

BIS2 – Introduction + Agile approach

Stefano Bruna



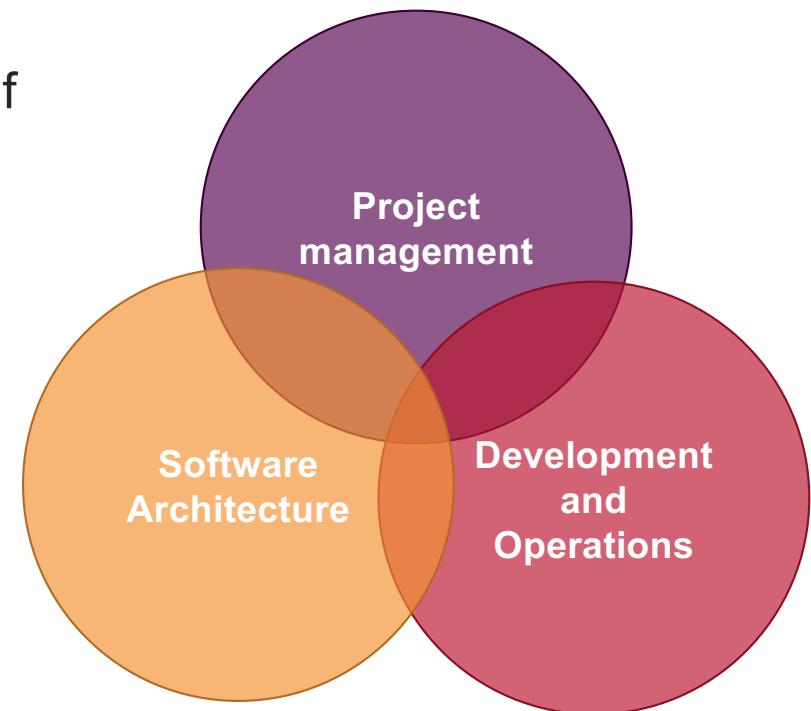
Agenda (2h)

- Introduction
- Today objectives
- About me
- IT Project management IT: Waterfall vs. Iterative
- Example: renovate our home!

Introduction

Three topics that an enterprise should consider if wants to be competitive

- **Project management**: how to organize projects and people working at them → **AGILE**
- **Software Architecture**: how to design information systems to better support enterprise processes → **MICROSERVICES**
- **Development and operations**: how to design the **software lifecycle management** process to be effective and fast → **DEVOPS**



About me

I am passionate about the design and development of software solutions. I use innovative methodologies, tools and platforms that enable the implementation of solutions that can provide a competitive advantage.

WHAT I DO

- Design and development of application solutions using state-of-the-art innovative technologies
- I have worked on numerous projects for the evolution of both **application and enterprise architectures**. The goal was to move legacy systems to solutions based on SOA architectures or **microservices**.
- Design and implementation of Dev-Ops solutions by defining and implementing agile end-to-end software lifecycle management processes.
- **Technology advisor** to large Italian companies
- Work on assessment, performance analysis & tuning activities

AREAS OF EXPERTISE

- Agile software development
- Microservice architectures
- Enterprise architecture
- Dev-Ops
- Cloud & Hybrid systems



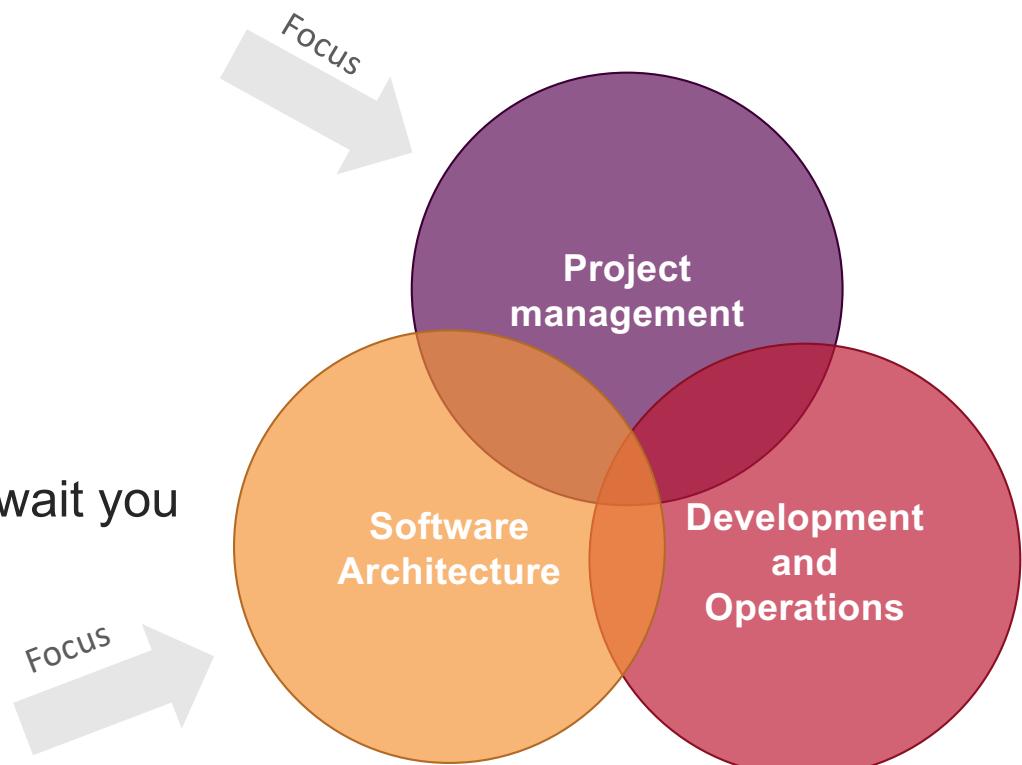
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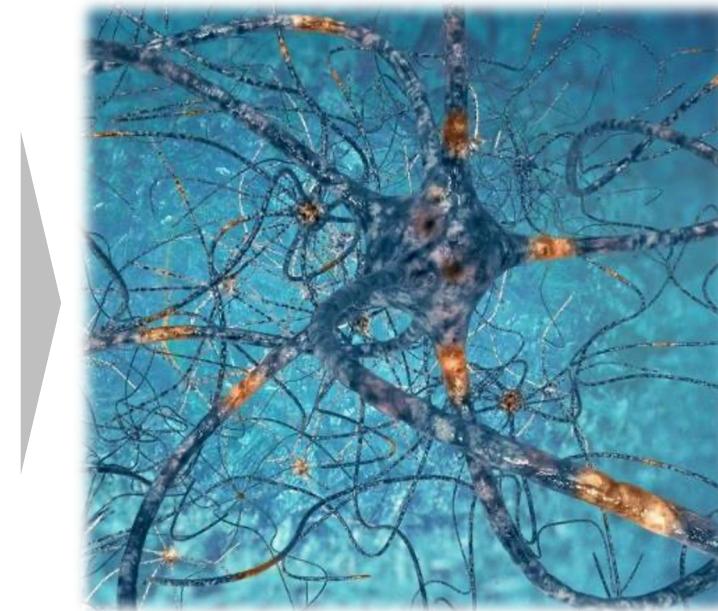
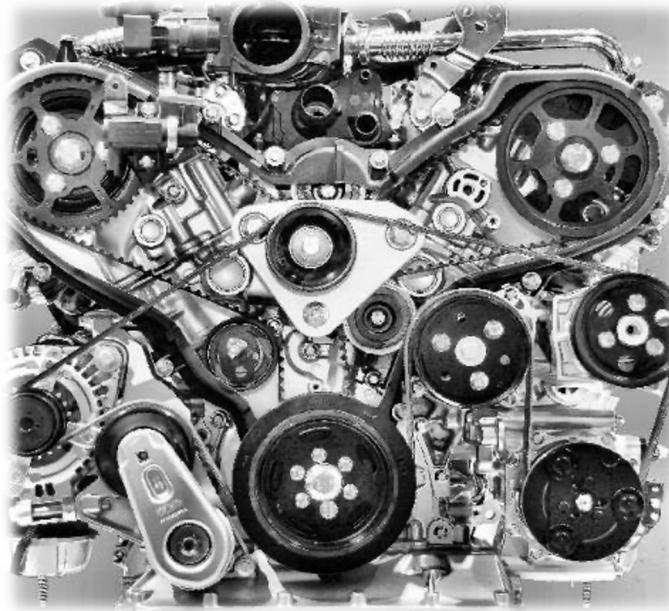


High level objectives

- Understands concepts
- Learn a common vocabulary
- Understand something about the professional dynamics that will await you
- Have some practice



A new era in enterprise organizations

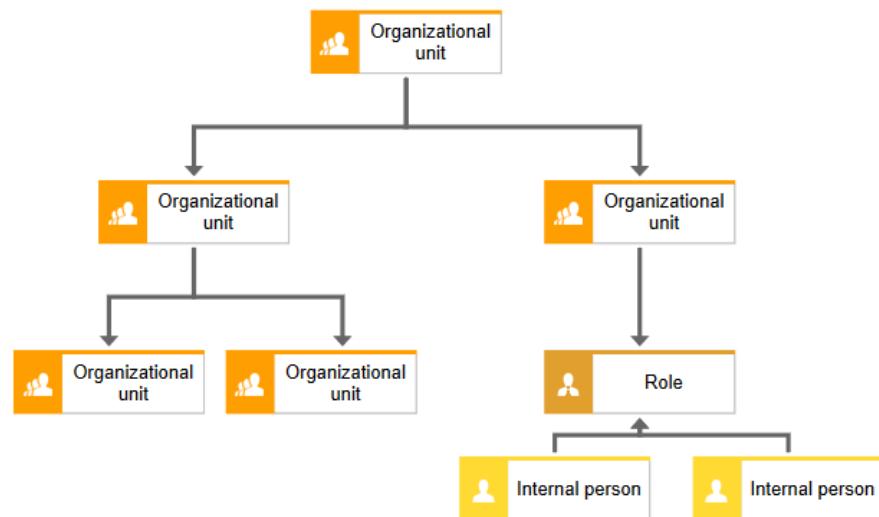


From machines...

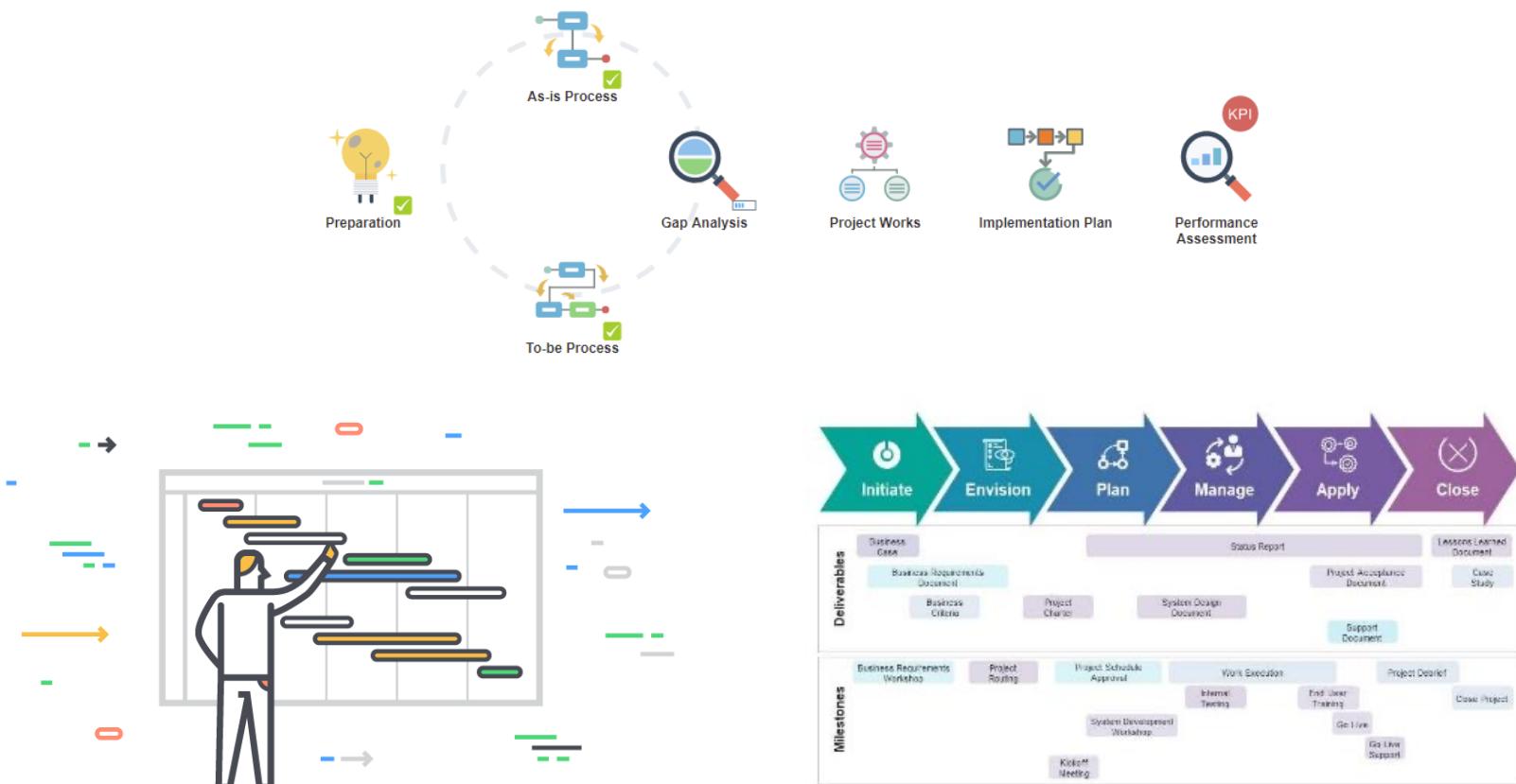
... to organisms

Some principle of enterprise organization

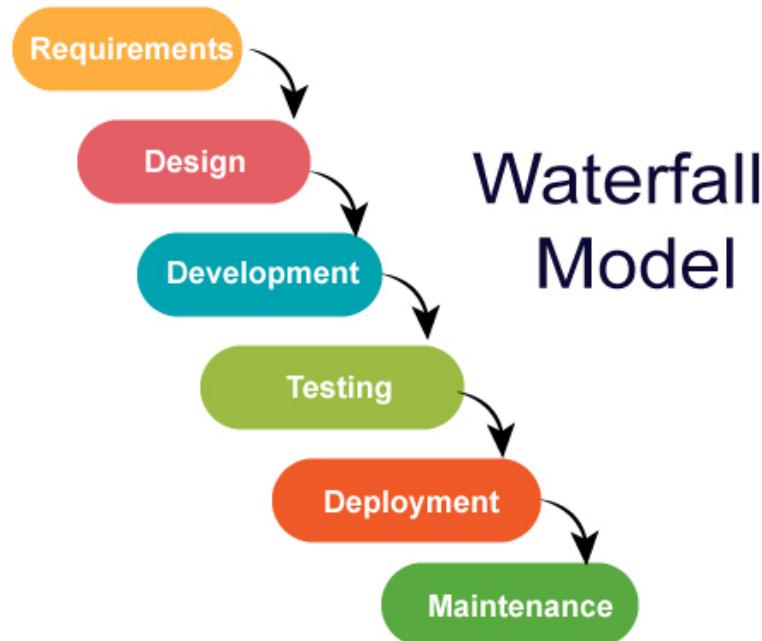
- Clearly define tasks and roles, adopt delegation as a principle.
- Search for continuous process innovation, implement efficient and standardized processes.
- Define performance and control indicators.
- Establish and share objectives, from general to operational, from systemic to individual.
- Measure and incentivize based on objectives.
- Implement communication, coordination and reporting systems, develop information systems.
- Properly manage priorities and workloads.
- Pursue continuous improvement.



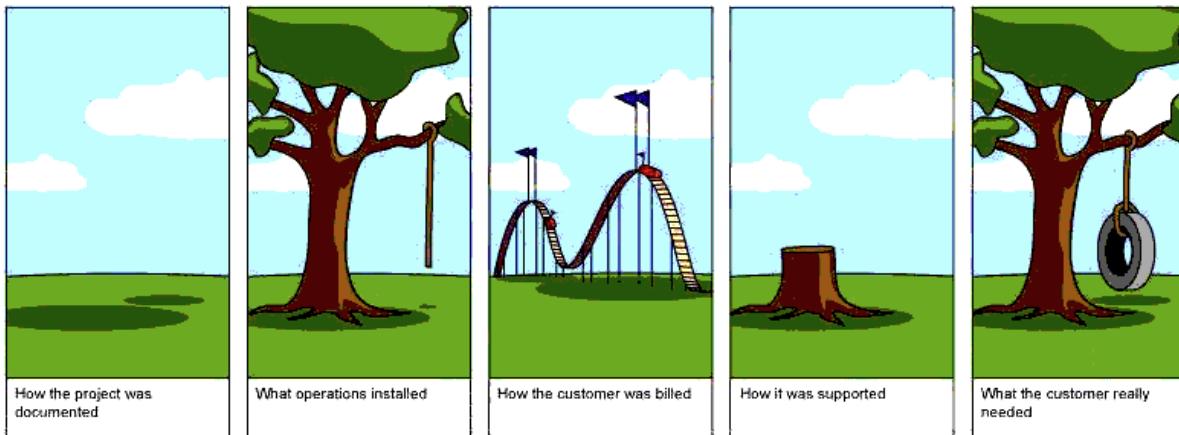
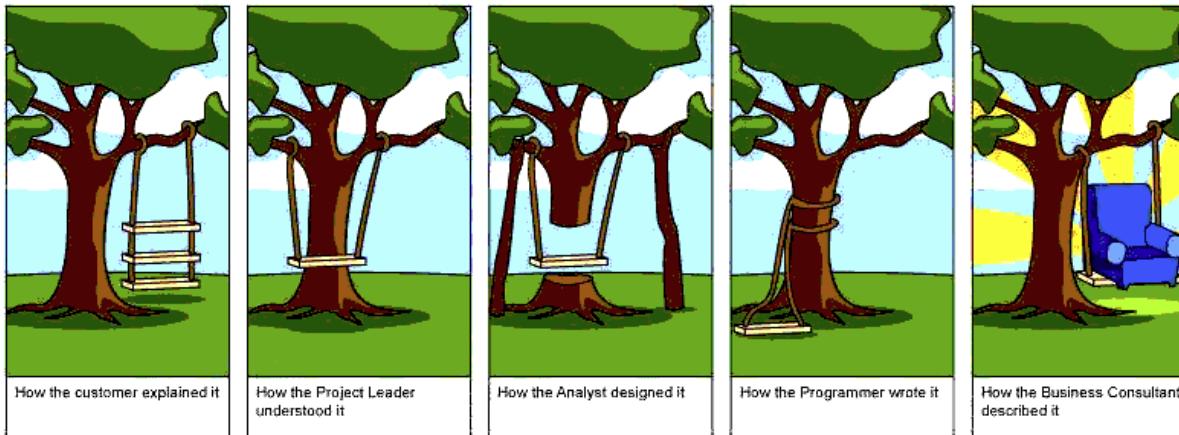
Continuous improvement, process engineering and project management



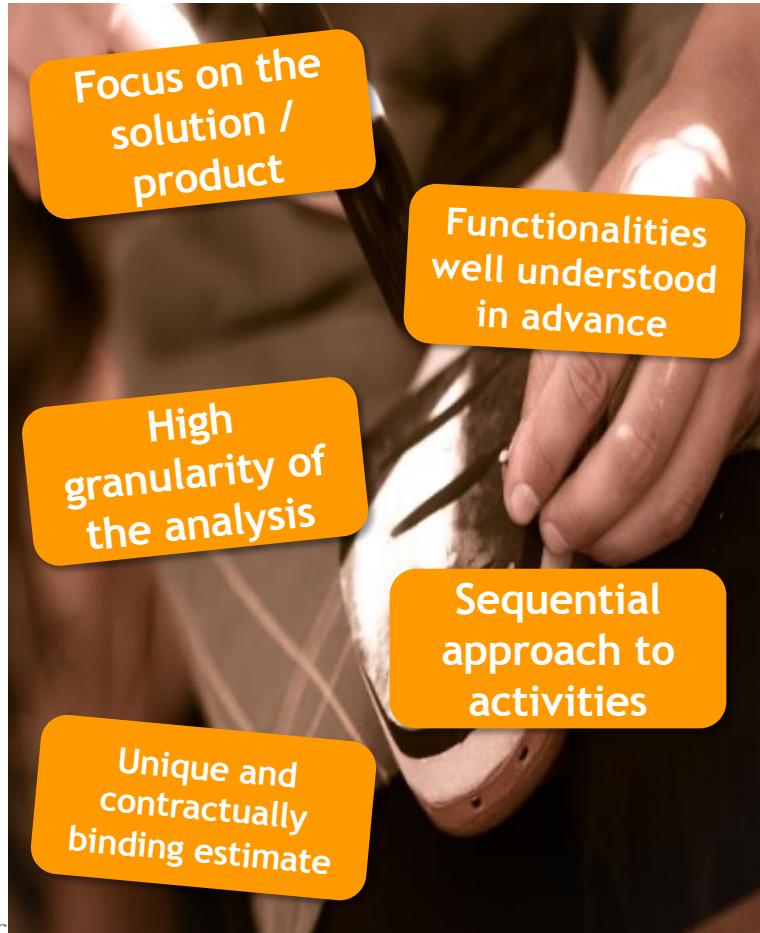
The management of IT projects: the Waterfall model



Why these memes are so viral ?



Waterfall: analysis and planning



Deviation from the user's real objectives



Application and functionality redundancy



Long times for the analysis and estimation process



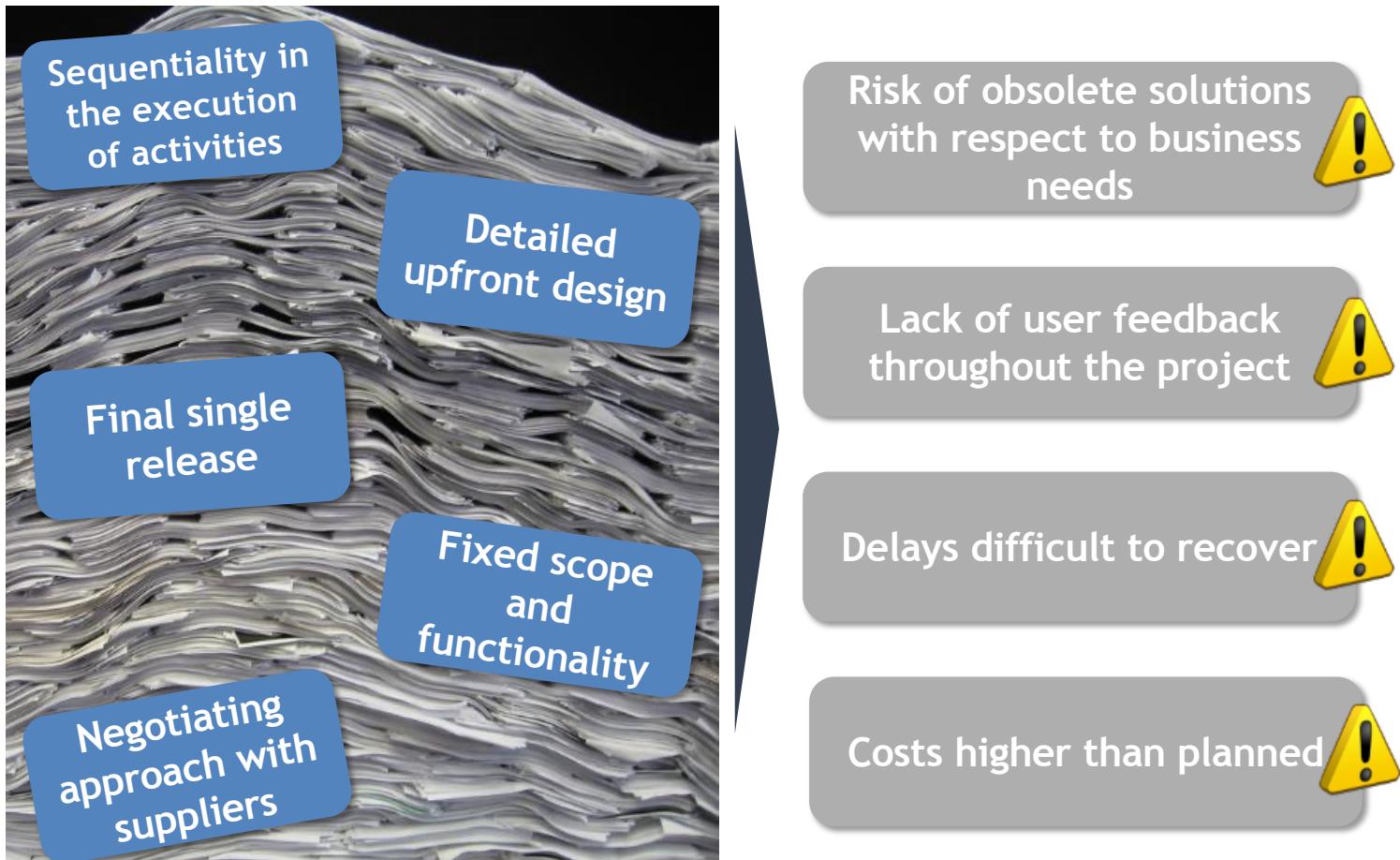
Important project decisions based on limited information



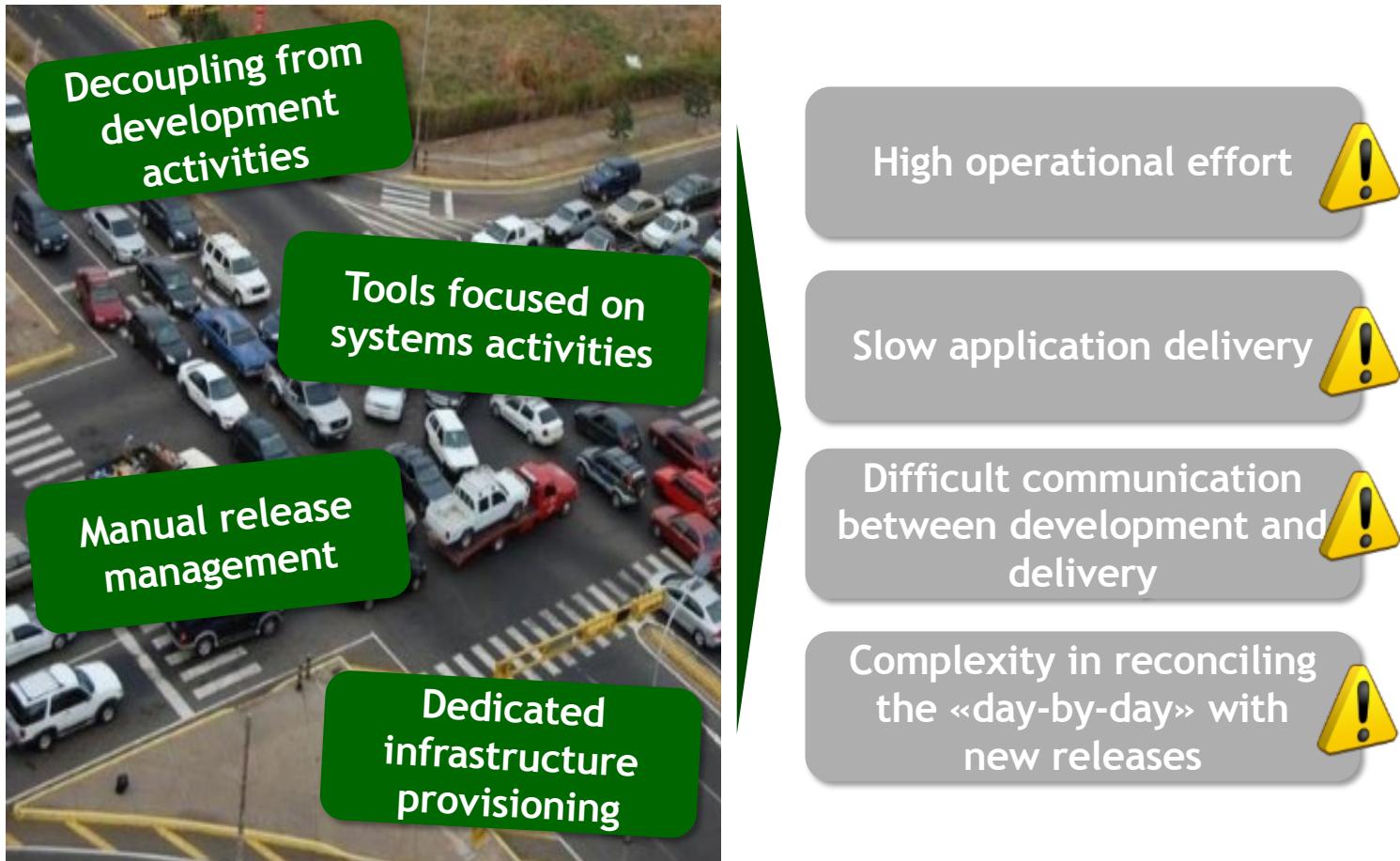
Substantially incorrect estimates



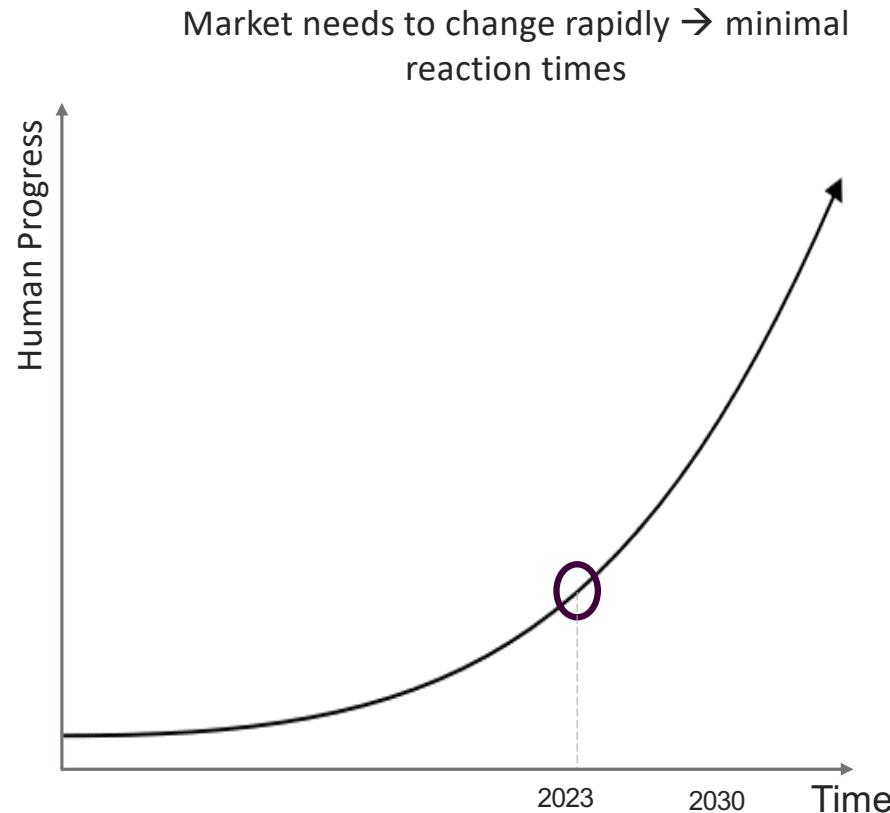
Waterfall: design and development



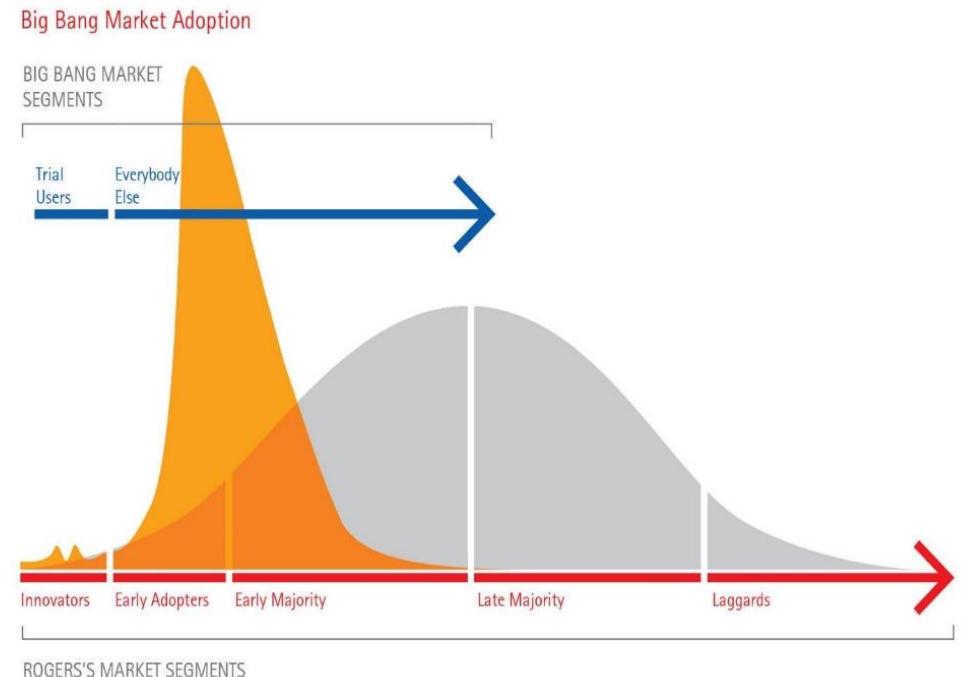
Waterfall: management in operation



Why it is necessary to reduce the Time to Market

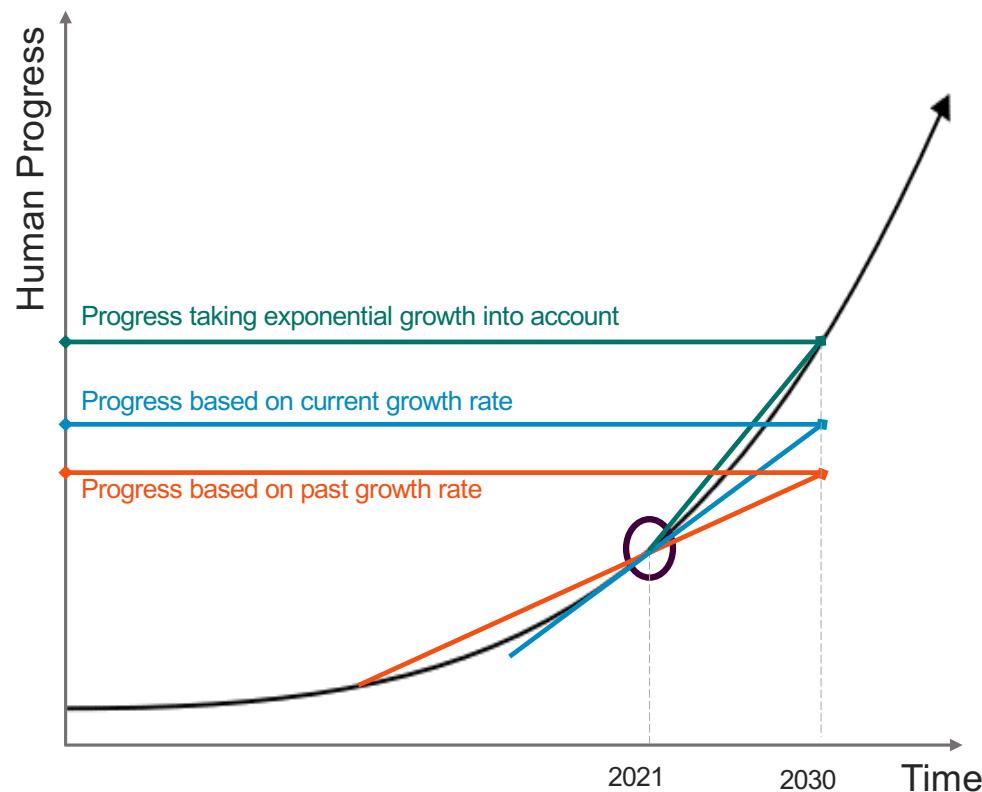


It also becomes even more strategic to anticipate competitors

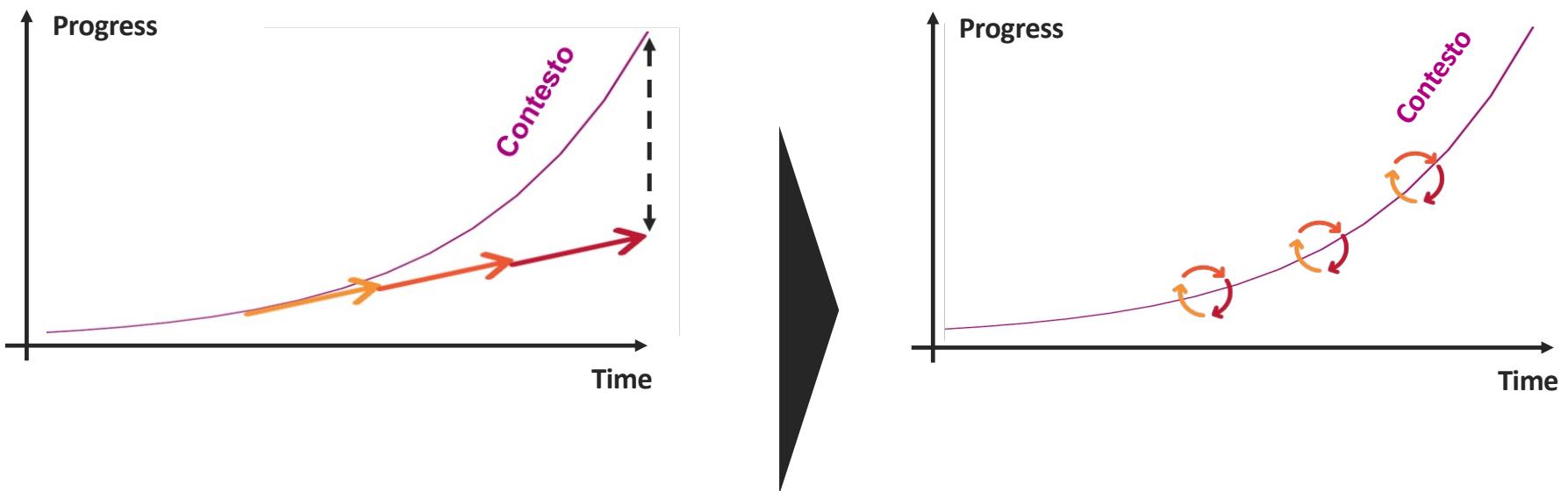


Source: waitbutwhy.com

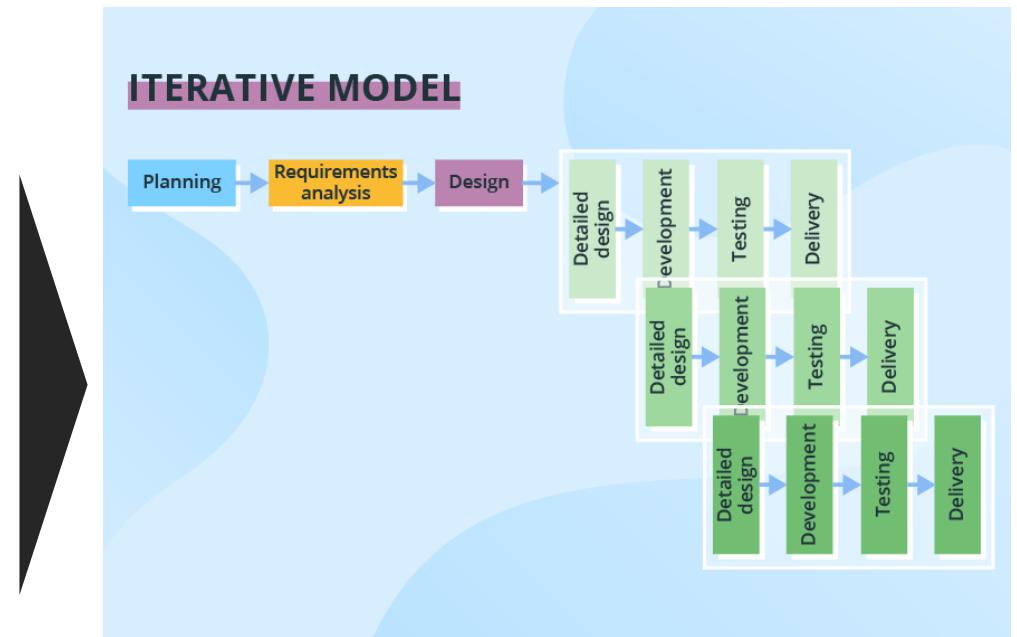
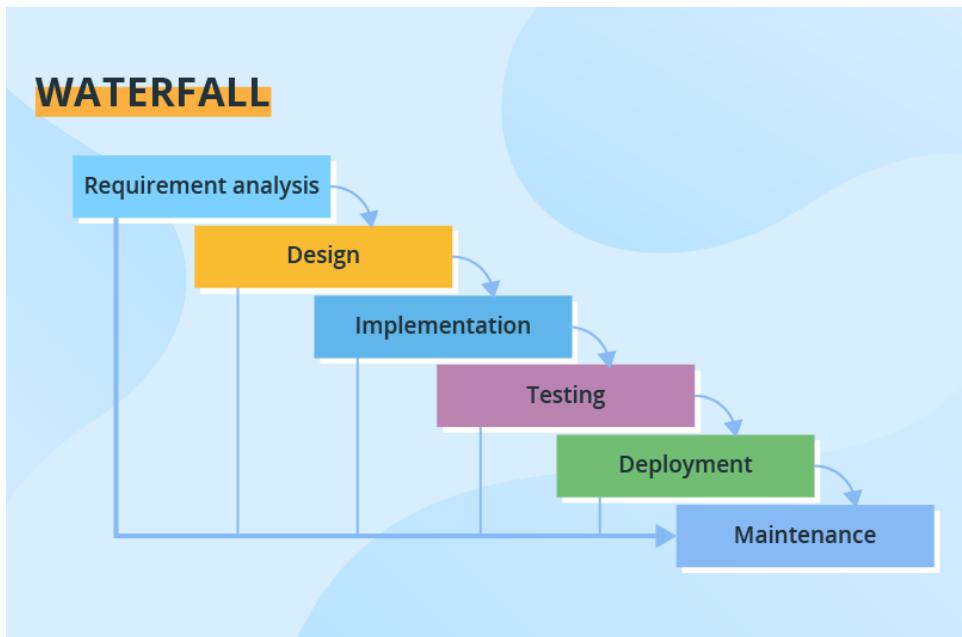
Is it possible to foresee a change in a complex context?



The need for agility



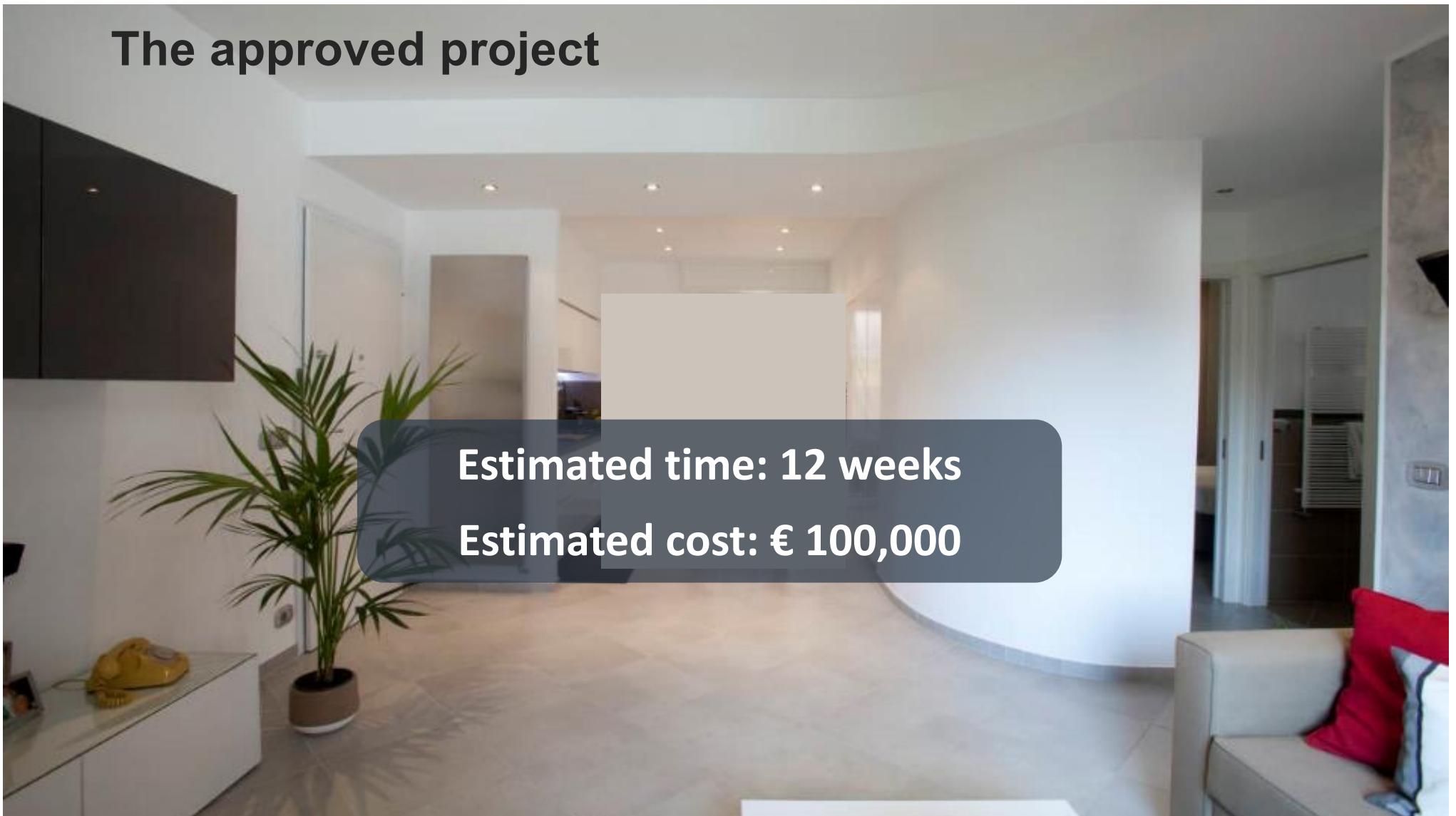
An agility that we can gradually achieve



Let's renovate our home



The approved project



Estimated time: 12 weeks

Estimated cost: € 100,000



During the renovation

... after 3 weeks:

- Construction defects are discovered and masonry works are more expensive
- Incorrect calculations for the type of work and materials needed
- Suppliers late due to internal inefficiencies

Estimated delay: 2 weeks

Extra-Cost: € 25,000

And at the end of the activities?

- Spaces not suited to my real needs
- Light points and sockets placed in uncomfortable places
- Poor finishing materials
- Realization of works faithful to the specifications but not meeting what was actually wanted

Project duration: 18 weeks

Effective cost: € 140,000



An agile approach: the first iteration



An agile approach: the second iteration

- We did not know that the pipes were made of lead: it is essential to replace them
- The spaces are not what I expected
- Walls need to be moved to avoid huge expenses
- I opt for a walk-in closet in the bedroom
- The electrical system design needs to be reviewed

FIXTURES AND
WINDOWS

MODIFICATION
WALLS
TRACKING

ELECTRICAL
WIRING

An agile approach: the third iteration



The result

- *In just 10 weeks the result is already pleasant, we can go to sleep at the new home!*
- *We would like to continue the work, but we have time, the house is already functional for everyday activities!*
- *We caught the wrong design, but quickly figured out what we really wanted*
- *It's still not our dream house, but now we can order the furniture by looking at the measurements and the true colors of the house, we will not be wrong!*



Elapsed time: 10 weeks

Cost of works: € 90,000

Our house



Agility: The Best-Kept Management Secret On The Planet



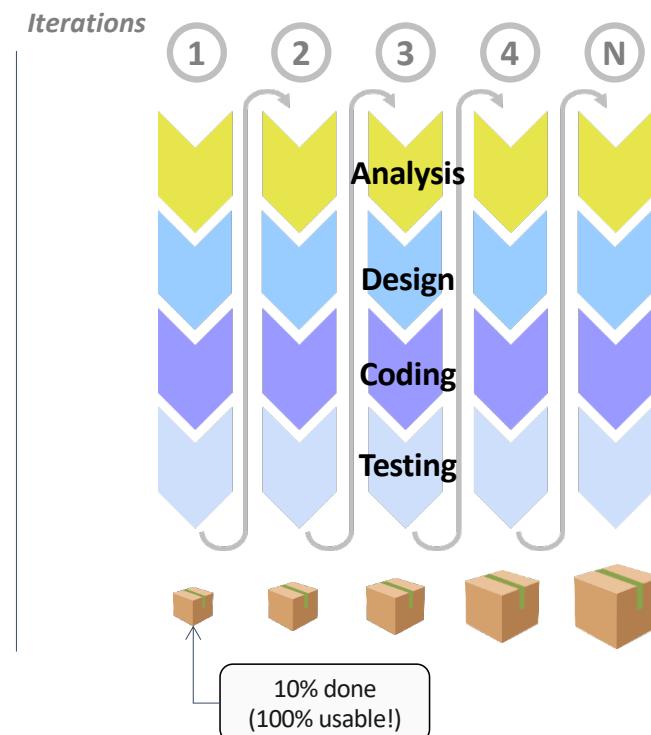
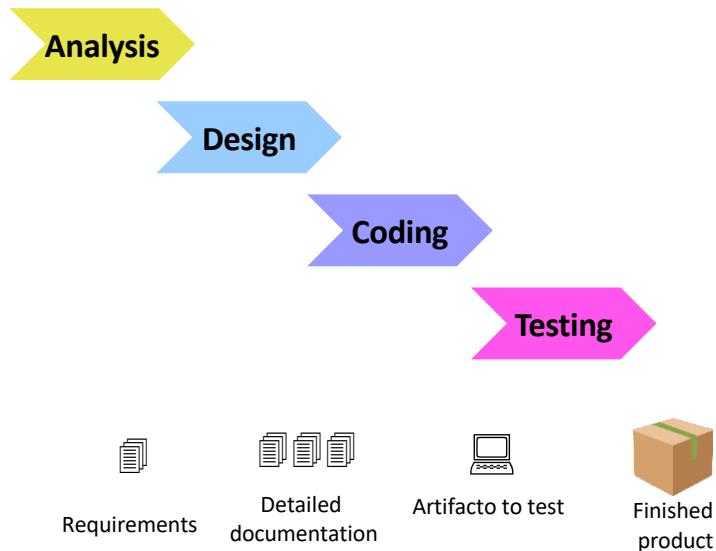
But after 20 (!!!) years something has leaked....



It is firms that are truly agile that are eating the world (whether or not they call themselves by the label "Agile")
Forbes, January 2018

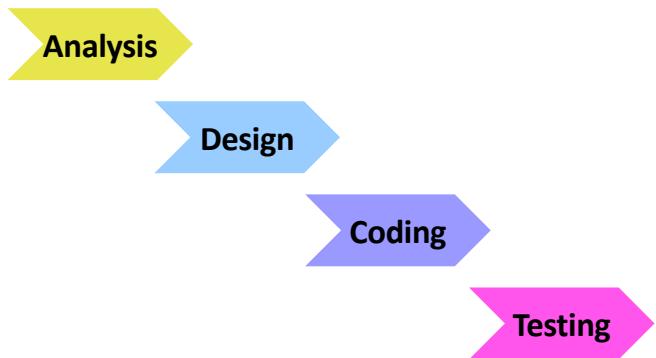


Agile management of IT projects

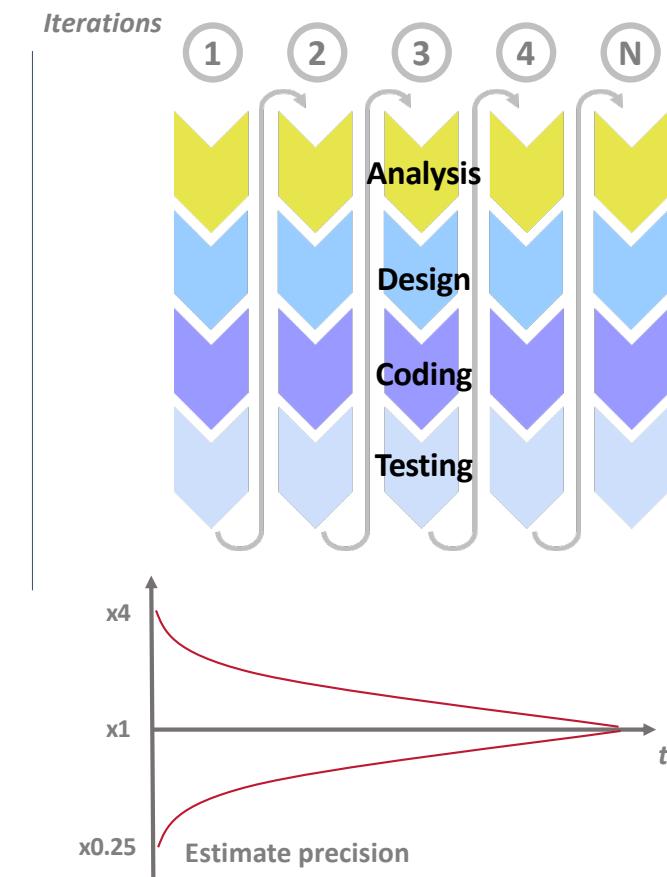


Iterative and incremental approach with the delivery of a product
usable from the first iteration

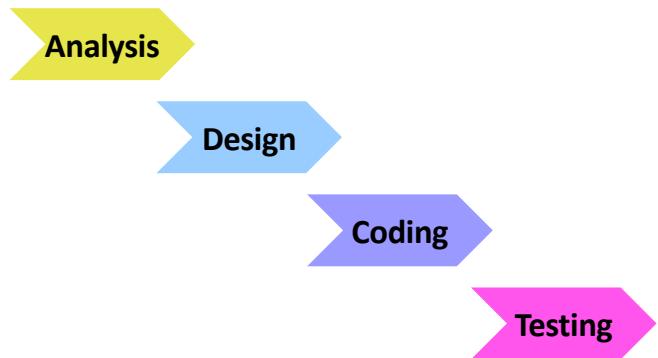
Agile management of IT projects



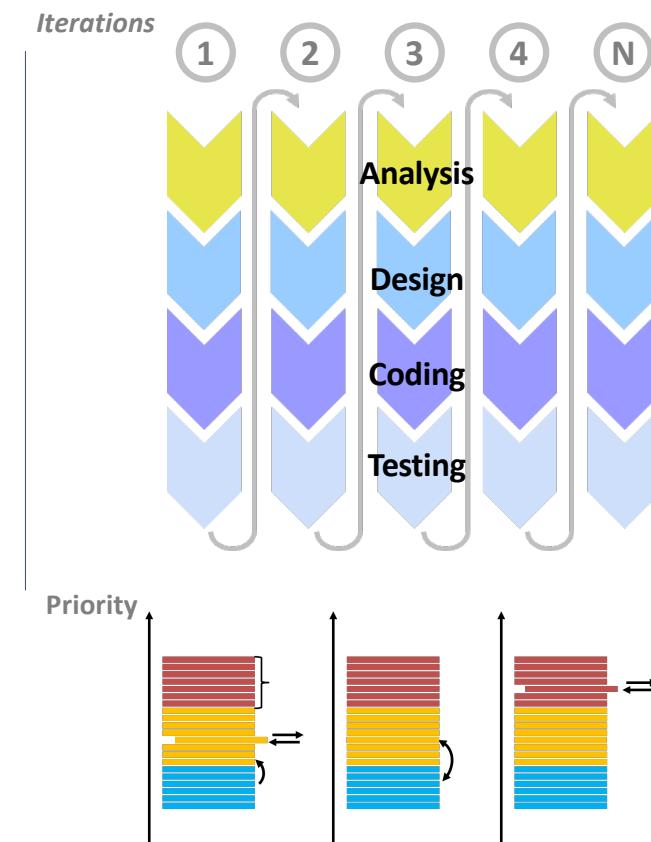
Progressive refinement of the estimate based on the trend of previous iterations



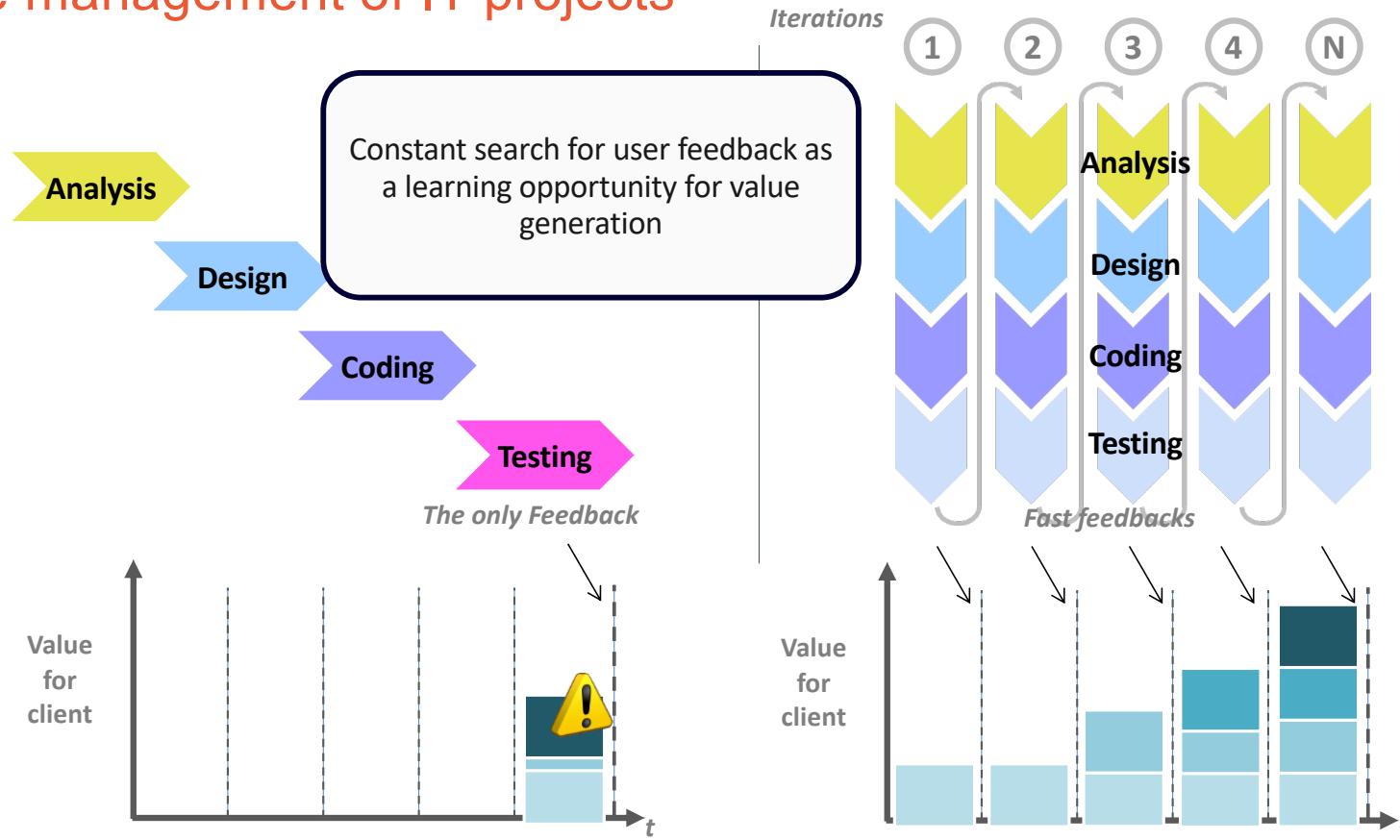
Agile management of IT projects



Controlled management of variation needs



Agile management of IT projects



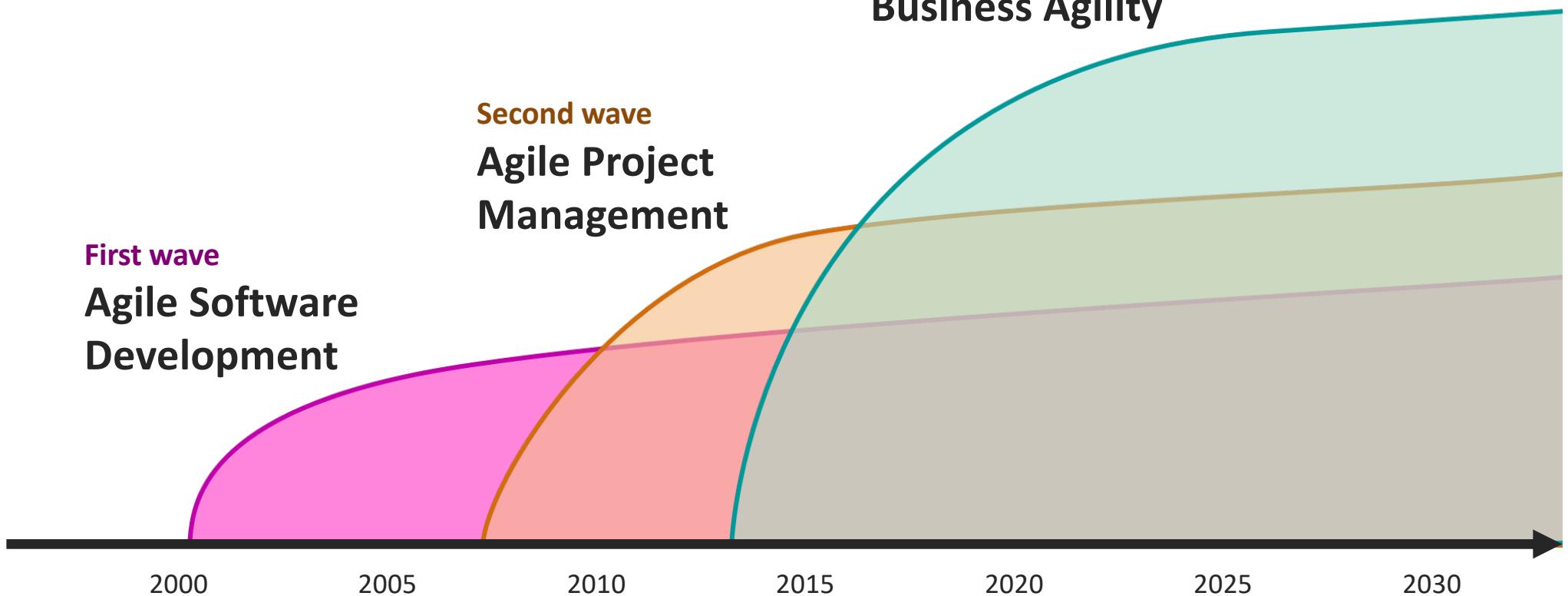
An evolving concept

Third wave

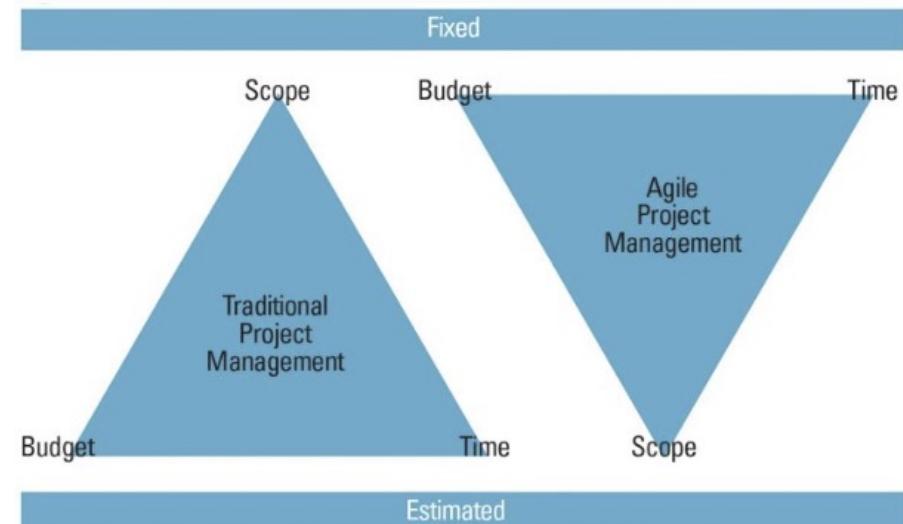
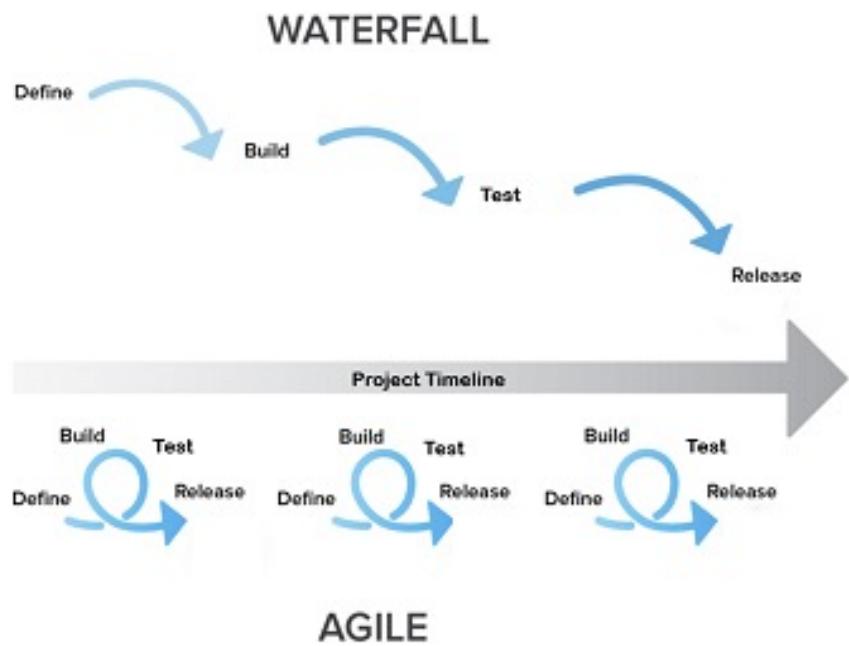
Business Agility

Second wave
Agile Project Management

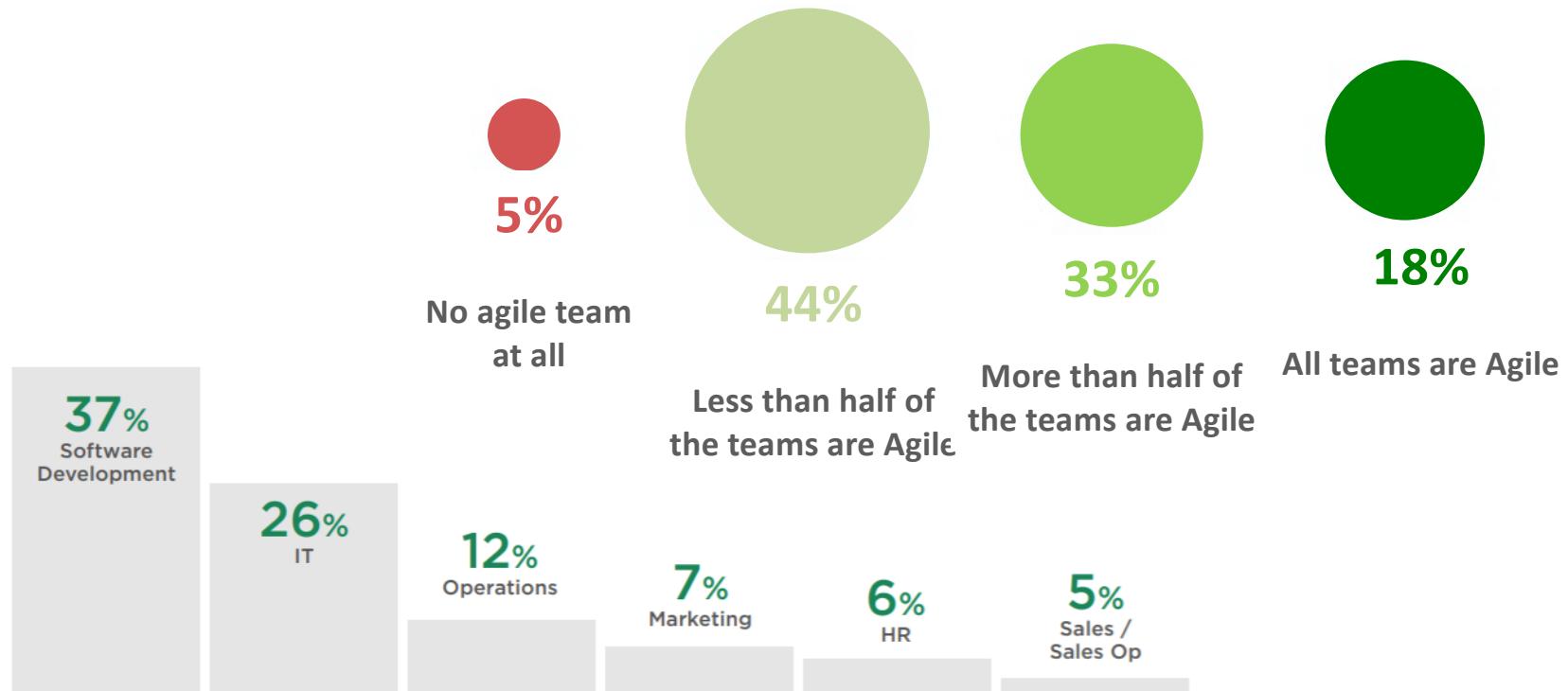
First wave
Agile Software Development



Ok ok, but where is the secret?

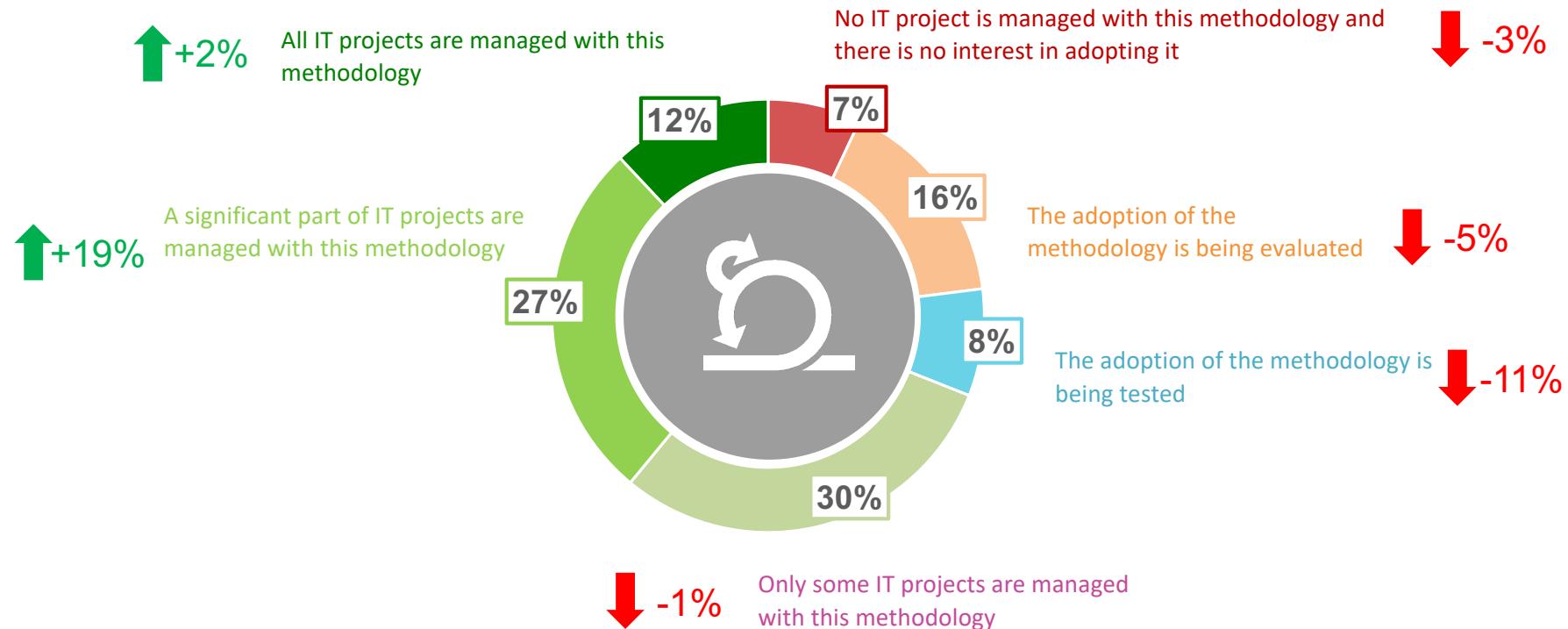


What is the diffusion in the world ?



Source: 14th annual state of agile report (2020) 1121 respondents from all around the world

What is the diffusion in Italy



Partial sample Survey Cloud 2019: 74 large companies

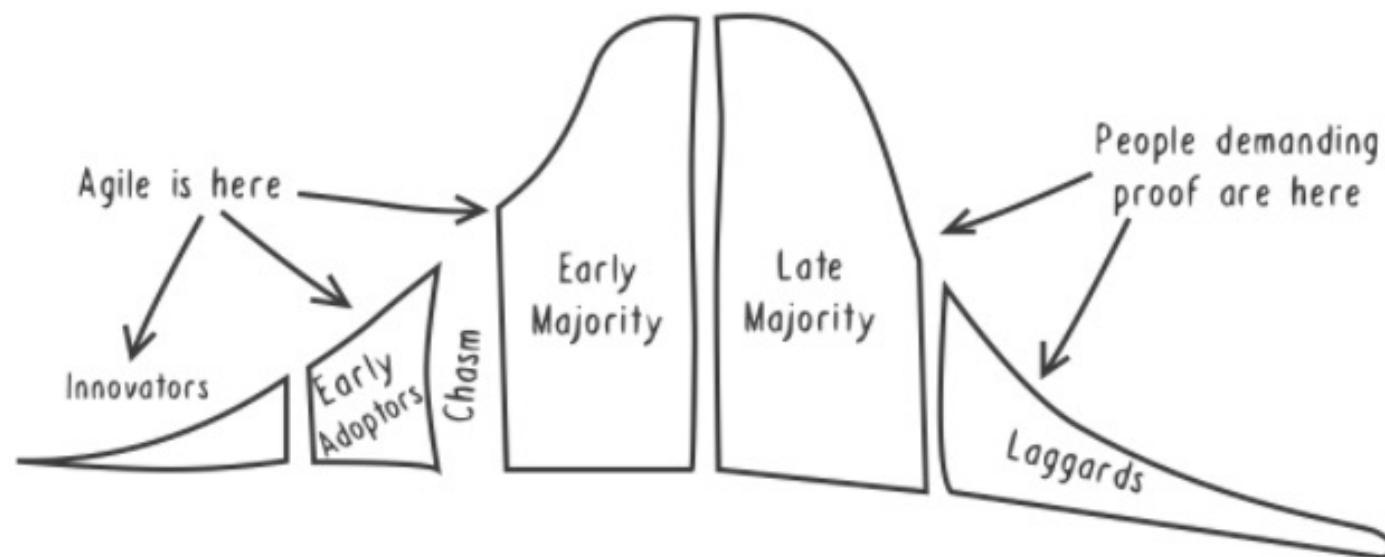
A process of gradual adoption



What are the benefits ?



Why is diffusion slow?

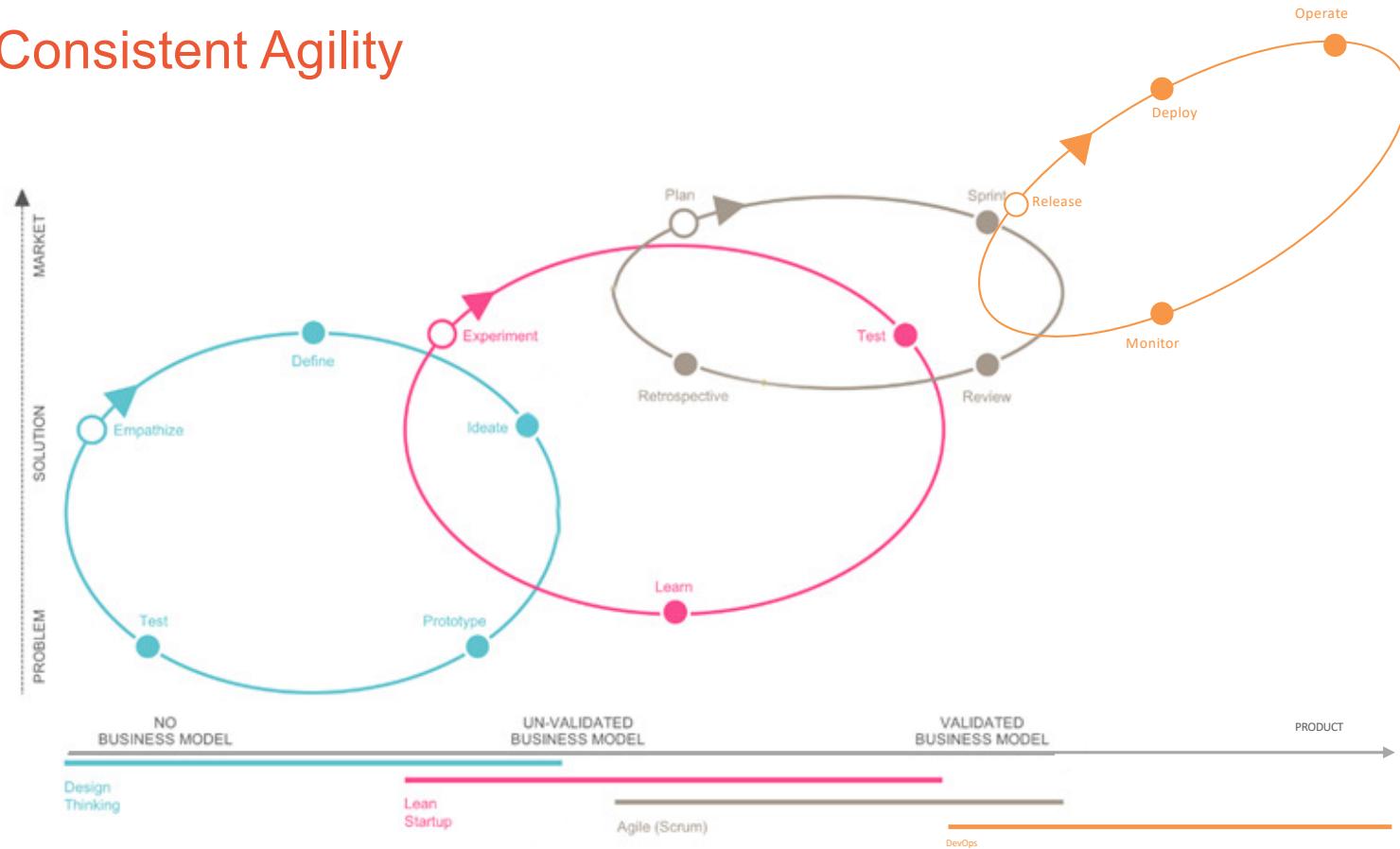


Ok ok, I get it. Then let's adopt it!



- It is a mindset, not a technicality
- It is based on the containment of the ego
- Requires maturity
- It has organizational repercussions
- ... what are the other limits of Agile? ...
- ... But gradually it is spreading!

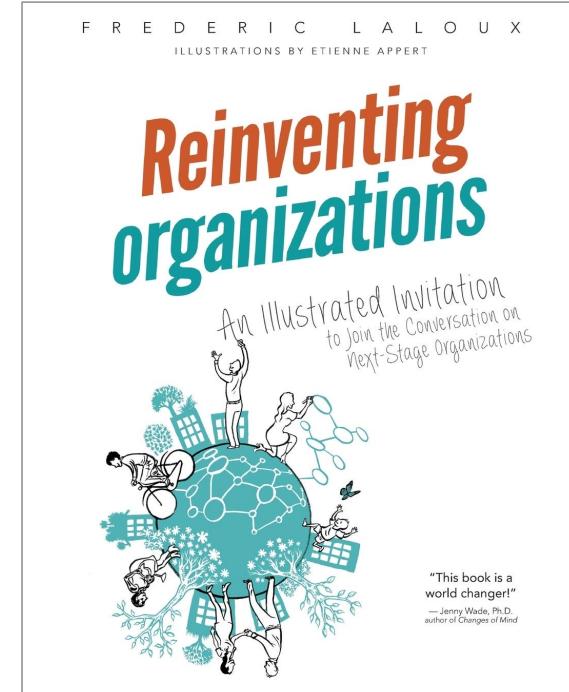
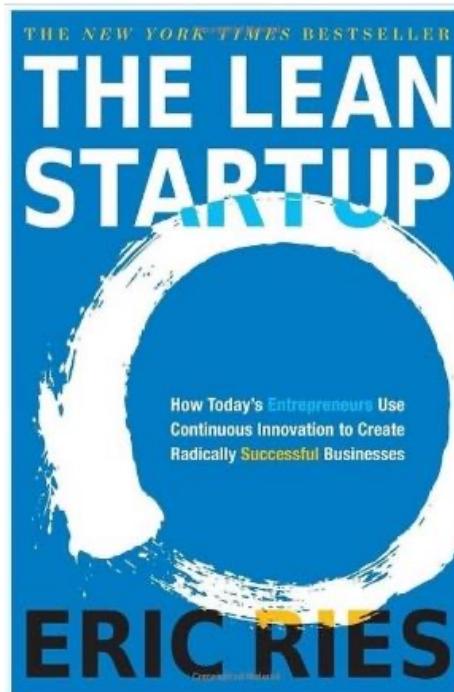
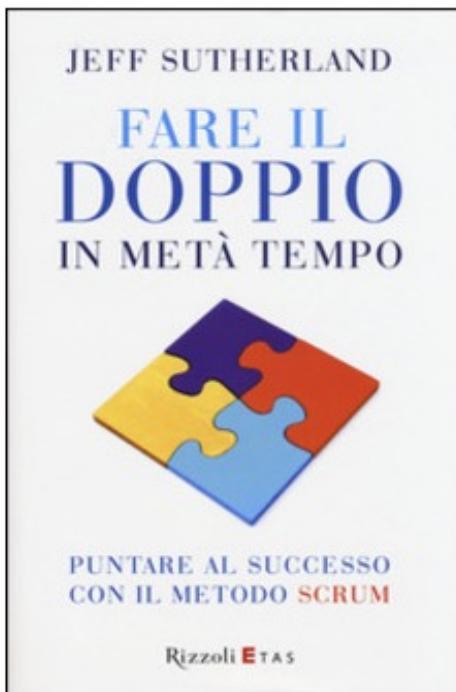
Consistent Agility



Reworking: Geert Claes, "When, which ... Design Thinking, Lean, Design Sprint, Agile?" - 2017

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To know more



Next steps

- Agile methodology: SCRUM

