Lecture: Modern Project Management in ICT

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HUST, Mar 13 - 2019
Agenda

Preparation for Exam

8.1  Project Execution & Monitoring/Control
8.2  Project Closing
8.3  Project Management Tools
8.4  Project Quality Management
8.5  Project Excellence Model

Final presentations
Information about the EXAM

1. Project Management **Terminology**: Match project related **terms** to appropriate **definitions**

2. **Multiple choice questions** and **open questions**, pm in VN

3. **Applying the methods and techniques of PM to your Start-up project**: project canvas, project objectives, stakeholder, business plan data, phase plan / milestones, phase oriented WBS, communication and risk planning

4. **Applying the methods and techniques of PM to a new project**: project objectives, stakeholder, phase plan / milestones, phase oriented WBS, communication and risk planning

Date: Mar 14 (Thursday) 9:20 – 10:50, room D8 - 206

- 09:20 – 10:05: Course Project Initialisation - about 41 students
- 10:05 – 10:50: Course Project Design - about 23 students

No devices and documents are allowed!
Recommendations

- WBS: Don‘t forget the Project Management WPs
- Responsible: Only one person
- You should know your team project
- Phase plan: Duration of the phases not too long and not too short
- Communication plan, “content/messages”: These are messages from the project to the stakeholder of this row.
8.1 PROJECT EXECUTION & MONITORING/CONTROL
Project execution, monitoring and control

- **Board of Management**
  - Steering Committee
  - Sponsor, PMO

- **Project manager / Project controller**
  - Subproject leaders

- **Project team member**

**Reporting**

**Control of the project portfolio**

**Control of the project**
(Checking the progress and informing the sponsor and stakeholders)

**Reporting**

**Executing of the WP**
and reporting about progress, problems, results

Progress measurement is the main focus during project execution/control phase
Cycle of project control

Project plan

Initiаlising → Planning → Execution → Project Close-out

Controlling

Changes

Deviation

Monitoring

Measures

Actuаl

new plan

Disturbance in the course of the project
Monitoring and Reporting inside the project team

Report
- state of WP
- state of sub projects
- (Potential) problems
- Risks and opportunities

Flow of information must be carried out in both directions. For the project team members minimize reporting burden.
## Monitoring and Reporting: Traffic light definitions

### 1. Red:
As-is value of the criteria/goal deviates significantly from the should-be (planned) criteria/goal, no confirmed countermeasures are defined + replanning

### 2. Yellow:
As-is value of the criteria/goal deviates from the should-be (planned) criteria/goal, confirmed countermeasures are defined

### 3. Green:
As-is value of the criteria/goal complies with the should-be (planned) criteria/goal

### Evaluation of a Task/Process Step

| Status (e.g. issues, reason): 12/04/19: xxx |
| Countermeasures (action items): 12/04/19: xxx |

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**Table:**

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<thead>
<tr>
<th>Status</th>
<th>Countermeasures</th>
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<tr>
<td>Red</td>
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Tasks of project control

Carlo Controlletti

Result Controlling
Schedule Controlling
Resource Controlling
Cost Controlling
A trust-based cooperation is required for the implementation of the project
- between project manager and project team
- between project management/team and stakeholder (sponsor!)
- in the team with each other

Responsibility of the project management (project manager and sub project leaders) to create and maintain an appropriate atmosphere

Important for an effective controlling: timely message of "real" data

Not a time delay is a major annoyance – but its concealment

All project team members have the obligation to report problems automatically and immediately!
Controlling methods and their application in practice

- Deviation Analysis: 89%
- Trend Analysis: 37%
- Earned Value Analysis: 19%

Source: N. Kauba, CSC: Projektportfoliomanagement, Vortrag vom 14.09.2006, München, slide 42
Crucial is the consideration of the „magical“ triangle
Deviation Analysis

1. Deterninate the actual performance data

2. Compare the “performance delivered to date” to the "performance which should have been delivered according to the plan”

3. Analyse deviations

Questions

- *What are the possible causes?*
- *What will happen if we do something or do nothing?*
- *Will a trend continue?*
Workshop “Causes of deviations”

What are possible causes of deviations?

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8.
More causes of deviations

► Planning errors
  ▪ Lack of planning experience, works were forgotten
  ▪ Wrong (too optimistic) cost estimate
  ▪ Acquisition of the time and cost pressures of the job board in the planning
  ▪ Complexity overwhelmed staff

► Unpredictables in the course of the project
  ▪ New requirements in the course of the project.
  ▪ Technical, human or organisational problems.
  ▪ Retirement of employees.
  ▪ Bankruptcy of a supplier.

► Execution errors
  ▪ Errors in the execution of the plan.
  ▪ Missing employee qualification.
  ▪ There have been unnecessary work.
What **Countermeasures** should be applied?

1. **Budget deficit**  
   Request more support or find additional investors.

2. **Wrong (too optimistic) cost estimate**  
   Comparison of current and target value

3. **Over estimate potential of the workers**  
   training to improve ability

4. **Lack of experience**  
   Hire an expert

5. **Inappropriate time management**  
   flexible plan and closed time management

6. **Server attacked by Chinese hackers**  
   Use anti-virus and back up and Hong Kong help.

7. **API changes**  
   Study the changes in the API documentation

8. **Lack of knowledge, motivation, experience, etc…**  
   Training course, punishment?, bonus, fire?
Countermeasures

1. Corrective measures

- Staff capacity
  - Extra hours: Overtime weekend
  - Substitution of team members
  - Integration of additional team members

- Productivity
  - Redistribution of work load
  - Improved tool and method usage
  - Information, motivation

- Shorten the duration of the work packages on the critical path
  - Eliminate dependencies
  - Use rationalization potential
Countermeasures

2. Reactive measures (if there are no other ways)
   - Adjust project planning
     - Consistent updating of the planned dates
       • Start and end date, task duration, dependencies
     - Outsourcing of tasks
     - Project scope / functionality / quality
       • change of priorities, versioning
     - Resource expansion and increase in budget

Changes of the objectives of the project must be approved by the sponsor and the steering committee!
8.2 CLOSE OUT
Goal: Successful completion of the project

Formal project completion
- Transfer of the project results to the line
- Project closure meeting
- Survey of the satisfaction of its stakeholders: e.g. customer feedback, employee feedback, suppliers feedback
- Project acceptance by the sponsor and steering committee → discharge of the project manager
- Release of project members and resources
- Termination of the project organisation
- Publication of the project final report

Project learning
- Analysis project history & project results
- Experience backup for future projects
Acceptance procedure

- The acceptance procedure must be defined already at the beginning of the project
  - Establishment of the procedure and the acceptance criteria
  - Project final phase: Implementation of the acceptance

- Alternatives
  - Recommendation: stepwise acceptance
  - But often 'Big bang' acceptance is unavoidable

- Project Manager
  - Organises a handover to support and maintenance
  - Formally passes the results (products) to the sponsor

- Sponsor
  - Is responsible for building and operating the test environment
  - Is responsible for test cases and test data
  - Checks, whether project objectives have been achieved
Release resources and assets

- Resources: Staff, rooms, etc.
  - are provided only for a certain period of time
  - must be released again
  - cancel contracts for rooms, equipment, etc. *timely*

- Quite often: Conflict of objectives at the end of the project
  - Experienced team must successfully complete the project
  - Project staff wants security and focus on return in the line or on new interesting tasks

- Inform the team members and their line managers early when you (as project manager) release people

- It is important to end the project with a joint experience involving all team members, e.g. a **close-out party** should be held and appropriate tribute should be paid to the project team – a representative of the organisation's senior management should be presented to project personal
Project learning

Objective: Knowledge management / continuous improvement

- Opportune moment
- Experiences are still "fresh"
- "Lessons Learned": collect, evaluate and secure essential experiences for future projects (avoid “to reinvent the wheel in the future”)
- Optimize used templates and checklists

Useful questions

- What was particularly good, and should be applied to future projects?
- What were the causes for changes of the plans?
- What checklists / templates shall be supplemented?
- What should be done differently in a similar future project with the knowledge of today?
Critical evaluation and appreciation

- Teamwork
- The results of the project
- The project process
- Identification of residual tasks and solutions for the time after the project
- Joint analysis of difficulties and deviations of the plan

"Feedback query" of the project team

Close-out party
Workshop “Lessons learned”

Identifiy the Lessons learned of your project work

Time: 10 Minutes

 Team 8:
 Team 7:
 Team 6:
 Team 5:
 Team 4:
 Team 3:
 Team 2:
 Team 1:
8.3 PROJECT MANAGEMENT TOOLS
IT support in project management

Tool usage is no guarantee for the success of the project!

Typical PM-software functions

- Planning: project structure, work packages, project schedule, appointment, capacity and cost planning
- Resource management
- Project monitoring and control: progress of the project, resource / cost developments
- Document management
- Communication management / Collaboration
- Multi project management/ Portfolio management
- Support of work techniques such as mind mapping
- Software for specific tasks, such as risk or quality management
- Time registration of project work

"A fool with a tool is still a fool"
Categorization of PM tools

- **Enterprise Project Management Systems**
  - Portfolio management
  - Resource management (company-wide)

- **Multi Project Management Systems**
  - Programme management
  - Programme controlling

- **Software for single projects**
  - Project planning
  - Project controlling

- **Collaboration**
  - Team communication: Portals with groupware, Document management
PM Tool Market

Market: non-transparent

Products

- Augeo5 (Augeo)
- Artemis Views (Artemis)
- Collinor IRP (Collinor)
- GanttProject (Open Source-Tool)
- MS Office Project 2007/10/13/16 (Microsoft)
- Open Plan (Welcon)
- P3 (Primavera)
- PHPprojekt (Open Source-Tool)
- Planview (Planview)
- Project Scheduler (Scitor)
- projektplace.de
- Results Management (ABT)
- Superproject (CA)
The most used project management software

History
- The first version of Microsoft Project was released for DOS in 1984 by a company working for Microsoft
- Microsoft bought all rights to the software in 1985
- The first Windows version in 1990
- The latest version for Windows is Microsoft Office Project 2016
  - Project Professional 2016
  - Project Server 2016
  - Project Lite
  - Project Standard

Download and install full-featured software for a 60-day trial

Supported project phases:
- Planning
- Controlling
- Project close-out
8.4 QUALITY MANAGEMENT
About Quality

- Quality is a concept that is difficult to describe. Everybody knows what it is, but there is not a single definition that does the concept justice.

- Quality has not only something to do with satisfaction, but also with price (better quality is more expensive).

- Quality also has to do with the extent to which expectations are exceeded, and with the delivery of a certain level of service.
Meaning of „Quality“

Quality:
The customers come back

... and not
the Goods
Definition and objectives

Quality: The extend to which a totality of the features and characteristics satisfies the requirements

Goals of Project quality management
- Ensuring the quality of the project product (project results)
- Ensuring the quality of the project process (project implementation)
Quality features

► Product quality
  ▪ High benefit in relation to the investment
  ▪ Intuitive ease of use
  ▪ High availability / reliability
  ▪ Safe usage
  ▪ Good documentation
  ▪ Resistance of value
  ▪ Durability

► Quality of service
  ▪ Availability
  ▪ Friendliness
  ▪ Reliability
  ▪ Reaction speed, quickness
  ▪ Flexibility
  ▪ Competence
  ▪ Grace
  ▪ Orientation of need for customer
  ▪ In the language of the customer
Workshop: What special Quality features has your Start-up?

- Team 1:
- Team 2:
- Team 3:
- Team 4:
- Team 5:
- Team 6:
- Team 7:
- Team 8:
Quality management tasks

- Collect customer requirements
- Analysis of the requirements
- Creation of quality plans
- Review the results of the work.
  - in compliance with the defined goals of the project.
  - suitability for further use.
  - on reasonable and rule-compliant documentation of objects (deliverables), features (handling / controllability) and action (regulations, decisions, changes).
- Customer satisfaction measurement
Deming circle: plan-do-check-act – plan...

**Quality improvement**
- Identification of quality improvements
- Input to the optimization of the quality plan

**Quality planning**
- Setting quality objectives
- Creation of the quality plan
- To ensure the necessary resources for the implementation of the quality plan

**Quality control**
- Quality checks
- Reviews
- To assess the efficiency of the QS measures

**Quality assurance**
- Implementation of the quality plan (implementation of QA measures)
QA measures in ICT projects

- **Tests (modules, system, integration, acceptance)**
  - Functional tests
  - Stress tests
  - User satisfaction

- **Additional external audits**
  - Concepts
  - Systems

- **Development of checklists, templates, etc.**

- **Reviews**
  - Audits: intermediate measurements and evaluations

- **Feedback queries (Web-based)**

- **Communication measures**
  - Internal communication
  - External communication
  - Special meetings

- **Employee training**
  - Qualification measures
  - Workshops
Example of practice: Quality management

QA phases
Tips for Quality Management

- Promise to the customer slightly less and deliver for more
- "Prevention is better than cure". Already in the initial phase just watch with high emphasis on quality!
- Involvement of the whole team in the development of the quality plan, as well as in its implementation and updating
- Ensure necessary conditions for good quality
- Involved users / clients early in quality tests

Important notice: Quality management causes expenses and costs ⇒ consider this in the project budget
Project manager blues

https://www.youtube.com/watch?v=Ej66TIlNaRc
8.5 PROJECT EXCELLENCE MODEL
The Project Excellence Model

English Version
Final presentations