ISA 401: Business Intelligence & Data Visualization

22: Business Reporting

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Learning Objectives for Today's Class

- Define a "business report" & its main functions

- Understand the importance of the right KPIs

- Automate traditional business reports

- Dashboards as real-time business reporting tools

What is a Business Report and its Main Functions

Definition and Concepts

What is a report?

- **A report is any communication artifact prepared to convey specific information**

- **A report = information → data-driven decisions**

- **A report can fulfill many functions:**

  - To ensure proper departmental functioning

  - To provide information

  - To provide the results of an analysis

  - To persuade others to act
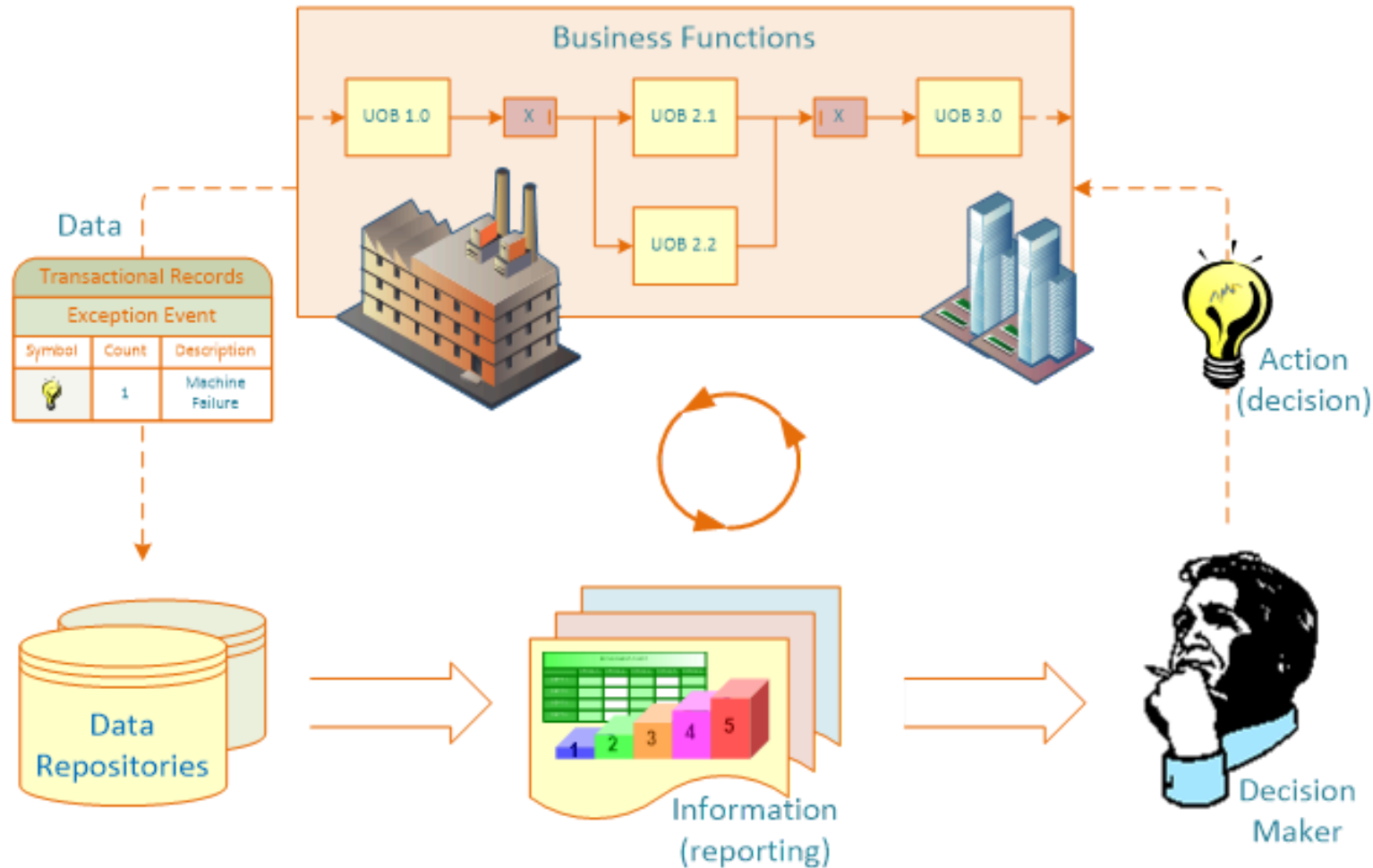
  - To create an organizational memory

What is a Business Report?

- **A written document that contains information regarding business matters.**

- **Purpose:** to improve managerial decisions.

- **Source:** data from inside and outside the organization (via the use of ETL)

- **Format:** text + tables + graphs/charts

- **Distribution:** in-print, email, portal/intranet

The process of business reporting:

Data acquisition → Information generation → Decision making → Process management

The Business Reporting Process

Keys to Successful Reports

- Clarity

- Brevity

- Completeness

- Correctness

- Report types (in terms of content and format)

  - Informal a single letter or a memo

  - Formal 10-100 pages; cover + summary + text

  - Short report periodic, informative, investigative

Dashboards vs Scorecards

Dashboards

- Dashboards provide **monitoring tools for operational performance (often in real-time)**.

- Dashboards monitor performance by **tracking metrics (typically over-time and often without comparing them to target values)**.

Scorecards

- Scorecards provide a **snapshot of current performance (as measured using KPIs) vs. their targets**.

- Current performance is **an aggregated measure** (e.g., day/month), i.e., ~ static

- **Goal:** make better strategic decisions based on the

$$distance = target - performance$$

Out-of-Class: Make this Power BI Scoreboard

Power BI

Sign in to view this report

Sign in

The Importance of the Right KPIs

0.15pt Bonus Activity: Paper Airplanes

Activity Description   Identify KPIs for this Activity

> Over the next 15 minutes, please design the **best paper plane that can consistently hit the target on the whiteboard (from a distance of 6ft)**.

Games Rules:

• You are allowed to use any of the material that was brought to class.

• Work with your group to have the best design.

• You can look up designs online or design your own -- no design restrictions.

• When testing, make sure that there no people between your launching point and your target.

• A demo will proceed for the teams that want to "show-off" their talents.

• **Winning team gets 0.15 point (out of 25) added to their Exam II Grade.**

0.15pt Bonus Activity: Paper Airplanes

Activity Description   Identify KPIs for this Activity

Operational Performance Indicators (List 5-7)

- Cycle time

Client/Product Performance Indicators (List 5-7)

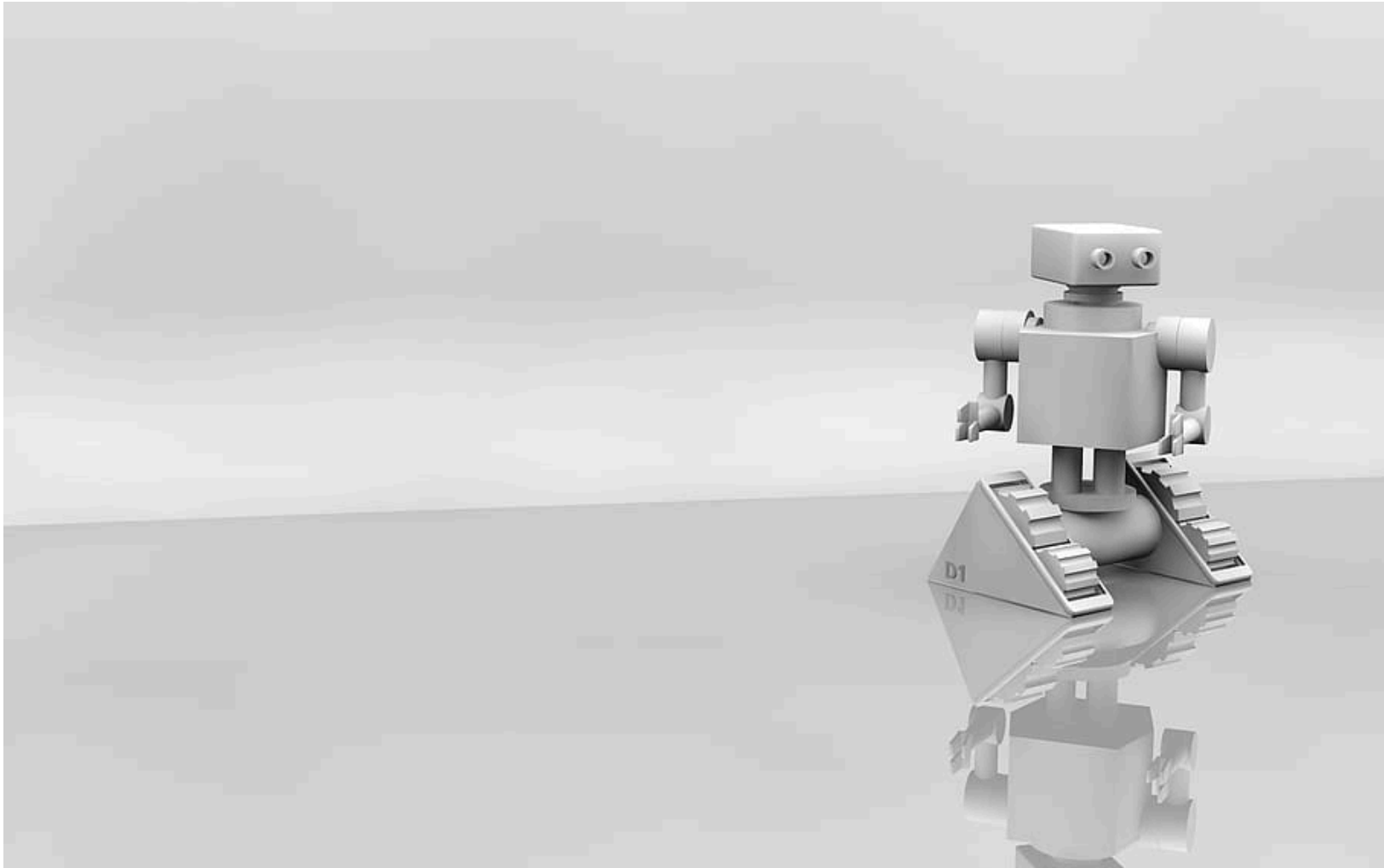- Accuracy

Automating Business Reports

Automating Visual Business Reports

In many data visualization software, this can be accomplished easily by:

- Live connections to data files and databases; or

- Auto-refreshing or some similar concept.

Hence, we often think of **BI dashboards as tools for real-time performance monitoring**.

Automating Traditional Business Reports: RPA

Automating Traditional Business Reports:

Rethink Reporting with Automation - RStudio

Additional Example: See how I automate my academic CV published on my FSB Website based on the code available at fmegahed/vitae.

Recap

Summary of Main Points

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