

ISA 401/501: Business Intelligence & Data Visualization

22: Business Reporting

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 Automated Scheduler for Office Hours

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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

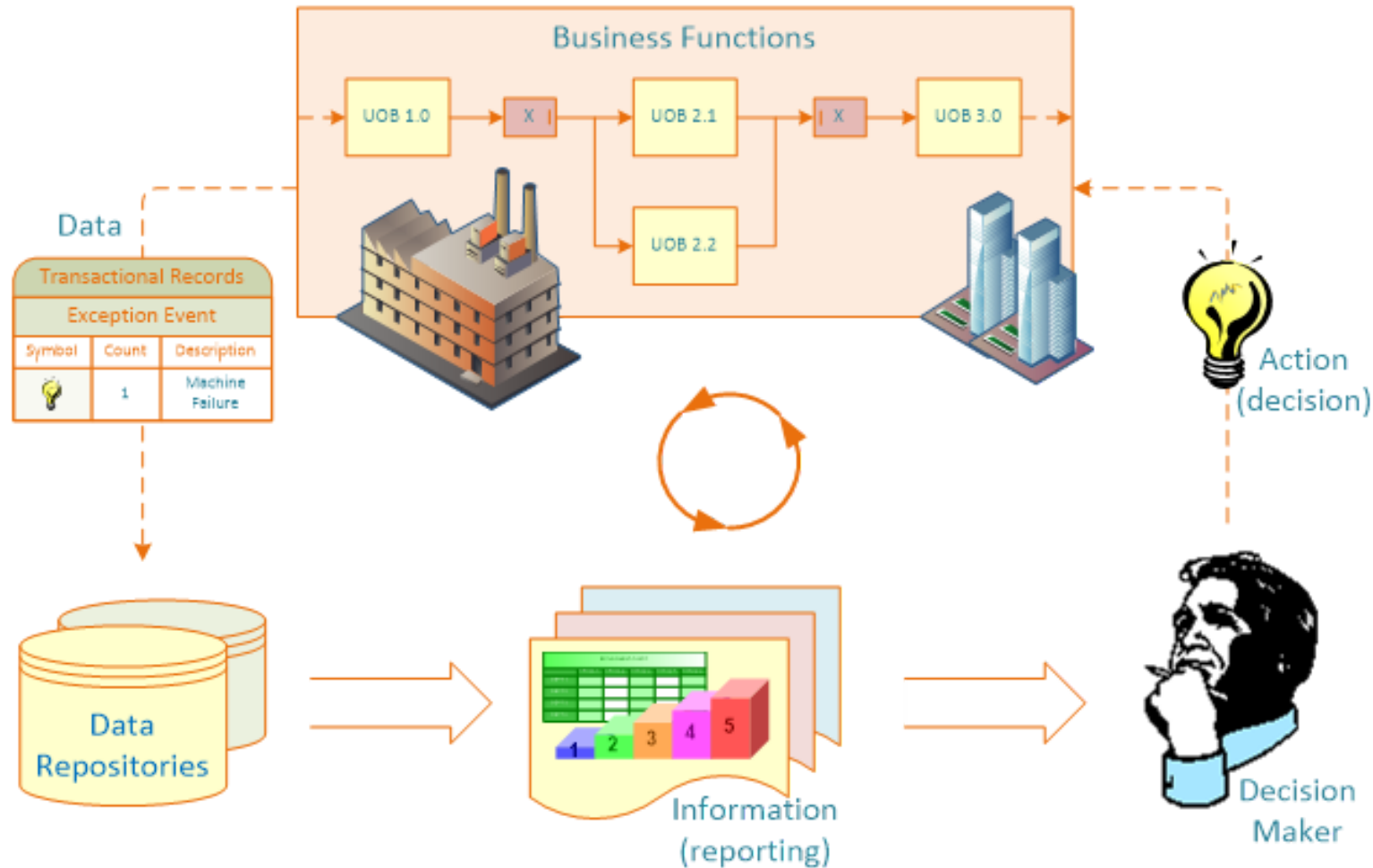
What is a Business Report?

- 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

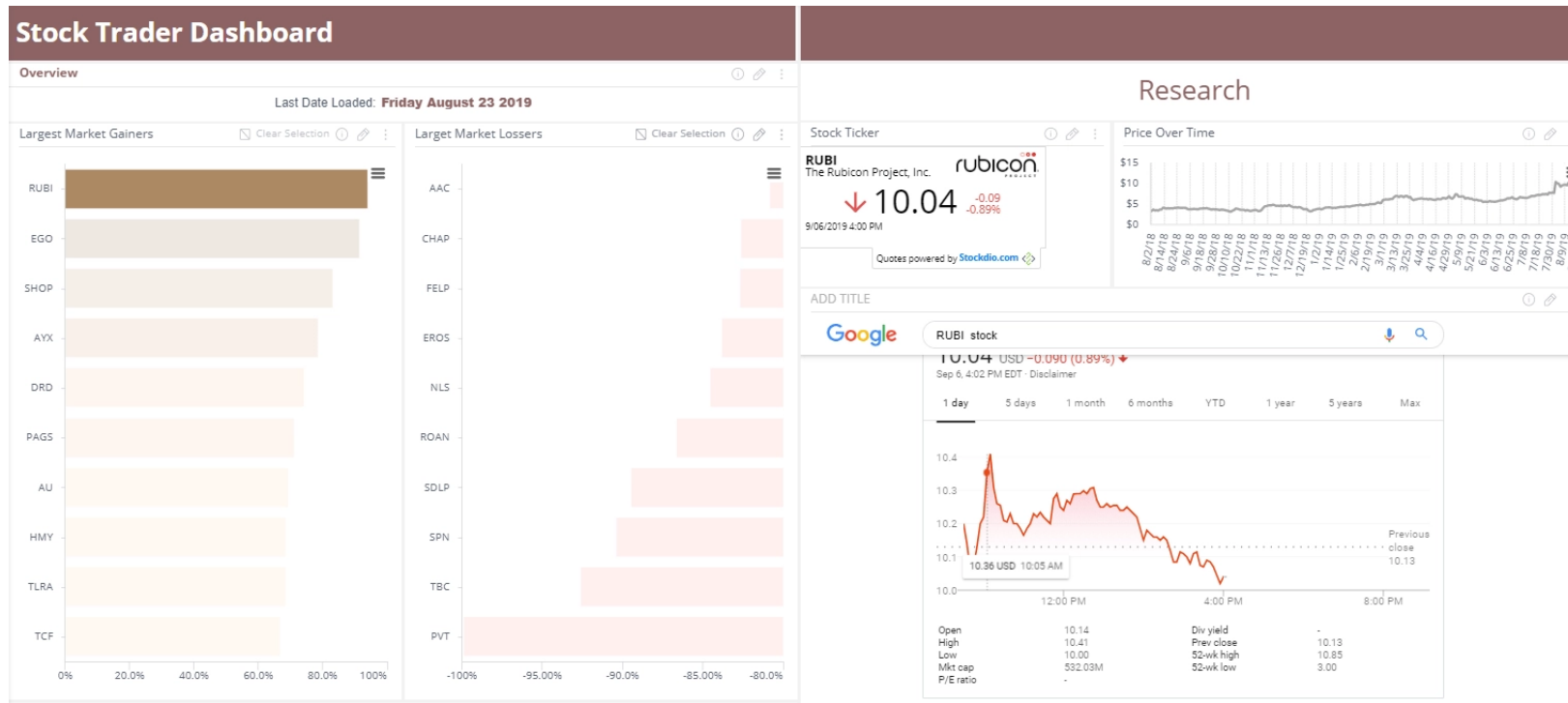
Dashboards

- 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*

Dashboard Examples

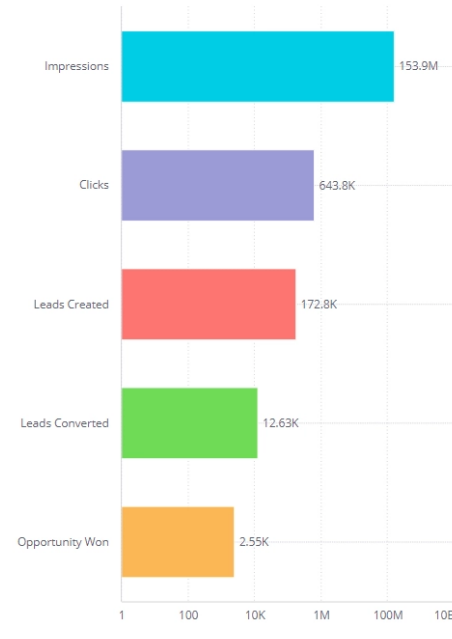


A stock trader dashboard example

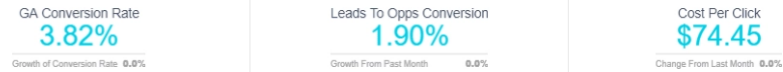
Source: <https://www.sisense.com/dashboard-examples/finance/>

Dashboard Examples

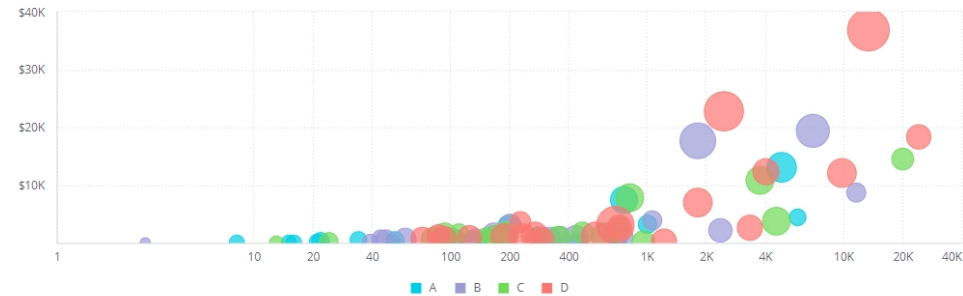
Funnel



Pay-per-click Campaign Optimization



Cost to Interaction Optimization - By Lead Scoring (Highest: A | Lowest: D)



Leads Converted Vs. Cost Trend



A dashboard of search engine optimization and pay-per-click performance
Source: <https://www.sisense.com/dashboard-examples/marketing/>

Out-of-Class: Make this Power BI Scoreboard



Power BI

Please sign in to view this report

Sign-In

The Importance of the Right KPIs

15:00

0.25pt 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 0.25 point (out of 25) added to their Exam II Grade.**

15:00

0.25pt 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

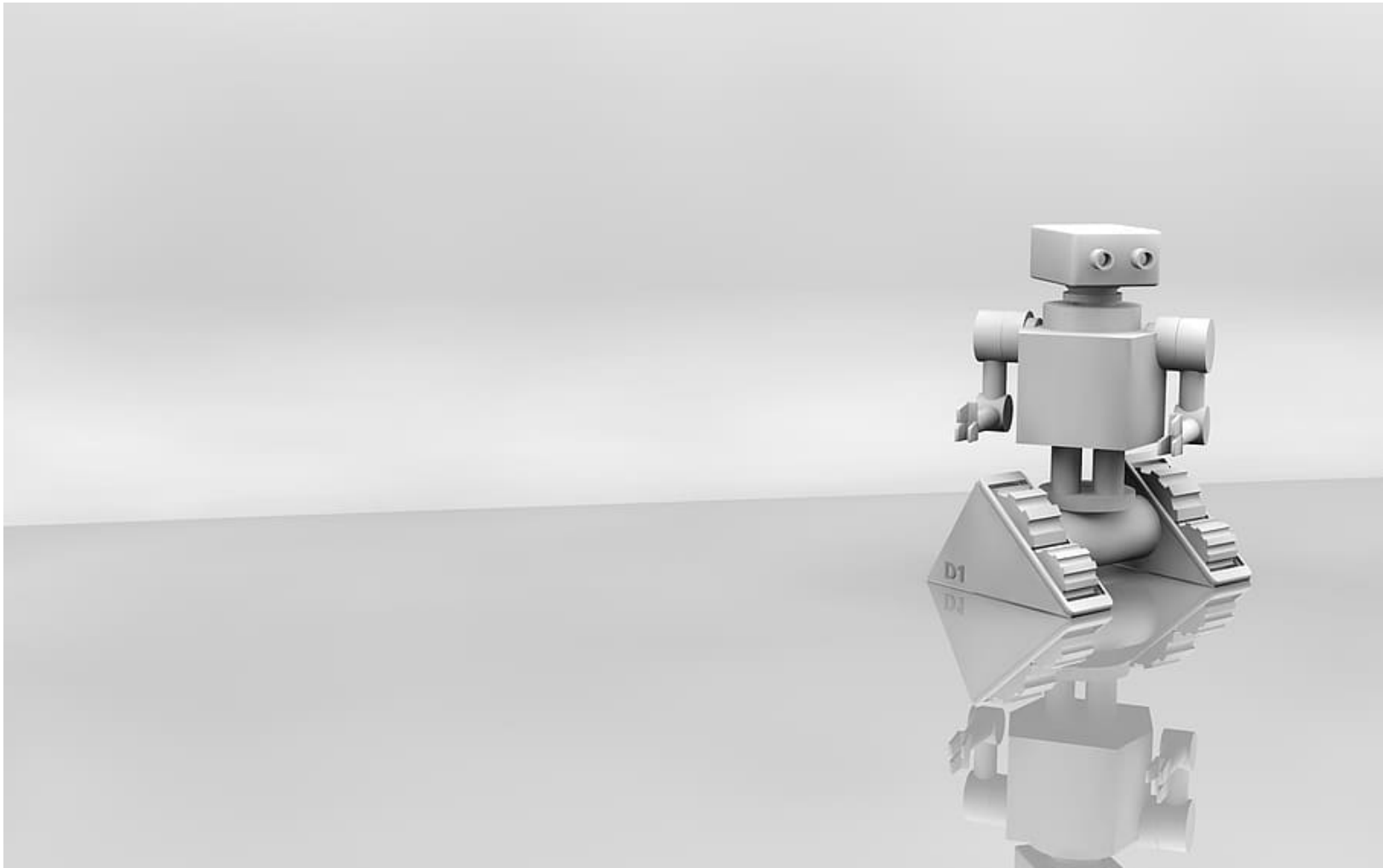
Automating Visual Business Reports

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

Recap

Summary of Main Points

- Define a “business report” & its main functions
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