Data Warehouse Cheatsheet

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1 Business Intelligence

Components

Business Intelligence encompasses
- OLAP
- Analysis
- Data Mining
- Project Organisation

Analysis

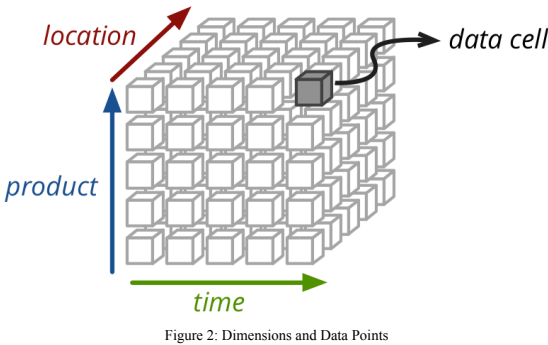| cyclic	Frequent analyses as part of a workflow (e.g. quarterly financial reports).
ad-hoc	One-off analyses to gather situationally dependent data.

System Architecture

Figure 1: Data Pipeline

2 OLAP

OLAP Systems are the database frontend that communicates with the Data Warehouse.

Figure 2: Dimensions and Data Points

Risks

- Incomplete Dimensions
- Wrong Data
- Gaps in data
- Duplicate data (or lack of a single source of truth)
- Confusing correlation and causation
- Privacy Violations

3 Data Dimensions

All data points are points in a space spanned by the dimensions. Dimensions often include time, space or products. A point then, is set of numbers that fully cover all dimensions.

3.1 Information Schemas

Star Schema

- Every Dimension has one table, connections via Foreign Key Relations
- One table for facts
- Facts reference dimensions

Figure 3:

Snowflake Schema

- Like Star Schema, but Dimensions can have hierarchies

Figure 4:

4 Abbreviations

OLAP	Online Analytical Processing
ETL	Extract Transform Load

5 References

1. JS Cheat Sheet: https://htmlcheatsheet.com/js/
2. HTML Cheat Sheet: https://htmlcheatsheet.com/