Information, Organization, and Management

Prof. Dr. Martin Hepp
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http://www.heppnetz.de/teaching/img/

About the instructor: Martin Hepp

- Professor of General Management and E-Business at the University of the German Federal Armed Forces, Munich, Germany.

- Ph.D. in Management Information Systems, Bayerische Julius-Maximilians-Universität, Würzburg, Germany (2003); M.B.A., ditto, Würzburg, Germany (1999)

See http://www.heppnetz.de for current papers and presentations.
Course Overview

• This class will introduce the fundamental economic effects and theories that explain the diffusion of Electronic Business, especially new institutional economics, and map these to core concepts of management science.
Learning Goal

The overall learning goal of the course is an in-depth understanding of the interplay of

– economics,
– communication and information research, management science,
– applied computer science,
– the underlying social and technical processes, and
– their implications for business and management.
Logistics

• Lecture
  – Mondays, 13:15 - 14:45, room 0221, building 36

• Exam
  – Topics are relevant for the comprehensive diploma exam ("Diplomhauptprüfung").
Office Hours and Contact

• By appointment only
• Building 36, Room 2232 (Secretary: Ms Lindner)

mhepp@computer.org
Learning Resources

• **Strongly recommended textbooks**
  
  

Learning Resources (2)

• Course Web page

• All slides will be put on-line the night before the lecture

• Some materials may be password protected
  – User: [enter username]
  – Password: [enter password]
Attendance Policy

• I need you 😊

• This is a graduate course; **the exam will cover materials presented in class, not just what’s on the slides or in the textbook!**
Unit 1: Overview

• Exchange and Coordination
• Division of Labor
• Computer-supported Coordination of Economic Activity
• Management
• Implications of Information and Communication Technology
Exchange and Coordination of Economic Activity

Actors can improve overall output by specializing on a single good.

This requires exchange.
Division of Labor and Productivity

The greatest improvement in the productive powers of labor, ... seem to have been the effects of the division of labor.... To take an example, therefore, the trade of the pin-maker; a workman not educated to this business, nor acquainted with the use of the machinery employed in it, could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly could not make twenty. But in the way in which this business is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades. One man draws out the wire, another straights it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving, the head; to make the head requires two or three distinct operations; to put it on is a peculiar business, to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some factories, are all performed by distinct hands, though in others the same man will sometimes perform two or three of them.

Adam Smith: The Wealth of Nations, 1776
Specialization Gains
Coordination of Economic Activity


Tasks in their own rights that consume resources, too!
Computer-supported Coordination of Economic Activity

Search
Select
Negotiate
Contract
Exchange
Supervise
Enforce

Faster, cheaper
The Core Challenge of Any Enterprise

Capital Market

Market for Raw Materials; Semi-finished Goods, and Services

Enterprise

Target Markets

Transformation

Materials

Machinery Services

Labor Market

Sells

Buys

Hire

Join

IMG - Unit 1
Management

• “The process of and/or the personnel leading and directing all or part of an organization (often a business) through the deployment and manipulation of resources (human, financial, material, intellectual or intangible).” [1]

Decision-Making and Coordination

- What shall be produced?
- Which quantities shall be produced?
- Which input factors shall we use?
- How much capital will we need?
- Who shall do what, how, and when?
- What price shall we sell at?
Make or Buy?

- **Buy**: Call Pizza Service and order one pizza.
  - Coordination by the market

- **Make**: Hire somebody. Have him/her grow wheat. Have the wheat grinded. Grow tomatoes. Grow olives. Make olive oil. (...). Have him or her make a pizza.
  - Coordination by order and hierarchy
Impact of ICT on Coordination

Pre-Web Era:
- Yellow Pages
- Telephone
- Fax
- Mail
- Trade shows

High Overhead
Slow

WWW-supported:
- Electronic Marketplaces
- E-Mail
- ICQ / Chat
- Voice-over-IP (Skype,...)
- Wikis

Less Overhead
Faster
Thank you!

The slides of today‘s class will be available at http://www.heppnetz.de/teaching/img/ shortly.