Swedbank

Why, When and How? The Importance of Business Intelligence

09.11.2022

Agenda

WHAT IS BUSINESS INTELLIGENCE?

BI PRINCIPLES

DATA WAREHOUSING

We live in a Data Driven Society

- We expect data to be available
- We are willing to give data in order to get services or more data
- We expect companies to use data intelligently/legally
- **We make decisions based on data**
- We expect others to make decisions based on data

"In God we trust. All others must bring data." — W. Edwards Deming

Where does Business Intelligence come into the picture?

- **Business intelligence (BI)** is an umbrella term that includes the **applications**, **infrastructure** and **tools**, and **best practices** that enable **access to and analysis of data** to improve and **optimize decisions and performance**.

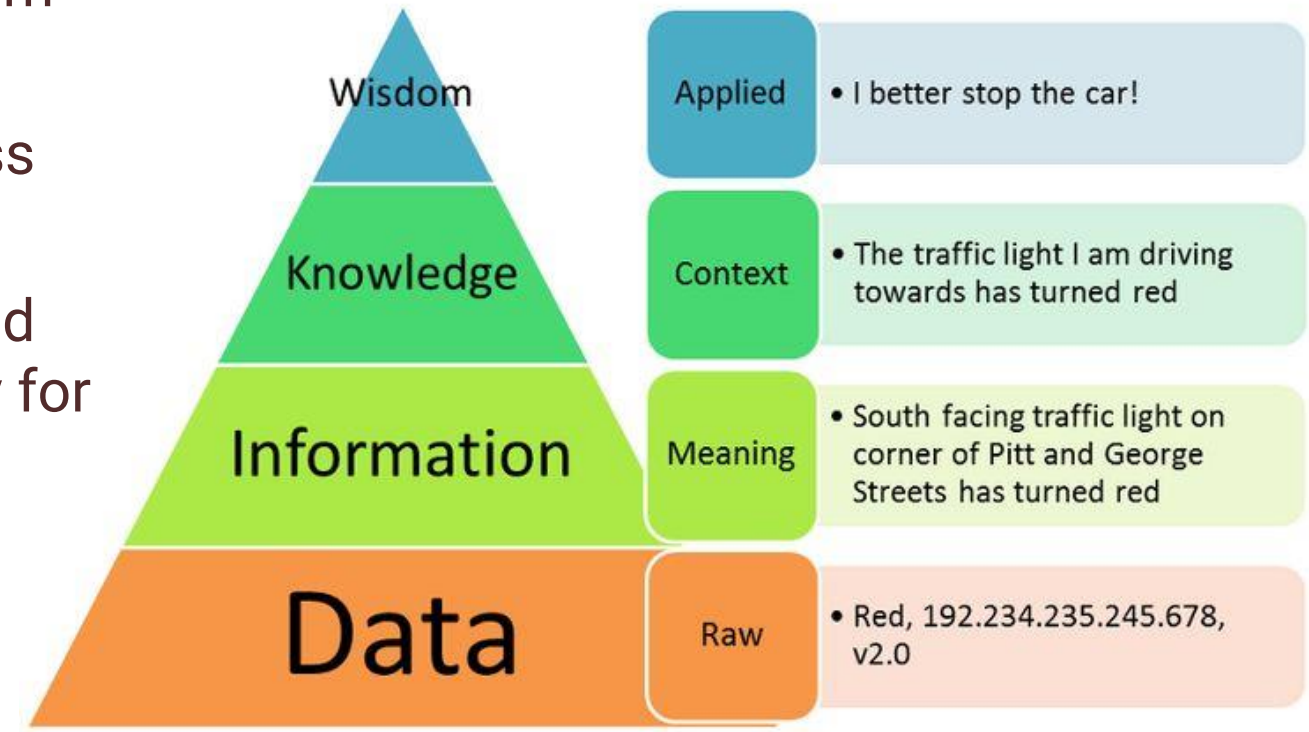
- **BI in Swedbank** is driven by **Group Business Intelligence (GBI)**
  - Our purpose is to lead in providing analytics and trusted data to achieve Swedbank´s Strategic direction

Examples of capabilities enabled by BI

- **Run the business**
  - Customer Management
    - Smarter/Targeted offers, automated offering
    - Refocusing bank channels
    - Customer segmentation
  - Controlling & Steering
    - Profitability of products,
    - Input for strategy
  - Risk management (both Credit and Market Risk)
    - Better understanding of what risks to take in which customer segments
- **Regulatory requirements**
  - FINREP
  - Credit Risk (IRB)
    - License for Internal Ratings Based approach
  - AFC/KYC

To reiterate our goal

- We to gather the necessary data from our organization
- In strong collaboration with business units and downstream users
- In order to turn it into **knowledge** and **wisdom**, used to act in the best way for the company



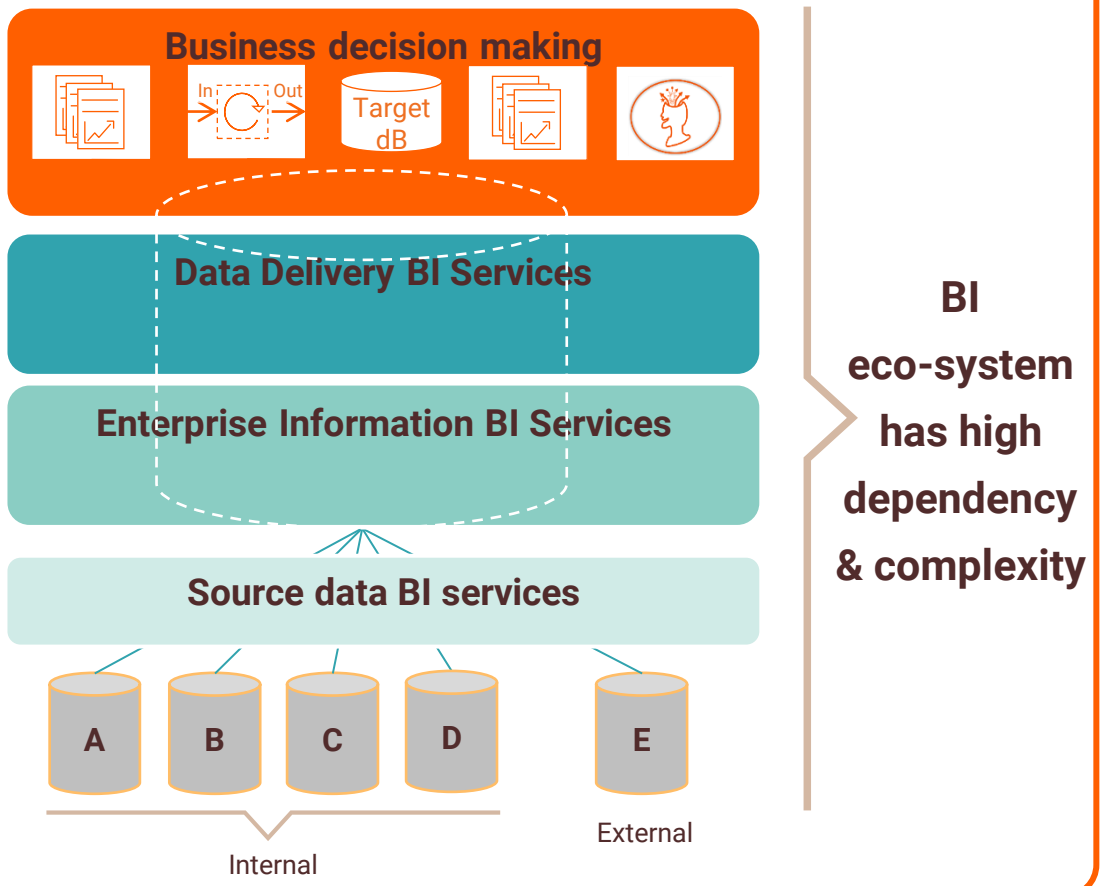
BI Principles

- **Business driven**
  BI development is driven by business functional requirements.

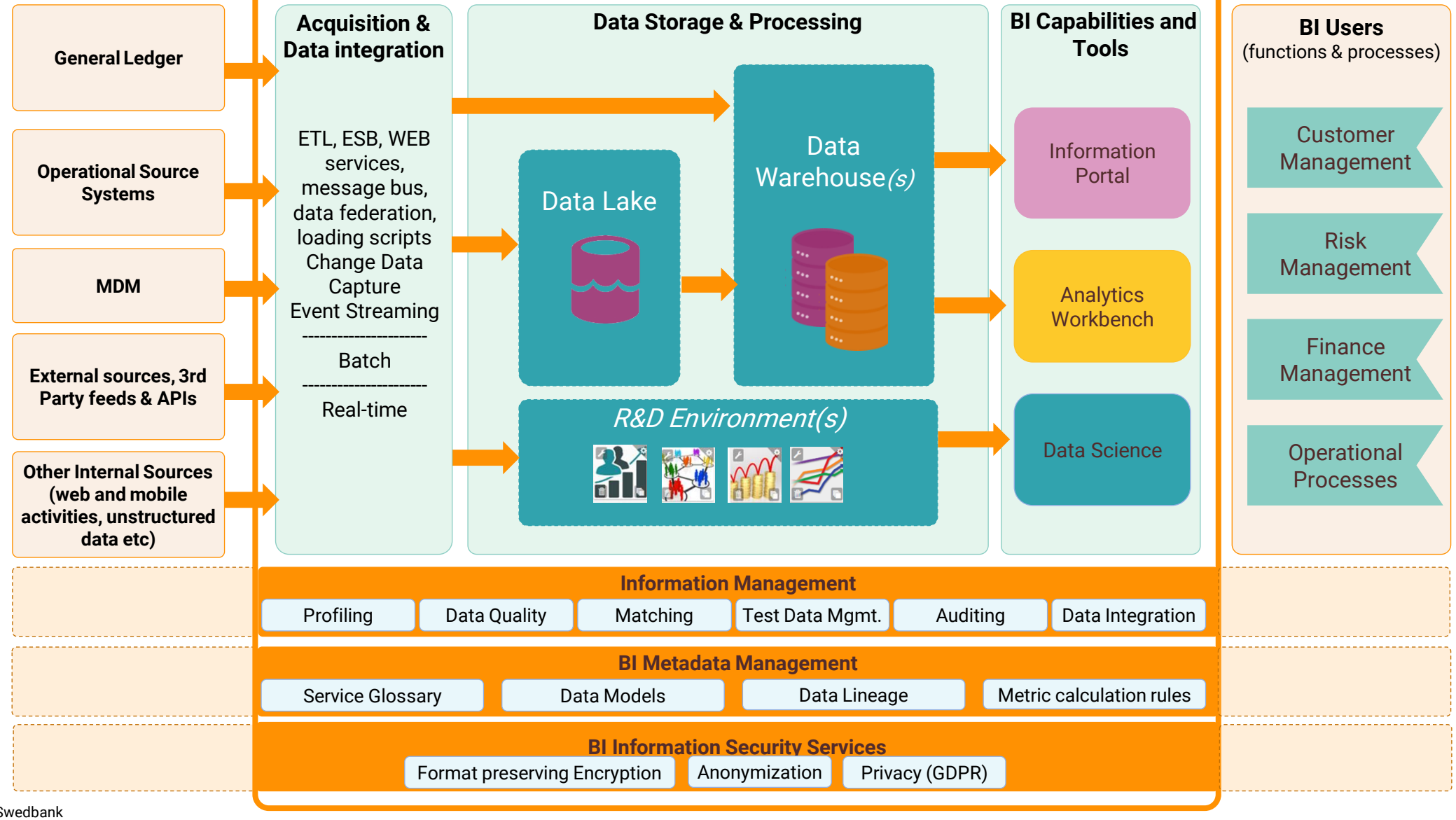
- **BI Alignment**
  Business initiatives BI alignment prevents delays, bottlenecks, budget overdraft, low data quality, and helps to manage dependencies.

- **BI Competence Center**
  BI Platform with standardized processes and skilled people enable efficient development and quick capacity ramp-up and ramp-down.

- **Re-usability**
  New BI solution can be built on existing solutions, where data is available in a consistent manner.



BI Reference Architecture

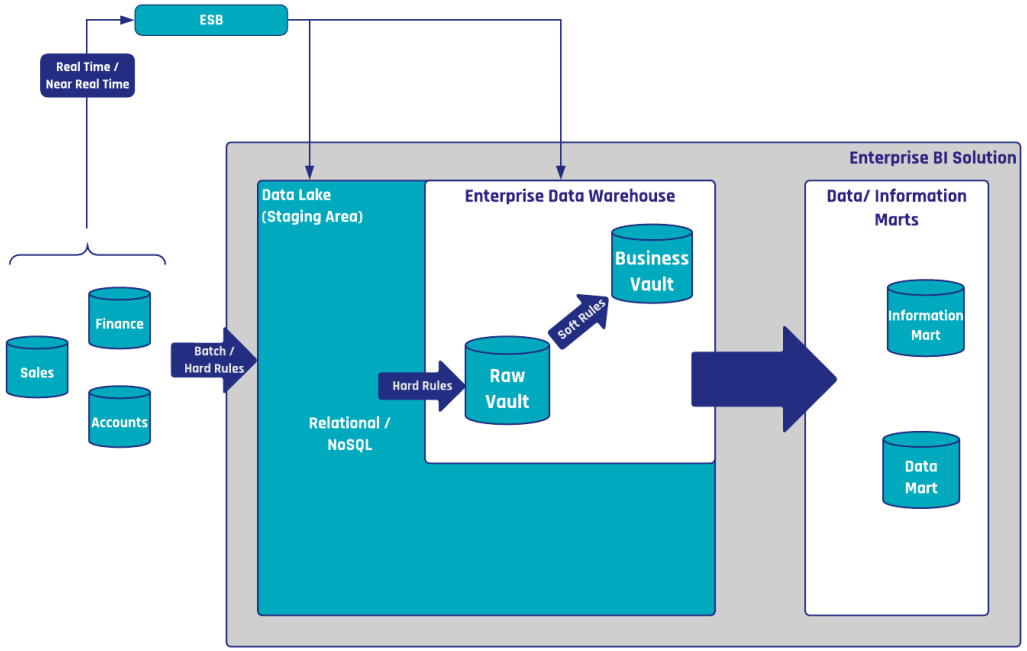


Why BI – Technical view

- Automation of the process – time, quality, transparency
- Collect data – multiple sources, different technology
- Manipulate data – huge amount of data, process orchestration
- Data discovery – analytical tools
- Provide data out – multiple consumers, reporting tools, non-IT consumers
- Providing BI service – knowledge of system
- **Do once – use many**

BI Data Lake and Data Warehouse

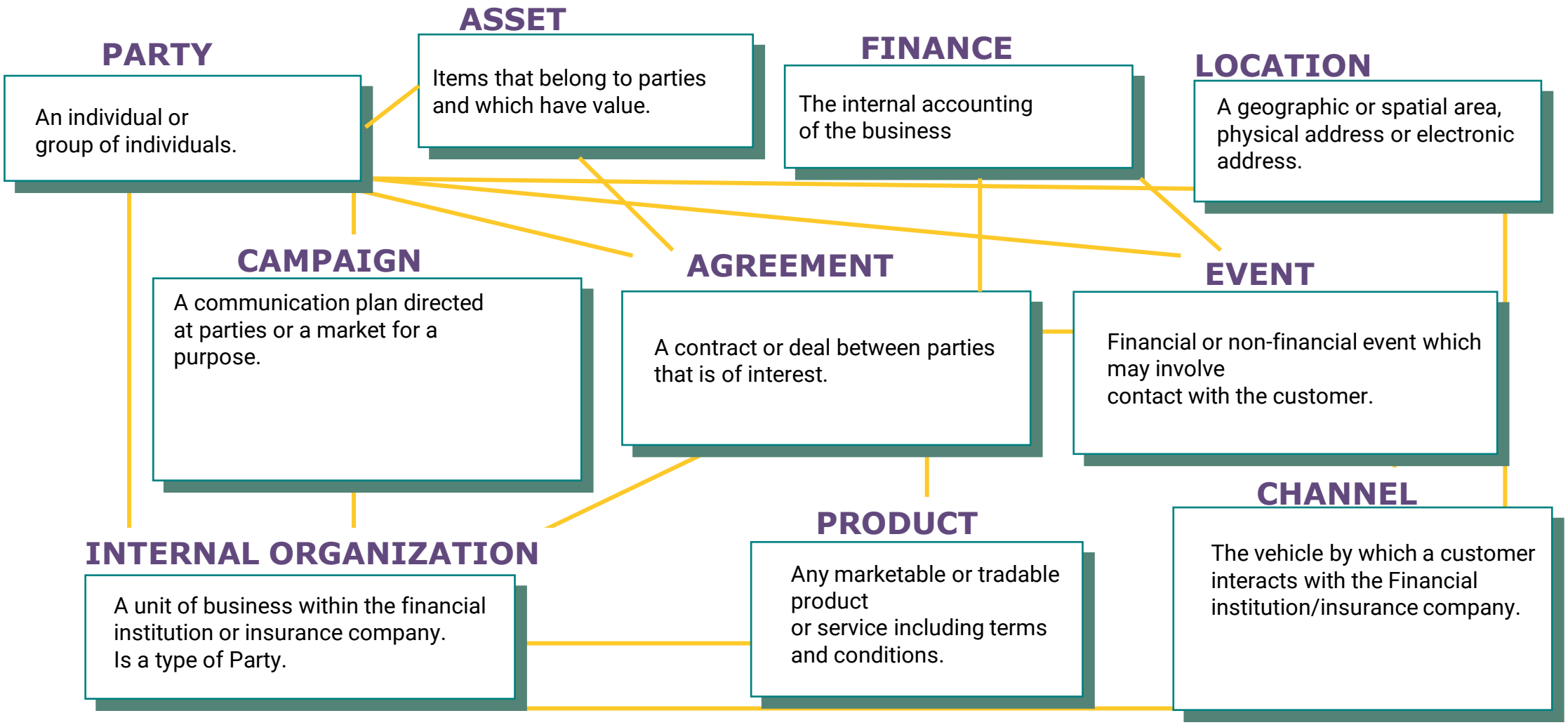
- Raw unstructured data vs structured
- Prepare and control provided data VS source representation of data
- “Central version of the truth”
- Storage – expensive vs lower-cost
- Data science and analysis VS Business Reporting and Analysis



What is Data Warehouse

- Data is integrated and consolidated – modelled into subject areas as Party, Product, Agreement etc.
- Data is described
- Data is validated
- Data is historized – even if source system might not store history (business view on history)
- Data is prepared for consumption – common access, specific access, data out batches, data marts and denormalization etc.

Subject areas – Financial Services Data Model



Data Warehouse structure

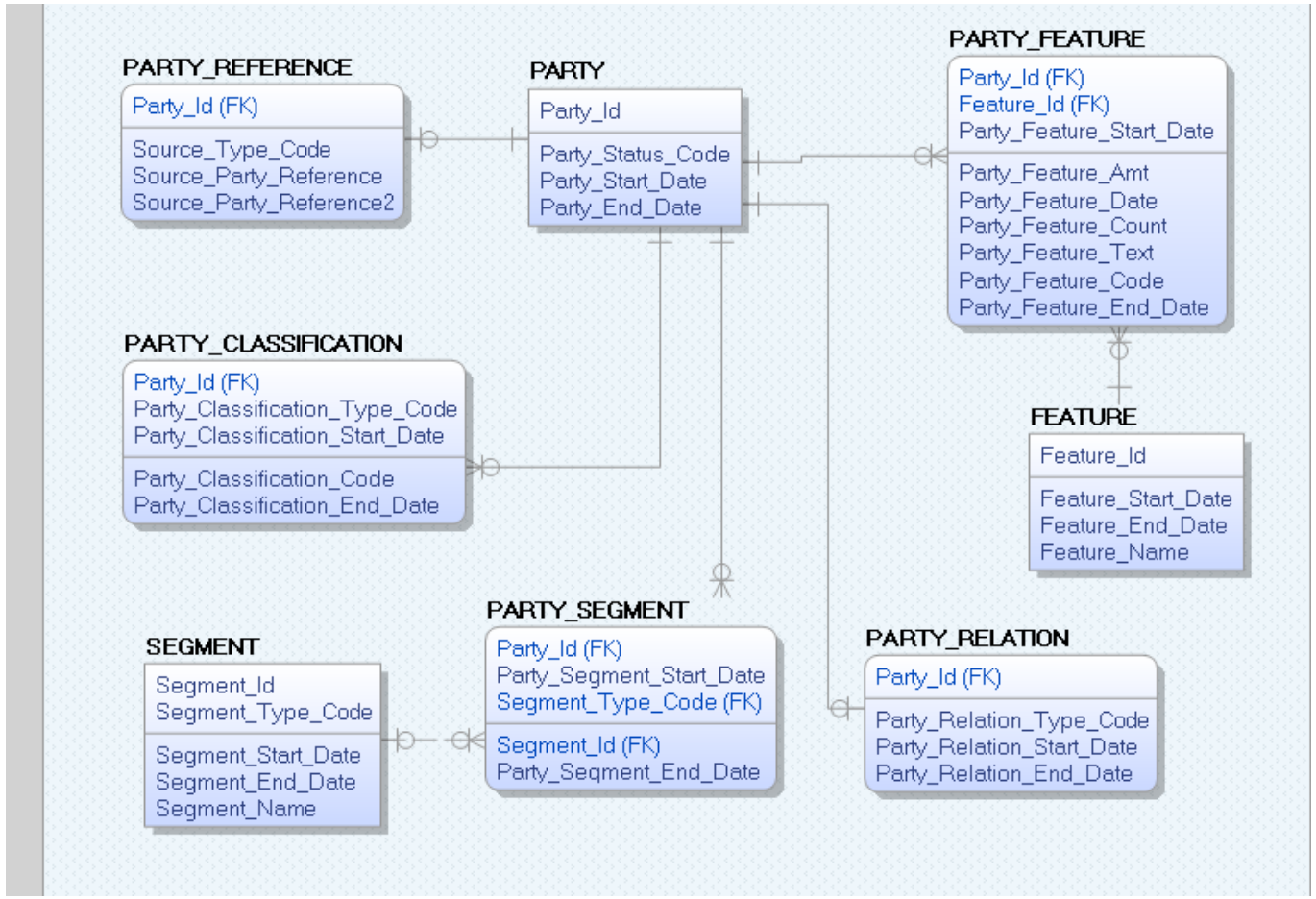
Selected based on tool(s)

Selected based on technical usage – store, manipulate data

Selected based on business usage – understand data

Combination of structures

Structure (3rd normal form vs denormalized)



Data sourcing and manipulation

- Extract-Load-Transform (ETL-ELT) tools.
- Run internal and external calculation engines
- Pre-calculate data – Metrics, Data marts, Reports
- Redistribute calculated Metrics/Data to other services
- Schedule processes to run as soon as input data is ready
- Data quality and lineage - Validate results and trace back error

Data provisioning – fit for purpose

- Non-IT users – Reports (excel, dashboards, etc.)
- Non-IT advanced users – Tools providing business semantics access layer to data.
- Reporters / modelers – Prepared data sets, data marts
- Advanced users – ad hoc reporting on Data Warehouse data via “thin access layer”
- Reporting tools – “thin access layer”
- Operational access – tactical access (small, fast, well performing)
- Batch access – specific layer (views + marts)
- Prepared data set (file) – ETL prepared data

The end

Thank you for your attention!