

What is BI (part 2)

So, what IS Business Intelligence?

Improving organizations by providing business insights to all employees leading to better, faster, more relevant decisions



How? Exploiting and integrating heterogeneous data (in addition to proprietary company data)



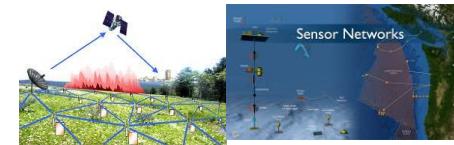
Social media and networks
(all of us are generating data)



Scientific instruments
(collecting all sorts of data,
e.g., meteorological, transport..)



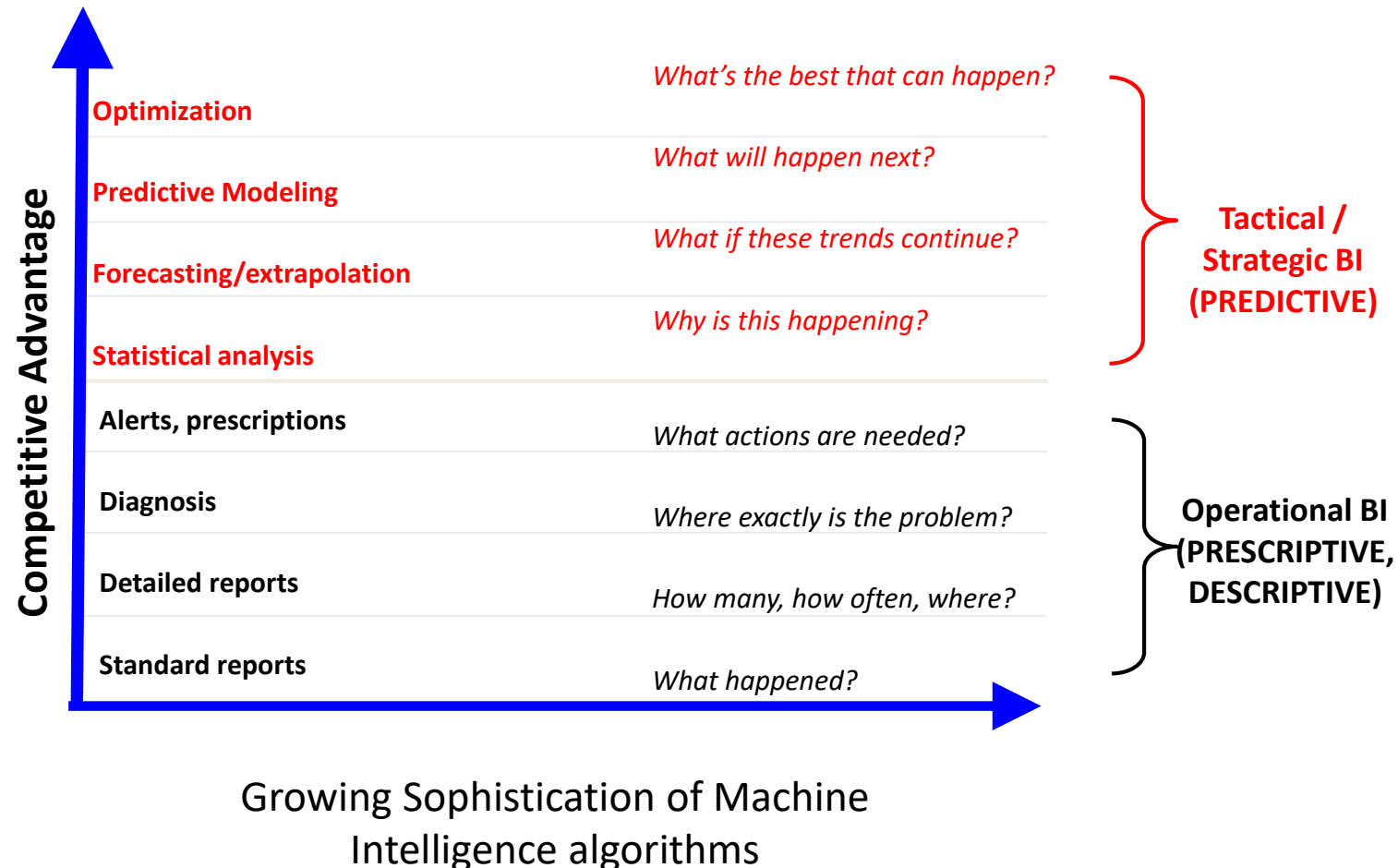
Mobile devices
(tracking all objects all the time)



Sensor technology (IoT) and networks
(measuring all kinds of data)

- Data can be signals, images, texts, videos..
- The progress and innovation is no longer hindered by the ability to collect data
- But, **by the ability to manage, analyze, summarize, visualize, and discover knowledge from the collected data in a timely manner and in a scalable fashion**

Why do companies need BI? Relevant questions BI can help answering:

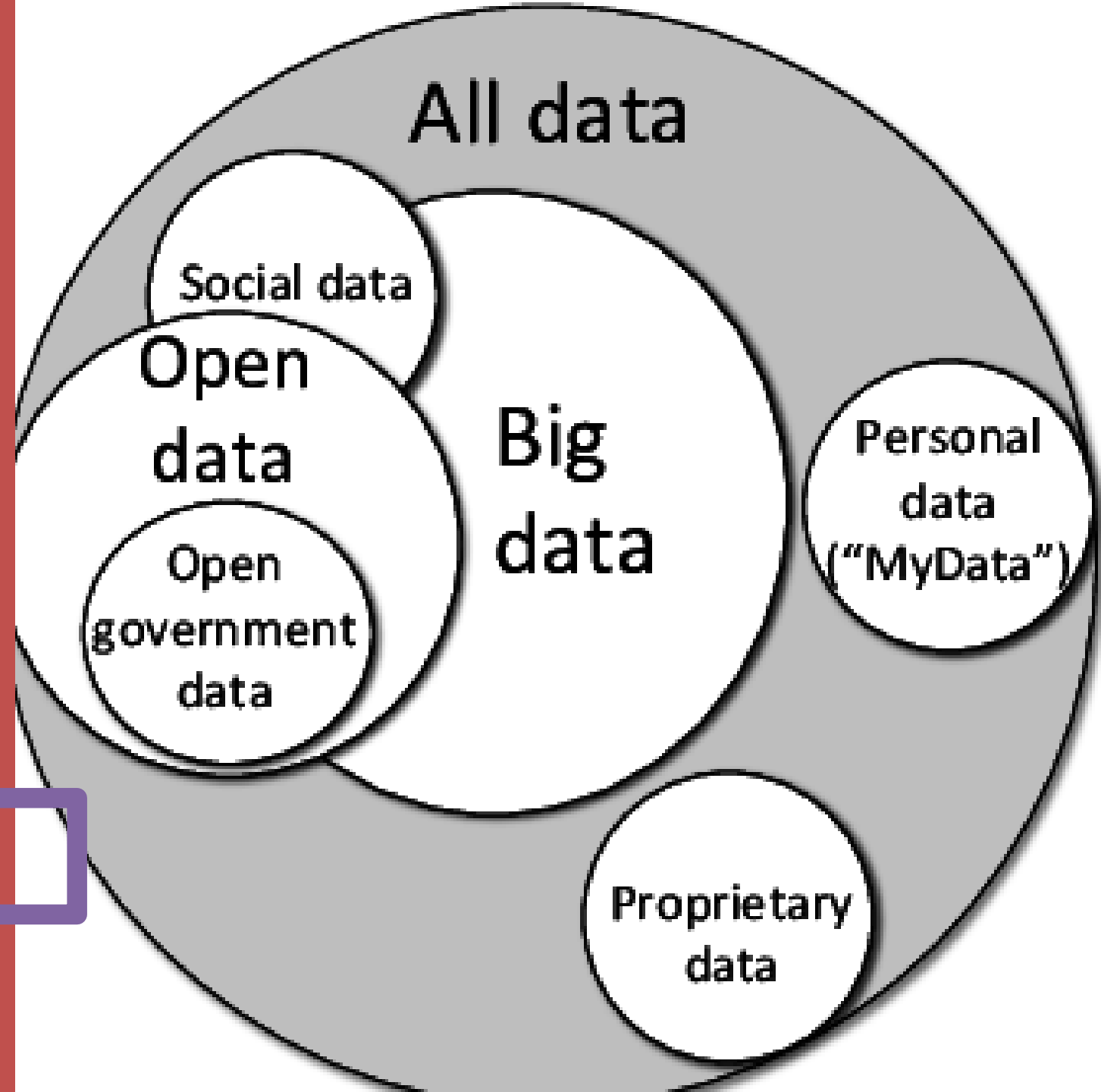


Data is the
fuel of BI
systems

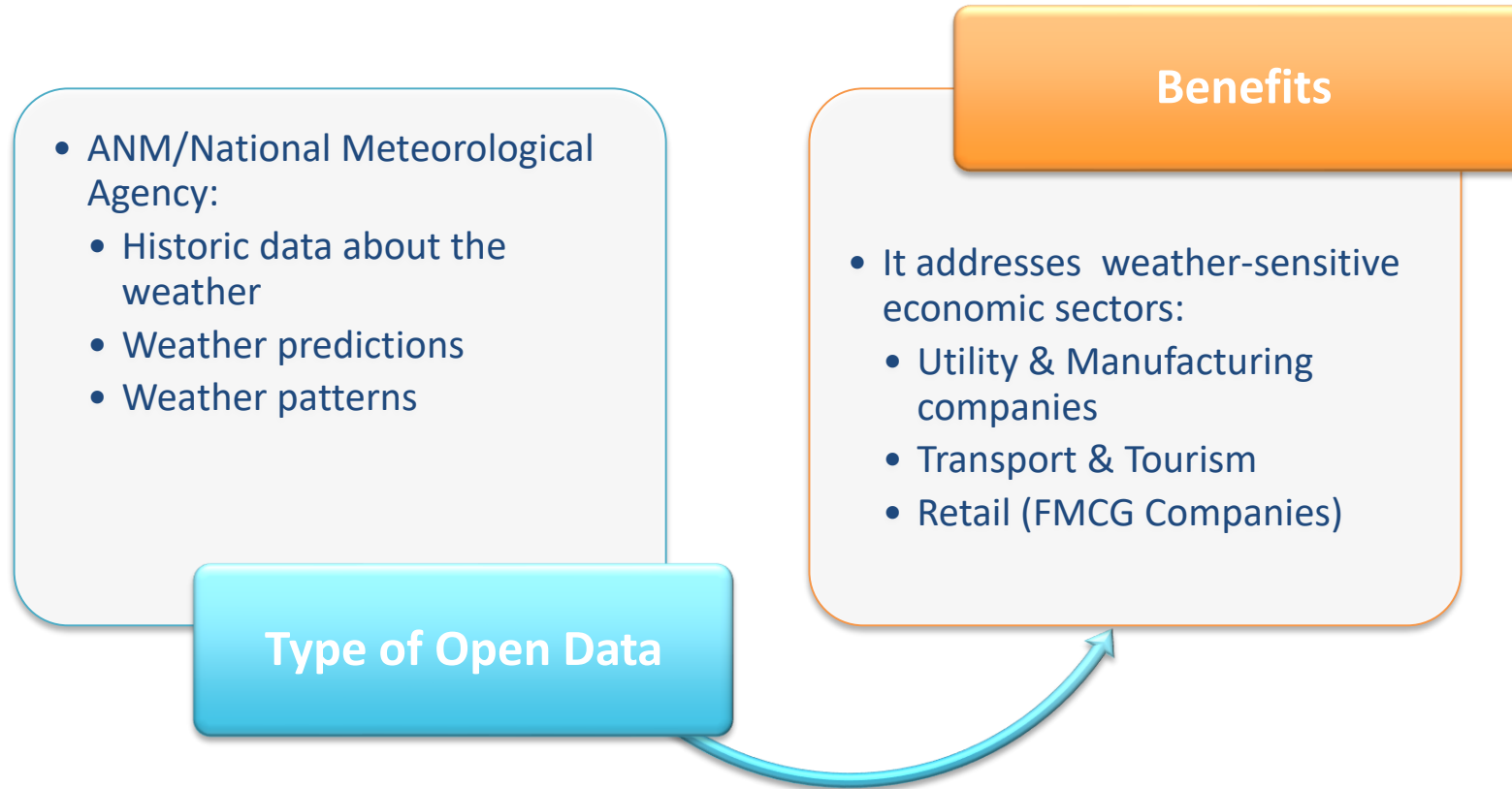


.. And will see that collecting good data is one of the main issue..

Examples of
common data
types and how
they can be used

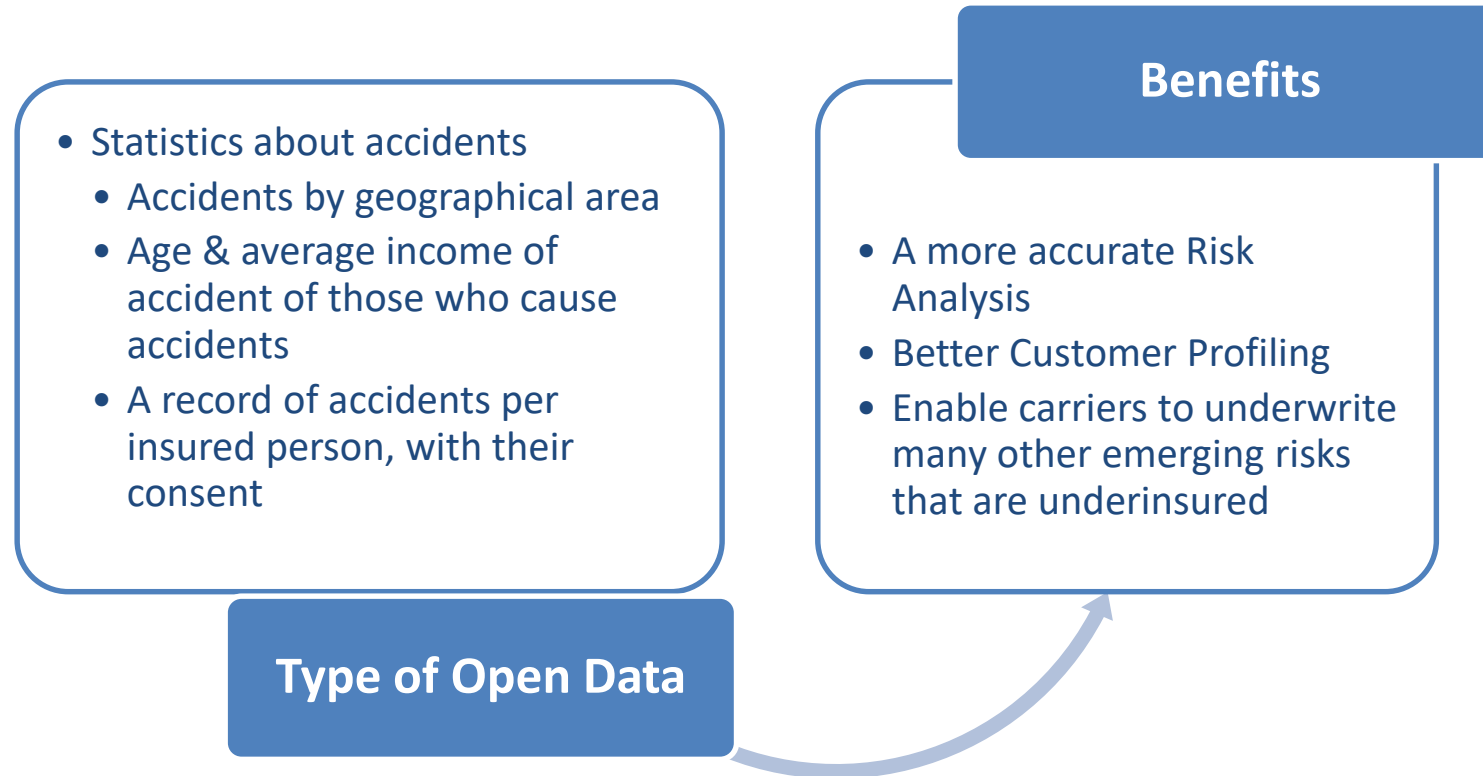


Example 1: Meteorological data

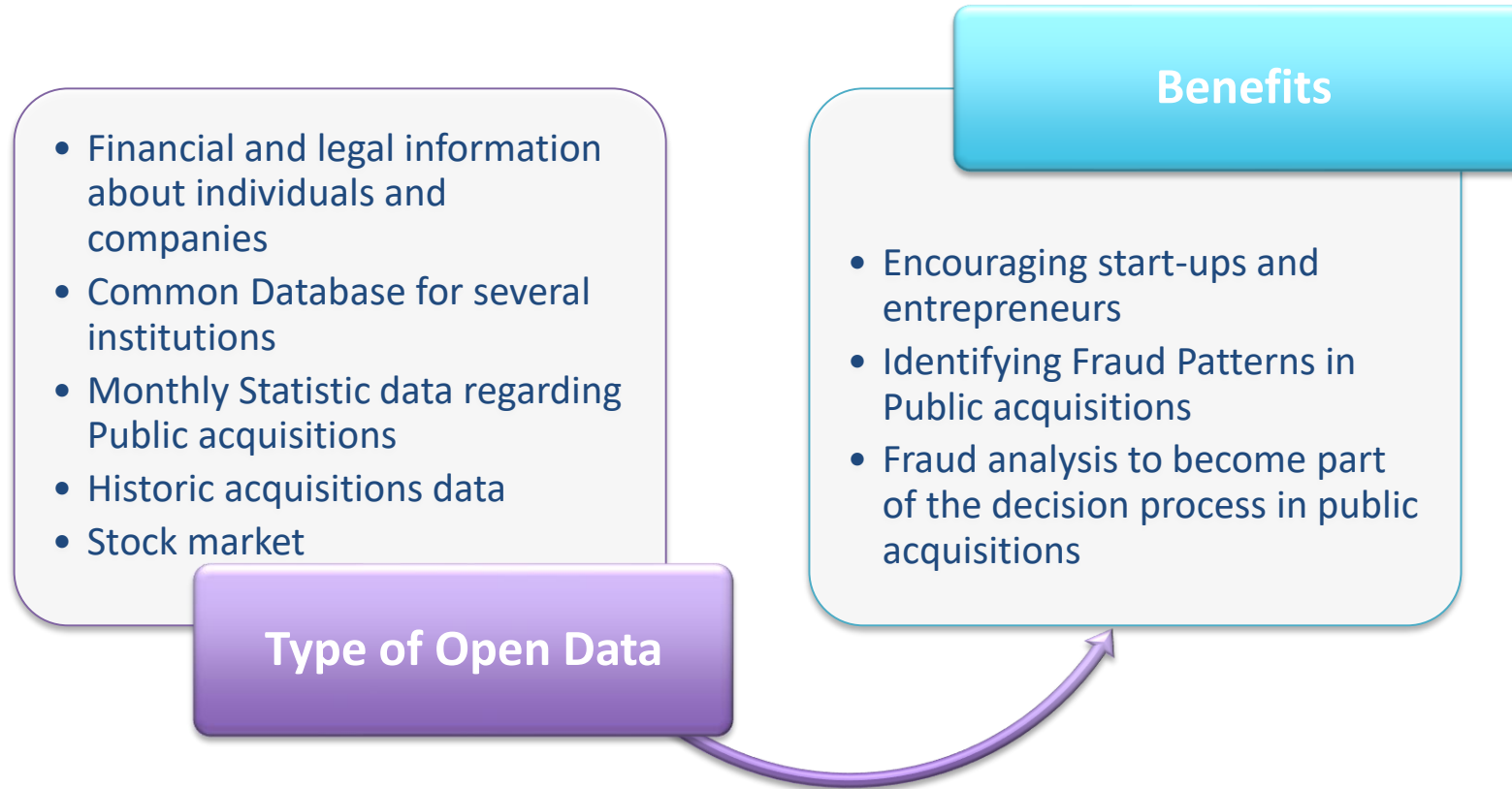


**Weather-Sensitive Economic Sectors
(tourism, transportation..)**

Example 2: Public/private data on accidents



Example 3: Budget and Public finance



Public Institutions



All types of open data

- Agriculture
 - Budget & pUblc Finance
 - Education
 - Energy and Extractive Industries
 - Environment
 - Geospatial
 - Health
 - ICT
 - Transport
 - Weather
 - <http://opendatatoolkit.worldbank.org/en/essentials.html>
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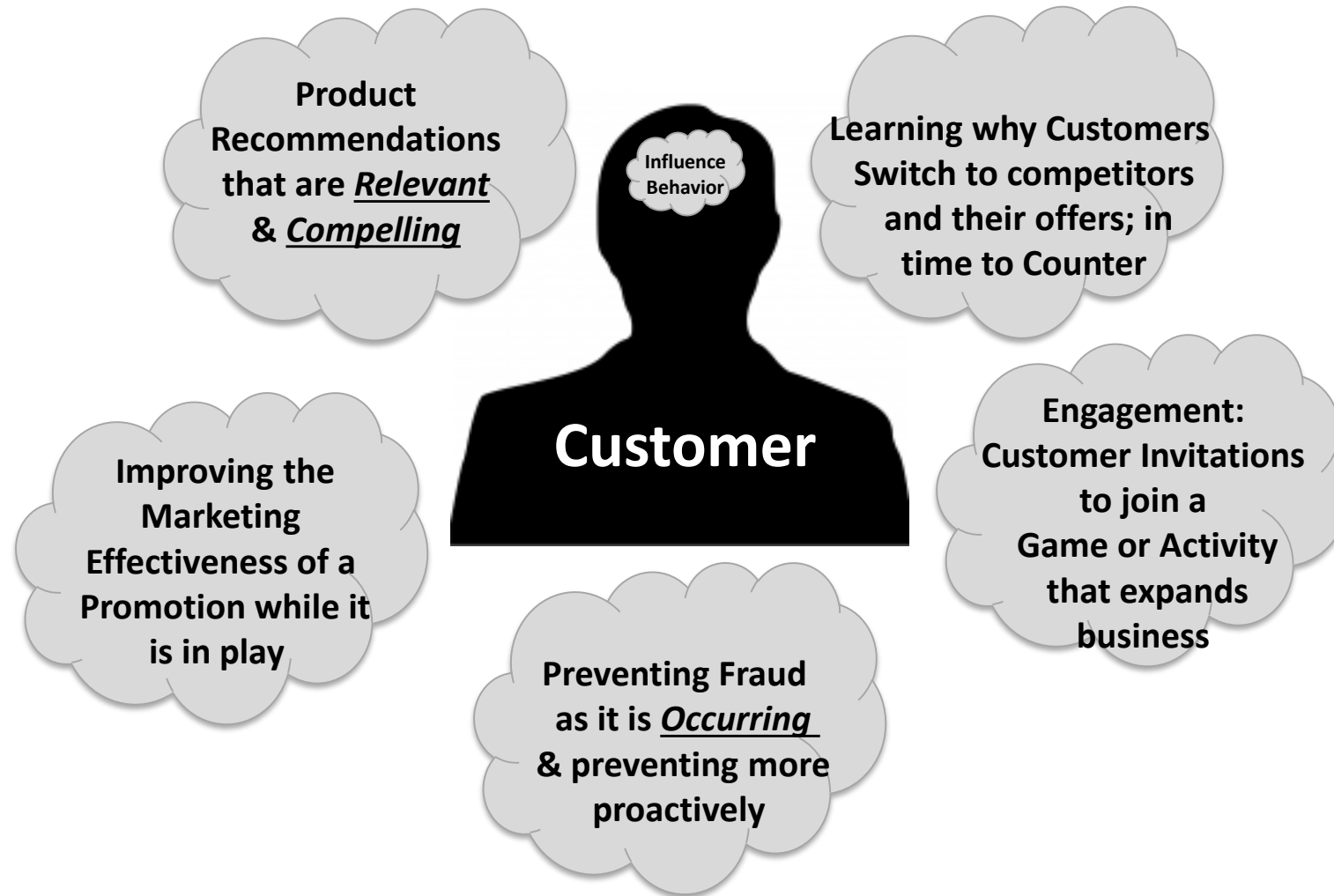
Who are the beneficiaries?

OPEN + PROPRIETARY DATA

- **Citizens/customers**
- **Government**
- **Business Environment**



Example: **Customer-centered** services



In class work

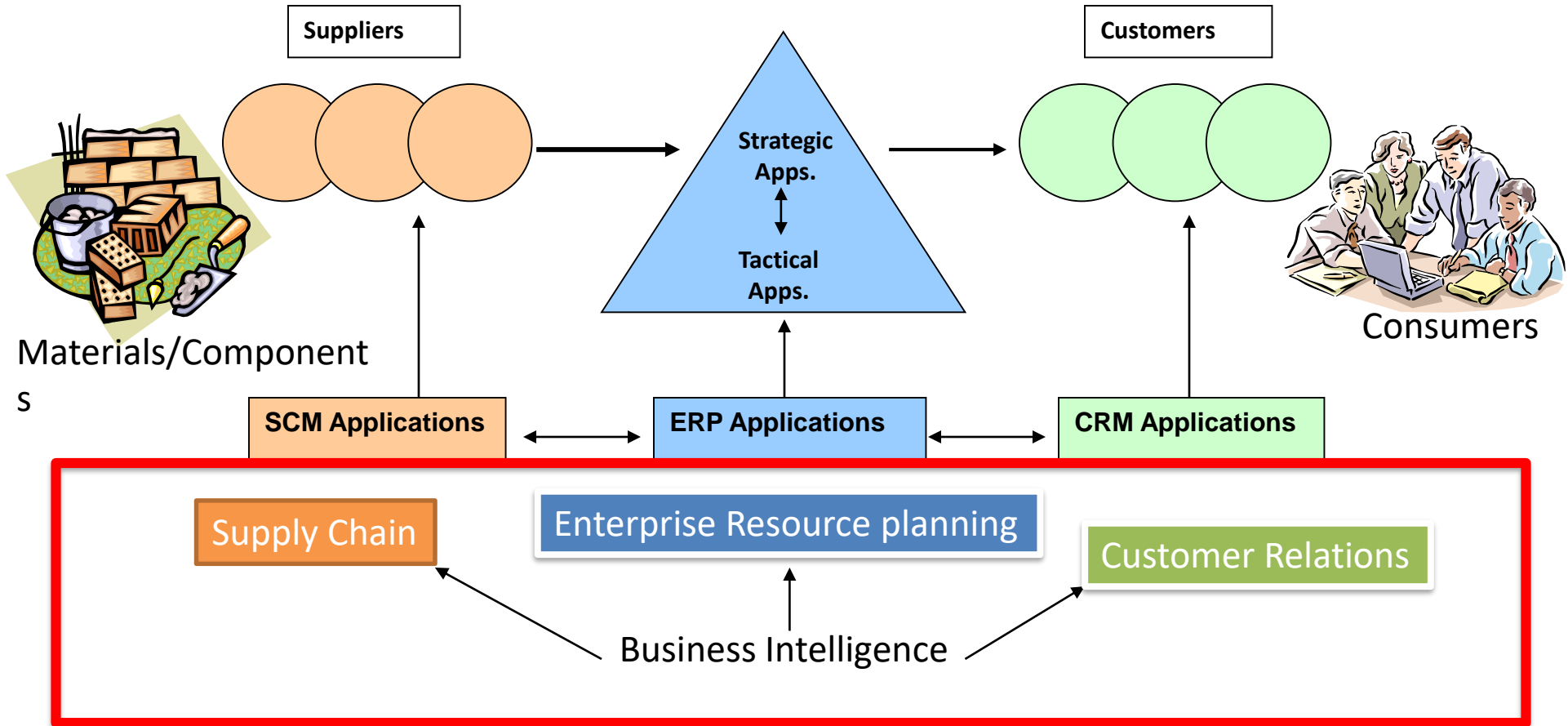
- Can you find on the web at least **one source of open data** and try to guess what would it be useful for, in a business or governmental environment?



Homework 1

- Go to <https://www.europeandataportal.eu/en> (European repository of open data) or <https://www.data.gov/> (US public data) or <https://www.kaggle.com/datasets>
- Select a dataset by keywords or domain area (environment, health..)
- Describe – based on your intuition/knowledge – possible uses of open data types for BI
- Submit on course folder, **3** public presentations (the best)

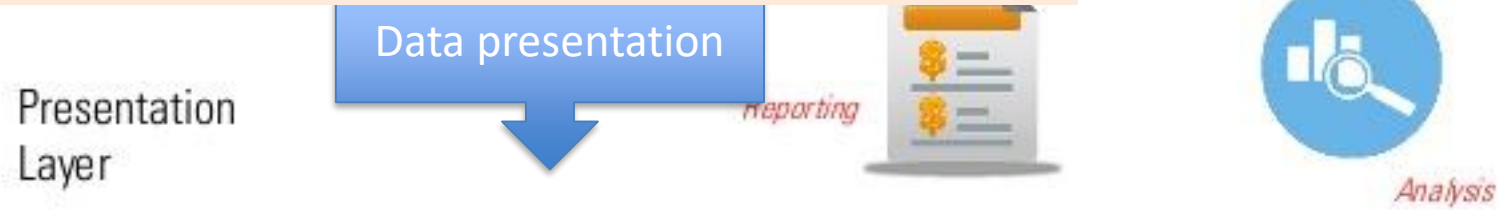
In which phases of a business workflow can we apply Business Intelligence?



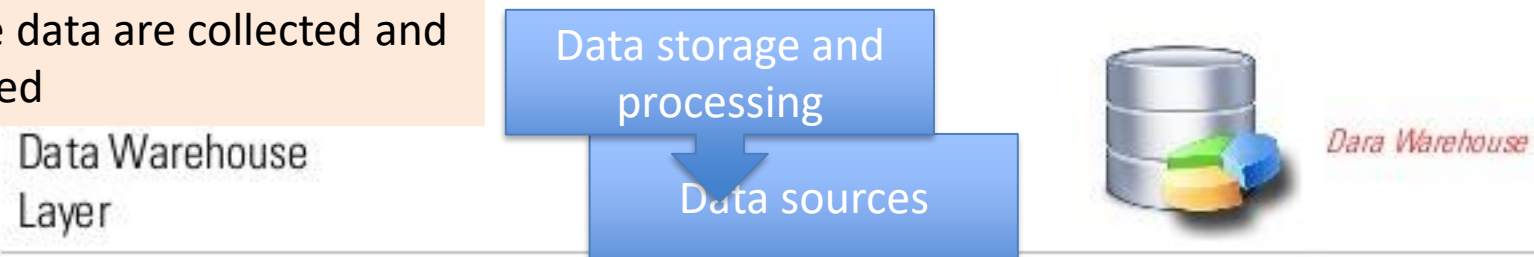
Layers in a BI system

Business Intelligence Layers

Where the results of analytics are shown to Business persons



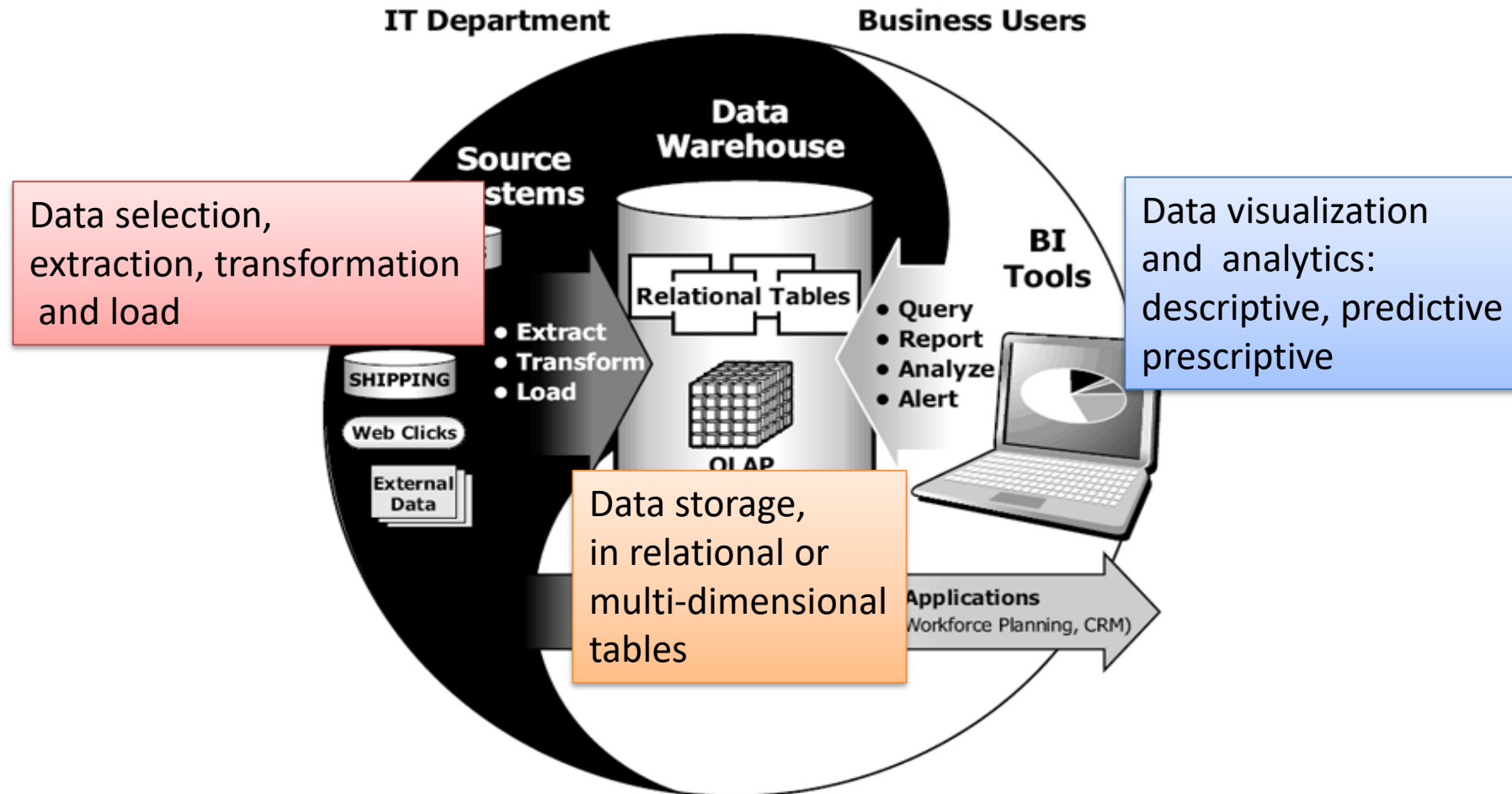
Where data are collected and analyzed



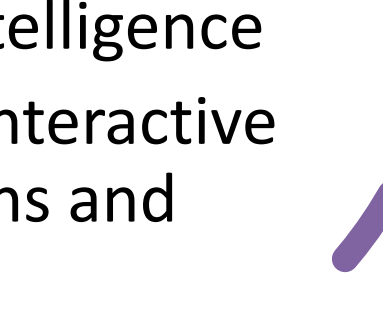
Where data resides /are generated



Architecture of a BI system



Information Technology challenges in a Business Intelligence System

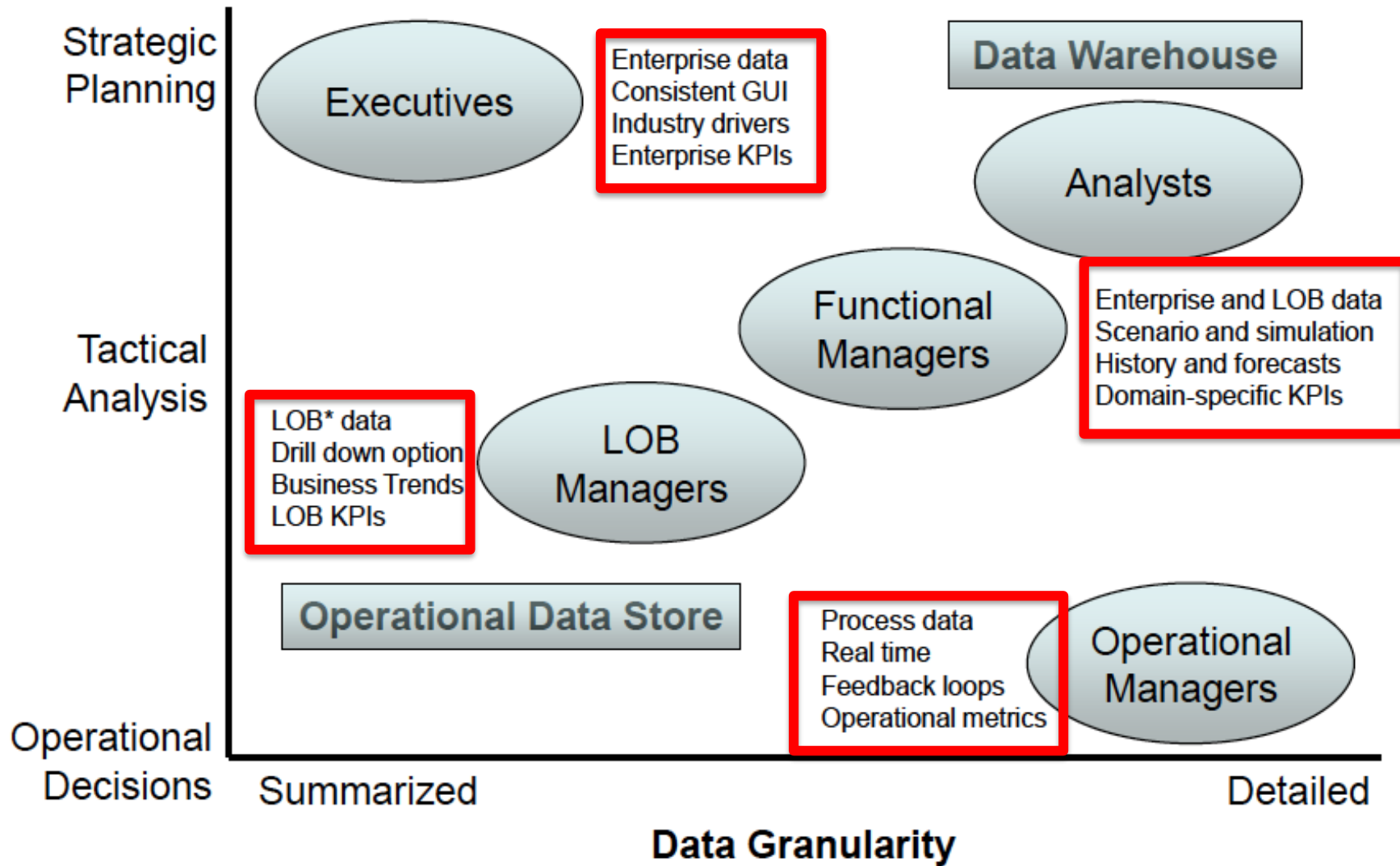
- **Data Sourcing:** extracting information from heterogeneous data such as texts, databases, images, sensors, media files and web pages
 - **Data Analysis:** Synthesizing useful knowledge from collected data using IT techniques such as data mining, text understanding, image analysis and signal processing
 - **Knowledge extraction:** Extracting useful (= both relevant and frequent) facts and rules and filtering out irrelevant information, using machine learning and artificial intelligence
 - **Decision Support:** employ semi-interactive software to identify good decisions and strategies
- 

Things are very complicated.. But you dont' need to master the details



- You need to gain a high-level picture and to understand the potentials for business!

Business Intelligence actors



*An LOB (line-of-business) that are vital to running an enterprise, such as accounting, supply chain management, and resource planning applications.

Yes, but why should you take this course?

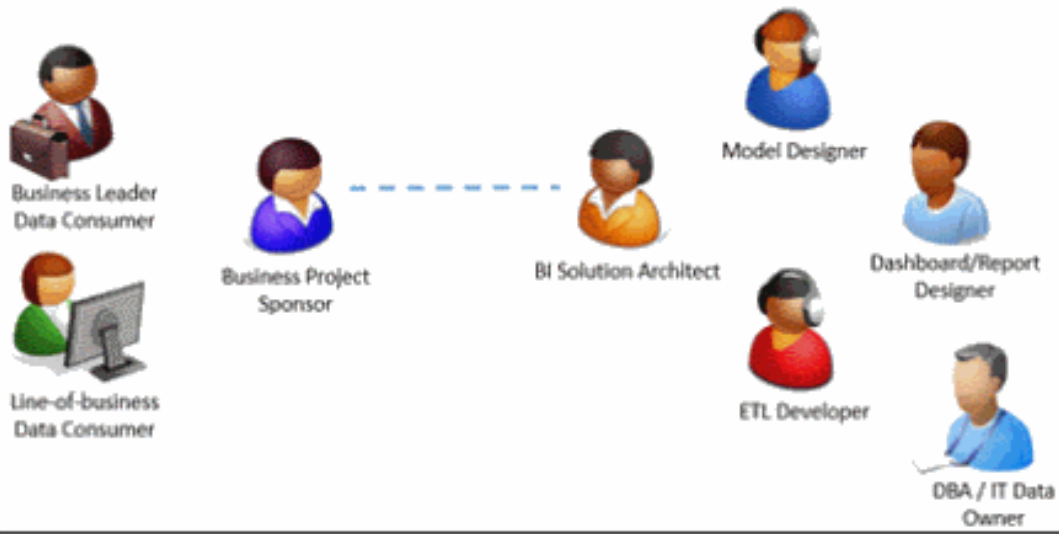
- Because business users are closest to the data going into BI systems, their involvement is paramount to successful business intelligence management efforts
- Companies should NOT let the IT department control of BI projects, particularly if they're setting up a centralized team to take charge of BI management enterprise-wide.
- While IT's strengths in data preparation, management and governance are critical for effective BI initiatives, **treating a BI program as yet another IT project doesn't bode well for its long-term success.**

Role of Business users in managing BI projects

- **Define needs:** Business users sometimes have a hard time to adequately translating their requirements for BI and IT developers: so **task 1** for BI users is learn accurately identify the **BI goals**;
- **Be knowledgeable:** Managing a BI program takes a special breed of employee, one with a **combination of technical, people and process management** skills. Don't need to design algorithms nor to be a programmer, but **BE AWARE of the technology** (and stay up to date..)
- **Help creating reports and dashboards:** Interfaces and dashboards for BI do not answer only pre-defined queries as "old" OLTP systems, but even though they are much more flexible, **they cannot manage data they have not been designed for**. Business Users should learn defining the objectives of the analytics: which data and "what for" (in cooperation with IT people) should be extracted and shown in the final report.
- **Self-service business analytic systems** (such as IBM, DOMO, DUNDAS-BI) may help (see later in this course). To some extent, new OpenAi platforms can be used by non expert (BUT TECHNOLOGY-AWARE!!) users

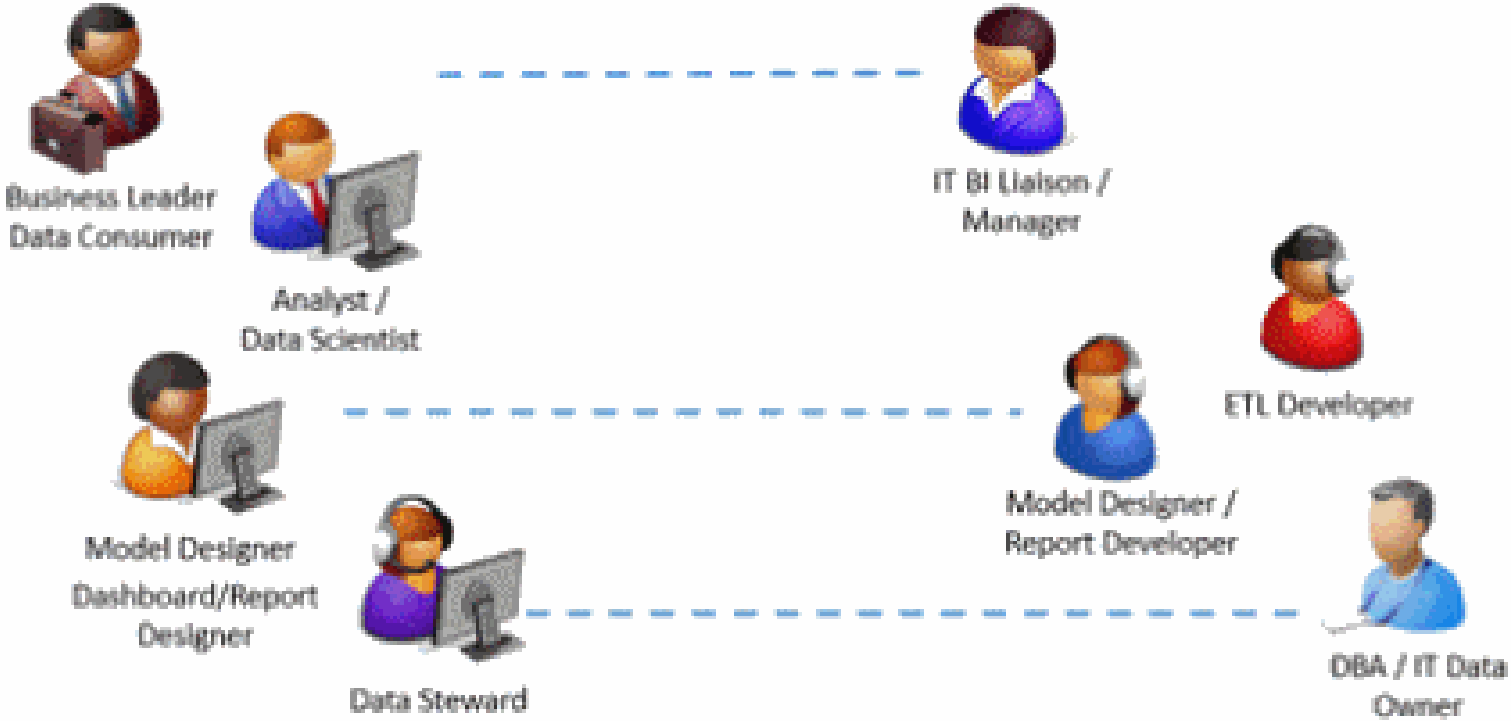
Business people should NOT be just data consumers!

Traditional IT-Driven BI



- *Easy to lose focus of the real vision and milestones to arrive at the final goal. Efforts can easily be deemed a success by IT measurements (good infrastructure, performance, coding, change management, etc.) but **a failure to the business users!***

Business/IT Hybrid BI

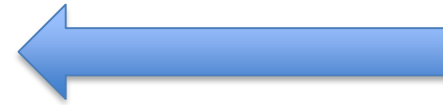


A balanced view

Who is an IT person? Who is a Business person?

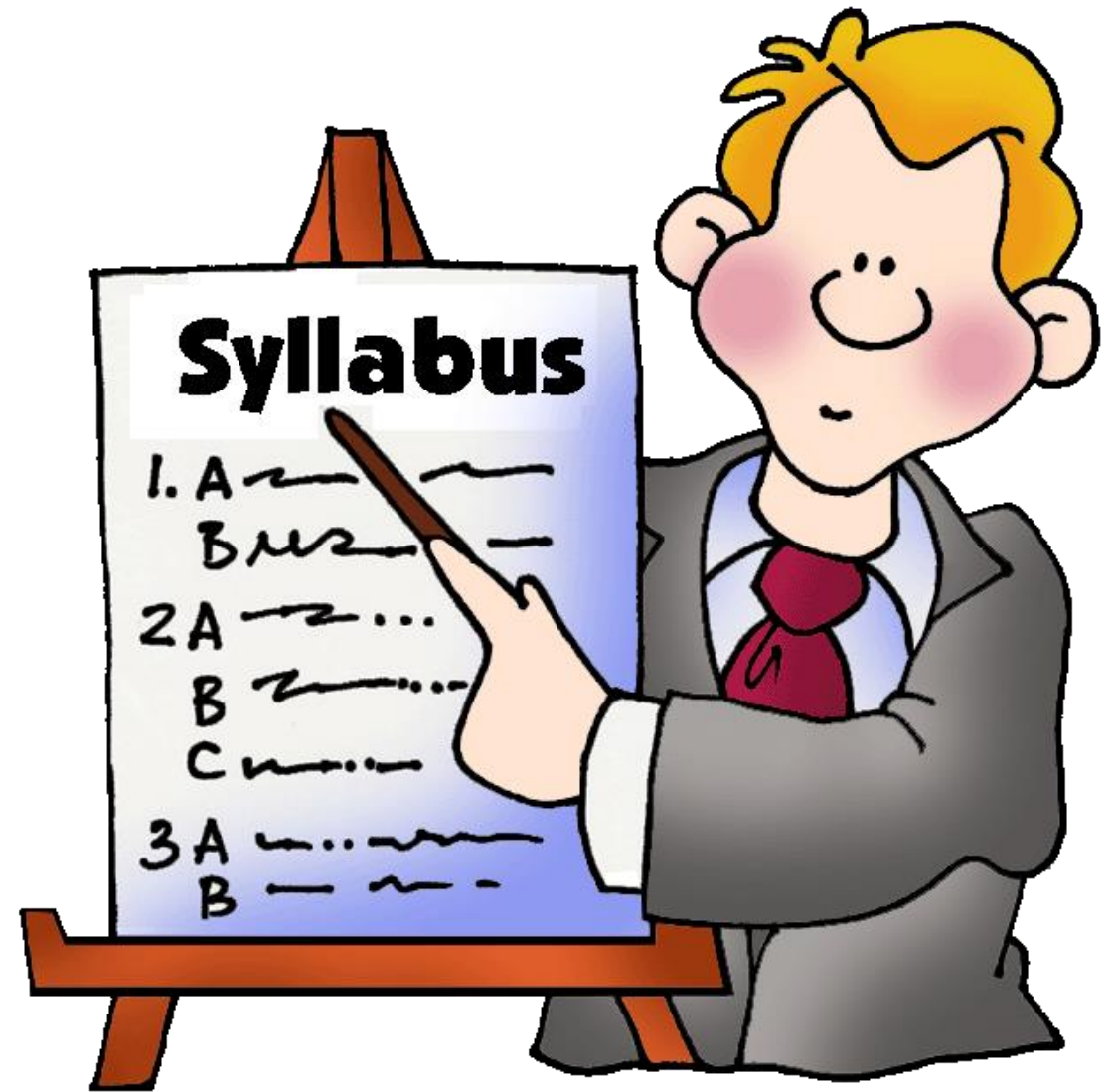
What are the typical roles in a BI project team (and who could YOU be)

- Advanced Business User
- Professional Report Author
- Modeler
- Administrator
- Analyst
- Business User



ABU: This person has a deep understanding of the business needs and a good understanding of technology. The Advanced Business User leads the interpretation of business requirements and creates reports to answer business questions.

SO WHAT IS THIS COURSE ABOUT?



Course Syllabus (6 CFU)

1. **Data Wharehousing:** describe the process used in developing and managing a data wharehouses, where data are collected
2. **Decision Support Systems:** how to extract *knowledge* from data
3. **Social networks and Social Analytics:** social media and web as new source data to better engage clients
4. **Business Reporting and Visual Analytics:** why visual analytics is crucial for BU, and what are the new visualization startegies
5. **Advanced topics:** Internet of Things, Self-service BI, Cloud Computing, Big data (if time permits)
6. **Lab Application:** using *Watson Studio* business analytic tools (6-7 labs with IBM tutors, real use cases from telco, fashion, energy..real anonimized data)

Homework 2 (with presentations)

- Select one BI use cases. Find material on the web (e.g., <http://www.teradata.com/Resources?AssetType=Case+Studies>)
- Answer the following (for each case):
 - What was the key problem for the company, when deciding to adopt BI?
 - Which information is provided to the BI analytics tool?
 - Give examples of descriptive, predictive and prescriptive analytics supported by the BI systems.
 - Which business performance features are highlighted as success indicators?
 - Any free comment you may want to add.

BI cases must be presented in class **STARTING** **FROM SEPTEMBER 27th**

- **Teams of 3** will describe their business case first!
- Prepare a 5-8m presentation (to be sent to instructor) and **upload on the shared drive. Fill the excel form with your details**
- Where can you find case studies?
 - TERADATA: <https://www.teradata.com/Resources?AssetType=Case+Studies>
 - <https://searchbusinessanalytics.techtarget.com/resources/Business-intelligence-case-studies>
 - Everywhere on the web searching “business intelligence use case”
 - New BI applications (such as those based on GTP) are also appreciated
 - **Please as you select your use case write it into the excel file of the HW2 folder on DRIVE, so that the others will avoid selecting the very same case. You can upload your presentation later on (within SEPTEMBER 26th)**

TERADATA case studies

Filter Results

Narrow your results by selecting from the options below.

Products
All

Solutions
All

Services
All

Industries
All

Asset Type

- Show All
- Analyst Reports
- Articles
- Best Practice Guides
- Brochures
- Case Studies

Sort Newest - Oldest

VIEW ALL 1 2 3 4 5 >



CASE STUDIES

Ticketmaster: Using the Cloud Capitalizing on Performance, Analytics, and Data to Deliver Insights

Founded in an Arizona State University college dorm room more than 40 years ago, Ticketmaster has grown into a global ticket retailer serving 19 countries. Ticketmaster sells hundreds of millions of tickets to every type of show and venue...

Monday, June 5, 2017



CASE STUDY

Using Teracore

Today's companies are looking for more efficient ways to manage, care for, and maintain their assets to benefit...

Monday, May 1, 2017

Filter Results

Narrow your results by selecting from the options below.

Products

- All
- Analytic Applications
- Campaign Management
- Data Warehouse Software
- Demand Chain Management
- Digital Messaging Center
- Discovery Platform
- Hybrid Cloud
- Integrated Data Warehouse
- Integrated Marketing Cloud

To search for interesting use cases, select appropriate filters

TECHTARGET use cases:

Sections

News

Get Started

Evaluate

Manage

Problem Solve

Ask a Question & Find an Answer

Get answers from your peers on your most technical challenges

Ask Your Question

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Business intelligence case studies **News**

02 **Airbnb, Univision highlight best practices in BI**

JUL'18

At the Real Business Intelligence conference, Airbnb and Univision execs presented some of the BI strategies their organizations use to help drive growth and cut costs.

28 **Self-service BI and analytics tools face evolving set of challenges**

MAR'17

29 **Data analytics tool for data scientists goes beyond BI visualization**

JUN'17

A new breed of data analytics tool for data scientists aims to deliver far more than BI software, including predictive analytics and exploratory analytics.

08 **Analytics teams give data science applications real scientific rigor**

MAR'17

Vendor Resources

Pricing Analysis at NTUC Income
—Case Study

BI Case study: St. LukesHealth
—Case Study

Kodak BI Platform Case Study
—Case Study

Scheme of presentation (please **DO follow this scheme**)

- Shortly describe the business case (company, business, business problem to be analyzed, why a solution is needed) in 5-8 slides
- Show the main aspects:
 - Which data sources have been used (e.g. social data)
 - For doing what (e.g., extract customer profiles)
 - If you find them, add screen dumps of data analytics interface
 - Summarize results (e.g., increase of sales for a specific product, higher customer satisfaction..)
 - You can also look for failure cases! (In fact, this is more difficult and very useful..)
 - Also add your sources to create the presentation (web links and papers)