PROJECT MANAGEMENT AND AGILE METHODS

Introduction
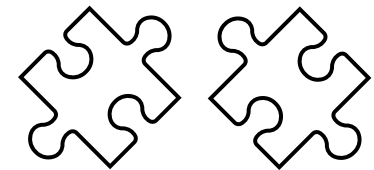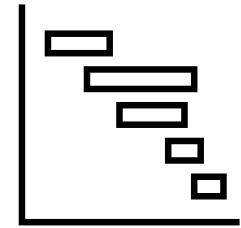
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Prof. Dr. Kris Dalm MBA

Learning targets
After this chapter, you...

- Know how **Project Management** is defined.

- Have heard about the **history of PM**.

- Are familiar with the most relevant **PM standards**.
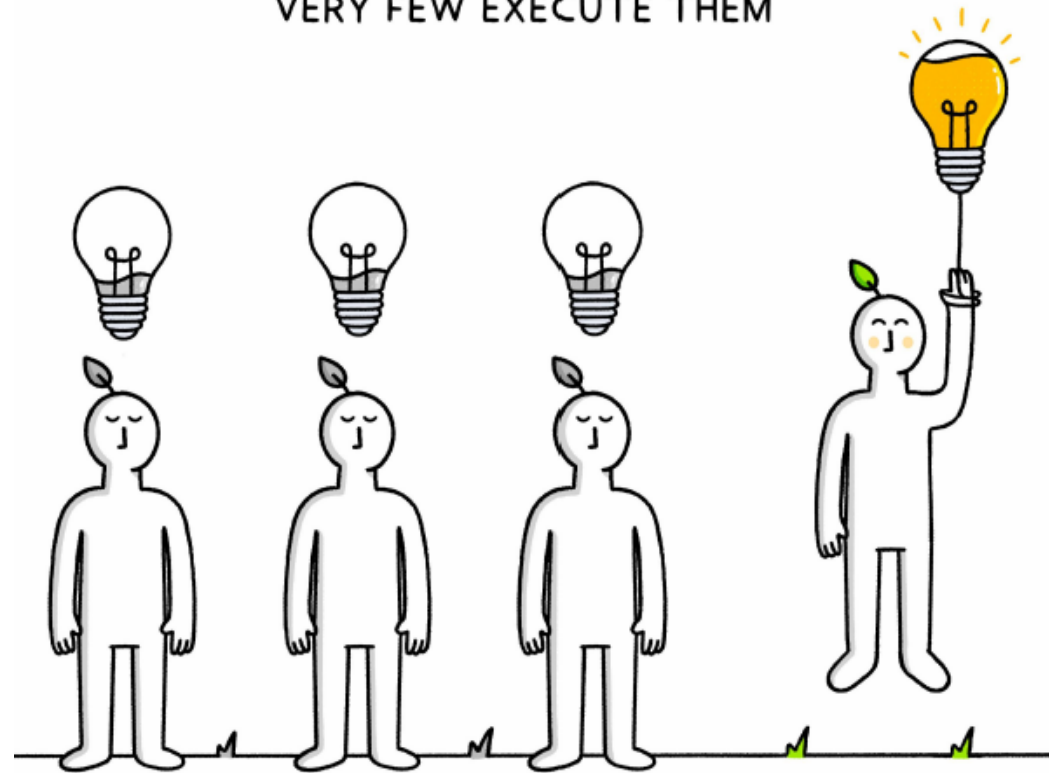
- Know some **statistics** about PM.

Mentimeter
Knowledge query to start

Project Management - Introduction

Anecdote

Source: Stiftung Warentest 10/1984

Example of bad PM
Stuttgart 21

- Planning:

  - 1995: **2.5 billion €** (contract was signed)

  - 2010: **4.5 billion €** (construction start)

  - Planned operational start: **2021**

- Current state (2023):

  - Costs until now: **9.8 billion €**

  - Operational start: end of **2025**

Do you know further examples of bad PM?

Bahnprojekt Stuttgart 21

Masterpiece of billion-dollar grave?

18.06.2023 10:27 Uhr

Sources: https://www.zdf.de/nachrichten/politik/stuttgart-21-hauptbahnhof-kritik-100.html, https://www.esslinger-zeitung.de/

History of PM
Around 2.500 before Christ

- Construction was structured and on time

- Resources were assigned

- States were controlled and monitored

Knowledge delivered

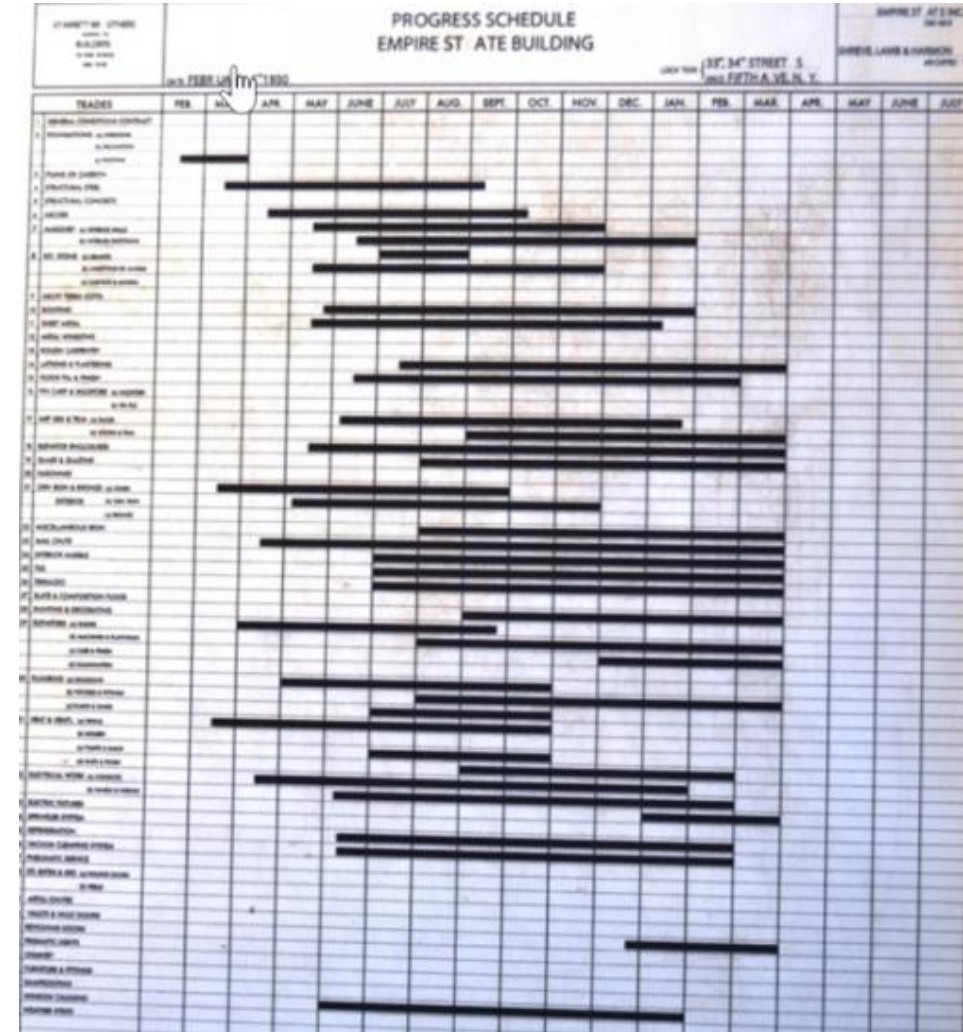- Similar approach when the Chinese wall was constructed about 200 before Christ

Sources: https://project-management-knowledge.com/de/die-geschichte-des-projektmanagements-eine-reise-durch-die-zeit/, https://www.digicomp.ch/blog/2018/02/13/projektmanagement-die-letzten-jahre

History of PM
Gantt-Chart

- 1910: Visualization of scheduling using a Gantt-Chart (by Henry Gantt)

- Gantt-Chart was applied

  - 1935 when the Hoover Dam was constructed

  - When the Empire State Building was constructed

Project plan of the Empire State building

History of PM
From „PM" until „Agile"

- 1954: American Army General Bernhard Schriever defined „Project Management"

- 1957: expression „Critical path" came up

- 1962: projects were split using project structure plans

- Late 1960: big PM organizations were founded (PMI and IPMA)

- 2001: Agile PM was published

Source: https://www.digicomp.ch/blog/2018/02/13/projektmanagement-die-letzten-jahre
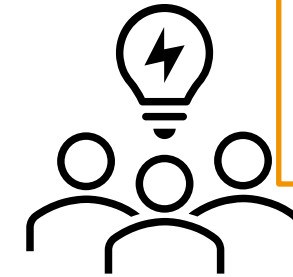
Standards, Norms and Certificates

Group Work
institutes/standards/norms/organizations

- Answer the following questions:
  - What does the abbreviation stand for?

  - When and where was the institute/standard/organization invented?

  - What is the purpose of the institute/standard/organization?

  - What kind of trainings/certificates does the institute/standard/organization provide? (Name 2 concrete examples in detail)

  - Anything else to mention?

- Link to OneDrive (also in Moodle)

Group Work "PM Standards Certificates"

Preparation: 15 min
Presentation: 2 min

Group Nr.	Topic
1	PMI
2	Prince2
3	GPM
4	IPMA
5	PMP
6	PMI
7	Prince2
8	GPM

Project
Project or not?

Development of a new car ✓

Tooth operation ✗

Expanding sales to a new continent ✓

Changing OS from Windows to Linux in a company ✓

Preparing a lecture ✗

Movement to another city ✗

Definitions
Project

What is a project?

- A project is „a transaction characterised essentially by the uniqueness of conditions in their entity, e.g. objective, limitations in time, finances, personnel and others, a project-specific organisation." (DIN 69901-5)

Project

High degree of novelty & complexity

Budget is planned for the project

Unique project definition

Several departments and hierarchies are involved

Different experts are needed, incl. Project manager

Temporary time limit

Source: DIN 69901, https://www.pmi.org/about/learn-about-pmi/what-is-project-management, https://www.integrata-cegos.de/projekte-und-projektmanagement

Definitions
Project Management

- "Project management is the use of specific knowledge, skills, tools and techniques to deliver something of value to people."

- Project Managers Lead Project Management"

- Leading projects are Project Professionals — people who either intentionally or by circumstance are asked to ensure that a project team meets its goals. Project professionals use many different tools, techniques and approaches to meet the needs of a project.

Source: https://www.pmi.org/about/learn-about-pmi/what-is-project-management

Definitions
Deliverables and Milestones

What is a deliverable? Example?

What is a milestone? Example?

- Deliverables are usually physical products, software or project results (e.g., documents) that can be clearly described, identified and verified. They are necessary for the completion of the project (or parts of it).

- A milestone is a specific point within a project's life cycle used to measure the progress toward the final goal.

- Examples: PCB developed; test finished; housing designed; website launched

PROJECT MILESTONE EXAMPLES

content approved   Send to printer

Kickoff meeting   Design approved   Brochures delivered

teamgantt

Source: https://www.cio.de/g/was-ist-was-im-projektmanagement,112128,10, https://www.wrike.com/project-management-guide/faq/what-is-a-milestone-in-project-management/
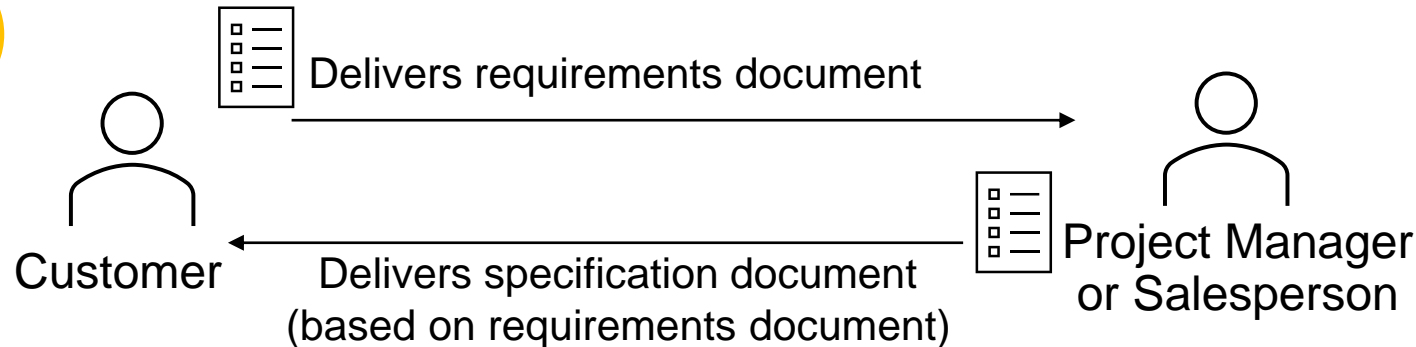
Definitions
Requirements and specifications (in software development)

What is a
specification?
Example? **?**

- **Requirements** are descriptions of services that a software system must provide and the constraints under which it must operate.

- Requirements help to describe <u>what</u> the software should do.

- **(functional) specification** is a technical document that describes the features and bahevior of a software application in detail.

- Specification helps to get a clear understanding of the product to develop it and to minimise software failures.

What is a
requirement?
Example? **?**

Delivers requirements document

Customer

Project Manager
or Salesperson

Delivers specification document
(based on requirements document)

Source: https://www.differencebetween.com/difference-between-requirement-and-specification-in-software-engineering/

Statistics in Projects
‚About projects…

Top Project Management Statistics: Editor's Choice

- 70% of all projects fail.

- 42% of companies don't understand the need or importance of project management.

- 55% of project managers cite budget overrun as a reason for project failure.

- The project management industry is set to grow by $6.6 trillion by the end of 2020.

- Stakeholder engagement is the most valuable PM process.

- 62% of successfully completed projects had supportive sponsors.

Source: https://teamstage.io/project-management-statistics/

Statistics in Projects
General information

Only about **35%** of project managers are happy with how their organizations handle technology and project management.

Jira dominates **42%** of the project management software market.

Over half of the project managers cannot access real-time data and KPIs.

Only **43%** of projects are finished on time and budget, and only **29%** are on time.

42% of businesses don't know why they need project management or its importance.

55% of project managers say that the project failed because the budget went over.

Only **23%** of companies use software tools that were made just for managing projects.

About **44%** of managers don't think that PM software is important.

Source: https://marketsplash.com/project-management-statistic

Statistics in Projects
Top challenges in Projects

Brainstorming:

What do you think are the most relevant challenges in a project?

Importance	Challenge
1	Communication
2	Project goals are not defined clearly
3	No clear responsibility in project team
4	Unrealistic deadlines
5	Resource allocation
6	Insufficient project budget
7	Scope screep (project becomes bigger and bigger from time to time)
8	Insufficient risk management
9	Using the right PM software

Source: https://rindle.com/blog/10-project-management-challenges-and-how-to-overcome-them-effectively

Sources

Books

- 2022 Thakkar - Project Management (ISBN 978-981-15-3694-6)

- 2021 PMI - PMBOK (R) Guide (ISBN 978-1-62825-664-2)

Further Sources

- DIN standards series DIN 69901 for Project Management

Reflection of the learning objectives
Well...

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- Know some **statistics** about PM.