

# Lightweight DWH Data Analysis for SMEs

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# Outline

- Motivation
- Methodology
- DWH Needs for SMEs
- Review of DWH Services
- DWH Services
  - Segment
  - Panoply
  - Tableau
  - Snowflake

# Motivation

- Increasing digitisation results in collection of more data
- SMEs are more commonly using digital systems
- They therefore need a proper way to organise their data

- Determine the specific needs for a DWH
- Summarise key factors and challenges

- Research for different DWH solutions targeted at SMEs
- Comparison and classification of those systems
- Check of suitability for SMEs

- **Heavy reliance on spreadsheets**
  - growing number of spreadsheets across multiple departments is unmanageable combining them all together
- **Overwhelming spreadsheets**
  - spreadsheets can reach the point where no data can be added anymore
- **Takes too much time to wait**
  - one spreadsheet per department means other employees have to wait for the newest version

## DWH Needs for SMEs (contd.)

- **Discrepancies on data and reports**
  - different third party information in every department's spreadsheet could lead to data discrepancies after combining all together
- **Too much time invested in creating reports**
  - auto update the DWH System after data in sources changes – departments can rely on always correct up to date Data

- **Software as a Service (SaaS) / Data Warehouse as a Service (DWaaS)**
  - cost-effective pay-as-you-go model
  - straightforward setup
  - no hardware necessary, can be deployed instantly
- **Review & Comparison of DWaaS Products**
  - What do they have in common?
  - How do they differ?
  - Are they suitable for small businesses?



## **Services we have compared:**

- Segment
- Panoply
- Tableau
- Snowflake

## Segment

- customer data platform
- plans
  - **Free:** 2 data sources, 1,000 API calls, 300+ integrations
  - **Team:** unlimited data sources, 10,000-100,000 API calls (\$120-\$1,125/month)
  - **Business:** 100,000+ API calls, custom pricing
- in total 98 data sources and 650 data destinations
- programming languages or ReST APIs as data sources allow integration of virtually any system
- no analytics capability, meant to simplify data collection and distribution by managing all data flow in one place



- Data visualisation & data reporting with help of machine learning
- Tableau Software Inc. offers a tool for every step in the analytics/business intelligence (BI) cycle:
  - **Transactions Stored** - no actual database - data is stored in *.tde* or *.hyper* files
  - **Data Analysed**
    - Data Preparation - *Tableau Prep Builder*
    - Analysis & Explore - *Tableau Desktop & Tableau Public*
  - **Insights Shared**
  - **Decisions Made**
  - **Outcomes Monitored**
    - Safety & Security - *Tableau Server & Tableau Online & Tableau Mobile*
    - Collaboration – *Tableau Server & Tableau Online & Tableau Mobile*
    - Stability – *Tableau Server & Tableau Online & Tableau Mobile*
    - Data centre or Cloud – *Tableau Server & Tableau Online & Tableau Mobile*

