

# DIGHEL4360: What is an IT project?

25/10-23

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# This module

- The goal for this module is that you get familiar with central concepts related to: the processes of designing, developing, implementing and sustaining IT systems.
- These topics are relevant as they represent obstacles/pain points for digitalization.

# Themes

Week 1 - 25/10	<b>What is an IT project?</b>	
Week 2 - 1/11	<b>Software engineering</b>	<b>Guest lecturer:</b> Johanne Thunes, PhD candidate in the Information Systems Research group
Week 3 - 8/11	<b>Sociotechnical approaches to IT design and digitalization</b>	
Week 4 - 15/11		<b>Guest:</b> Hanna Kongshem, Service Designer, Itera <b>Guest:</b> Sigvart Bretteville-Jensen, UX Designer, BEKK Consulting

**Lectures:** Introduction to some key concepts, methods, issues, strategies + guests from the “real world”

**Seminar groups:** Discuss questions tied to each topic

**Mandatory assignment:** A fictional case where you advice based on learnings from this module

# Today

- Define and get familiar with what an “IT project” is
- Typical roles in IT projects
- Go through some examples of typical types of IT projects
- Some interesting challenges with organizing IT projects

**What is an IT project?**

# Task

What comes to mind when you hear the word “IT project”?

Write some quick bullet points

# What is a project?

A “project” is by definition temporary.

- An arrangement put together to achieve a particular aim or goal.
- A project is a temporary organization with dedicated resources (such as budget, team, mandate, management, scope, and goals).
- The task of organizing projects (project management) depends on the aim and the resources available.
- Projects differ from operations - they are not business as usual.
- Projects are used for a variety of different purposes across all domains, and is a normal way of organizing activities that leads to change.



**A clear start and end date**



**A project has boundaries**



**A project creates something new**



**A project is not business as usual**

# Organizing projects

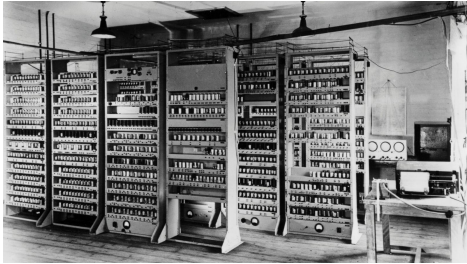
Organizing projects typically involves some generic components:

- Based on a need → we want to achieve something
- Deciding on a goal → what do you want to achieve?
- Choice of method(s) → how do we achieve the goals?
- Choice of measurements → how will we know if we have reached the goal?
- Setting a start and end date for the project
- Deciding on the necessary resources → what do we need to conduct the project? (financial, human, and other resources)
- Identifying stakeholders → who are they?

The answers to these questions depend on the aims and goals we want to achieve



# The evolution of the role of IT in organizations



1945



1984



Today

# Typical roles in IT projects

From only needing extremely specialized mathematicians/engineers, to:

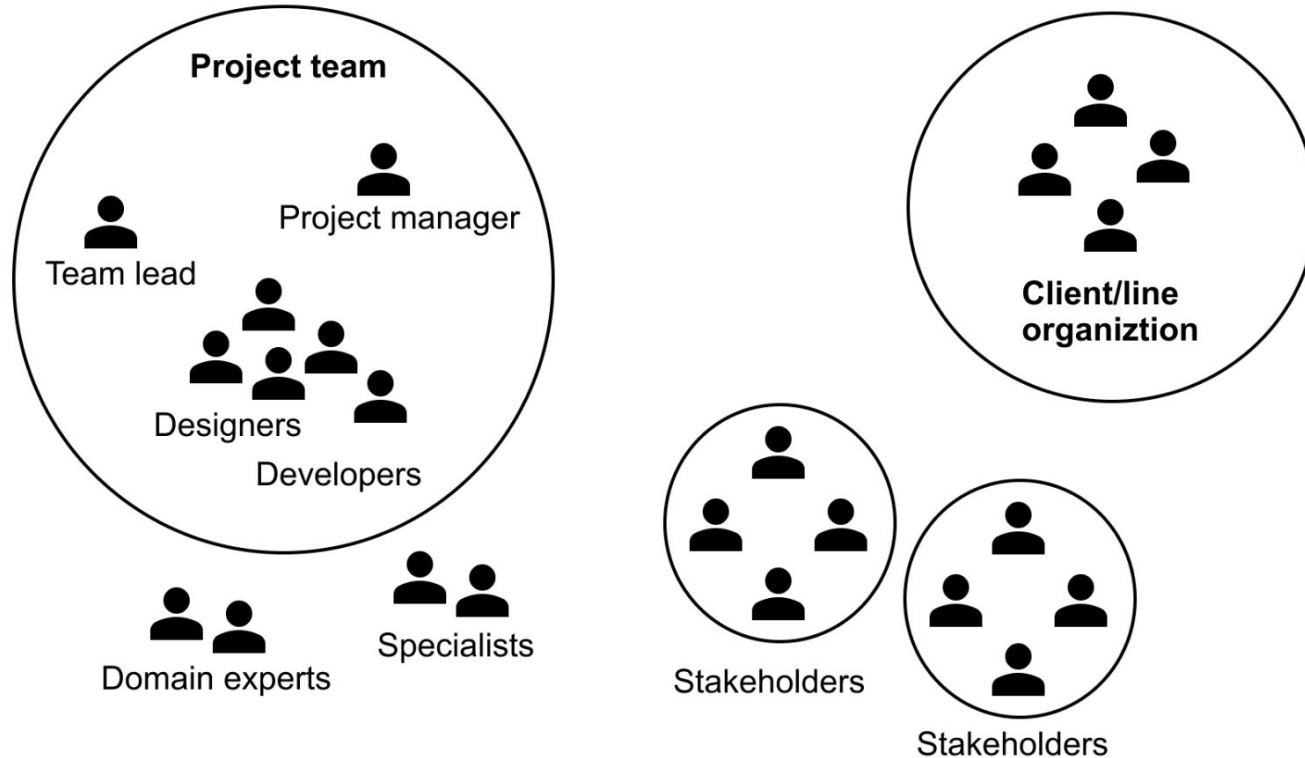
Project managers

- “Product owner” (key stakeholder)
- “Stakeholders”
  - top-level managers
  - end-users
  - secondary/tertiary users such as patients
  - other organizations ++
- Domain experts (lawyers, doctors, etc)
- System designers, architects, systems analysts
- Team leads
- Developers: “back-end”, “front-end”, and other specialities
- UX / Interaction / Service designers
- Testers
- Server experts
- Security experts

The role of IT in organizations has moved beyond serving as digitized administrative assets, to being intertwined with corporate strategy building and value creation.

Therefore, we now need a variety of competences to design and implement IT.

# Typical roles in IT projects



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# Task

What roles and activities could you imagine yourself being part of in the future?

Write some quick bullet points

# **Typical types of IT projects**

# Typical types of IT projects

## *Product*

- IT product development projects

## *Organizational (our main focus)*

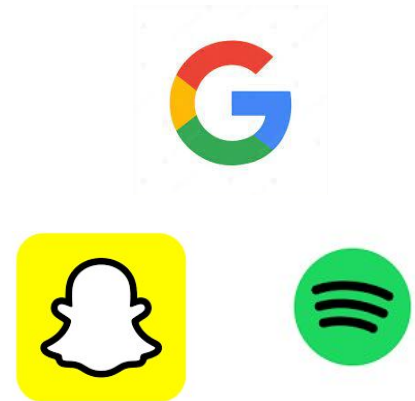
- IT implementation projects
- IT development projects
- Digitalization projects

We separate these types of projects to discuss how their contrasting aims and objectives require different processes and structures/management.

# *Product:* IT product development projects

Software sold as products is a big industry.

- Consumer software (e.g. Snapchat, Spotify, Google, etc.)
- Aims and objectives: make “sellable” products (a consumable/usable piece of software) that targets and meets specific consumer needs.





# *Product:* IT product development projects

Software sold as products is a big industry.

- Enterprise software platforms (e.g. Dips, SAP, Salesforce, DHIS2)
- Aims and objectives: develop and sell solutions with “best practice”/generic business processes that can be used across organizational boundaries and meet a diverse set of needs.
- Facilitate innovation and contextualized fit by third party actors



## *Organizational:* **IT implementation projects**

- Procuring an “enterprise software product” and implementing it into an organization - e.g. domain specific software from Epic or Dips
- Involves vast amounts of configuration work, and possibly customization (building custom apps or changing the source code of the software to fit specific needs)

**Epic**

+ Trøndelag

# *Organizational:* **IT development projects**

- Building software “from scratch” within organizations
  - With in-house capacity or with consultants

“Buy vs. build” - a big question for organizations

- Build: more upfront investment, but long-term benefits?
- Buy: less expensive short-term, but may not offer the same flexibility? More predictability?

## *Organizational:* “**Heavyweight**” vs. “**lightweight**” IT

- Heavyweight projects: e.g. large systems for integrating data across organizations (ERP, EMR systems)
- Lightweight: e.g. smaller IT-driven process improvement projects
  
- In an organization, both/several projects can occur simultaneously

# *Organizational:* **Digitalization projects**

Can be described as projects that aim to improve organizations by leveraging the opportunities offered by digital technologies.

- More than IT: Projects characterized by being organizationally-oriented
- Guided by organizational objectives, seeking to improve the organizations in ways made possible by IT
- Require “sociotechnical design” (more on this in the third lecture)

Public sector is a typical example where these projects occur.

- About provision of services that give citizens access to their democratic rights
- Often entails laws, regulations, diverse interests, “wicked problems”, etc.

# Summary

- The different types of projects have very different aims and objectives
- Need to be managed differently
- Need different processes

Some projects are aimed to support/strengthen existing value creation in an organization -

- Increased efficiency, quality, automation, higher sales numbers, etc.

And some are aimed at/or results in changing the value creation

- New services, products, strategies, processes, (digitalization)

**Some interesting challenges**

# Slik skal politiets «IKT-lokomotiv» komme tilbake på sporet

Til tross for at over 200 millioner kroner har blitt brukt til forberedelser, forkastes programmet som skulle gi politiet et sårt tiltrengt IKT-løft. – Pengene har ikke blitt kastet ut av vinduet, sier Politidirektoratets IKT-direktør Cato Rindal.

## Derfor gikk på NAV på en IT-smell i milliardklassen

**– Veldig bekymringsfullt at IT-skandaler skjer gang etter gang**

Nav-sjefen fikk sparken for IT-rotet

**– Alt Nav har gjort har vært fiasko**

Milliardene de skal bruke på konsulenter er et endeløst rop om hjelp, mener IKT-Norge.



# Task

Why do you think there are so many IT projects deemed as failures?

Write some quick bullet points

Existing processes,  
organizational structures,  
laws, regulations, etc.

Client/line organization

A diverse set of  
stakeholders

Upfront planning  
(requirements, goals  
budget, schedule,  
resources,  
mandates)



Evaluation based  
on the upfront  
planning (time,  
scope, budget)

*process*

- 
- Methods/methodology
  - Design activities
  - Open ended exploration

# Challenges: Organizing IT projects

Contrasting logic between conventional projects vs. IT projects

## **Intertwined, but separate, tensions of organizing IT projects:**

Procurement = Traditional project management often include upfront planning in the form of comprehensive requirement specifications. In innovation, the outcome is unknown and project must allow for open-ended exploration.

Mandates = Traditional project management in client organizations often treat “IT as IT”, meaning that IT is something that is ordered, built, and delivered. Innovation and digitalization involves organizational design and change, and often cuts across the organizing logic of an organization.

Budgets = Available financial resources are important to secure predictability for clients. However, open-ended iterative exploration in projects are difficult to plan for.

Evaluation = Evaluation is tightly connected to the initial goals of a project (time, budget, requirements). However, innovation and digitalization calls for more qualitative evaluation measures

Tight project control = balancing control and flexibility in projects. The fallacy of tightening control when facing unpredictability.

The nature of open-ended exploration = might impact all of the above!

# Summary

Projects are a normal way of organizing the design, development, and maintenance of IT systems.

There are many diverse roles involved in the design, development, and maintenance of IT systems.

Projects differ: they have different goals and objectives that require different kinds of processes, management, and organizing.

The logic of “conventional” project management and IT project management can result in tensions/challenges.

# Next week

## Seminar

- Discussing questions related to IT projects

## Lecture

- Software engineering
  - With Johanne Thunes from the Information Systems Research Group