Developer to CTO

CS 7002

Romain Untereiner

The exam

The final exam

From next Tuesday: 4 sessions of project **presentation** and **debate**

The goal of the **presenting group** is to **explain** to the audience **why & how** they designed their IT project.

The goal of the **audience** is to **challenge** the presenting group on its **choices** and **designs**.

The final exam

Points to be included in the presentation:

- General description of the project
- Vision and Strategy
- Business Model Canvas
- Team organisation
- MVP presentation
- Event Storming
- Architecture
- Information System
- Architecture
- Stacks
- Roadmap

Setup

Information System

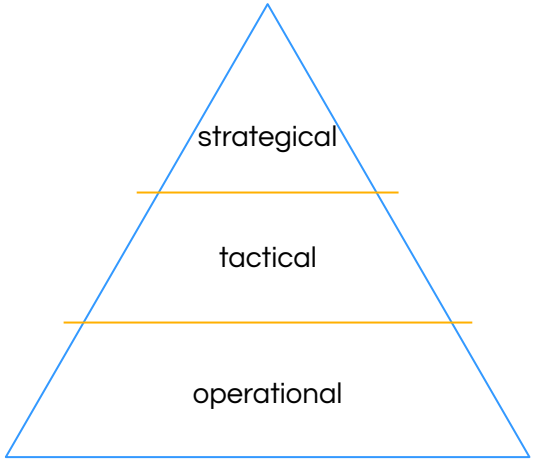
It is an **organizational system** designed to **collect**, **process**, **store** and **distribute** information.

Examples:

- CRM
- Internal documentation
- Customer support

The goal of the Information System

See and **analyse** what happens inside the company in order to **make decisions**



The IS components

Hardware

Software

People

Processes

Data-driven company

Today's company should be data-driven from day 1.

"What is measurable is improvable"

What is to be data-driven?

Data-driven company

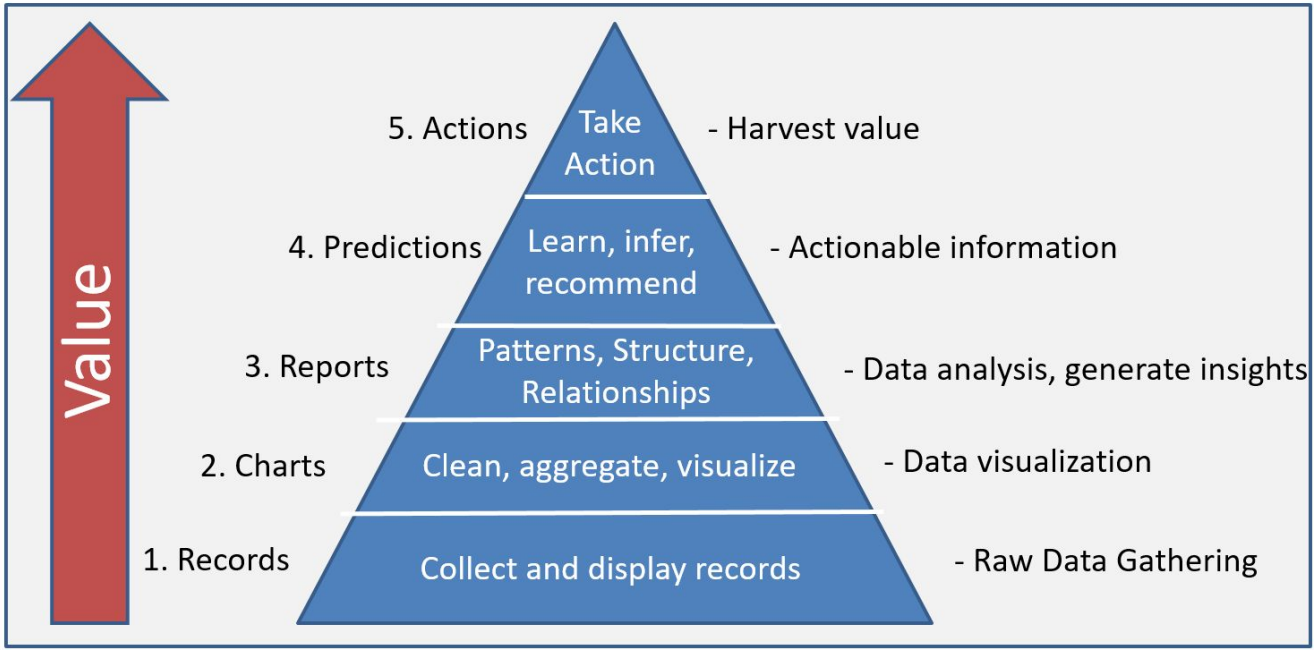
A company where **decisions** are based on data **analysis** and **interpretation**.

A data-driven approach enables companies to examine and organise their data with the goal of better serving their customers and improving its internal processes

Allow IS **sustainability** by considering every element of your company as a **source of information**.

Make these elements enter in your **strategy** of **company-wide data treatment**.

Data-value pyramid



IS and Data?

The usual implicit difference between information and data is only that

- **information** is handled by an **external system** (the IS)
- **data** is handled by a **software** your write (the tech)

The challenge is the **formality of the information**

Information types

- Strategic information

- Financial information
- Legal information
- Human Resources information

- Product information
- Technical information → what you might call “data”
- Operations information

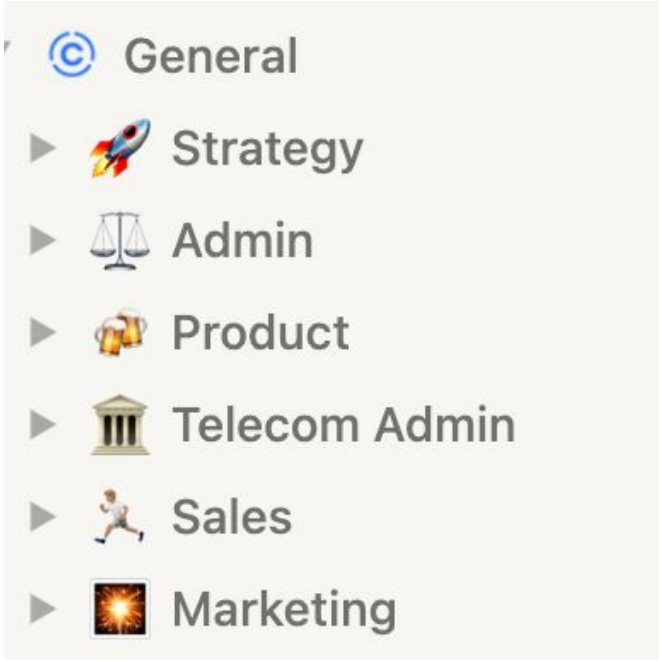
- Customer information
- Support information

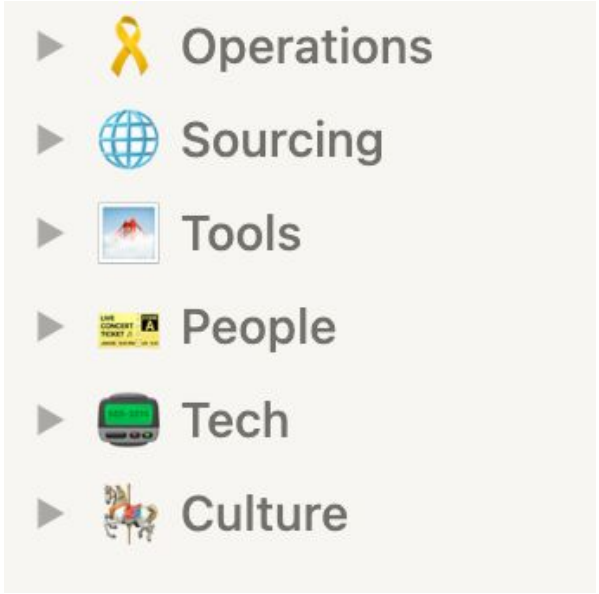
- Metrology / BI

The required systems

- Communication system
- Documentation system
- Sale system
- Operations system
- Support system
- Metrology system

Our minimal setup at Cantoo





Communication systems

Documentation systems

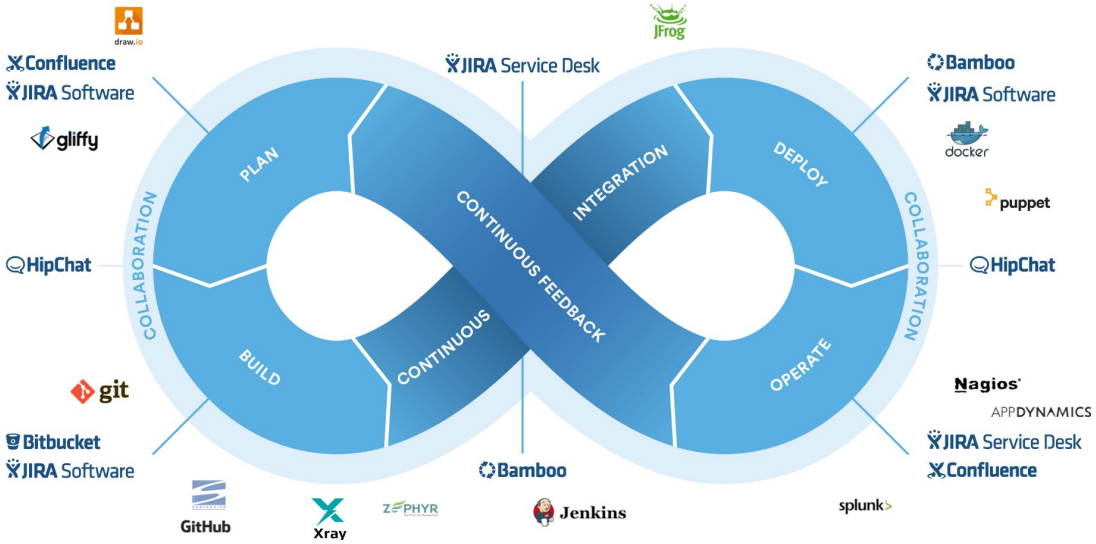
Sale systems

Operations systems

Support systems

Metrology systems

Atlassian suite



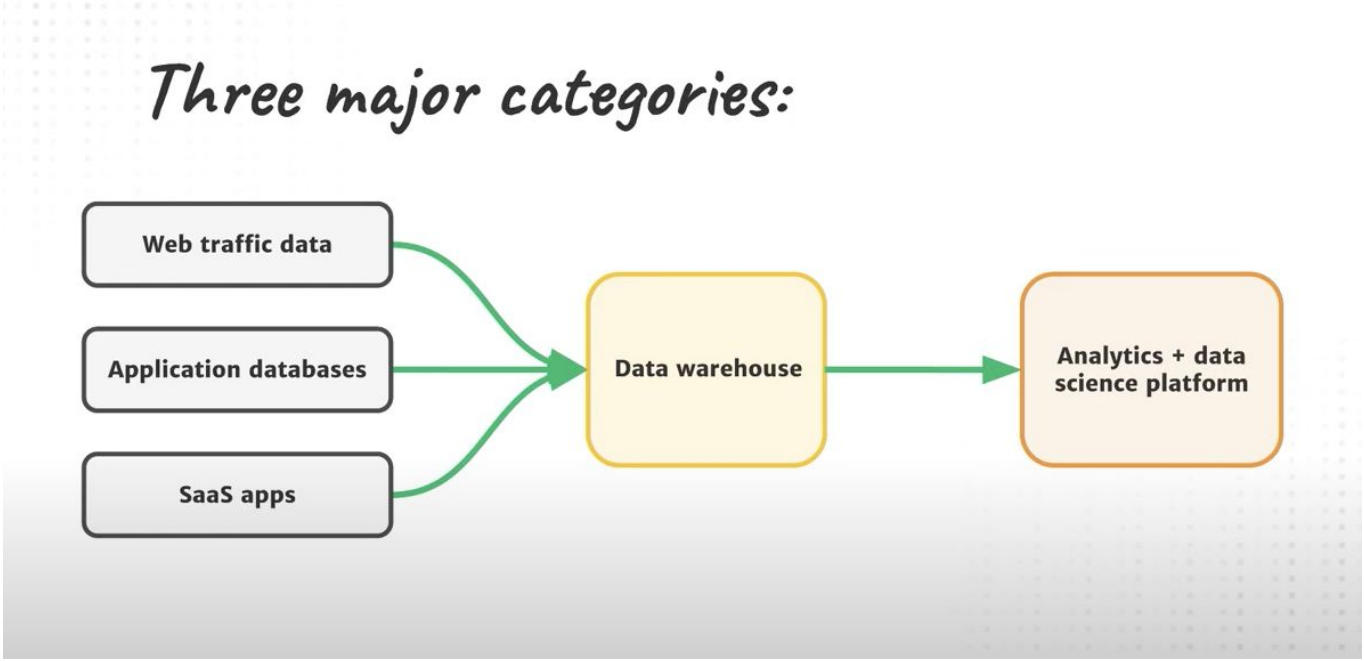
Session learnings

- What is an Information System
- How to setup a minimal IS for your project
- Common tools used for your SI

Next session

- Develop modern systems
- Cloud
- Infrastructure
- Modern processes

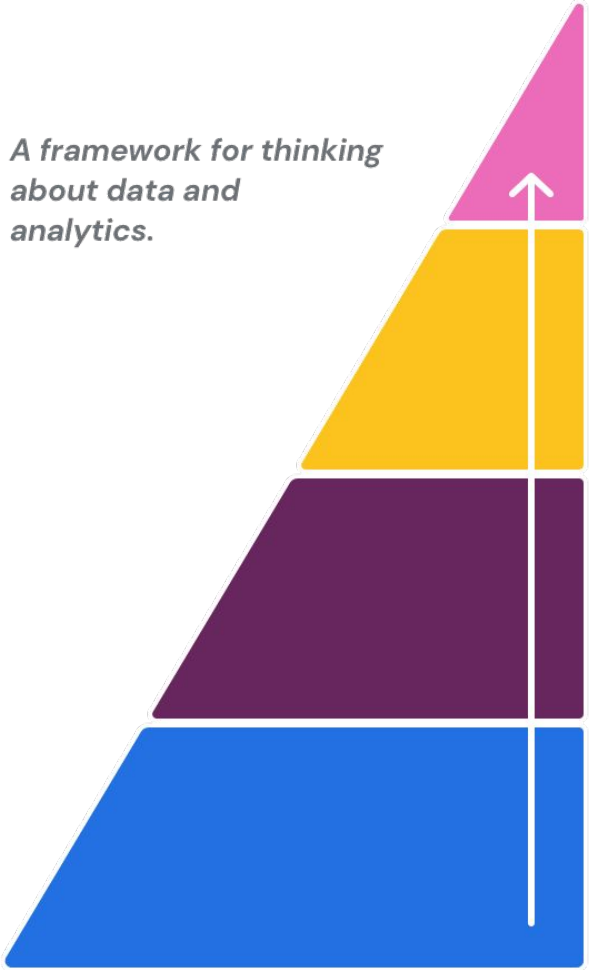
Develop


Three major categories:
Web traffic data
Application databases
SaaS apps
Data warehouse
Analytics + data science platform

Impact

Appendix

A framework for thinking about data and analytics.

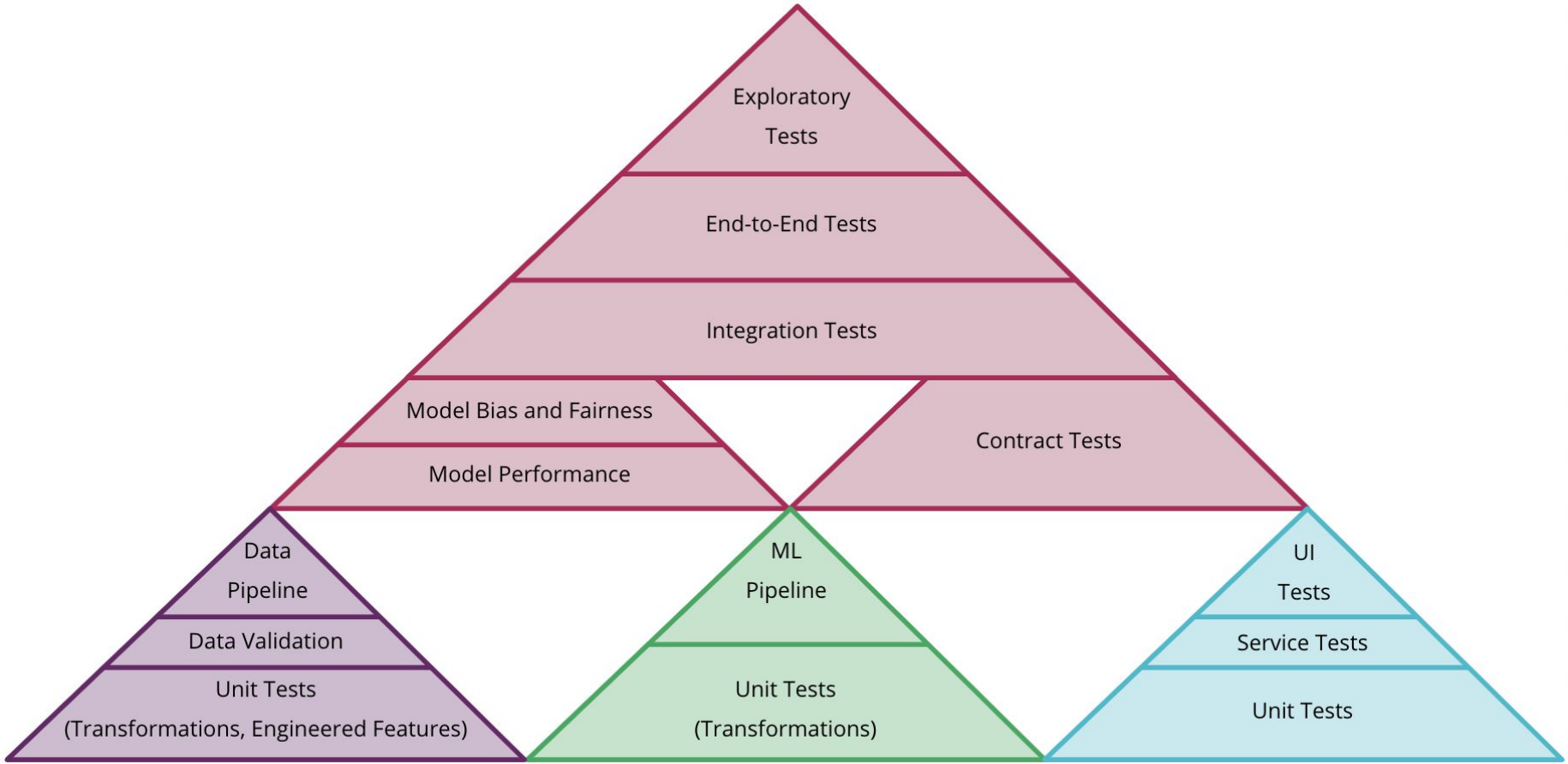


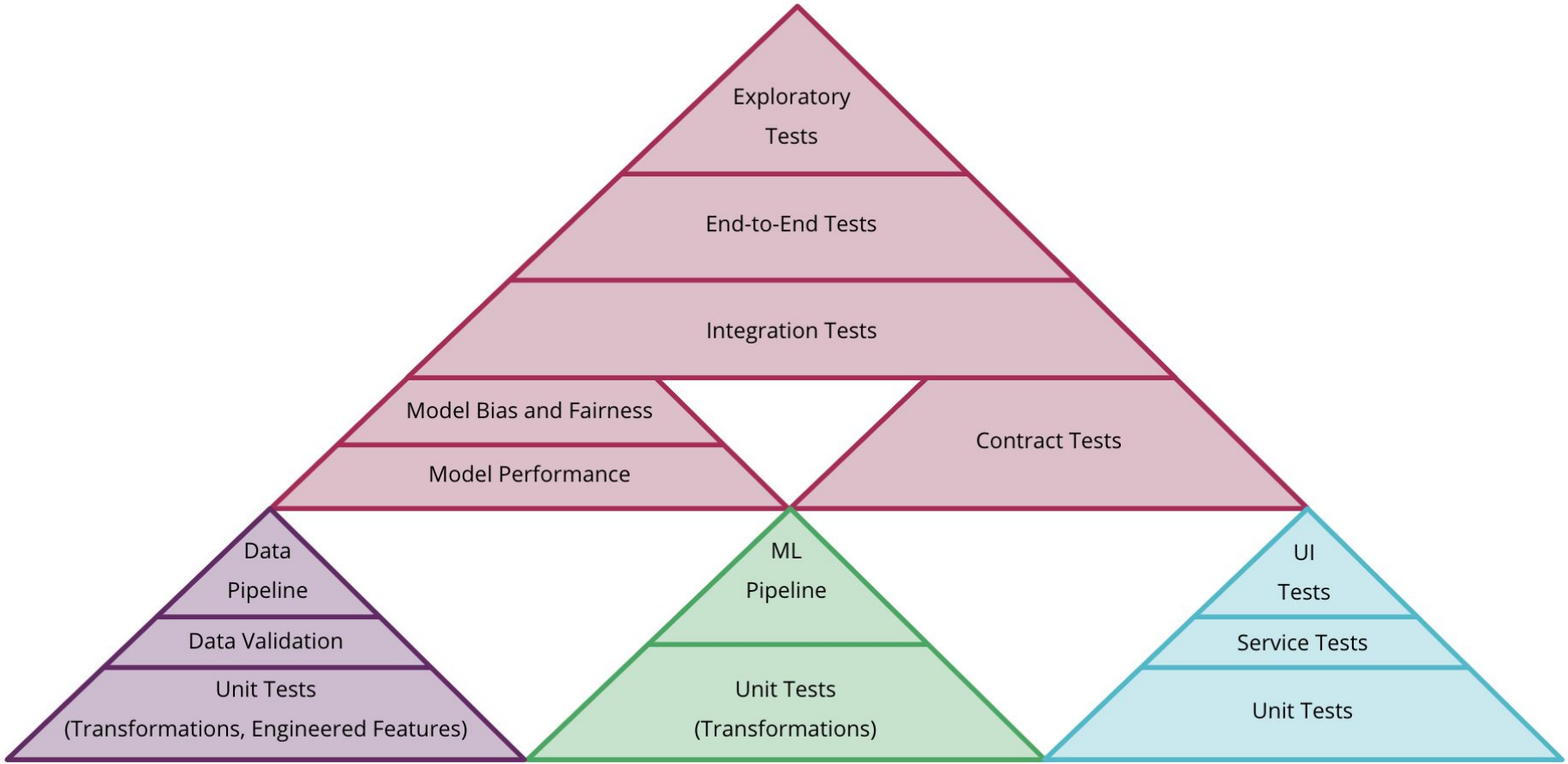
Analytics
Added context to some metrics to tell a story that will inform future decision making.

KPIs
Simply the most important metrics that matter to your business.

Metrics
The collection of one or more measurements to give a standard value of something meaningful.

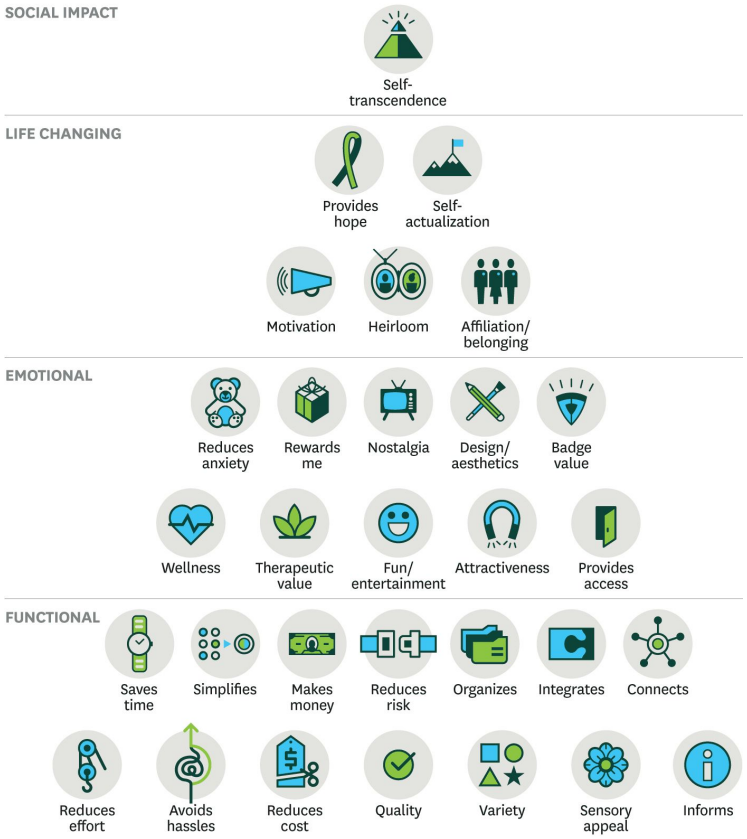
Measurement
The foundation of all data-driven businesses, collecting data from actions in the systems powers everything above it.


Exploratory
Tests
End-to-End Tests
Integration Tests
Model Bias and Fairness
Model Performance
Contract Tests
Data
Pipeline
Data Validation
Unit Tests
(Transformations, Engineered Features)
ML
Pipeline
Unit Tests
(Transformations)
UI
Tests
Service Tests
Unit Tests


Exploratory
Tests
End-to-End Tests
Integration Tests
Model Bias and Fairness
Model Performance
Contract Tests
Data
Pipeline
Data Validation
Unit Tests
(Transformations, Engineered Features)
ML
Pipeline
Unit Tests
(Transformations)
UI
Tests
Service Tests
Unit Tests

The Elements of Value Pyramid

Products and services deliver fundamental elements of value that address four kinds of needs: functional, emotional, life changing, and social impact. In general, the more elements provided, the greater customers' loyalty and the higher the company's sustained revenue growth.



SOURCE © 2015 BAIN & COMPANY INC.
FROM "THE ELEMENTS OF VALUE," SEPTEMBER 2016

© HBR.ORG