INF5890 IT and Management

Introduction
16th January 2017

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About the course

- Practicalities

  - Course overview (format, important dates etc)

  - About the project

- Course content

  - "IT and management" at what level?

  - Sociotechnical complexity

    - How readings (book + articles) and activities (lectures, seminars and project work) contribute to understanding complexity

Course Overview

	Lectures	Reading	Seminars	Project Deliverables
16.01	Introduction	-		
23.01	IT governance in organizations (BB)		(Starting 24.1)	
30.01	About course project (MG)			
06.02	(No lecture)		Discuss: Readings Project Work	
13.02	Project management I (BB)	As per reading list		
20.02	Project management II (BB)			
27.02	Project management III (XV)			**7.03**
06.03	IT strategy and Enterprise Architecture (BB)		Present: Group Project Deliverables	
13.03	Service-Oriented Architectures (BB)	*(matching literature to lectures to be found in website next week)*		**28.03**
20.03	IT sourcing (TT)			
27.03	Governance and lightweight IT (BB)			
03.04	Governance of platforms and ecosystems (MA)		*Coordinated by Mikael + Mwiza*	
24.04	Theoretical perspectives on ecoosystems governance (MA)			**25.04**
08.05	Critical perspectives + wrap-up (MA)			

What is the course about?

- **Course content**
- The course offers an overview over central managerial challenges related to development, implementation and management of IT solutions in current organizations. A general introduction to theories on organization and management is given, with a specific focus on socio-technical complexity. Both strategic and operational aspects of management are covered.

- **Learning outcome**
- Through the course you will gain knowledge on these topics:
  - IT governance – approaches, models and frameworks
  - IT strategy and how to organize the IT department
  - Project management
  - Vendor relations, contracts and purchases
  - Sourcing
  - Life cycle management and total cost of ownership
  - Enterprise Architectures
  - Management of complex systems and infrastructures
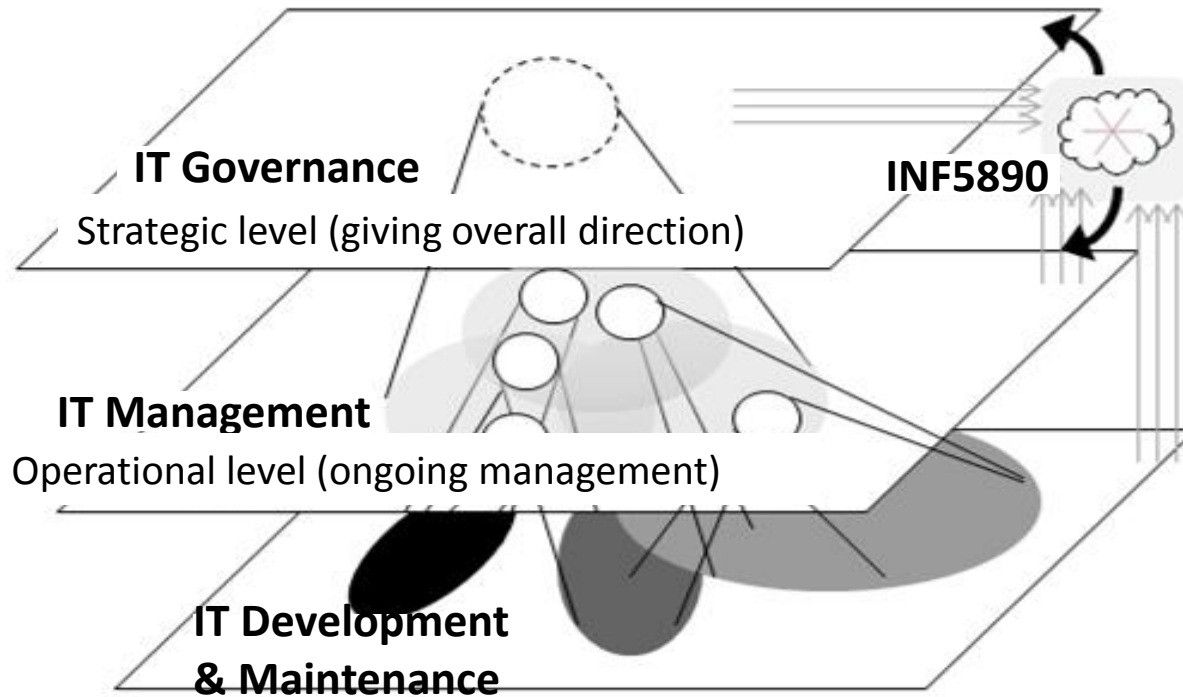
Updated course description:

- **Course content**
  - The course offers an overview over central managerial challenges related to development, implementation and management of IT solutions in current organizations, covering both strategic, operational and organizational aspects. Approaches, models and frameworks related to IT governance are presented, with a specific focus given to the challenges posed by socio-technical complexity of large-scale and interconnected IT solutions.

- **Learning outcome**
  - Through the course you will gain knowledge on these topics:
    - IT governance – approaches, models and frameworks
    - Project management
    - Enterprise Architectures
  - You will acquire skills on how to:
    - Plan, organize, follow up and report a project
    - Collect and analyze organizational data
    - Document the IT governance model of an organization
  - You will acquire competence on how to:
    - Present a high-level enterprise architecture of the organisation
    - Assess the relationship between the governance model and the enterprise architecture
    - Reflect critically on governance models and approaches

INF5890 in a nutshell

IT Governance
Strategic level (giving overall direction)

INF5890

IT Management
Operational level (ongoing management)

**IT Development
& Maintenance**

Projects

- Mandatory participation
- Have to be completed to take exam - not graded
- Each project group has 4-5 participants
- Project groups find cases

- Staged approach for deliverables
  - Two group deliverables
  - One individual deliverable

- Groups need to be formed and cases selected by Feb 7th
- More on Monday 30th and Tuesday 31st of January

Projects' Overall Description

- Study the "as-is" situation related to IT management/governance in one selected organization
  - Map
  - Analyse (using concepts and frameworks taught in the course)
  - Recommend
  - Compare and contrast across cases

- At least two interviews (during a month's time) and secondary sources (organization's documentation or from public sources)

- Deliverables
  - To be presented and discussed in seminars

- Detailed guidelines for project work to be found in the web page

Examples from previous projects:

- Small consulting company (energy sector)
- Government-owned regulatory entity (transport)
- Global company (logistics for multiple sectors)
- IT function in University
- Independent research institute
- Private intl. company (HQ Norway) (data collection)
- Norwegian family business (est. 1649)

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13.03	Service-Oriented Architectures (BB)			28.03
20.03	Outsourcing and cloud services (TBA)			
27.03	Governance and lightweight IT (BB)		*Coordinated by Mikael + Mwiza*	
03.04	Governance of platforms and ecosystems (MA)			
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Some topics

- IT governance in organizations - models and frameworks
- Project Management (1)
- Project Management (2)
- IT strategy and Enterprise Architecture
- Service Oriented Architecture
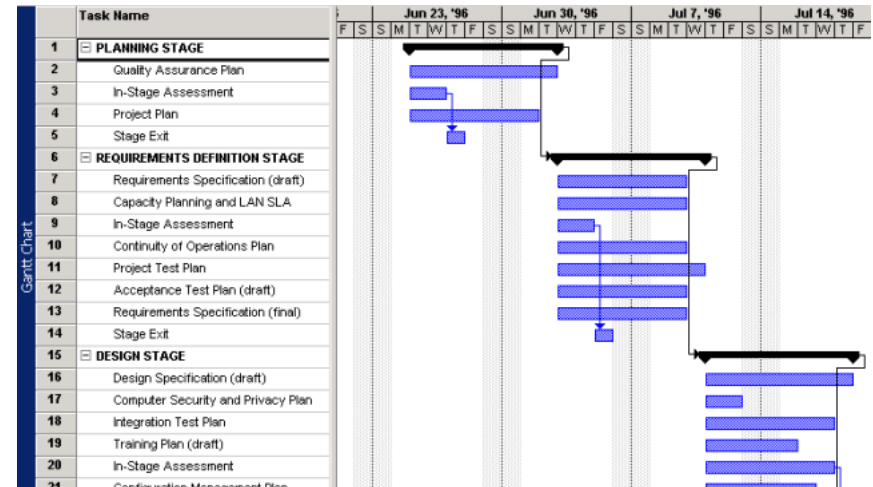- Governance of lightweight IT

IT governance in organizations - models and frameworks

- Governance and management
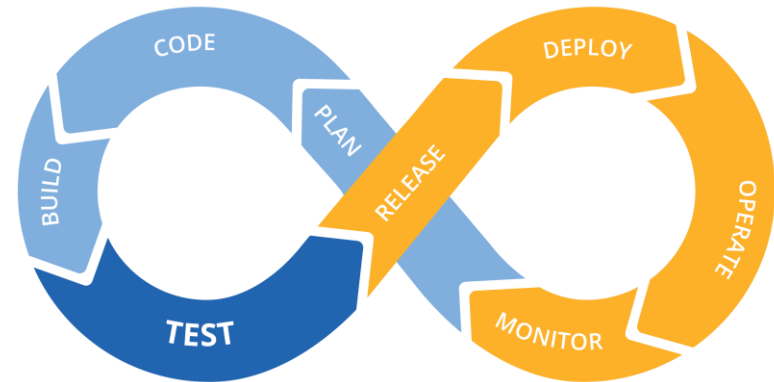- Governing digitalisation processes
- Learn to use a framework

Bygstad 2017
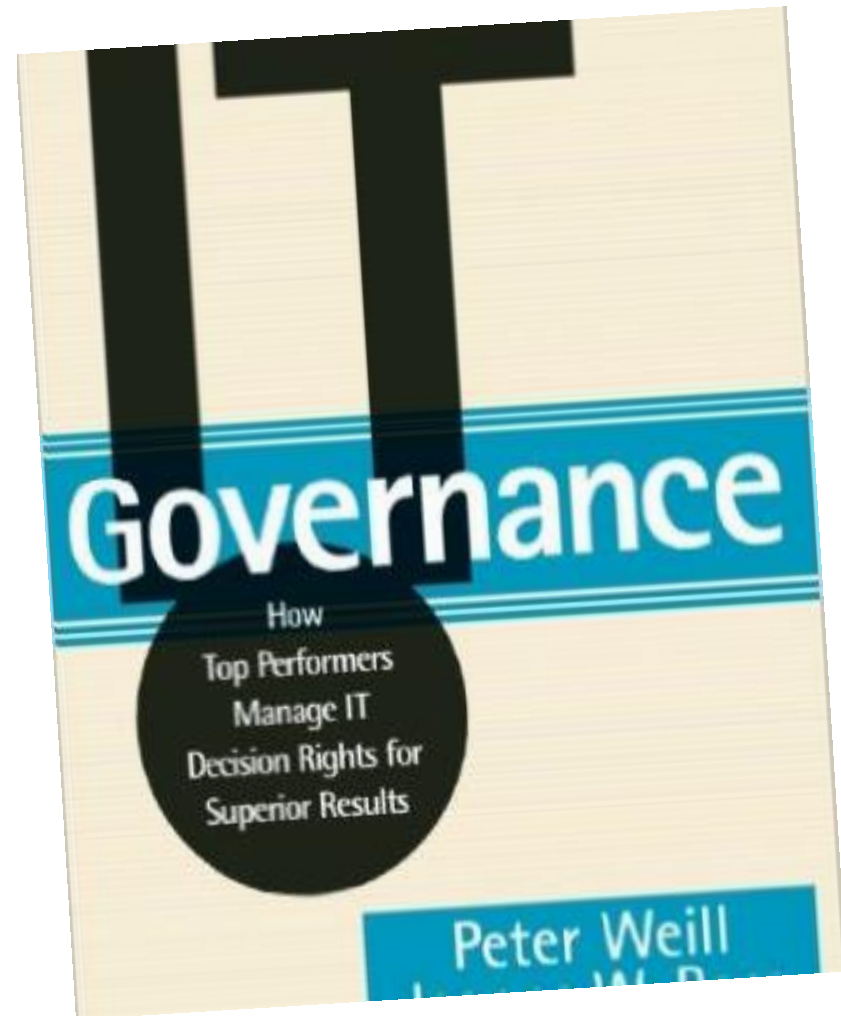
Project Management (1)

- Project Management Institute, Body of Knowledge
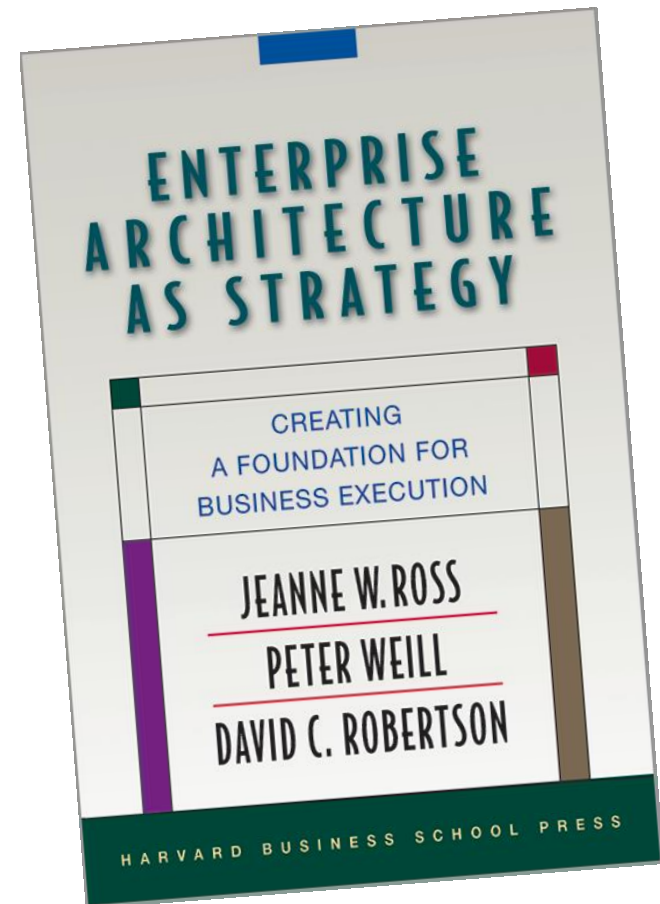- Plan, organise and follow-up a project
- Learn MS Project

Project Management (2)

- Alternative approaches to traditional project management
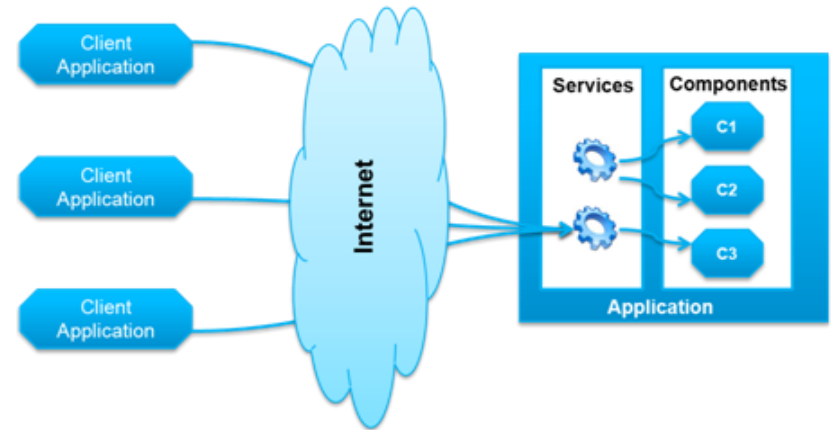- Agile projects
- DevOps

IT Strategy and Enterprise Architecture

- From IT strategy to Digital Business Strategy
- Enterprise Architecture as Strategy

Service Oriented Architecture

- A SOA success case
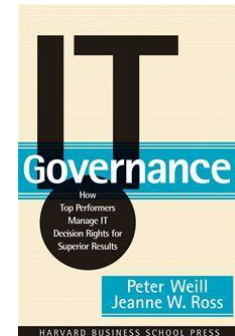- The challenge of SOA

Managing Lightweight IT

- Heavyweight and Lightweight IT
- Bimodal IT

Reading Material

- Book:
  - not textbook, written for a professional audience, less structured - more narrative
 - easy to read, include a lot of practical examples

- Papers and manuscripts:
  - written for a scientific audience, presuppose some background knowledge of the topics, to read after the relevant lectures
  - contain useful references

- Lecture presentations will be available in the web page **after** each lecture

Simple models of complex phenomena

- *"all models are wrong, but some are useful"*
  (George Box, 1978)

- A model with all the complexity of the original does not help us understand the original.

- The whole purpose of a model is to eliminate details that are not essential to the problem at hand.

- So, purposeful simplifications! What to foreground and what to send to background…

Model types

- SenseMaking vs Predictive vs Normative models

– SenseMaking Models help us:
- Focus attention - filter incoming information
- Sort out which further information to collect
- Communicate
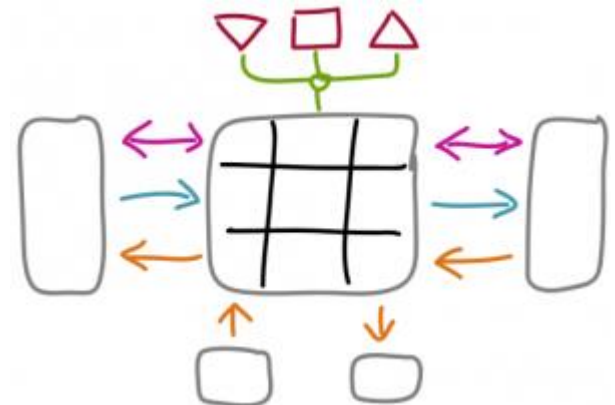
A Matrixed Approach to IT Governance

A matrix that juxtaposes five IT decision domains against different decision taking modes

Decision on what

Decision by whom

	IT Principles	IT Architecture	IT Infrastructure	Business App Needs	IT Investment
	Decision	Decision	Decision	Decision	Decision
Business Monarchy	Profit Growth	Profit	Profit	Profit	Profit Growth
IT Monarchy			Profit		
Feudal					Growth
Federal				Profit	
Duopoly	ROA	ROA	ROA	ROA	ROA
Anarchy					

Most common pattern for all firms
Profit, ROA, Growth = Firms with significantly higher or increasing average three-year industry adjusted profits, ROA or growth

P. Weill and J. Ross, "IT Governance: How Top Performers Manage IT Decision Rights for Superior Results" (Boston: Harvard Business School Press, 2004).
Or: http://sloanreview.mit.edu/article/a-matrixed-approach-to-designing-it-governance/

Beyond the book…

- Some technological trends not covered by Weill and Ross:
    - Cloud computing, virtualization
    - Loose application integration (e.g. web services)
    - Process tools (advanced BPM, BPEL)
    - Platforms/ecosystems
    - Open source sw/commons-based peer production
    - Automation of work
    - Social media

- -> Complexity as explicit theme

Development, implementation & management of IT in current organizations is complex
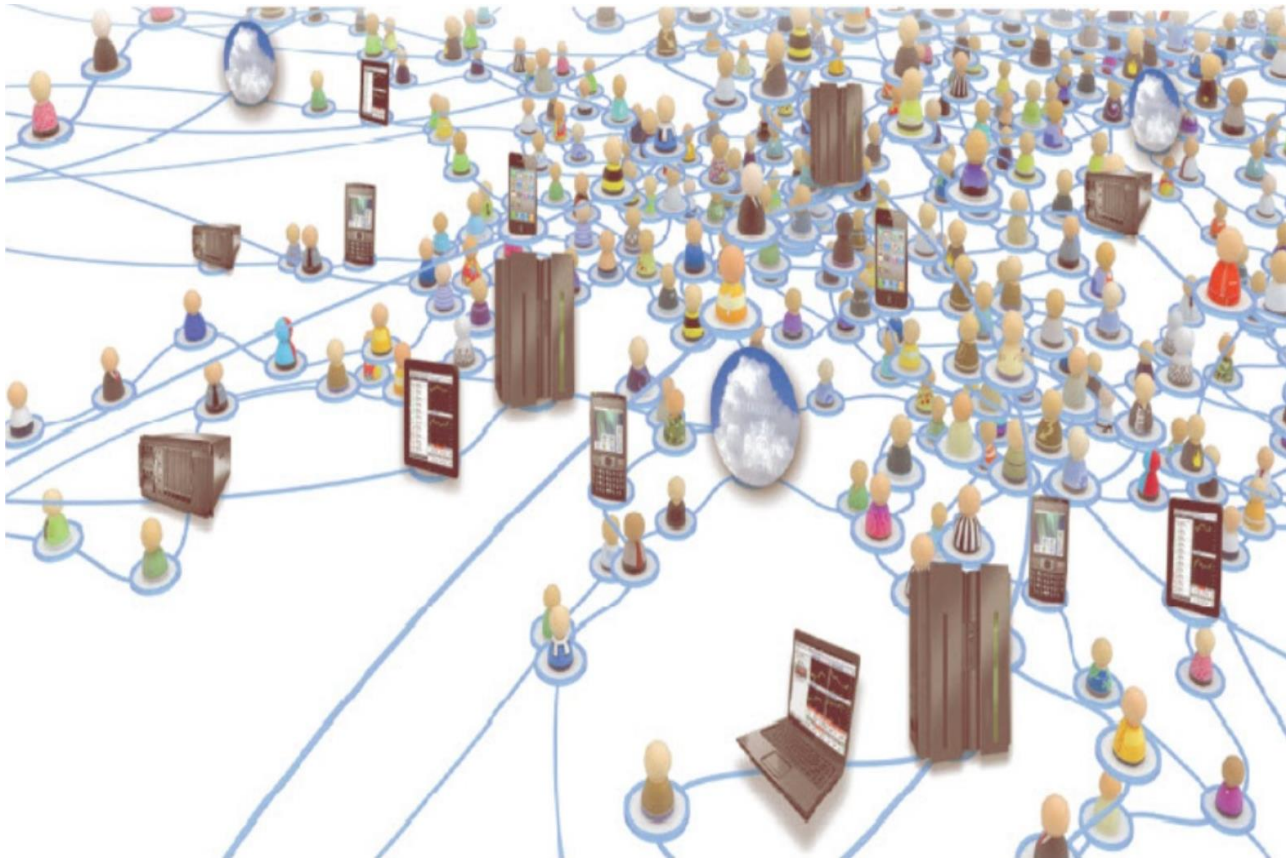
- Great number of components (technological and organisational)

- Great heterogeneity among components

- Great number of connections (formal and informal, managed and unmanaged)

- Great heterogeneity of connections (tight/loose)

- Great speed of change

Summing up

- Models and framework are always partial views of complex phenomena
- Book + other readings focus on particular aspects of management and IT
- Course project: how it looks in practice