same filetype, structure and location? Example: TimeSheet of employee based on calendar
- Can the different data sources be linked (join - pd.merge!!) via one or more fields?
- Do the data sources follow the good standards of data management: Primary Key, Dimensions vs measures clearly identified, systematic treatment of dates.
- Level of granularity of data sources

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Data Warehouse

Data Warehouse is central repository of integrated and processed data from one or more distinct sources. The purpose of a DW is to act as a golden source of information to be consumed by the business.

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Data Warehousing

Reporting

Reporting

The process of reporting is that of converting data in the data warehouse into conclusions given the business logic and context. There are several channels over which reporting can be performed.

BI Challenges

Challenges:

- Different Levels of Detail for different data sources (technical)
- Data Owners not being cooperative (people)
- Data Quality (technical + people)
- Frequency of Update of data source (technical)

BI Concepts

DIMENSIONS:

- Data Atributes
- Examples: Geo-Location (City, Country), Categorical Breakdown
- (Usually) strings

METRICS:

- Measurable values that describe your data
- Examples: Sales, Profit, dedicated KPIs (what are KPIs??)

AGGREGATIONS:

- Operations done on data columns:
- On Dimensions: COUNT(), COUNT DISTINCT()
- On Metrics: SUM(), AVG(), MAX(), MIN()

Reporting Example

praxedo

New Cockpit Admin

Synthesis Work order Schedule Map Localisation Customer Items Parameters Administration

Cockpit

Work order Analytics Apply

Ongoing work orders today: 23 ↑

Work orders to schedule for today: 20 ↑

Carried out work orders rate: 8% ↑ 2/25

Work orders to schedule for tomorrow: 20 ↑

Validated work orders rate: 4% ↑ 1/25

WO scheduled for today: 3 ↓

Category	Count	Change	Details
Ongoing work orders today	23	↑	Installation: 9, Breakdown: 8, Maintenance: 6
Work orders to schedule for today	20	↑	Installation: 8, Breakdown: 7, Maintenance: 5
Carried out work orders rate	8%	↑	2/25
Work orders to schedule for tomorrow	20	↑	Installation: 8, Breakdown: 7, Maintenance: 5
Validated work orders rate	4%	↑	1/25
WO scheduled for today	3	↓	Breakdown: 1, Maintenance: 1, Installation: 1

Business Intelligence vs Data Science



Data Science



Business Intelligence

Business Intelligence vs Data Science



Data Science



Business Intelligence

Demo Time

TABLEAU