Project Management

Customer driven project

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15.09.2014
What are your expectations for this lecture?
Who are we?

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About BearingPoint

• We work in business consulting, in the area between technology and business.
• We do everything between IT-development to strategy, sometimes in the same project!
• We are split in three teams, Information Management, IT Strategy and Transformation og Business Strategy and Transformation.
• We are a small company with a flat org. structure.

We are looking for people that ...

...are skilles and ambision.
...are interessted in business and also technology savvy.
...are down to earth, cares about good collaboration and social environment.
...think 50-60 employees is a good size for a company.
...are open to work with broadly varied tasks.
...are driven, and wants to develop oneself!

Deadline for applications

• Permanent position, summer internship and «konsulentskolen» (case at our office in Oslo) have deadlines for applications 21.09
Agenda

Part 1
• Introduction
• Phases in an IT project
• Project management

Part 2
• Exercise
What is a project?

**Introduction**

- Product or service
- Group effort
- Big, complex task, unique
- Resource constraints (time, cost, scope)
- Temporary
- Business case
- Change
Introduction

- Unambiguous goal
- Defined start and end time
- Limited scope
- Need for resources
- Progressive development
- Unique
- The outcome is a product or a service
  - Process
  - Organization
  - Product

Frameworks like PMP/PMI and PRINCE2 supplies a common language for project management
What is project management?

Introduction
**Project management** is a set of integrated and extended competencies in business, technology development and change management.

*Introduction*
Both hard and soft perspectives are necessary in project management to succeed.

### Introduction

<table>
<thead>
<tr>
<th>Hard perspectives</th>
<th>Soft perspectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning, management and supervision of results.</td>
<td>Focus on the people in the project.</td>
</tr>
<tr>
<td><strong>Assumptions</strong></td>
<td><strong>Assumptions</strong></td>
</tr>
<tr>
<td>• Project management is a normative and rassjonal activity.</td>
<td>• Project management is an irrational and organisational psychological activity.</td>
</tr>
<tr>
<td>• The project has a positive culture characterized by entrepreneurship and innovation.</td>
<td>• A project is characterized by rivalry, politic and goal conflicts.</td>
</tr>
<tr>
<td><strong>Keywords</strong></td>
<td><strong>Keywords</strong></td>
</tr>
<tr>
<td>• Effectivity, expert driven deliveries, control, clarification of organisational structure.</td>
<td>• Learning, participation, contribution, common development of project understanding, common curiosity for the underlying social processes and clarification of organisation culture.</td>
</tr>
</tbody>
</table>
Project management controls of the progress of a project

Introduction

«Management is about keeping course.»

«Management is to ensure that the road to the goal is followed.»

«Management is actions that reduces the difference between plan and reality.»
A short introduction to a example project from BearingPoint where we are building a data warehouse.

**How is it to be a part of an IT-project?**

- Project objective
- Project phases
- Day-to-day activities:
  - Understand client needs
  - Understand source systems and technical constraints
  - Logic and implementation
  - Clarification and dialog with parallel projects
  - Risk handling
  - Testing
  - Project supervision
  - Change management
Phases in a project
Traditional IT projects go through 4 fundamental phases: preliminary study, requirements and design, development, test.

Phases in a traditional (waterfall) IT project:

- Preliminary study
- Requirements and design
- Development
- Test
- Pilot and deployment
In agile projects the traditional phases is present as elements and they are out of sequence and done in each iteration.

Phases in an agile IT projects
Preliminary study is done to identify the high level requirements

**Preliminary study**

- Performance objective
- Outcome objective
- Business Case
- Mandate
Detailed requirements and design ensures a common foundation for the rest of the project

**Requirements and design**

- Requirements specification
- Technical design
- Functional design
- Plan and estimate
Development is the building of the software

**Development**

- Development of the product
- Test
  - Unit test
  - Component test
  - Integration test
- Documentation
Test of the software ensures required quality levels are achieved

**Test**

- System test
- Acceptance test
Pilot and deployment makes the software accessible for the users

**Pilot and deployment**

- **Pilot**
  - Test of functionality
  - Verify maintenance stability
  - Test the system support

- **Deployment**
  - Make the software accessible for all users
There is no silver bullet, even Agile approaches have their drawbacks

Pros and cons Waterfall vs Agile

<table>
<thead>
<tr>
<th></th>
<th>Waterfall</th>
<th>Agile</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td>Tangible output</td>
<td>Change</td>
</tr>
<tr>
<td></td>
<td>Easy planning</td>
<td>Team interaction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stakeholder involvement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continuous improvement</td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td>Change</td>
<td>Planning</td>
</tr>
<tr>
<td></td>
<td>Dependencies</td>
<td>Business representation</td>
</tr>
<tr>
<td></td>
<td>Lacking feedback</td>
<td>External stakeholders</td>
</tr>
</tbody>
</table>
Project Management
In the start-up phase it is important to define the areas that together determines if the project will become a success.

**Dimensions**

<table>
<thead>
<tr>
<th>The goal triangle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project success is a result of:</td>
</tr>
<tr>
<td>• To balance <strong>scope</strong>, <strong>time</strong> and <strong>cost</strong></td>
</tr>
<tr>
<td>• To control quality and risk</td>
</tr>
<tr>
<td>• ...and project participants</td>
</tr>
<tr>
<td>• The whole structure builds on the <strong>project’s goal</strong></td>
</tr>
</tbody>
</table>

![The goal triangle diagram](image)
When projects or subprojects are delivered by a subcontractor this has to be controlled through a contract

**Common Contracts**

- **Fixed price**
  - A fixed price is set for the defined scope of the project. The supplier takes all the risk for the delivery, but not for changes.

- **Target price**
  - A fixed price is set for the delivery. If the project comes in under this price the profit is shared between customer and supplier, if it goes over the loss is shared.

- **Time and material**
  - The supplier is paid by the hour regardless of outcome. The customer has all the risk for the delivery.

- **Performance based/ Revenue sharing**
  - The supplier receive compensation based on some metric of success, usually combined with one of the above.
Clear roles and clear responsibilities can reduce confusion and lacking sense of responsibility

**Organization**

- Steering committee
- Reference group
- Project leader
- Functional architect
- Technical architect
- Test leader
- Functional team
- Developers
- Testers
To ensure correct involvement of the stakeholders in a project it is important to understand their role, background and attitude towards the project.

### Stakeholder analysis

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Background</th>
<th>Remarks on position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Hansen</td>
<td>Steering committee leader</td>
<td>Focus on cost</td>
<td>Does not enjoy ICT projects</td>
</tr>
<tr>
<td>Anne Gottschalk</td>
<td>Project leader</td>
<td>Consultant</td>
<td></td>
</tr>
<tr>
<td>Kari Olsen</td>
<td>Project owner, sets the specifications</td>
<td>Implemented the prior solution</td>
<td>Favors the prior system</td>
</tr>
</tbody>
</table>
Based on the involved stakeholders one can create a RACI matrix to define who will be responsible for each action

**Interessentanalyse**

- Responsible
- Accountable
- Consulted
- Informed

<table>
<thead>
<tr>
<th>Task</th>
<th>Steering comitee leader</th>
<th>Project leader</th>
<th>Developer</th>
<th>System responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop application</td>
<td></td>
<td>A</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Status updates</td>
<td>A</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensure capacity on the business side</td>
<td>A, R</td>
<td>I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Go live (production deployment)</td>
<td>C</td>
<td>C</td>
<td>R</td>
<td>A</td>
</tr>
</tbody>
</table>
WBS is a structure where a project is divided into packages

Work Breakdown Structure
In the planning phase you will outline the scope and time effort needed. Then you can establish a project plan and mobilize resources.

**Time estimates and planning**
EVA (Earned Value Analysis) is a common technique to assess progress in the project. (S-curve)

**Monitoring of progress**

![Graph showing EVA (Earned Value Analysis) with EAC (“Estimated At Completion”), Planned earned, Budget, Actual, and Earned markers over time.](image)
EVA consists of a plan, actual work and actual value delivered.

**Time monitoring**

<table>
<thead>
<tr>
<th>Information available when planning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Budget</strong> = Original budget, usually fixed</td>
</tr>
<tr>
<td><strong>Planned earned</strong> = Budget over time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Information reported by each project member</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Actual Work</strong> = Actual time, i.e. number of hours used</td>
</tr>
<tr>
<td><strong>Estimate To Complete (ETC)</strong> = Estimated time to complete task</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators that must be calculated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Estimate At Completion (EAC)</strong> = Actual + ETC (i.e. the estimated total cost)</td>
</tr>
<tr>
<td><strong>Variance (VAR)</strong> = Budget - EAC (i.e. budget variance)</td>
</tr>
<tr>
<td><strong>Earned value</strong> = Budget - ETC (NB: earned is always against budget)</td>
</tr>
</tbody>
</table>
JIRA is a tool to manage all project tasks as well as monitoring of progress

Project monitoring
Risk management is an ongoing project management task to avoid adverse events

**Risk management**

<table>
<thead>
<tr>
<th>Nr.</th>
<th>Risk</th>
<th>Consequence</th>
<th>Measure</th>
<th>Responsible</th>
<th>Deadline</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Uklare krav</td>
<td>Løsningen blir ikke godkjent i test</td>
<td>Møter med kunden annenhver dag for å avklare krav</td>
<td>Projectleder</td>
<td>1. august</td>
<td>Aktiv</td>
</tr>
<tr>
<td>2</td>
<td>Nedetid på testmiljø</td>
<td>Forsinket leveranse</td>
<td>Oppgraderer testserveren</td>
<td>Projectleder</td>
<td>10. august</td>
<td>Aktiv</td>
</tr>
</tbody>
</table>
**Status project June 2013**

**Reporting of status**

**Overall status**

- Development av iterasjon 2 done with demo
- Startup of test delayed due to downtime in test environment
- Two user stories delayed to next iteration due to unclear specification.

**Focus for the steering comitee**

<table>
<thead>
<tr>
<th></th>
<th>Identify who is part of the team, deadline 1. August</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**Status deliverables/activities**

<table>
<thead>
<tr>
<th>Status</th>
<th>Deliverable/Activity</th>
<th>Planned deadline</th>
<th>Revised deadline</th>
<th>Actual</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kick-off</td>
<td></td>
<td>5. april</td>
<td></td>
<td>5. april</td>
<td></td>
</tr>
<tr>
<td>Iterasjon 0 done</td>
<td></td>
<td>25. april</td>
<td></td>
<td>25. april</td>
<td></td>
</tr>
<tr>
<td>Iterasjon 1 done</td>
<td></td>
<td>15. mai</td>
<td></td>
<td>15. mai</td>
<td></td>
</tr>
<tr>
<td>Iterasjon 2 done</td>
<td></td>
<td>7. juni</td>
<td></td>
<td>7. juni</td>
<td></td>
</tr>
<tr>
<td>Iterasjon 3 done</td>
<td></td>
<td>12. august</td>
<td>20. august</td>
<td></td>
<td>Brukerhistorier flyttet fra forrige iterasjon</td>
</tr>
<tr>
<td>System-/akseptanetest done</td>
<td></td>
<td>6. september</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pilot done</td>
<td></td>
<td>1. oktober</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Reporting of status

**Project leder:** Anne Haaland Gottschalk

### Deliverables and activities this month

- Development av iterasjon 2 completed except for two user stories
  - User can log into the solution
  - User can add an image to their profile
  - User can add a name on their profile
  - Underlying service to extract address from gulesider.no
- Demonstration done 7. June for three representatives of the customer where the user interface was discussed.

### Deliverables and activities next month

- Complete Development iterasjon 3
- Create test cases for user stories created in iteration 2
- Plan test execution
- Begin technical documentation
- Hold a meeting with the customer to clarify the requirements for the two user stories

### Deviation and issues

<table>
<thead>
<tr>
<th>Risk</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downtime in test environment</td>
<td>Upgrade server</td>
</tr>
<tr>
<td>Unclear requirements</td>
<td>Hold meeting with customer</td>
</tr>
<tr>
<td>Unexpected absense</td>
<td>Continuous update of vacationplan</td>
</tr>
</tbody>
</table>

### Risk

- Two user stories moved from iteration 2 till 3 since the requirements for these were unclear.
- End date of iterasjon 3 moved to 20. august
S-curves display that the project is going according to plan and on budget

Reporting of status
Deviation from plan should be managed in a controlled change management process with formal change requests.

**Change management**

1. **Identification and description of change**
2. **Impact analysis**
3. **Prioritization by change counsel**
4. **Approved / Not approved**
There is several system development methods

**System development methods**

- Waterfall
- RUP
- Scrum
- XP
- ScrumBut
- Scrum-ban
- Kanban

**Agile**
Scrum is the most widely used system development method today

**System development methods**

**Process**
- Complex issues are divided into packages
- Incremental iterations
- 24h
- 30 days
- Reduced risk
- Improved quality

**Concepts**
- Product Backlog
- Planning
- Sprint Backlog
- Sprint
- Burn Down Chart
- Scrum-board
- Daily Standups
- Demo
- Retrospection

**Roles**
- Scrum Master
- Produktueier
- Scrum Team
When ending a project it is import to evaluate the project members and the project

**Project ending**

1-1 talks with each project member
- Positive feedback
- Improvement areas

«Lessons learned»-meeting:
- Who: Project leader, team and key persons
- When: After the project ending
- What:
  - What was good in the project?
  - What was not that good?
  - What would you do different if you could start over?
  - Recommendations to similar projects
  - Focus on actions, not persons
Exercise
It is important to understand the customer to avoid costly changes

Exercise

Customer in a bank:

«I need a system to follow up customer that does not pay their mortgage»
Exercise

Purpose

The bank lack the control over customers that default their mortgages, thus they experience losses. They want to improve the quality of their processing by implementing a tool for documentation and follow-up. The pre study will assess and map out the needs for such a solution, as well as provide a recommendation regarding technical solution and project plan and estimates for the major implementation project.

Organization

- Anne (Project leader)
- Brage (Functional architect)
- Henrik (Technical architect)
- Caroline (Bank employee default unit)
- Ola (Credit manager)
Plan

Exercise

Preliminary study

As is situation

To be situation

Recommendation

1. september
15. september
1. oktober
15. oktober
## Exercise

<table>
<thead>
<tr>
<th>Nr.</th>
<th>Risiko</th>
<th>Konsekvens</th>
<th>Tiltak</th>
<th>Ansvarlig</th>
<th>Frist</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Datagrunnlaget er for dårlig</td>
<td>Skissent løsning lar seg ikke implementere</td>
<td>Gjøre en stikkprøve på et datasett for å analyse datakvaliteten</td>
<td>Teknisk arkitekt</td>
<td>15.oktober</td>
<td>Aktiv</td>
</tr>
<tr>
<td>2</td>
<td>Sentrale forretningsressurser har ikke tid til å delta på workshops</td>
<td>Viktige krav glipper</td>
<td>Planlegge datoer for workshops tidlig</td>
<td>Projectleder</td>
<td>3. september</td>
<td>Aktiv</td>
</tr>
</tbody>
</table>
Project plan: Implementation

**Exercise**

**Purpose**

Implement the recommended solution from the pre study

**Organization**

- Anne (Project leader)
- Brage (Functional architect)
- Henrik (Technical architect)
- Petter (Developer)
- Siri (Developer)
- Elisabeth (Test manager and tester)
- Ola (Credit manager)
Plan

**Exercise**

Implementation Project

- **Sprint 1**
  - 15. oktober
  - Demo 1
  - Test and fix sprint 1

- **Sprint 2**
  - 1. november
  - Demo 2
  - Test and fix sprint 2

- **Sprint 3**
  - 15. november
  - Demo 3
  - Test and fix sprint 2

- **Test**
  - 30. november
  - Test and fix sprint 1
  - 15. december
Was this OK and did we cover your expectations?
Thanks!

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