1

Introduction

In the lecture (module)„International Project Management" we will cover **many aspects of project management in theory as well as in practice** – according to the CORE Principle.

This module consists of three parts

- Project Management Methods,
- International Company Projects, and
- Leadership

The main focus is on methods of project management, typical applications as well as characteristics of information technology and comparison of different solutions.

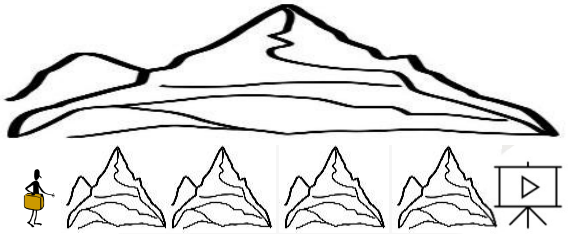
2

Introduction (2)

Specials in international projects, especially management issues will be taught by lectures and applied projects on modern computer science.

Right from the start, you have to work out in **international teams** a **virtual project** and have to adopt and **apply the knowledge on project management** (from IPM module description).

CORE-Principles: 5-week blocks, 1 project, several aspects of project management e.g. waterfall & agile, milestones, risks & stakeholder analysis, global projects, etc.



Introduction (3)

CORE Principle

- Concentration on learning, **learning outcome and learning success -> competencies**
- Developed at SRH Hochschule Heidelberg; models in Sweden, Denmark, the Netherlands, etc.
- Objective: **Employability**
- Graduates have the skills and abilities that allow them to be employed and to be successful in the modern workplace.

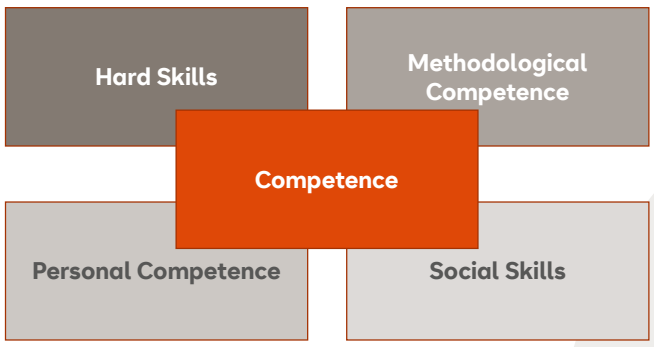
Introduction (4)

Key Success Factors of the CORE Principle

- Emphasis in the **competence**
- **Activating** teaching and learning methods
- Competence-based types of examination **(-> 30 different exam types**)
- **Constructive alignment**
- Subject-oriented **5-week-blocks**
- **Learning spaces**
- Close professional and individual supervision: **SRH Academy for Higher Education**

Introduction (5)

Emphasis on Competence:



Introduction (6)

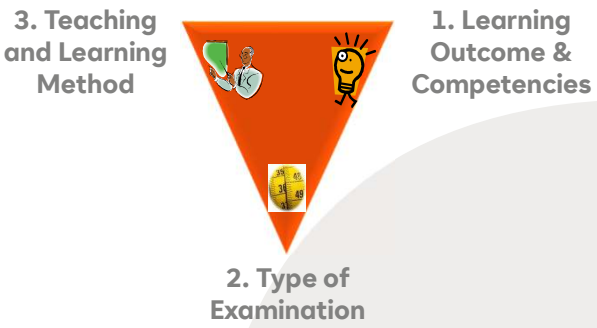
Constructive Alignment:

IPM Competencies:
Participants will acquire different project management methods in theory as well as special aspects of international IT projects.

In **practical sessions (i.e. project task)**, this knowledge has to be evaluated, and specifically applied in order to **get experience in conducting management methods.**

Social- and self-competencies will be enhanced by working in international teams under **"realistic" conditions in a virtual consulting company.**

Exam: **Project report** and **oral exam.**



Introduction (7)

Constructive Alignment:

The result of the individual work and its contribution to the teamwork will be **evaluated by a presentation including discussion and by the written report on the planning concept** for the virtual project.

With the final presentation/oral exam with a written report and an **oral exam (in English) students will also show their qualification in presentation of scientific, methodical and technological outcomes as well as to discuss** this (taken from IPM module description).

Introduction (8)

Constructive Alignment

Learning in International Project Management will include:

- **Problem based learning:** Task in project management (Start)
- Workshops: **Design Thinking**
- Classical **lectures**
- **Status report** by students
- Individual **research work** as well as group work
- Group **feedback** session tasks
- Repetition and **exam preparation**, etc.

TASK

01

TASK

Exams:

For the exam in "International Project Management" a "project report" on a project management topic must be compiled by the team. The examination has two parts:

1. The **project report & final presentation** must be provided in the 5th week (see "0-IPM-CourseBook" for data & time). This teamwork will count 50%.

2. An **oral exam (15 minutes)** with a 5 min. presentation as well as questions must be given by each student. It will take place in the 5th week. This part of the exam will also count 50%.

General Information

02

General Information on the IPM Projects (1)

You are a member of highly **innovative IT-consulting company**. You and your **team must develop a concept or feasibility study** for one of the following customer projects (details follow):

Project 1 / Team 1: Traffic Flow Optimization

Project 2 / Team 2: Health Care Data

Project 3 / Team 3: ANEK Mobile App

Project 4 / Team 4: The Friendly Wheel Chair for Tourists

Project 5 / Team 5: Serious Games for Hearing Impaired Children

Project 6 / Team 6: Healthy Food Portal

General Information on the IPM Projects (2)

You are a member of highly **innovative IT-consulting company**. You and your **team must develop a concept or feasibility study** for one of the above-mentioned customer projects (details will follow).

This includes a **concrete project planning (no realization)** for the **technological concept** and **system architecture** of the project, as well as **aspects of UI/UX**, which you need to design.

Primary focus is the time and resource planning according to the project management method you have selected.

At the end of the lecture, you and your team **will present this concept to the customer**.

General Information on the IPM Projects (3)

All project team members together need to consider the general project management aspects and will describe all project management related subjects in the project report:

- **Short project description,**
- **Detailed project concept (project management AND technology aspects),**
  - **Project management process model incl. time-, resource- and budget planning, milestones and milestones planning, stakeholder and risk management, etc.**
  - **Technological aspects: Personas, use cases, mock-ups, sketches of game scenarios, layout outlines, functionality diagrams, additional technological aspects, etc. – but not the final realization.**

Preparation: Q&A, Status

03

Q&A Sessions

The final result (exam) of the lecture will be the **final presentation** and the **project report on the given project task (see the following slides, group work).**

With your project team, you will develop a **concept / feasibility study** for the given task – from **detailed literature analysis, technical concept, user interface up to the final time and budget planning.**

In order to **prepare** this project in the right way, there will be:
- classical lectures,
- project team work meetings,
- individual research work, and
- **be several Q&A (question & answers) sessions** to discuss the progress of the project.

Q&A Sessions

In order to realize this, the lecture is **structured in several units**: the theoretical parts with the **whole class** and the discussions in the small project teams.
We will also apply this structure to the **design thinking workshop** – general information and tasks for the whole class, feedback and discussion in the small project teams of tasks groups.

In MS TEAMS we will use the **channel "General"** in our Team**:**
"HSHD_SS20_International Project Management (K-2372-1853)" for all common lecture parts, e.g. the main presentations.

The **channels "Team1", 2, etc**. are for the small project teams and will be used for small group work and organization, discussion, feedback, etc.

Note: We are currently using the corresponding Teams Meetings

Preparation: Status Presentation

Status presentation (second week): In a short presentation (10min + Q&A), each project team will show the current status of their project:

- **Understanding of project task (target structure),** i.e. a rough project structure, as well as general project management aspects and the contribution of the team.
- Particularly the **project teams will present first results** on their project research (internet / literature) analysis, the functionalities / technologies used in the project, the user interface & usability, the deployment and infrastructure.

The teams must also have a planning of the **team roles and tasks**.

Project Descriptions

04

Customer Project

You and **your project team are part of a large IT consulting company**. With your team members, you will **develop a project plan (the project report) as a concept or feasibility study** for a given task. This project task (problem statement) you will get from the **customer** of the consulting company.

This concept/feasibility study is **focusing on project management aspects** including detailed description of the **used technological components** and their **functionality**. It might be part of a so called **RfP "Request for Proposal"** procedure.

At the end of this lecture, you and your team will **present the project plan (tech. concept, user experience design, educational concepts etc.) as well as the project management planning (as detailed planning)** to your own management as well as to the customer.

Project 1: Traffic Flow Optimization (1)

Optimization of **traffic flow by intelligent usage of traffic lights** is implemented in all major cities world wide. Some approaches do consider a monitoring of the full traffic within the city limits and then **an overall optimization** of the traffic flow. That approach has the disadvantage that it needs a cost-intensive infrastructure and central control that not all cities can afford.

The city of Heidelberg is interested in a **more localized approach** where intelligent **traffic light controllers should optimize the traffic flow by communicating with their neighboring traffic light controllers and the vehicle's navigation systems**.

Project 1:
Traffic Flow Optimization (2)

Your **customer is the City of Heidelberg**, i.e. the Department for Traffic Management. They are looking for such a solution and you and your team are participating in the **"Request for Proposal", RfP**.

The task for you and your **team of the IT consulting company** is to provide **the software solution that supports optimal usage of the traffic lights for a fast traffic flow** with a central control unit including mobile access in case of managing a local problem.

Furthermore, you should provide **an interface for the car drivers i.e. with the navigation system, which shows all necessary information.**

Your team has to provide a comprehensive project management concept (as part of the RfP) incl. research, technologies, architecture, and UI / UX design for the development of the "Traffic Flow Optimization " with all required (and maybe more) functionalities.

Project 1 / Team1:
Traffic Flow Optimization (3)

- Speaker:_____
- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____

Project 2:
Health Care Data (1)

Health care data is typically a mixture of **structured data like Patient identification, gender, age, identified illness e.g. by ICD codes** (International Statistical Classification of Diseases and Related Health Problems) and **treatment recommendations**.

However, the details of diagnosis, laboratory data, XRay, or CT/MRT data are reported in a more **unstructured form** and are mostly provided as **PDF documents**.

To optimize diagnosis and therapies, **training of algorithms against these unstructured data** is needed in combination with the structured data provided by the respective health records.

In order to optimize the outcomes for patients by optimized costs, a **private health insurance company with ~ 10.000.000 patients** likes to utilize their data to **define a supporting algorithm for diagnosis and therapy**.

Project 2:
Health Care Data (2)

Your **customer is a large health insurance company**. They want to have an **algorithm**, which connects lots of different unstructured data with the structured patient data in order to get **more information on diseases, therapies and their success seen in the patients data**.

As experts in AI/ML methods (supervised / unsupervised learning etc.) you are participating in the **"Request for Proposal", RfP,** process.

You and your team of the IT consulting company have to provide a comprehensive project management concept incl. research, technologies, architecture, and UI / UX design for the development of the algorithm for AI based analysis of "Health Care Data" with all required (and maybe more) functionalities.

Project 2 / Team 2: Health Care Data (3)

- Speaker:_____
- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____

Project 3: ANEK Mobile App (1)

Customer mobile apps are a typcial "instrument" to attract customers.

The **Smart Card from ANEK Lines** is such a system. ANEK is a ferry boat line between Italy and Greece (see https://www.anek.gr/en/). The Smart Card program offers different benefits for loyal customers, i.e. "ANEK Smart Bonus Program is an innovative loyalty program that rewards passengers who choose ANEK LINES' ships and onboard services" (see https://www.aneksmart.gr/?language=en).

As an extension and alternative ANEK has **also a mobile app**, the **ANEK LINES mobile app,** which offers some functions on the mobile phone including integration of the smart card.

Project 3:
ANEK Mobile App (2)

Your **customer, the management of ANEK Lines** wants to have a **new, modern version of its established ANEK Lines mobile app**. Regarding the new functionalities, the management is very open – integration into social media, smart payment, AI based personalized recommendations, and more should be integrated.

You and your team team of the IT consulting company have to provide a comprehensive project management concept incl. research, technologies, architecture, and UI / UX design for the development of the new "ANEK Mobile App" with all required (and maybe more) functionalities.

Project 3 / Team 3:
ANEK Mobile App (3)

- Speaker:_____
- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____

Project 4:
The Friendly Wheel Chair for Tourists (1)

Ancient places such as castles, theatres etc. often have much stairs / bumpy ways / unsecure paths, which are problematic for walking especially for elderly people. On the other side, more eldery people will visit those places.

Here in the state of Baden-Württemberg, there is a central organization for ancient/historic places, the **STAATLICHE SCHLÖSSER UND GÄRTEN BADEN-WÜRTTEMBERG organisation.** Staatliche Schlösser und Gärten Baden-Württemberg opens, shares, develops and preserves 63 of the state's historical monuments in southwestern Germany (https://www.schloesser-und-gaerten.de/en/).

The managment wants to provide some "Friendly Wheel Chairs" for elderly people, who are not able to walk through difficult passages including stairs in the ancient buildings and locations.

This **prototype of an intelligent wheel chair** must be able to "drive" on stairs and complicated pathways (see also https://www.scewo.com/en/ and alternatives). In addition it should **provide touristic information regarding the position** and view angle of the wheel chair. An intelligent, AI based system should enable **personalized information**.

Project 4:
The Friendly Wheel Chair for Tourists (2)

The prototype of this self driving "Friendly Wheel Chair NT" must have a tablet and headphones for text and speech interaction in order to **drive tourists to the different locations** and provide **position specific personalized information on historic aspects**. For this, the wheel chair uses **an indoor and outdoor navigation system** as well as an **anti-collision-system**.

Your customer is the management of **STAATLICHE SCHLÖSSER UND GÄRTEN BADEN-WÜRTTEMBERG.** The task for you and your **team of the IT consulting company** is to provide **the software solution that supports such a friendly wheel chair for tourists in the ancient places.** The communication with "Friedly Wheel Chair" **includes text as well as speech interfaces**.

Your team has to provide a comprehensive project management concept incl. research, technologies, architecture, and UI / UX design for the development of "The Friendly Wheel Chair for Tourists" with all required (and maybe more) functionalities.

Project 4 / Team 4:
The Friendly Wheel Chair for Tourists (4)

- Speaker:_____
- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____

Project 5:
Serious Games for Hearing Impaired Children (1)

The customer for this project is the school **"SBBZ Luise von Baden"** (https://sbbz-luise.de/). This specialized school has many branches, one is for hearing impaired children. Some of them will start to learn hearing after they got a "cochlea implant" in a complicated surgery.

The school is developing an **e-learning platform "Luise lauscht"**, which will help children in the age 4-6 years to learn hearing.

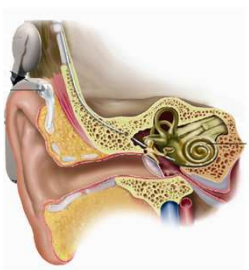


Fig.: Cochlea Implant
(See the paper by Sheldran et all (2008) for related information.)

Project 5:
Serious Games for Hearing Impaired Children (2)

On the basis of the e-learning system **MOODLE** a **digital hearing platform is developed**. Besides the children, their parents as well as the teachers will have access to the platform and require specific functionalities.

An important part of the platform is the **content editor**, which will be used by parents and teachers in order to upload audio- and video files into the game scenarios.

For these learning game scenarios, many audio and video examples are required. So, the digital hearing platform will have **database with self-generated audio and video files (self generated content),** which can be used for any serious game scenario.

For the **target group, children in the age 4-6 years**, who **cannot read**, the primary teaching principle will be "games" – so the platform will consist of many learning game scenarios (gamification, single, and multi-user, on- and offline).

Project 5:
Serious Games for Hearing Impaired Children (3)

As the kids in the age of 6 – 10 must **learn hearing, speaking and reading** the school needs several game scenarios, which will support accordingly. The teachers want to have a **mobile app**, running on a tablet, which can **detect objects** like a cup, can **provide the name**, can speak this name and will **recognize the spoken word** by the kid also **with text**.

This app must run on **Moodle as plugin** – if possible on the platform mentioned before.

CUP

PEN

Project 5:
Serious Games for Hearing Impaired Children (4)

Your team must **develop several scenarios of an object based learning game,** which uses **object detection** and **speech recognition**. This can have any game mechanics you can think of – however, it needs to be playable by the target group.

As the children will just learn speaking and reading, you might use the **mascot "Luise"** for hints.

Fig.: Mascot "Luise"

Your team has to provide a comprehensive project management concept incl. research, technologies, architecture, and UI/UX design for the development of the "Serious games for hearing impaired children" with all required (and maybe more) functionalities.

Project 5 / Team 5:
Serious Games for Hearing Impaired Children (5)

- Speaker:_____
- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____

Project 6:
Healthy Food Portal (1)

The **quality of life** depends, among others, on the **healthy food**. If this is produced locally it saves also carbon dioxide, because no / less transport is required.

A **large international food company** wants to **learn** from this trend by supporting the community with a **free of charge web-portal, the Healthy Food Portal,** for consumers as well as providers of information on healthy food and drinking (i.e. water with low minerals or much tea -> less iron -> more meat or specific vegetables).

The web-portal will support the **upload and publication of recipes** entered by the community, especially with **focus** on healthy food&drinking **ingredients**. With a peer review process the quality of the submitted recipes and food&drinking tips will be guaranteed. In case of a **successful publication of such a recipe** / tip, the author will get a small **financial reward**.

Project 6:
Healthy Food Portal (2)

With an AI/ML based functionality, the healthy food portal will support the registered users with specific**, personalized healthy food and complete meals (as recipes), with diets plans, eating and drinking tips**.

Your customer is the large international food company. They want you to develop a concept for such an **international "Healthy Food Portal".** Components might be: Web/mobile interfaces, DB, Neo4J for "healthy" ingredients/components of superfoods, interface for payed services i.e. healthy nutrition counseling, local herbs, recipies, focus on traditional knowledge on effectiveness / therapies etc.

You and your team team of the IT consulting company have to provide a comprehensive project management concept incl. research, technologies, architecture, and UI / UX design for the development of the "Healthy Food Portal" with all required (and maybe more) functionalities.

Project 6 / Team 6:
Healthy Food Portal (3)

- Speaker:_____
- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____

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Rules and Hints

05

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Project Report

Remember: You are a member of a highly **innovative IT-consulting company**. Together with your team you must **develop a project plan** for one of the described customer projects.

The project plan must have a **technical solution** (just as **concept / feasibility study**, preferably with a **sketch / graphical overview** and **use cases**) including a description of **all functionalities, the user interface / usability**, as well as **all project management related subjects, e.g. project management process model, timelines, stakeholder & risk analysis, budget planning, etc.**

Project Report (continued)

Please provide a **detailed project plan** for this customer project as **the project report.**

This project report should contain **all aspects of project management**, which were discussed during the IPM lecture as well as the results of the project teams on the research, the **technological aspects**, the user interface and **usability**, etc.

Each project team member must submit the same report of the whole team as upload in our e-learning system!

Project Report (continued)

- Title, Task (summarized), Team, roles and responsibilities
- Table of Contents (TOC)
- Project description (1 page)
- Target state (3 p)
- Requirement analysis / use cases / technology & UI/UX aspects (4 p)
- Project structure / network plan (3 p)
- Chance & risk analysis (3 p)
- Stakeholder analysis (2 p)
- Project process models (Waterfall, agile, etc.), execution and controlling methods (4 p)
- Technological aspects, usability and user interface design, concept details, etc.
- ...and at the end (before the appendix, references, other lists) please add an **executive summary** (very short, 1/2p): **Project features, dates, costs, benefits and major risks!**
- ~25 pages in total

Final Project Presentation

At the end of lecture block, your team must show the results of your project plan development with a short **final presentation incl. question and answer session with management and customer (see course book for details**).

In the following you will find rules and hints:

Final Project Presentation

- Goal: Short presentation of IPM project results, focus on innovation aspects
- Media: MPP or alternatives
- Who: Whole team on stage, presenters on your decision
- Title Page: Project title and team, presenting authors underlined, date
- TOC (short, 1 page), Project task (in brief, 1 page), Executive summary (1 page)
- Main part: Use cases / user stories, affected people, focus on project results / products – with respect to technologies, research, learning hearing, gamification, UI/UX, functionalities, product management figures…
- Last slide: e.g. Questions, Thank You, References
- **Hint: Test everything at least 20 times in advance.**

Oral Exam

An **oral exam with a 5 minutes presentation** as well as **general questions on project management**, all in all no longer than 15 minutes must be given by each student individually.

The presentation must show the **individual contribution of the student to the project report.**

The **questions will cover the whole lecture as well as all lecture material**!

Hint: Ask your fellow students for a training-session of the oral exam.

Time Lines

06

Time Lines
– see also Course Book

Start and general introduction:

- Design Thinking Workshop: 2 days, first week,
- Q&A session: during the lectures
- Status presentation: second week – for general understanding of task and solution
- Q&A session, exam preparation: always, 4th week
- Submission project report: Sunday, 4th week end, 23:55 o'clock CET (e-learning sys.)
- Project presentation: Monday, 5th week, 14:00 o'clock CET
- Oral exams: Wed./Thu.,/Fr. see timetable in the e-learning system (will come soon)
- E-learning system: https://moodle.hochschule-heidelberg.de/
  --> for the concrete date & time see also the IPM course book and check the campus net app

Next Step: How to select the project

In **Teams**, in our current meeting "**IPM Introduction**" and in the **General section** of our IPM channel, you will find a Forms link asking you for your project preferences.

Teams meeting "IPM Introduction":
Meeting ID: 358 853 547 818
Passcode: R5JFHz
Link: https://teams.microsoft.com/l/meetup-join/19:8mp_u89ylRw_TVKnJMXQg0_htRphPPy4pASV4tkC3jM1@thread.tacv2/1695131012313?context=%7B%22Tid%22:%22787048c4-ce0e-4446-81e0-2fa0524ec702%22,%22Oid%22:%22f029a44a-f465-407e-9eca-f91a6e665928%22%7D

Please put in your **project priorities** (1=most wanted, 2, 3, 4, 5, 6), from
– Today, Monday, 16th of October 2023, 18:00 – 23:45 o'clock CET
– first come first placement.

Thanks for your attention.