Stevens Institute of Technology
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Syllabus
MIS 710 – Process Innovation and Management

Semester	Day of Week/Time
Summer 2010	WebCampus 24/7
Dr. Michael zur Muehlen	Office Hours:
Stevens Institute of Technology	By appointment
Howe School of Technology Management	
Babbio 639	Class Websites:
	http://howe.stevens.edu/BPM
	http://elearn.stevens.edu
	http://itunes.stevens.edu

Overview

The focus of this course is on business transformation and the role of information technology (IT) as both an enabler and a driver of change.

Many significant organizational changes in recent years have been based on the incorporation and integration of IT throughout various levels of the organization. This has led to new forms of work, transformed customer/supplier relations, and communications, All of these phenomena have had a significant effect on an organization's effectiveness. This course examines these issues primarily from a process perspective.

The course first considers processes at a strategic, organizational level. This is followed by topics involving the logical design of processes. Next, we discuss the link between process design and implementation. Finally, we discuss informating processes, knowledge management and change management.

Context

Business Process Management (BPM) is the set of concepts, methods and tools surrounding the definition, implementation, measurement and improvement of lateral processes in organizations. BPM emerged as a combination of mature organizational transformation concepts (Business Process Reengineering, Six Sigma, Total Quality Management) and process-supporting technologies such as workflow management, process analysis and automation suites, and service-enabled systems. The use of Business Process Automation technology promises significant efficiency gains for organizations through the automated coordination of activities, allocation of tasks to process participants and the integration of applications. The demand for BPM is further stimulated by opportunities related to ongoing process performance improvement, process outsourcing/off-shoring and the interest in process standards such as ITIL and SCOR. Not surprisingly, global analysts such as the Gartner

Group have identified Business Process Management as the number one priority of CIOs for a number of years.

This course is part of the four-course concentration in Business Process Management & Service Innovation as part of the MSIS program. MIS 710 focuses on the translation of organizational strategy to process designs, this course outlines implementation and execution details, introduces students to supporting technology, and provides an in-depth treatment of change-management issues related to BPM projects.

Introduction to Course

This course leads students through the strategic and tactical phases of the Business Process Management lifecycle, which consists of the stages *goal setting, process design, process implementation, process enactment and measurement,* and *process evaluation.* MIS 710 focuses on the goal setting and design phases (including as-is modeling and to-be modeling), whereas its sister course MIS 712 covers the implementation of these process models, the management of their execution, and related analytics operations.

Each of the phases is described in detail to encompass the principal activities, methods, tools and techniques applied in the respective phase. Students will learn to identify appropriate supporting technologies for the different phases of the life cycle, assess the role of standards, and gauge the organizational impact of process change management activities.

The modules – and the areas of focus for the course - are:
- Module 1: Organizational Efficiency and Effectiveness, Strategy Choice
- Module 2: Reengineering the Enterprise
- Module 3: Process Analysis and Design
- Module 4: Simulating Processes
- Module 5: Business Process Management Maturity

Relationship of Course to Rest of Curriculum

The BPM & Service Innovation curriculum expands and enhances the current offerings of the Howe School by focusing on a change management area that is predominantly populated by Information Systems professionals. It builds on the analysis techniques covered in MIS 620 – Analysis and Design of Information Systems with a process-centric viewpoint. MIS 710 addresses Business Process Management from a strategic perspective (how to translate organizational strategy into process design), MIS 712 addresses operational BPM topics (which technology is suitable for process support, how can processes be refined for implementation, implemented, and optimized).
Following MIS 710 and 712, students in this concentration take SME 720 Service Innovation, followed by an elective.

As an elective in the BPM & SI concentration students can choose from:
- MIS 690 to apply BPM in a supply chain management context
- MIS 730 to study information technology integration.
- MIS 800 to report on a research or real world BPM project via a thesis option

The course leverages the existing research program around BPM in the Howe School and uses partnerships with academics and industry to incorporate new research findings and technology into the curriculum.

Learning Goals

After taking this course:

1. Describe the role of processes in organizations and the relationship of process design to organizational design
2. Derive the requirements for a business process reengineering project
3. Analyze business processes and redesign them using industry best practices
4. Specify a new design for implementation in a workflow management system
5. Describe how processes must be adapted and controlled to meet legislative requirements such as the Sarbanes-Oxley Act.
6. Synthesize an implementation plan that explicitly considers the human dimensions of change management

Pedagogy

- Online Lecture (Video and/or Audio Podcasts), reinforced through quizzes
- Case Studies
- Hands-on student exercises
- Student individual and team presentations
- Readings from texts and selected relevant articles and publications

Required Text

- Rummler, Geary A. and Alan P, Brache. Improving Performance: How to Manage the White Space on the Organization Chart. Second Edition. Jossey-Bass Publishers, San Fran, 1995. ISBN: 0-7879-0090-7

Recommended Supplementary Texts

- Harmon, Paul: Business Process Change. Second Edition, Morgan Kaufmann, Burlington, MA, 2007, pp. 549, ISBN 978-0-12-374152-3
- Jeston, John; Nelis, Johan: Business Process Management: Practical Guidelines to Successful Implementations. Butterworth-Heinemann, 2006, pp. 464, ISBN 0750669217
- Davis, R.: An Introduction to Business Process Modeling with the ARIS design platform: getting started with BPM, (1st ed.) Springer, New York, 2007.
- Scheer, A.-W. Business process change management : ARIS in practice Springer, Berlin ; New York, 2003, pp. xiii, 290 p.
- BPTrends.org
- International Journal of Business Process Management

Required Readings

- Air Products and Chemicals Case Study, APQC 2005
- Becker, J., v. Uthmann, C., zur Muehlen, M., and Rosemann, M. "Identifying the Workflow Potential of Business Processes," 32nd Hawaii International Conference on System Sciences (HICSS 1999), IEEE, Wailea (HI), 1999.

- Brynjolfsson, Erik, Amy Austin Renshaw and Marshall Van Alstyne, "The Matrix of Change," Sloan Management Review, Winter 1997.
- Brynjolfsson, Erik and Lorin M. Hitt. "Beyond the Productivity Paradox: Computers are the Catalyst for Bigger Changes." Communications of the ACM August, 1998
- Kim, Y.G. "Process Modeling for BPR: Event-Process Chain Approach." Proceedings, 16th International Conference on Information Systems (ICIS). December 10-13, 1995. pp. 109-122.
- Morabito, J., and Stohr, E. "On Line Analytical Processing and Applications in E-Commerce." In The Internet Encyclopedia. Ed. Bidgoli, H. John Wiley. 2003.
- Raduescu, C., Tan, H.-M., Jayaganesh, M., Bandara, W., zur Muehlen, M., and Lippe, S. "A Framework of Issues in Large Process Modeling Projects," Proceedings of the 14th European Conference on Information Systems (ECIS 2006), Göteborg, Sweden, 2006.
- Reijers, H.A. & Limam Mansar, S. (2005). Best practices in Business Process Redesign: An Overview and Qualitative Evaluation of Successful Redesign Heuristics. Omega, the International Journal of Management science, 33 (4 (August)), 283 - 306.
- Limam Mansar, S. & Reijers, H.A. (2005). Best practices in Business Process Redesign: Case studies. Computers in Industry, 56 (June) (5), 457 - 471.
- Stoddard, D.B. and Jarvenpaa, S. "Business Process Redesign: Tactics for Managing Radical Change," J. of Management Information Systems, Summer 1995, 12 1, 81-107.
- Shellenbarger, S. "Multitasking Makes You Stupid, Studies Say," Star-Telegram, Mar 1st, 2003
- Stohr, E.A. and J.L. Zhao, "Workflow Automation: Overview and Research Issues". Information Systems Frontiers, August 2001.
- Varian, H. "Information Technology May Cured Low Service-Sector Productivity," The New York Times, Feb 12th, 2004
- zur Muehlen, M. "Workflow-based Process Controlling - Or: What You Can Measure You Can Control," in: Workflow Handbook 2001, L. Fischer (ed.), Future Strategies, Lighthouse Point (Fl), 2000, pp. 61-77.

additional readings will be announced in class

Assignments

The course will emphasize online discussion of topics and the analysis of assigned readings. Your first and most important assignment is to be prepared to discuss the readings and cases each week.

Workplace Analysis
You will be asked to investigate the business process governance strategy in your organization.

Enterprise Architecture
You will be asked to compose a Process Architecture for your organization.

Process Modeling Exercise
You will be asked to model and then refine an existing business process of your organization.

Reengineering Homework
Reengineer a simplified but real process using the tools covered in the class.

Process Design Project

The class practical will involve the reengineering of a real industry process. Your assignment is to assess the current process, identify change levers, develop a process vision, and design the new process using the design module of a commercial workflow management system. One of the deliverables for this exercise is a class presentation, which should last fifteen (15) minutes.

Class Participation
To enhance the learning experience, all students are expected to participate in class discussion and the exercises. Attendance will among other things include the contribution of meaningful posts on the class discussion forum

Grading

Grading for each deliverable will be done on a scale from 0-100. The final grade will be computed based on the weighting of the deliverables according to the following resolution:

Points (100 scale)	Grade
91-100	A (-)
76-90	B (+/-)
50-75	C (+/-)
0-49	F

Types of Assignments	Final Grade Weight
Individual Assignments	30
Reengineering Homework	20
Process Design Project	30
Reliability and Participation	20
Total Grade	**100**

Ethical Conduct

The following statement is printed in the Stevens Graduate Catalog and applies to all students taking Stevens courses, on and off campus.

"Cheating during in-class tests or take-home examinations or homework is, of course, illegal and immoral. A Graduate Academic Evaluation Board exists to investigate academic improprieties, conduct hearings, and determine any necessary actions. The term 'academic impropriety' is meant to include, but is not limited to, cheating on homework, during in-class or take home examinations and plagiarism."

Consequences of academic impropriety are severe, ranging from receiving an "F" in a course, to a warning from the Dean of the Graduate School, which becomes a part of the permanent student record, to expulsion.

Reference: *The Graduate Student Handbook, Academic Year 2009-2009 Stevens Institute of Technology, page 10.*

Consistent with the above statements, all homework exercises, tests and exams that are designated as individual assignments MUST contain the following signed statement before they can be accepted for grading. _____

I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination. I further pledge that I have not copied any material from a book, article, the Internet or any other source except where I have expressly cited the source.

Signature _____   Date: _____

Please note that assignments in this class may be submitted to www.turnitin.com, a web-based anti-plagiarism system, for an evaluation of their originality.

Course Schedule

#	Title	Description	Assignment Due	Reading
1	Introduction	What will you learn? What is a process? What is organizational performance? Overview of the course Introduction to Processes Organizational Efficiency and Effectiveness The Productivity Paradox		• Brynjolfsson & Hitt (1998)
2	Quantifying Organizational Performance	How can we measure the performance of organizations? Activity-based Costing Economic Value-Added 5-Forces Strategy view vs. Resource-based Strategy		• Rummler & Brache Chapters 1-3
3	A Framework for Organizational Design	How can we structure our thinking around process innovation? The Rummler-Brache Framework Six Sigma Lean Management Theory of Constraints		• Rummler & Brache Chapters 3-6
4	Process Frameworks	How can we structure our thinking around process innovation? Enterprise Process Architectures Reference Models	Workplace Analysis	• Raduescu et al. (2006) • Becker et al. (1999) • Brynjolfsson et al. (1997)
5	Introduction to Process Modeling (Part I)	*How do we represent processes graphically?* Modeling processes using the Business Process Modeling Notation	Enterprise Process Framework	• zur Muehlen & Ho (2008)
6	Introduction to Process Modeling (Part II)	*How can we model advanced process modeling constructs?* Business Process Modeling Notation: Extended Construct Set Event-driven Process Chains	BPMN Model	• Becker et al. (1999) • zur Muehlen et al. (2007) • Kim (1995)
7	Process Innovation Principles I	*How can we redesign our processes?* Patterns for Process Improvement	Extended BPMN Model	• Hammer (1993) • Stoddard & Jarvenpaa (1995)

#	Title	Description	Assignment Due	Reading
8	Process Innovation Principles II	*How can we redesign our processes?* More Patterns for Process Improvement		• Reijers & Mansar (2005) • Mansar & Reijers (2005)
9	Case Study: Designing Technology Support for a Process-Oriented Organization	*What are examples of Process Management projects?* Air Products BPM Initiative and other Case Studies	Process Redesign	• Air Products Case Study
10	Managing Risk using Business Processes	*How can we assess the risk exposure of processes?* *How do we manage process risk?* Modeling and measuring operational risk in business processes Identifying faults, errors, and failures		• zur Muehlen & Rosemann (2005)
11	Human Change Management	*How do you change the way people work?* Change Management Process Implementation Alternatives	Final project sketch	• Varian (2004)
12	Business Process Management Maturity	*How do you build sustainable BPM initiatives?* BPM Maturity Models BPM Centers of Excellence Organization Structure of BPM Efforts	Final project rough draft	• Rosemann et al. (2007)
13	Data, Information & Knowledge Architectures	*How can we leverage knowledge work and the data embedded in processes?* Process Simulation Data Mining based on Process Data Integration of Process information into Strategy Maps		• Morabito & Stohr (2003)
14	Final Presentations	Students present their projects to the class	Final project due	

All assignments are due as noted. In fairness to others, late work will be penalized 10% per week overdue.