



# Lecture: Modern Project Management in ICT

**Prof. Dr. Harald Wehnes**



# Agenda

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## **Presentation of the solutions of Task 2 (< 2 minutes)**

Health situation

### **3.1 Lean Startup and Story Mapping**

- Result: MVP and Story Map

### **3.2 Basics of Project Management**

### **3.3 Objectives**

- Result: Objectives of the project are well defined

**Task 3: MVP and Story Map (ppt)**

# Homework: Task 2

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1. Finish the Project Canvas and make a copy of it.

2. Transform

- **purpose**
- **customer**
- **result**
- **quality**

of your **project canvas** into a pptx-document (max. 4 slides)

**Team\_n-Task\_2.pptx**

Upload of the presentation by the **project manager of day 2!**

**Deadline: 11<sup>th</sup> March, 8:00 am**

Presentation by the project managers of day 2  
tomorrow morning (Duration < 2 min)

# Health check

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- ▶ Who is absent?
- ▶ Who has some fever or coughing?
- ▶ How many students participate this morning?

# Health check (11.03.2020, morning)

Team	Participants today	absent	ill
1	6	0	0
2	6	0	0
3	6	0	0 - some members cough slightly
4	6	0	0
5	5	1	0 - he is not ill
6	6	0	0
7	6	0	Dang Tuan Long has slight fever
8	5	1	0 – he is not ill
9	6	0	0
10	6	0	0
11	7	0	0
12	7	0	0

# Project Canvas: Presentations

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- ▶ We start with Team 12, 11, ...



# Project Canvas: Reflection of process and results

► What was challenging?

## Word Cloud

Mentimeter



38



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## 3.1 LEAN START-UP AND STORY MAPPING

# Lean Startup: A modern strategy for new Ventures

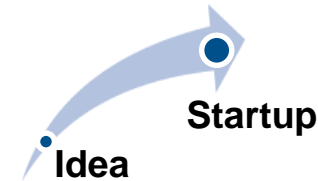


Source: <http://theleanstartup.com/>



Eric Ries

**Goal: Testing an idea on the market quickly and with the least possible effort, resources, and costs**



# Definition (by Eric Ries): Startup

A **startup** is

**a human institution**

designed to deliver a **new product or service**

under conditions of **extreme uncertainty**

## STARTUP = EXPERIMENT

# The Lean Startup Principles

## 1. Entrepreneurs are everywhere

(even in well-established firms)

## 2. Entrepreneurship is management

(but different from managing traditional firms)

## 3. Build > Measure > Learn Cycle

## 4. Validated learning

(about customers)

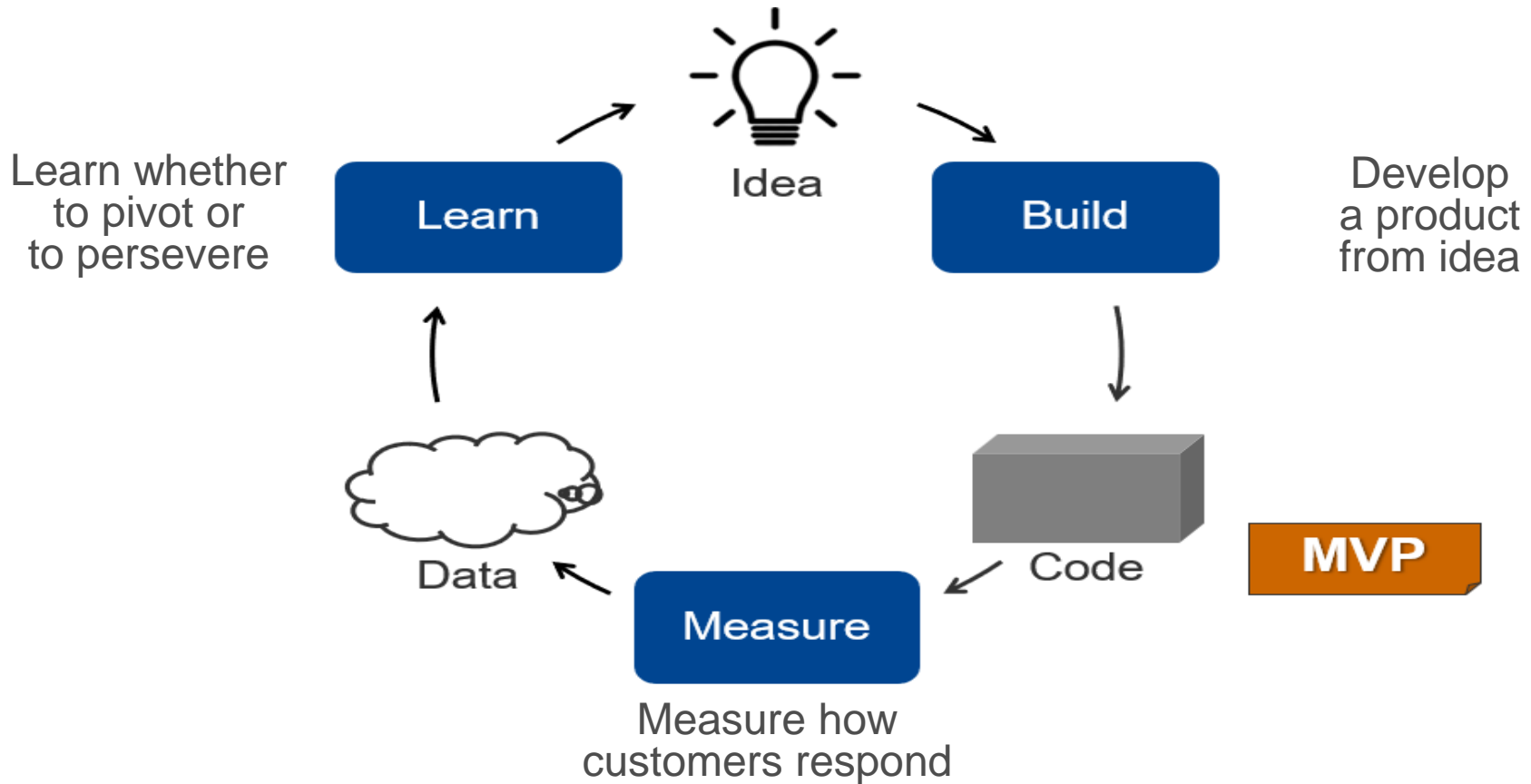
## 5. Innovation accounting

(using actionable metrics – mostly about customer behaviors)

Eric Ries: *The Lean Startup*, 2011

<http://theleanstartup.com/principles>

# Lean Startup Cycle



**Minimize TOTAL time through the loop!**

# Minimum Viable Product (MVP)

▶ The MVP is a **basic version of the product, a prototype or beta version** that is developed with a minimum amount of effort and time

MVP

▶ It lacks features that the product will have in a later stage

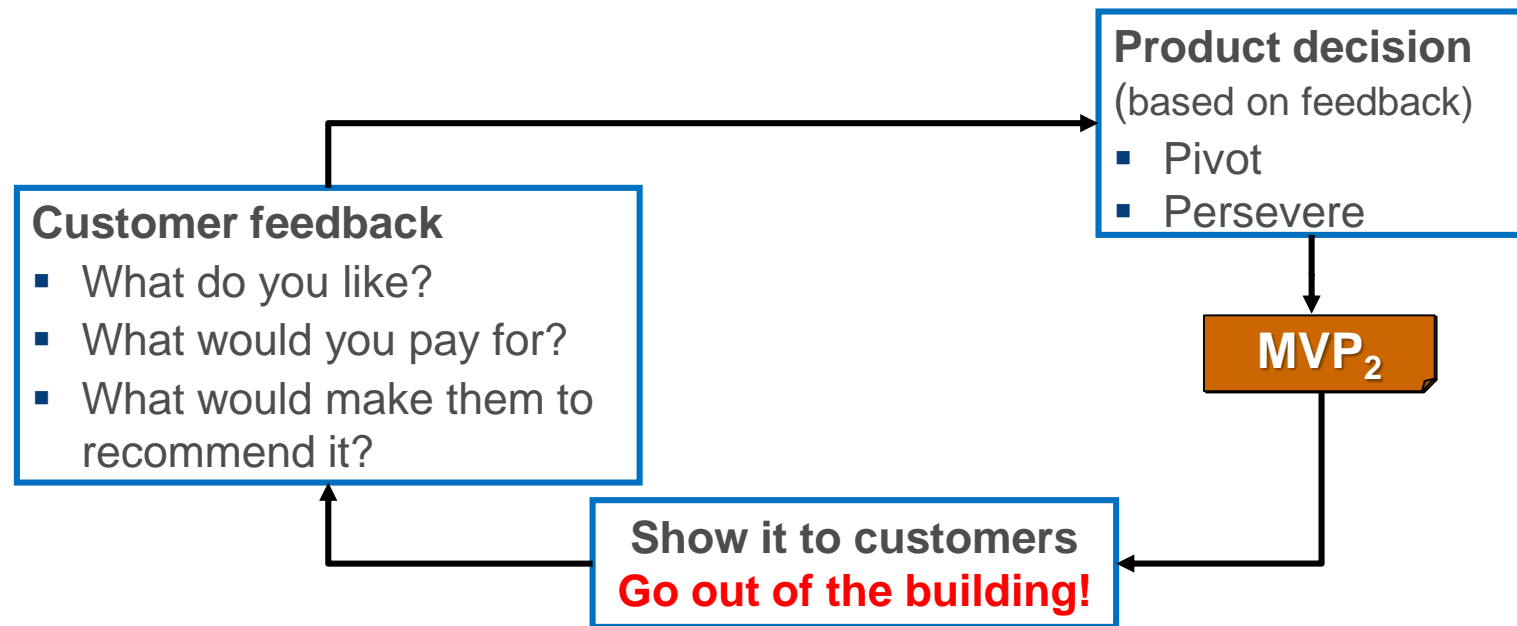
▶ But it still has enough features to be able to measure the customer's perception of the value of the product

Intention: Start learning as quickly as possible

- Any work beyond is waste
- Learn what attributes customers care about

## Focus on the customer's needs

# Learning Cycle



**Pivot:** A structured **course correction** designed to test a new fundamental hypothesis about the product, strategy, engine of growth, etc.

**Persevere:** Continue on the chosen path and take the user feedback into account

# Top Ten Types of Pivots

- 1. Zoom-in pivot:** A single feature in the product becomes the whole product
- 2. Zoom-out pivot:** The MVP becomes a single feature of a much larger product
- 3. Customer segment pivot:** The product may attract real customers, but not the ones in the original vision
- 4. Customer need pivot:** customer feedback indicates that the problem solved is not very important, or money isn't available to buy
- 5. Platform pivot:** a change from an application to a platform, or vice versa
- 6. Business architecture pivot:** change of the business architecture
- 7. Revenue model pivot:** change of the monetization or revenue model
- 8. Engine of growth pivot:** viral, sticky, and paid growth models
- 9. Channel pivot:** change of the sales channel or distribution channel
- 10. Technology pivot:** discovering a way to achieve the same solution by using a completely different technology e.g. open source





DONNELLY

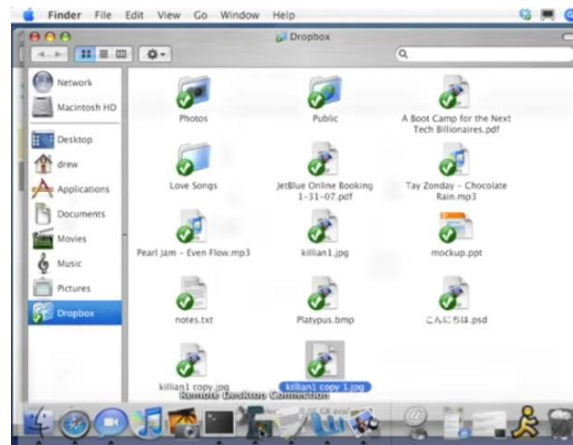
*"I'm not leaving you. I'm pivoting to another man."*

# Example: MVP



**MVP: VIDEO + Landing page**

A demonstration video (virtual prototype) presented the product and how it could help the customers. This increased the number of users signing up for the beta waiting list from 5.000 to 75.000 overnight.



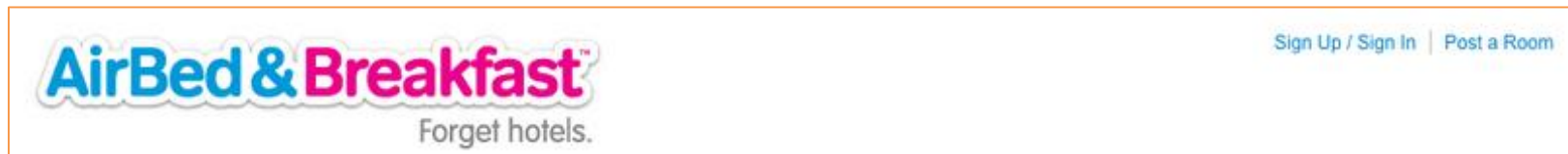
<https://www.youtube.com/watch?v=dR7tJ8wAl3M>

# Example: MVP



## MVP: Landing page with one apartment

- The founders couldn't afford their rent anymore and wanted to turn their apartment into a lodging space
- They made their own site, to make it more personal and attractive for future guests
- This first version (**MVP**) of their product contained their own apartment only (The site was made in several hours)
- There was a great demand for their offer



# Example: MVP and Pivot



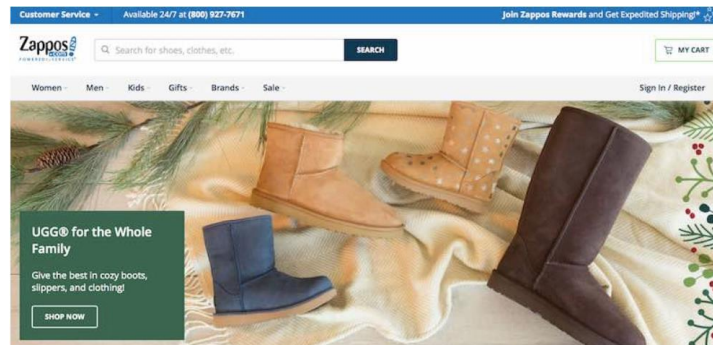
- The founders worked first on a **Flash-based online game** called Glitch (**MVP**) for nearly four years
- **Learning:** They should focus on another product than Glitch to solve their own communication problems (they collaborated over long distances and long periods of time)
- **Big Pivot:** The solution should solve their own and other company's communication problem
- After pivoting to Slack, they still made use of small pivots based on user feedback

# Example: MVP



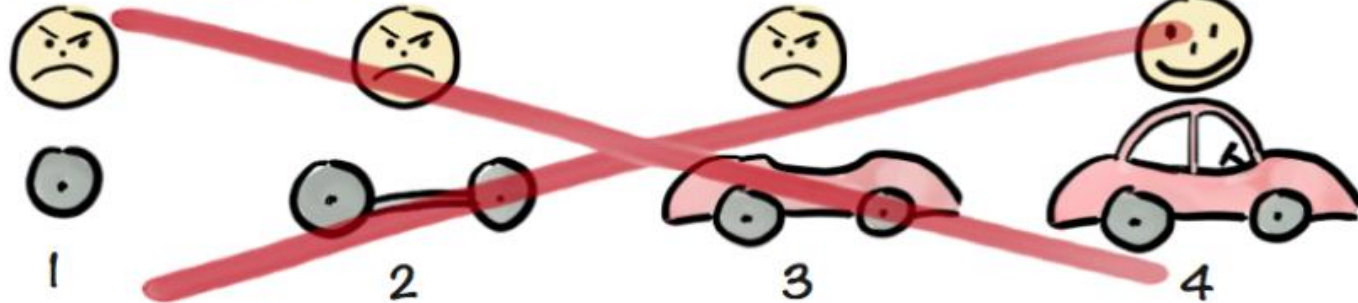
## MVP: Landing page and manual handling

- **MVP:** Website with photos of shoes from local shoe stores
- When someone ordered the shoe online, the founder came back to the store and bought it and send it to the customer
- **No investing in infrastructure and inventory** for answering the question of whether the service would be accepted by the market

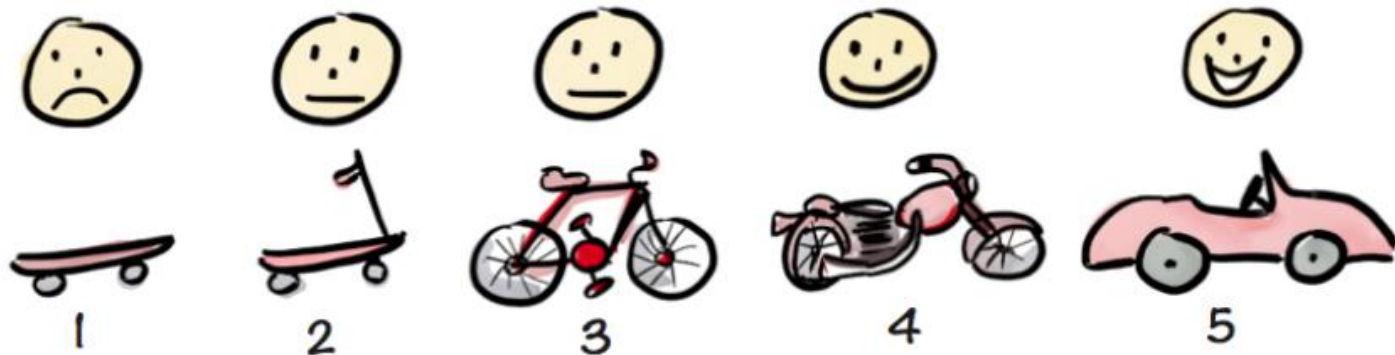


# How to build your MVP?

Not like this....



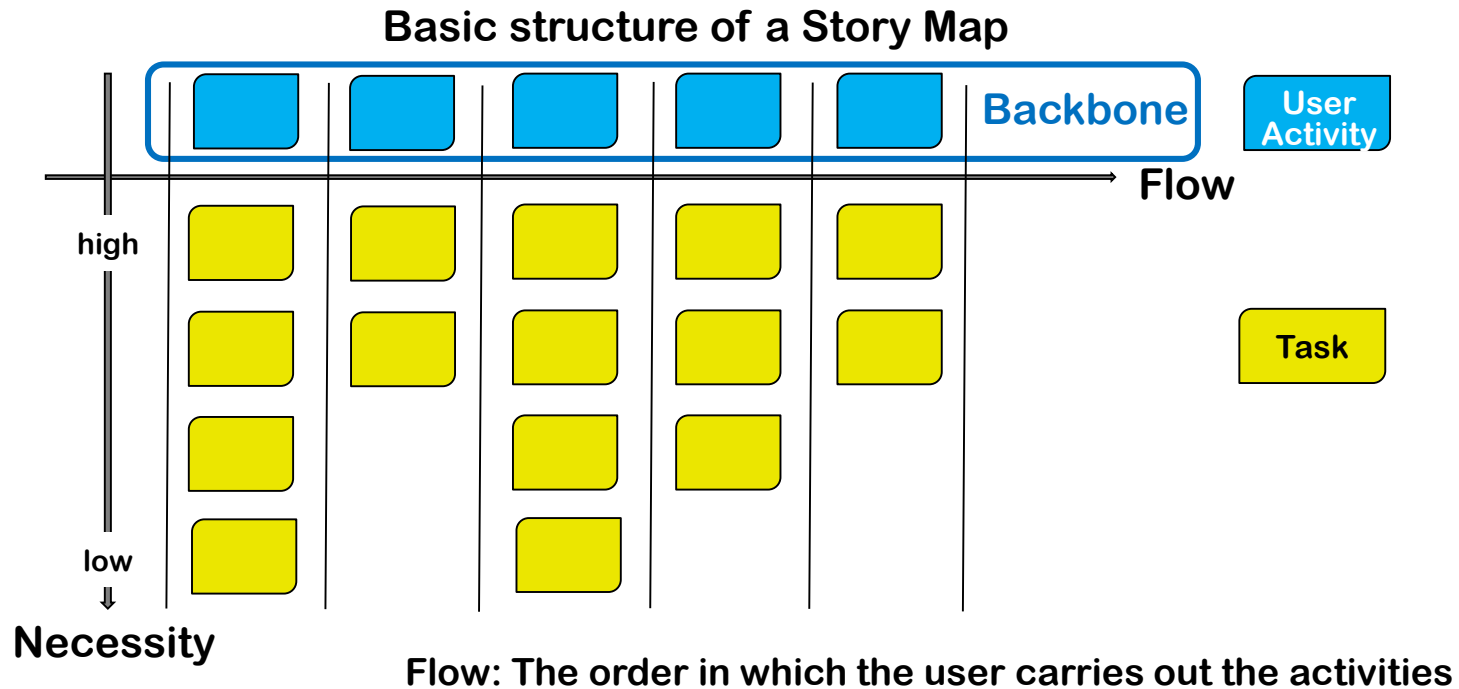
Like this!



Henrik Kniberg

# Story Mapping\* for MVPs

Visualization of the product from the user's perspective: "Customer Journee"



\*) Especially helpful for software development projects

# Example: Scheduling app

Brainstorming



Clustering



Creation of the backbone



Source: <https://www.raiken.studio/?p=14&id=31>

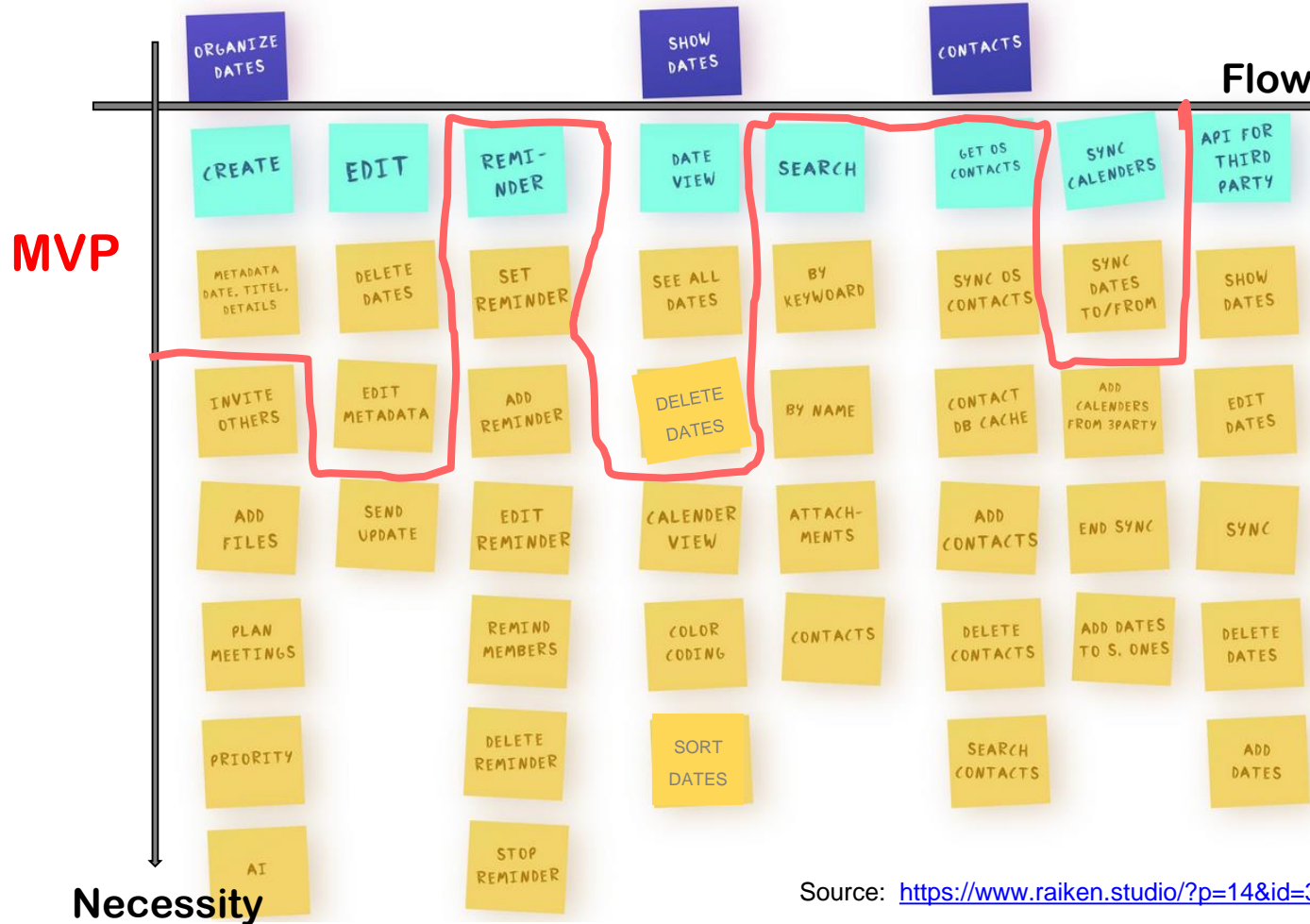


# Example: Story Map



Source: <https://www.raiken.studio/?p=14&id=31>

# Example: MVP



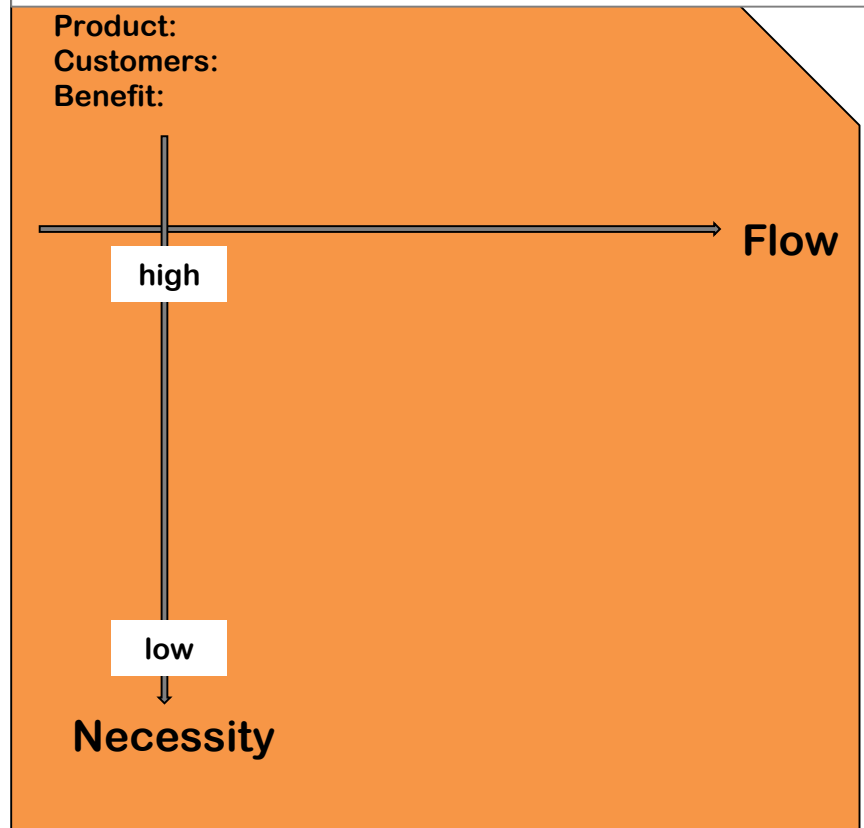
Source: <https://www.raiken.studio/?p=14&id=31>

# Workshop: Story Map & MVP

Post-Its Time!

Time Box	Task
20 Min.	<b>1. Brainstorming:</b> Write down activities (features) and tasks on post-its
10 Min.	<b>2. Clustering:</b> Cluster the tasks around the activities (features)
10 Min.	<b>3. Create the Backbone</b> (customer journey): Arrange the activities (features) from left to right in an order that makes sense
10 Min.	<b>4. Complete the Story Map:</b> Prioritize the post-its of the tasks and arrange them in the story map
10 Min.	<b>5. Determine the MVP</b> <ol style="list-style-type: none"><li>Determine necessary tasks</li><li>Draw a line below those tasks: this is your MVP</li></ol>

Material: pin board with brown paper, post-its (2 colors), pencils



2:00 pm: Discussion of the intermediate results

# Intermediate results

- ▶ What works well?
- ▶ What are the challenges?
- ▶ Intermediate results?

**Thanks for your reports**

**Continue team works**

**We continue the online lecture at 3:00 pm**

# Homework: Task 3

Finish the Story Map and the identification of the MVP:

**Team\_n-Task\_3.pptx**

Upload of the presentation by the **project manager of day 3!**

**Deadline: 12<sup>th</sup> March, 8:00 am**

Presentation by the project managers of day 3  
tomorrow morning (Duration < 2 min)

# References

Blank, Steve: *Why the Lean Start-Up Changes Everything*. Harvard Business Review, May 2013, pp. 65 – 72

Orlemans, Sander: *The Use of the “Lean Start-up Methodology” in Start-up Companies*, 2015, University of Amsterdam. Download: <https://scripties.uba.uva.nl/scriptie/594578>

Ries, Eric: *How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*. New York, NY: Crown Business, 2011, ISBN-13: 978-0307887894

H. Rothe (FU Berlin): *DRS Pro Transfer. Minimum Viable Products (in a Lean Startup)*. Slides: [http://www.startup-ecosystem.org/wp-content/uploads/2018/02/2018-03\\_lean-startup-und-mvp.pdf](http://www.startup-ecosystem.org/wp-content/uploads/2018/02/2018-03_lean-startup-und-mvp.pdf)

Patton, Jeff; Economy, Peter: *User Story Mapping*. O'Reilly Media, 2014, ISBN: 9781491904893

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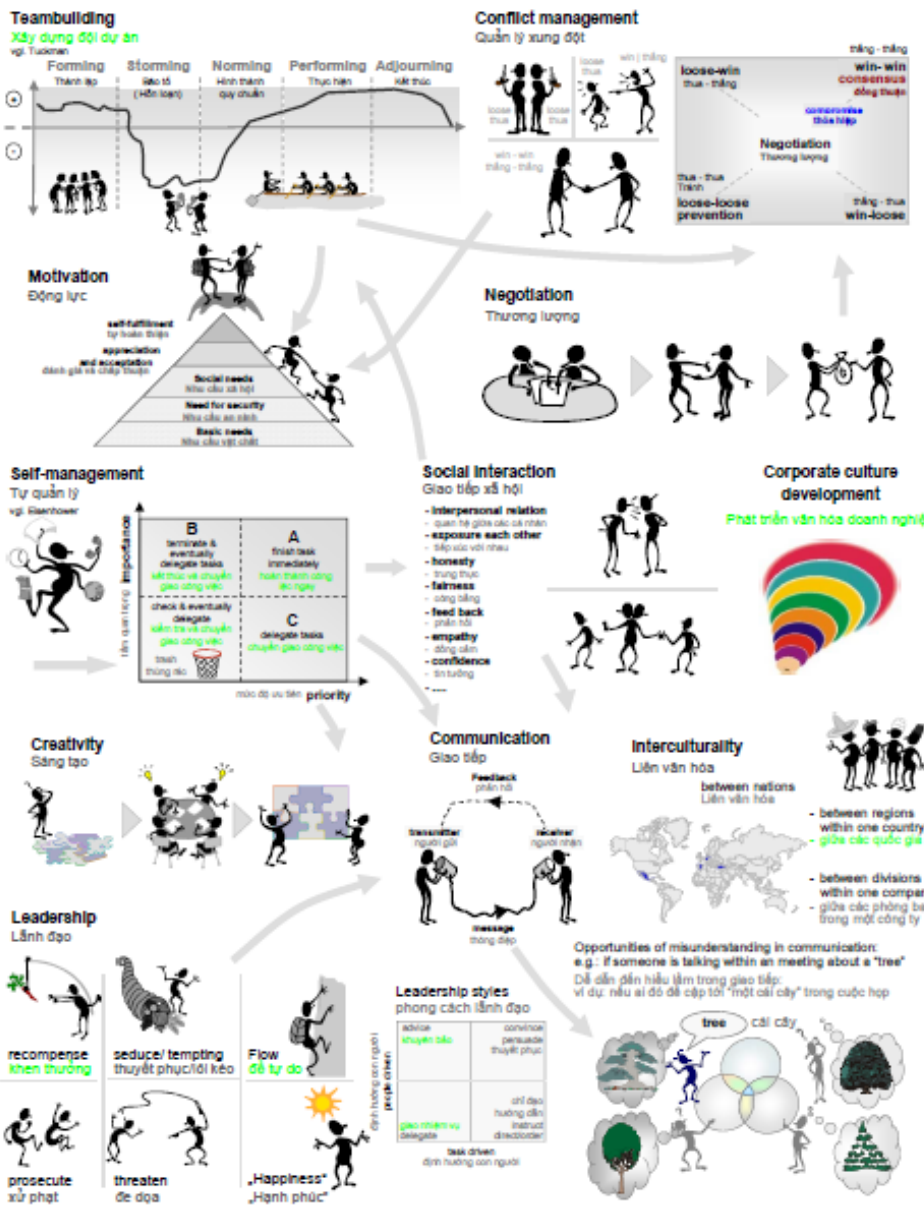
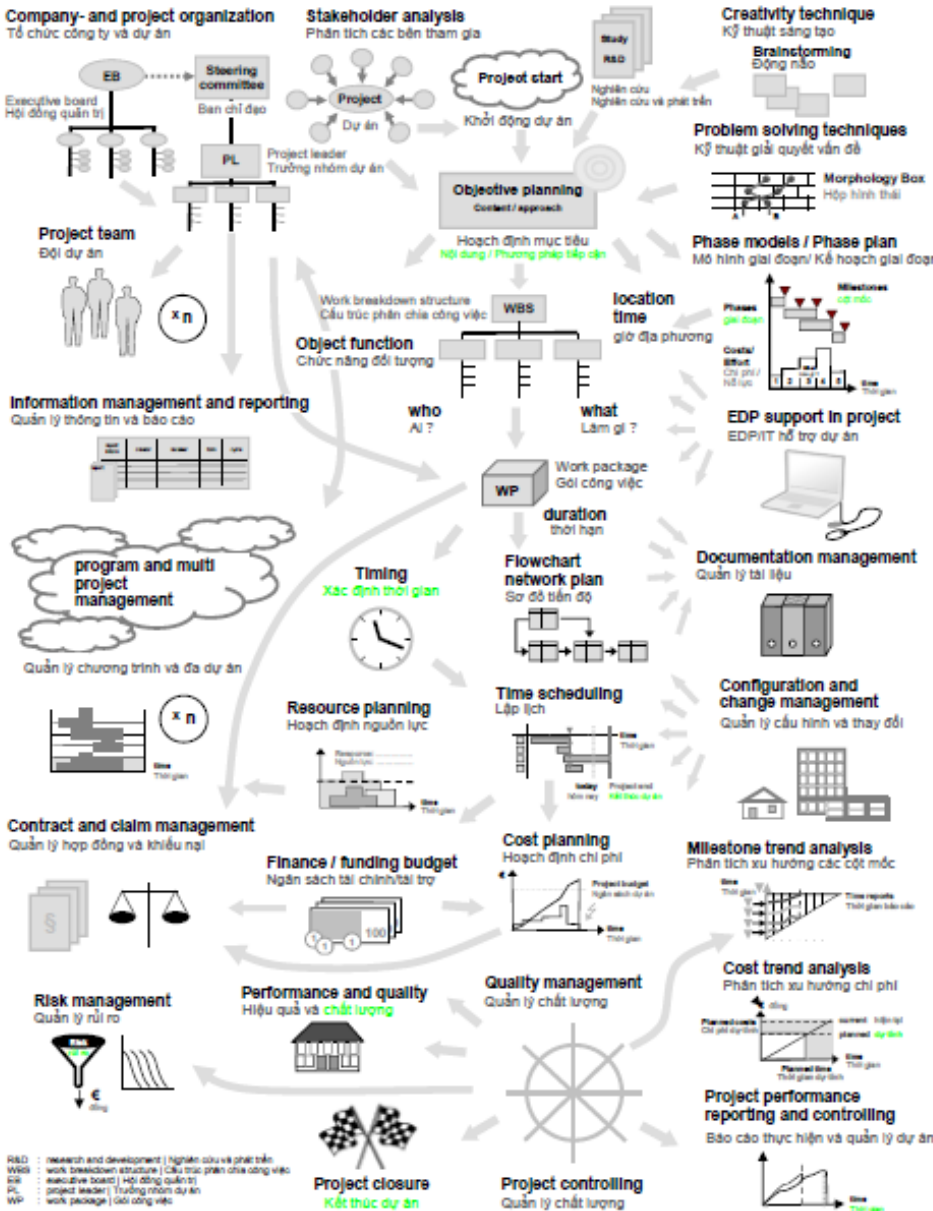
## **3.2 BASICS OF PROJECT MANAGEMENT**

# Project Roadmap

IPMA<sup>+</sup>  
International  
project  
management  
association  
**Hard Facts**  
Kỹ năng cứng

## Lộ trình dự án *Dành cho học viên*

**Project Roadmap Practitioner**  
**Soft Facts**  
Kỹ năng mềm  
GPM  
GPM Institute GmbH  
for Projectmanagement e.V.





# Word clouds

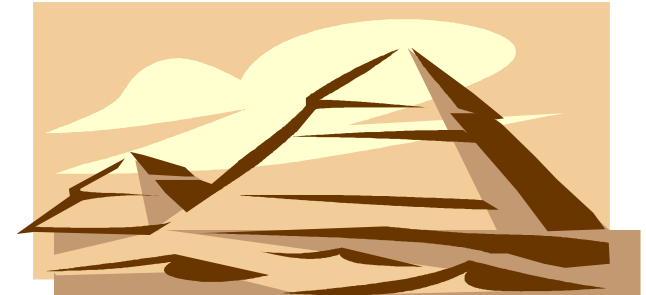


# Historic projects

## Construction of the Egyptian pyramids (2550 – 1550 B.C.)

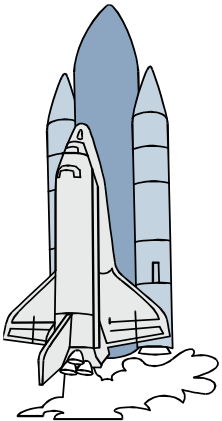
### e.g. Cheops Pyramid

- Height: 146 m; 2,3 Million ashlar
- Time for completion: 20 years
- 100.000 workers / slaves



## *Tower of Babel (600 B.C.)*

- » *Project failed* - because of Babylonian Confusion  
(The Confusion Of Tongues)



## Landing of the first humans on the Moon (1969)

- » **Apollo Programme (1968 – 1972)**
- » **Gradual realization of the target**
- » **2.000 institutions and companies**
- » **300.000 employed people; 25 billions \$**



**Burj-Tower  
Dubai, 2010**

# Projects - today

## ► Projects in enterprises

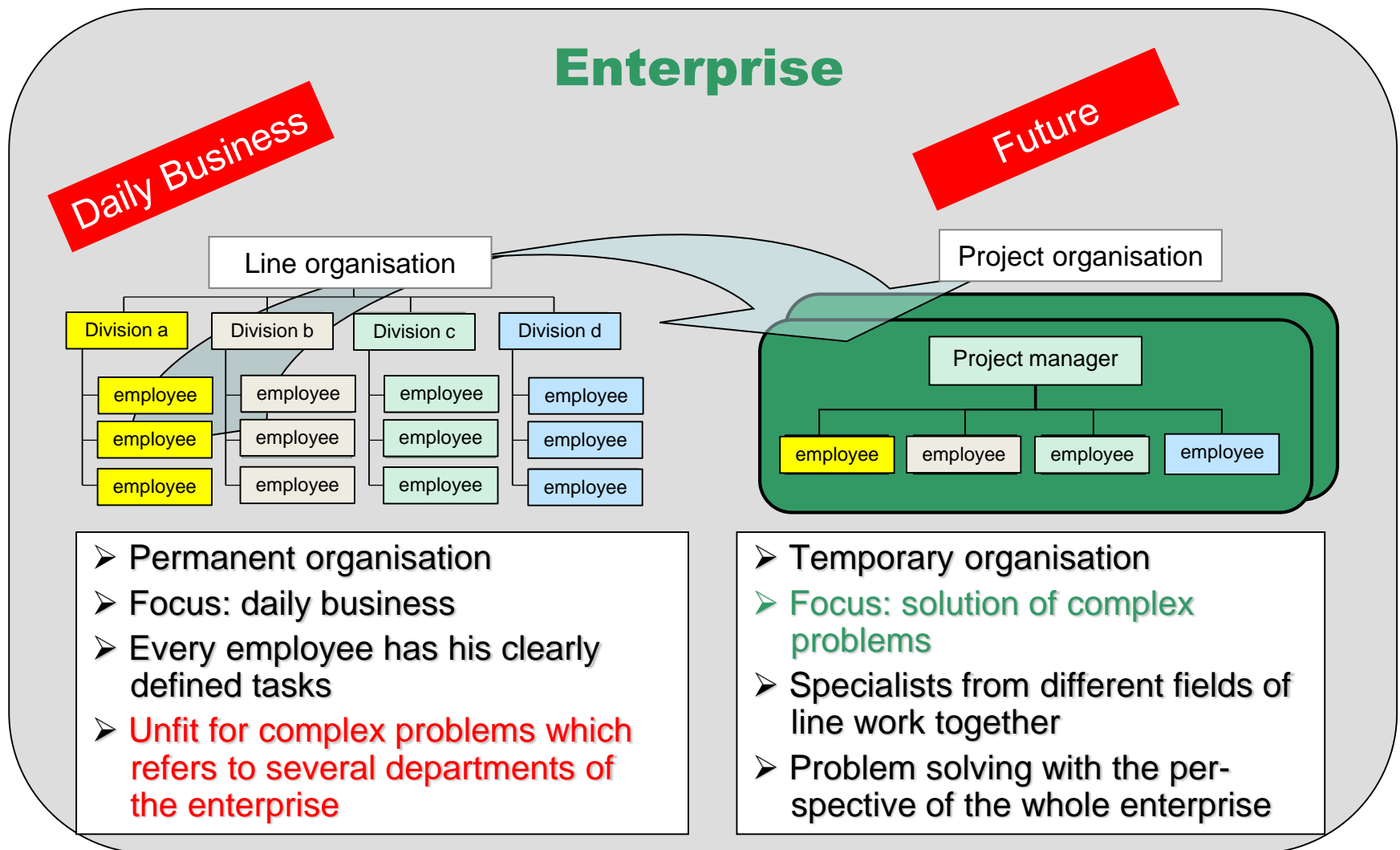
- Development of new products
- Development of new services
- Development / Rollout of a new information system (e.g. intranet)
- Organisation of trade fair
- Processing of customer orders
- Reorganization of the company / of a department
- Building /closing an organizational unit
- Merging with another company
- **Complex corporate objectives**



## ► Private / honorary projects

- Building / rebuilding a house
- Organizing a sport event / a party

# Line organisation and projects are important for the success of the enterprise



# Definition: Project

► A **project** is a

- *unique,*
- *temporary,*
- *multidisciplinary* and
- *organised*

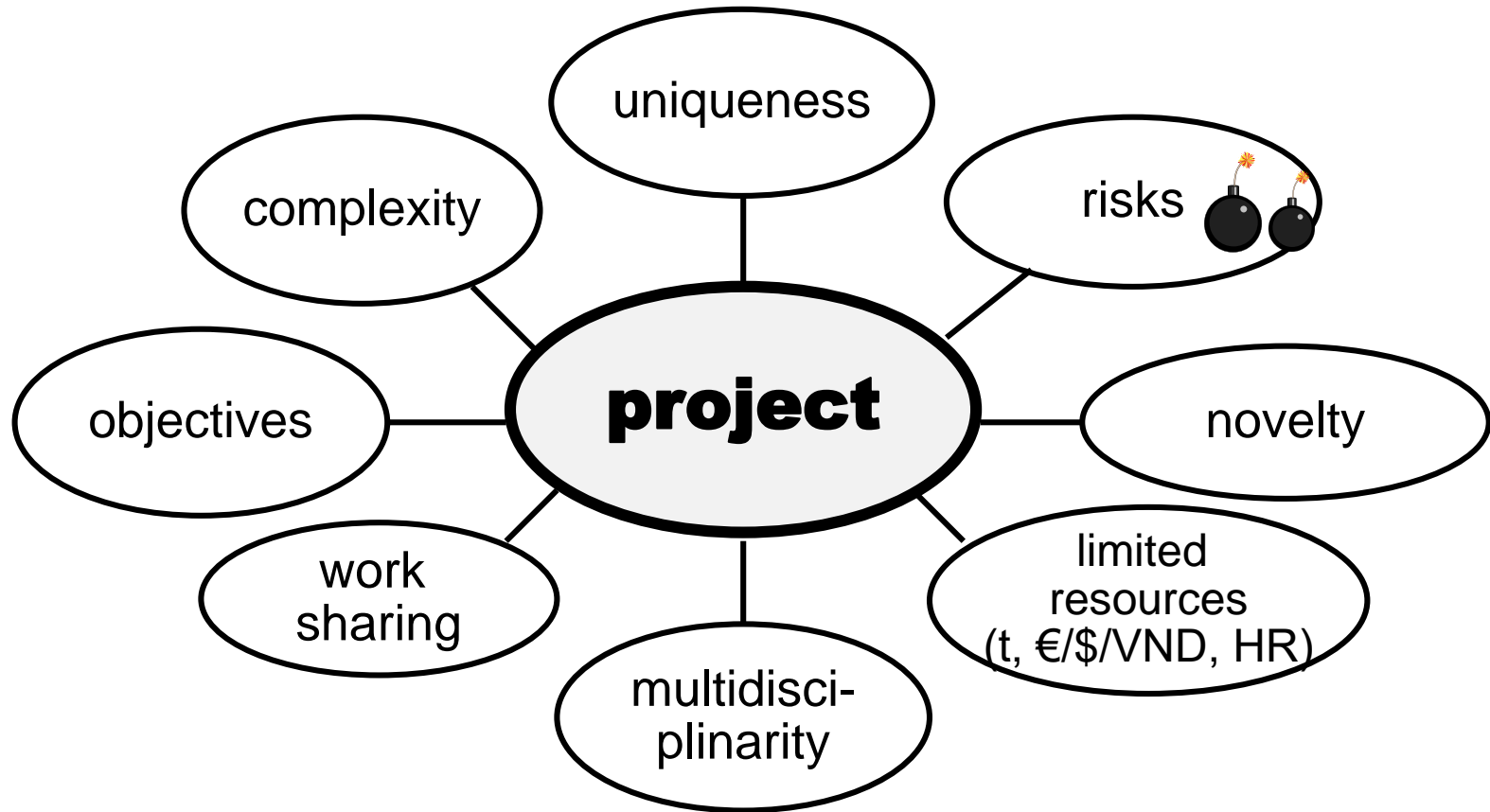
endeavour to realise agreed deliverables

within predefined requirements and constraints [IPMA]

► A **project** is a *temporary endeavor* undertaken  
*to create a unique product or service* [PMI]



# Project Attributes



# What is not a Project?

## ▶ Project criteria

- Uniqueness
- Complexity
- Objectives
- Constraints of time, finance, human resources and so on
- Novelty
- Risks

## ▶ Not a project

- Routine, repetitive work
- Ordinary daily work that typically requires doing the same, or
- similar work, over and over

## Examples

- Development of a new car model: **project**
- Series production of the new model: **no project**
- Support service: **no project**
- Optimizing the air conditioning of a car: **project**
- Develop new server concept and implementation: **project**
- Running of servers: **no project**

# Project Types

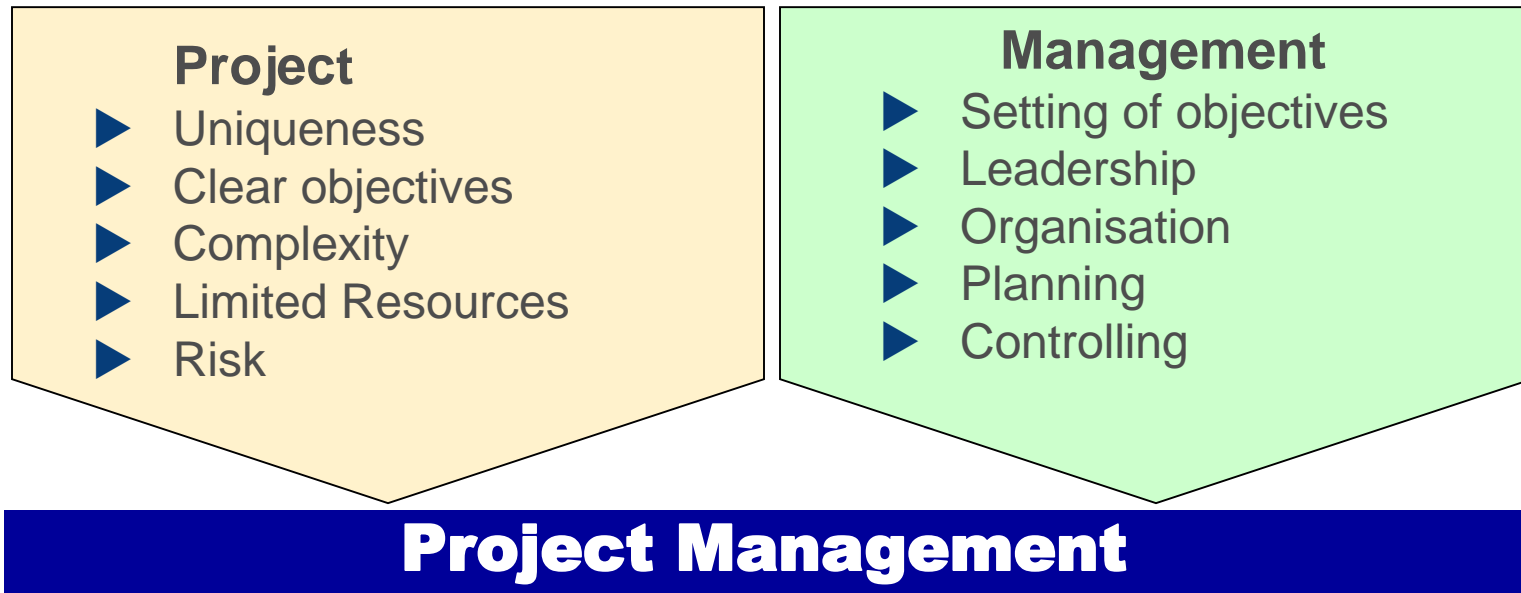
- ▶ Projects may be **classified by their type**:
  - Investment projects
  - R&D projects
  - Organisational projects
  - projects in special branches (ICT, building industry, automotive, insurance, banks etc.)
  - Research projects

and **other criteria**:

- Internal - external
- Regional - national - international
- Size: Mega – big – medium - small
- ...

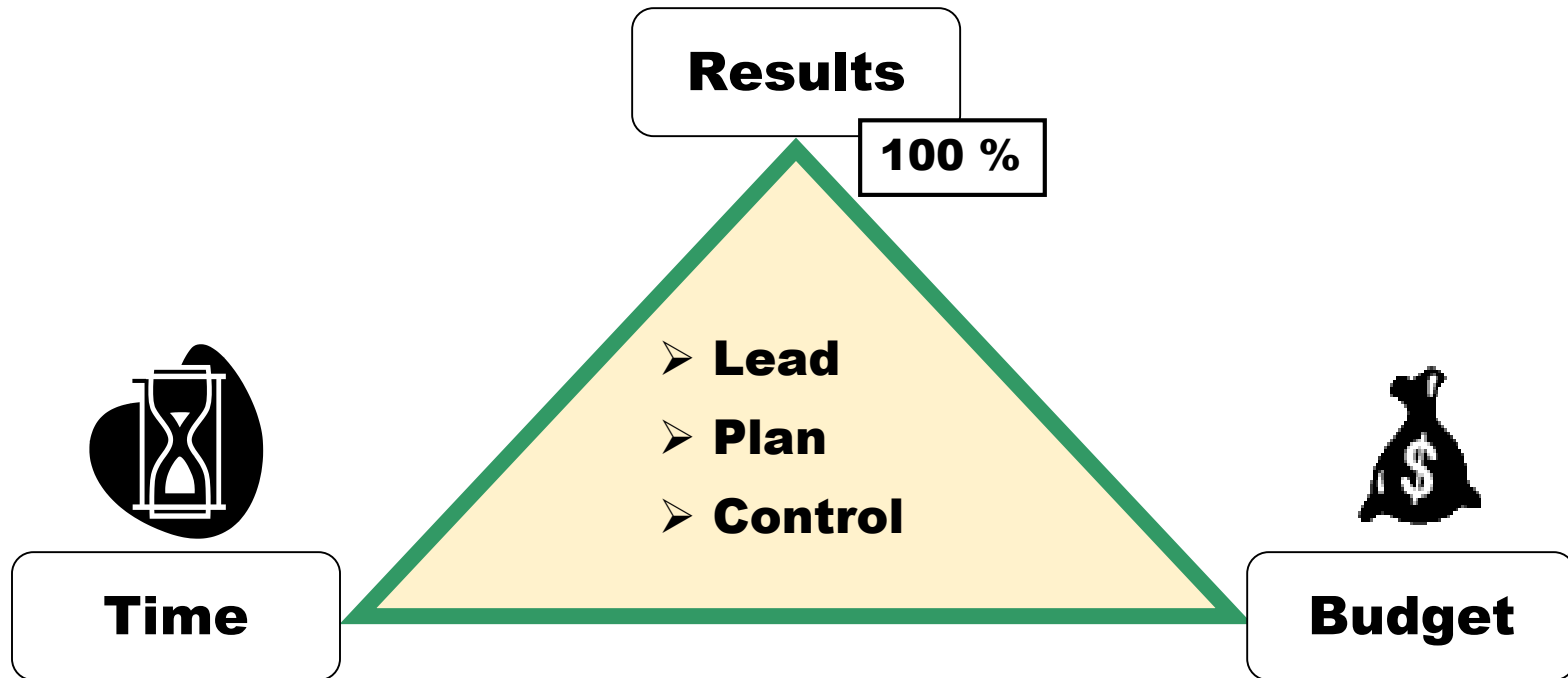


# Definition: Project Management



**Project management** is the application of all management functions, structures, techniques and resources for the initialisation, definition, planning, controlling and closing of projects

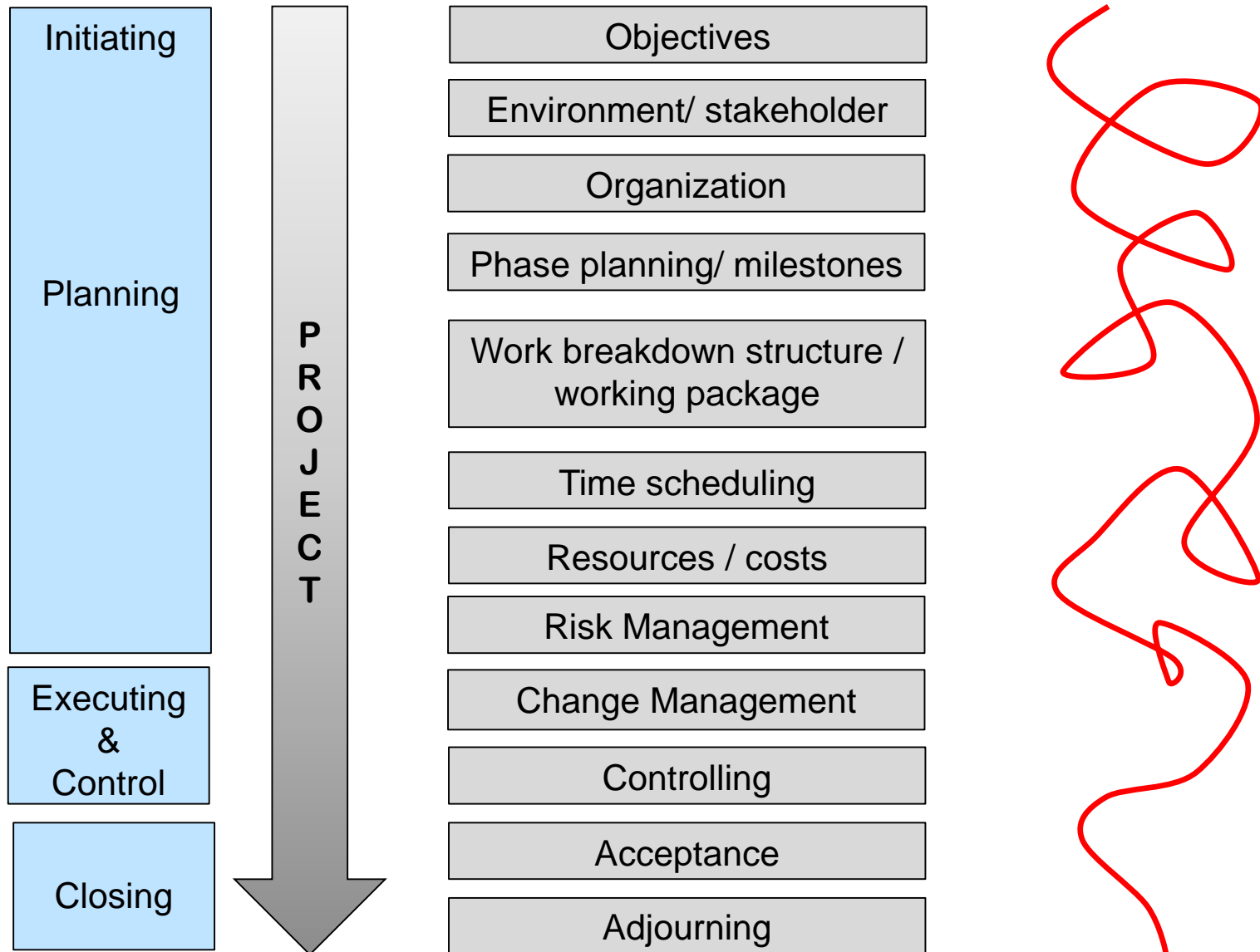
# Magic Triangle



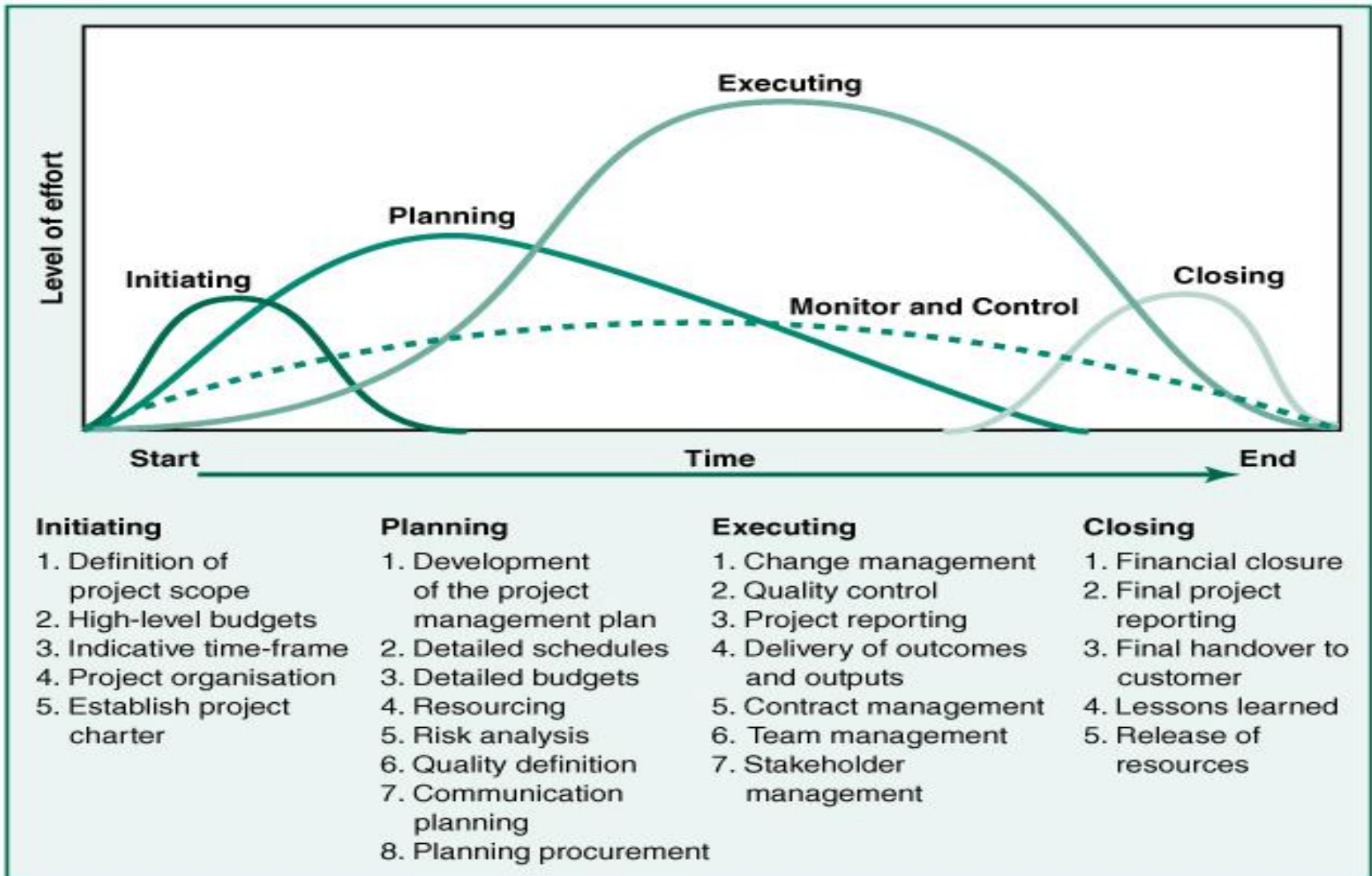
**The three core objectives (result, time, budget)  
interact with each other**

Example: A higher quality requirement has impact on deadlines and costs automatically

# The red thread in a project

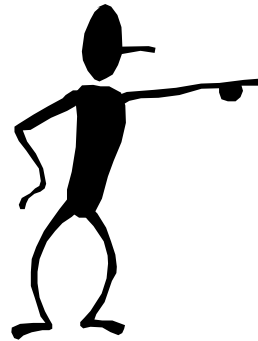
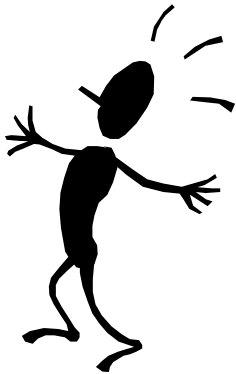
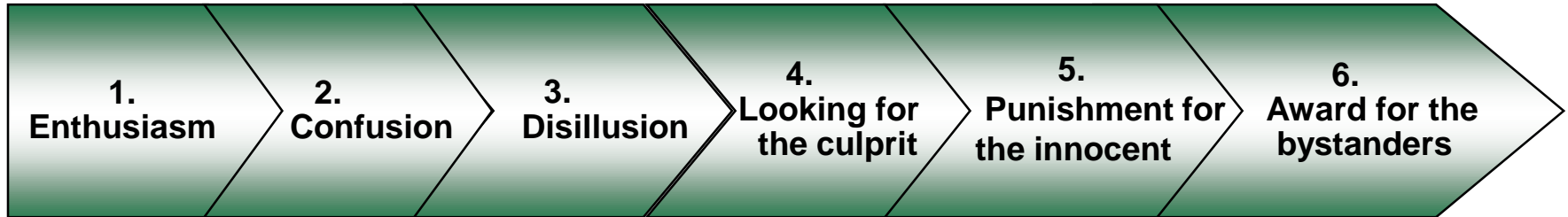


# The project life cycle



Source: Pearson, Larson, Gray, *Project Management in Practice*

# Project phases in reality 😊



# Milestones

- ▶ To make projects manageable and controllable milestones are set
- ▶ Milestones are essential outcomes or intermediate results, which must be realized on specific dates
- ▶ Recommendation: phases of the project are closed by milestones

## Example: mile stone plan

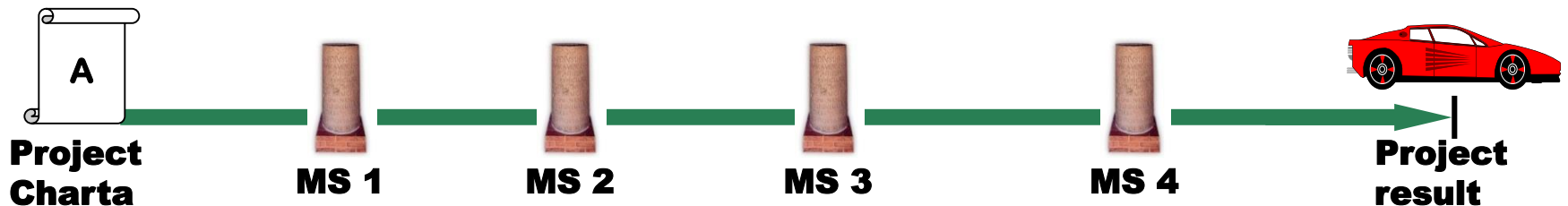
31.01.2019: rough concept finished

31.03.2019: fine concept finished

30.06.2019: prototype realised

31.07.2019: functional tests successful finished

31.10.2019: production system accepted

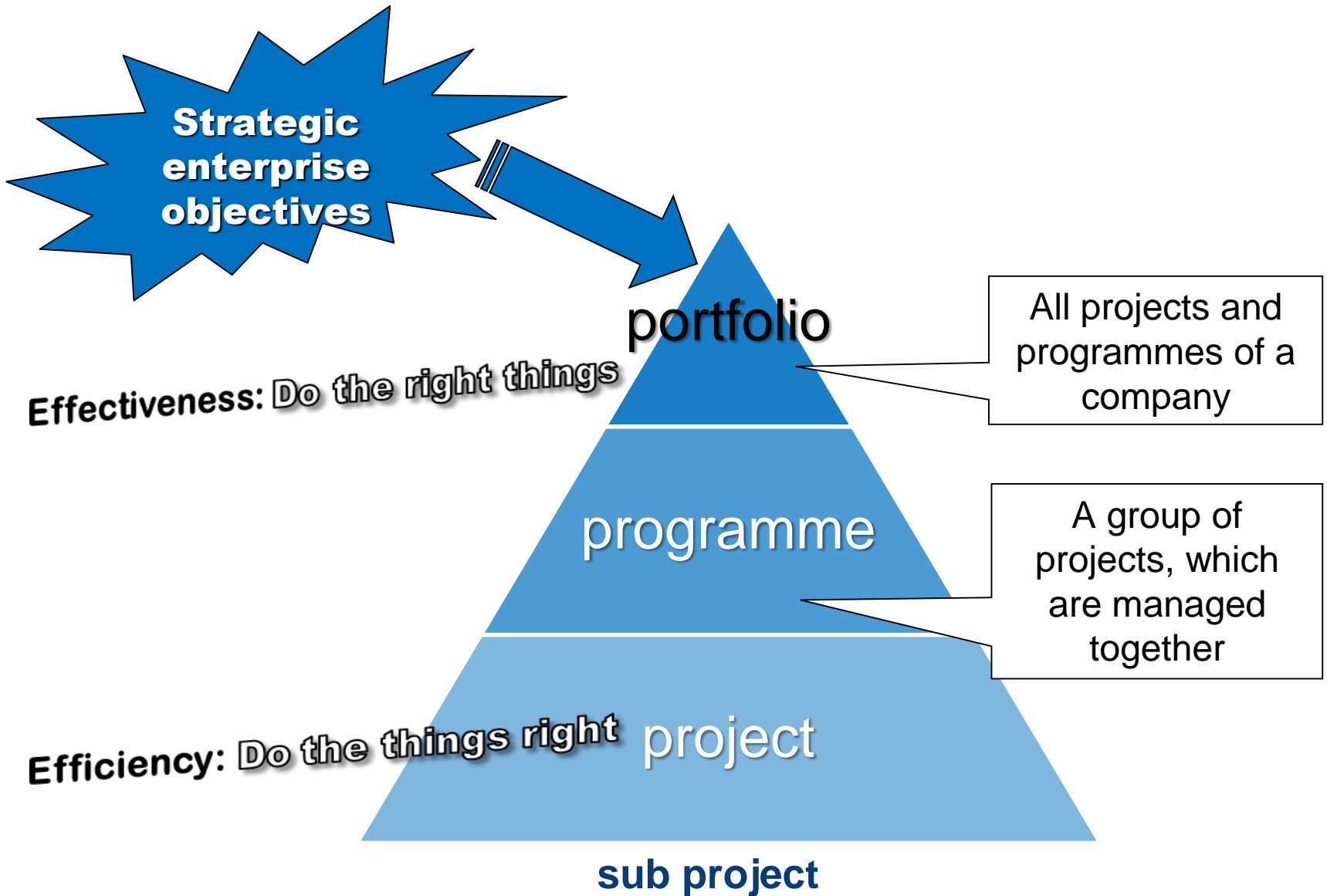


# The Benefit of Project Management

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- ▶ Higher efficiency in delivering project results: project management provides a “roadmap” that is easily followed and leads to project completion
- ▶ **Completing projects more quickly and cheaply and with higher quality**
- ▶ Improved / increased / enhanced customer satisfaction
- ▶ Making complex projects feasible
- ▶ Assuring quality in the project results through a holistic project view
- ▶ Project management improves the success rate of projects

# Project – Programme – Portfolio

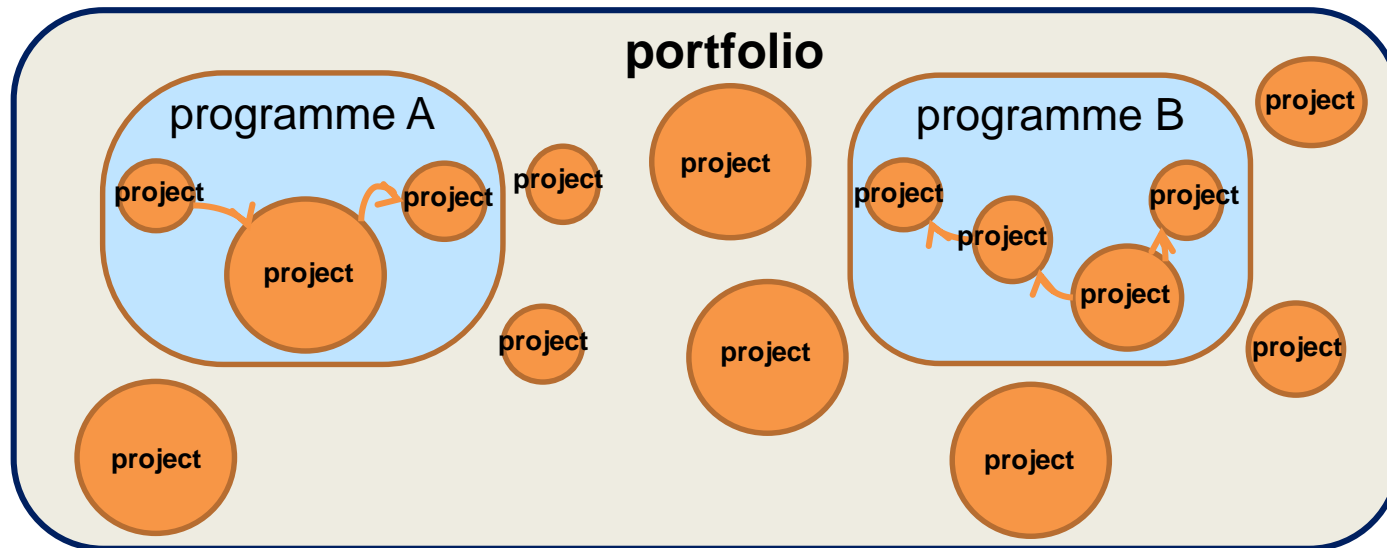


For large projects, a subdivision in subprojects takes place

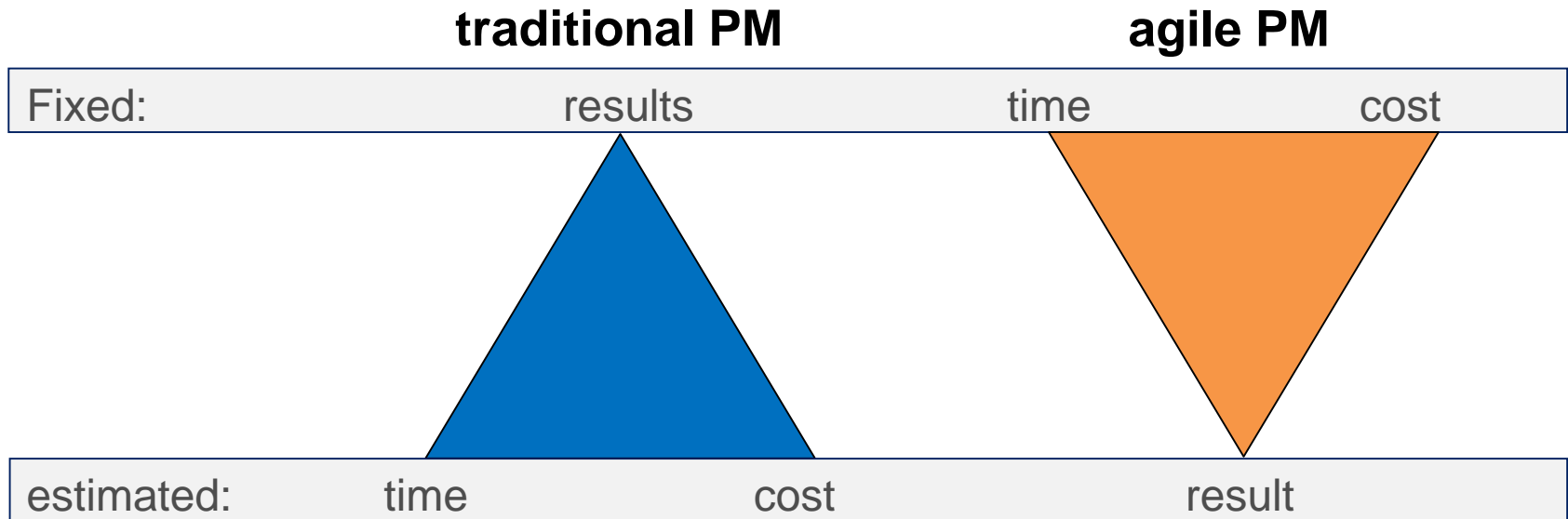


# Definitions: Programme, portfolio

- ▶ **A programme is a group of projects** managed in a coordinated way to obtain benefits not available from managing them individually
- ▶ **A portfolio is a set of projects and/or programmes**, which are not necessarily related, brought together to provide optimum use of the organisation's resources and to achieve the organisation's strategic goals while minimising portfolio risk



# Agile versus traditional project management



# Comparison: Traditional versus agile pm

## Traditional pm

At the beginning of the project, the customer tells what he wants. Plans are developed and their implementation is monitored and controlled.

Stable, plan-based pm

Changes are viewed critically

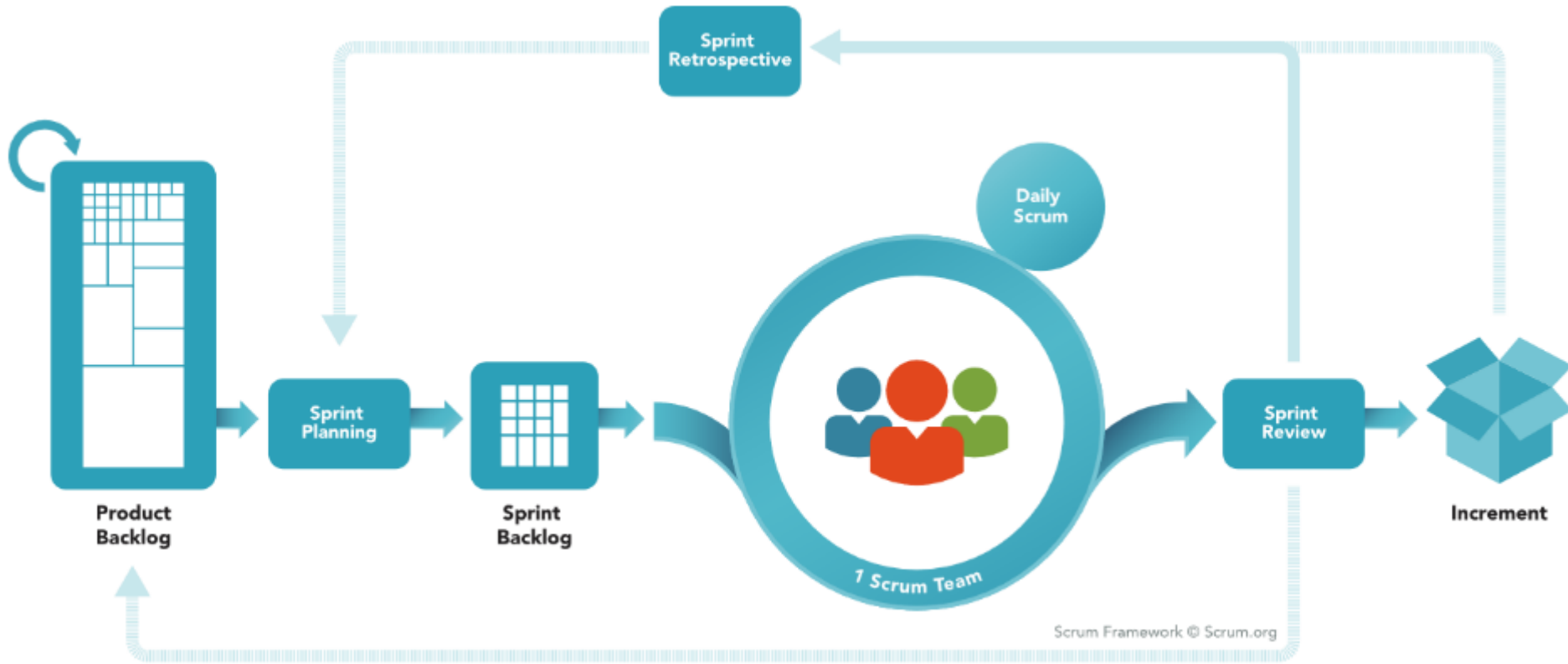
## Agile pm

Highest priority: Customer satisfaction through early and continuous delivery

Dynamic, iterative project execution

Changes are viewed positively

# Scrum Framework



Source: <https://www.scrum.org/resources/what-is-scrum> (access December 10, 2017)