MOT122a Digital Business process management (DBPM)

Goals

The overall aim of the course is to learn how to improve the relationship between business processes, strategy and technology for realizing organizational strategies. The focus is on realizing business processes enabled by new technology for high tech organizations. In particular the objectives are

- To analyze the relationship between business processes, strategy and technology
- to understand new technologies and their impact on business process management
- to have knowledge of methods and tools for improving business processes
- to analyse and provide improvement suggestions for business processes
- to design a technology architecture for supporting business processes
- to report about the process, technology, strategy and methods and tools for improvement

By the end of the course, you should be able to improve business processes using technology to realize organizational strategies.

Learning Objectives:

1. Discuss the alignment between business strategy, priorities and processes, based on the value perspective.
2. Model business processes using BPMN.
3. List new technologies that are appropriate to improve business processes in terms of their organizational strategy.
4. Apply improvement methodologies to defined digital business processes.
5. Formulate new business processes using technology solutions.

Description

Business processes are at the core of the organization and consist of a number of value adding activities. In the digital age business processes are supported by, enabled through and changed by technology. Business processes are situated at the point where the business meets IT and where technology and customer needs are aligned. If they fail or do not adopt to customers the whole business might fail. Business Process Management (BPM) is necessary for ensuring that processes are operating in concert and that these processes are adaptable to changes in the overall environment of the firm.

In this course the relationship between strategy, technology and business processes will be illustrated, explained and discussed. Methods and tools for business process analysis and improvement will be presented, including a number of statistical methods. New solutions will be architected for technology organizations. The extent to which the nature of business processes is affected by contemporary technology constitutes the core of this course. In particular to analyze technologies and their impact on business process management and to architect new solutions in the organizational context of the firm.

Topics

- Aligning strategy and processes, value perspective, supply chains
- Workflow, resources, BPMN elements and control
- Business process modeling (concepts, BPMN) + *practical work*
- Diagnosis if the current challenges/problems, root-cause analysis (RCA)
- Process measurement, Balanced Score Card, Activity-based Costing (ABC) + *practical work*
- Business process improvement strategies and approaches, path dependencies, capabilities, resource-based view, business process maturity
- Improvement methodologies (LSS, lean, six sigma, theory of constraints, ..)
- Statistical analyses and improvement + *practical work*
- Simulation for business process improvement
- Compliance by design, build-in-controls in processes and technology
- Business process automation and technology (BPM, ERP, workflow, SOA,..)
- Decision Model and Notation (DMN)
- Business processes automation (case-based, process -based, use-based)
- Agility and adaptability of BPM systems and the users, business process and agile enterprises
- Business and knowledge rules

Selecting a business process

Students are free to select a business processes of a high tech company. The business process does not have to be digital, but should have the potential to get digitalized. For all business processes there is a beginning and an end. The business processes might be within an organization, but also cross-organizations. The chosen process should be sufficient critical and complex, and have improvement potential.

- Is the business process critical? When it halts, how long can you afford this? In hours, days or weeks? What would be the loss in terms of opportunity costs?
- Is the complexity sufficiently high? Does the process consists of many tasks and many actors?
- What is the improvement potential? Has the business process much risks and disturbances which affect the customer? How is technology used? Will the business process affected by technology?

Grading

Students will collaborate in groups to make an assignment which should contain the analyses and improvement of a business process and the design technical architecture. The assignment consists of the following parts:

1. *Analysis*: Students select a company, analyse their strategy and select a critical business process. The existing process should be modelled and the resulting product, stakeholders role, customer needs and technology used should be analysed.

2. *Improvement*: Based on the improvement methods and instruments a proposal for improvements should be made.
3. *Realization*: The proposed business process should be realized using a technology architecture.
4. *Individual reflection*: Each student should describe him/her contribution to the report and reflect on the learning (max 1 page).

Students are expected to prepare a presentation and some of the groups will present these during the lectures. General feedback will be given to improve the quality. Also each group should review and provide feedback to another group based on a list of criteria.

All presentation should be handed in and passed. Grading will be based on the final report.

Presentations should be handed before noon (12:00) at the day before the presentation takes place

Report

The report of the assignment has a maximum of 20 pages (excluding references list and appendixes) and written in plain English. The report should be named "group X" and the student names and identity number should be on the front page.

The report should consist of three main parts; 1) analysis, 2) improvement, 3) realization. The report should contain a title page, management summary, table of contents, references list and if appropriate appendixes. Business process models of the current (in BPMN) and models of alternative situations should be included.

Please note that all assignments will be scanned on plagiarism and any violation will be reported. Ensure that you are aware of the rules of how to cite:

https://www.tudelft.nl/en/student/legal-position/fraud-plagiarism/

Individual reflection

Apart from the group report, every students should hand in an individual reflection (max 1 page). This can be part of the report, but you can also upload them as separate files to the report. The individual reflection should contain your role in the group work, the contribution to the report and what you have learned from the course.