

## Introduction to the course

### 1. Contact information

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### 2. Information system definition

Work system is a system what comprises of organizational information and system work with respective IT infrastructure, methods and techniques. A work system is a system in which human participants and/or machines perform work using information, technology, and other resources to produce products and services for internal or external customers.

Under information work we can understand processes what organization people perform daily with data and information (procurement, selling, planning etc) and information processing processes supporting IT systems in organization (user support – helpdesk, in ITIL incident, events management etc)

We can define system work as processis what build or change information and system work processes in organization with respective IT infrastructure, methods and techniques. To these processes belong introduction of development frameworks, methodologies and arrangement of those implementation processes with corresponding resource management processes. These processes are bound up with projects organizing and managing. Following picture illustrates information system consisting of information and system work:

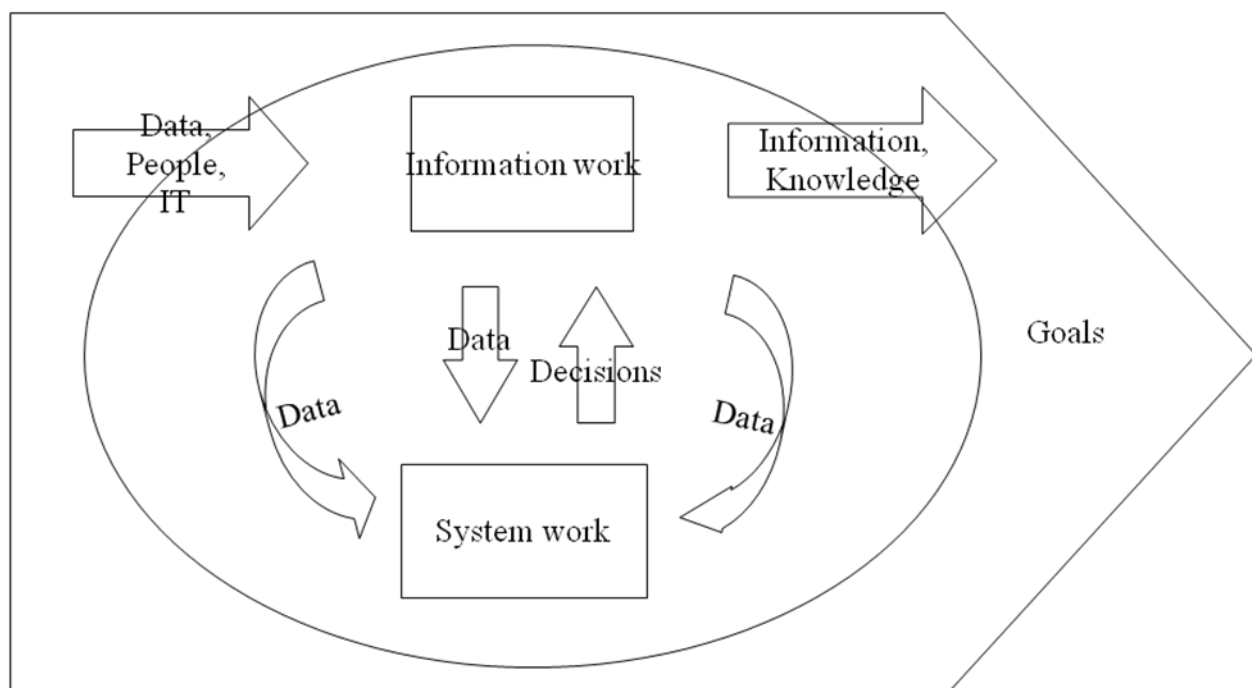


Figure 1 Information system model

System as such consists of parts collaborating and performing processes.

These parts are subsystems and in the context of organization as business system are generally groups of people or individuals who do information work and system work.

Inputs for system are data, people, IT infrastructure and capital. Individuals or groups of individuals modify data in information work processes and results are information and knowledge

In system work inputs are the same (I mean, general parts – data, people, IT infrastructure etc, but specifically different), but results are modified/changed information work and system work inputs, processes and even goals.

System work plays one important role in information system, that is control or more generally, management role. In this role, system work takes data as inputs from information systems inputs, processes and outcomes, transforms them to information and knowledge to make decisions to change (modify) information systems inputs and processes or even system goals or let the system operate as is usual.

The overall goal of that information system with its information and system work and corresponding management is to satisfy organizations and its environment needs for quality information and knowledge.

### 3. Work with information – information work

Next table illustrates main responsibilities and respective information work processes in organization.

**Table 1 Levels of Information work**

<b>Management level</b>	<b>Main Accountability</b>	<b>Information Work Process Type</b>
Top management	Organization strategic management	Knowledge building and using
Middle manager	Organization processes management	Knowledge building and using + data processing
Operative Manager	Processes performance (operations) management	Data processes
Performer (worker)	Operations performing	Data processing
Administrator	IT systems maintenance	Data processing

Organizations overall performance is divided in 4 management levels showing different accountabilities and respective information work process types.

First level (from top to bottom) is top management of the organization and his main job is organization strategic management (defining organizations future and corresponding long term goals, critical success factors and implementation plans). Corresponding information work type is knowledge work. With knowledge work is meant first of all data analysis from different data sources in organization and outside organization (in industries or economic environment in general)

Second level is so called middle management or tactical management. His main work is management of organization processes (designing processes and their outcomes (products, services) what implement organizations strategic goals and organizing appropriate resources to these processes). Corresponding information work type is also knowledge work and data processing. With data processing is meant producing information trough processing data from different data sources inside organization (client base, production, selling, accounting etc).

The third level is so called operative management level whose main concern is to insure that everyday operations are ongoing and its information work consists of data processing from processes input, output and performance.

Last level is happy worker who does the work, operates and his information work is also data processing what concerns his needs and tasks for information.

Administrator here is responsible for maintenance of IT systems (IT systems in organization must work and all problems with them solved). His/hers responsibility is management of data concerning IT systems work and responding information work type is data processing.

#### 4. Work with (information) system – system work

Next table illustrates main responsibilities and respective information work processes in organization with information system itself.

5. Table 2 Levels of System work

<b>Management Level</b>	<b>Main Accountability</b>	<b>Information Work Process Type</b>
Top management	Information system strategic management	Knowledge building and using
Information Systems Manager (CIO)	Management of system work processes	Knowledge building and using + data processing
Project Manager	Management of system work processes operations	Knowledge building and using + data processing
Developer	Performing system work processes operations	Knowledge building and using + data processing

We can divide system work processes also in 4 corresponding management or work levels

First level (from top to bottom) is again top management level whose main accountability in context of information system building and changing (developing) is information system strategic management – agreeing information and system work goals supporting long term goals of organization.

Corresponding information work type is again knowledge management about information system previous strategies and implementation plans.

Next level is information system manager or chief information Office (CIO) whose accountability is management of system work processes. His/Hers main work is management of organization processes (designing processes and their outcomes (products, services) what implement organizations information systems strategic goals and organizing appropriate resources to these processes). Examples of this work are managing information system architecture and corresponding frameworks, managing development frameworks or methodologies etc. System work processes management is in other words planning and performing information systems strategy implementation. This consists of 2 parts:

1. introduction of information system development framework and design of information systems support and development processes. Examples are TOGAF, ITIL etc;
2. introduction corresponding information systems support and development processes – this means project management frameworks and processes. Examples are PRINCE2, PMBOK etc. Corresponding information work types again are knowledge work and data processing about existing frameworks and methodologies.

Next, third level belongs to project management or project manager whose responsibility is management of performance of system work processes, this is managing information systems change processes. Corresponding information work type is knowledge and data processing about information systems change processes inputs, outcomes and performance

The last level belongs to developer (general role for analyst, designer, architect, programmer or tester) who does the job (that is develops software, databases or IT infrastructure) and corresponding information work type is the same as on previous levels, that is knowledge work and data processing.

## 6. Project method

If we wish something purposefully (systematically) achieve, then main method is to use projects. This applies to any kind of problem solving, especially making changes. In the context of organization projects are means to implement strategic changes and organize corresponding activities. These activities are not possible to perform in frames of everyday work. In the context of organizations information system projects are means to manage changes concerning organizations information work (at any management level described earlier) and system work

## 7. Project definitions

Here are some Project definitions from different sources. They are formulated differently, but the meaning is the same

- A temporary endeavor undertaken to create a unique product, service, or result (PMI)
- a temporary organization to which resources are assigned to do work to bring about beneficial change. (The resources may be human, material or financial (J. Rodney Turner)
- a work system designed to produce a product and then go out of existence (Steven Alter)

The work system was defined at information system definition

## 8. Comparison of project work and operational (every day) work

This is illustrated in the next table:

**Table 3 Comparison of Project and Operations**

<b>Projects</b>	<b>Operations</b>
<b>Differences</b>	
temporary	ongoing
Output: unique	Output: repetitive
Purpose: attain its objective and then terminate	Purpose: sustain the business
Concludes when its specific objectives have been attained	Adopt new set of objectives and the work continues
<b>Similarities</b>	
Performed by people	Performed by people
Constrained by limited resources	Constrained by limited resources
Planned, executed, and controlled	Planned, executed, and controlled

### 9. Changing information system with projects when ...

- 2 or more people are needed
- undertaking needs work coordination from 2 or more departments
- must collaborate with outside partners – subcontractors
- work is beyond everyday operating scope
- requires more than 2 weeks effort or 1 month time usage
- includes essential risks
- succeed or failure has great impact
- includes introduction of new technology

### 10. Information systems project

A temporary endeavor (organization) designed to give to organization a beneficial information or system work change

Examples of information systems development projects

- building and introduction of new application systems (software) in organization
- modifying already existing application systems in organization
- transition to new technologies and business
- reorganizing work processes in organization
- adjusting and introduction information systems development framework

Information systems project as organization expresses following picture:

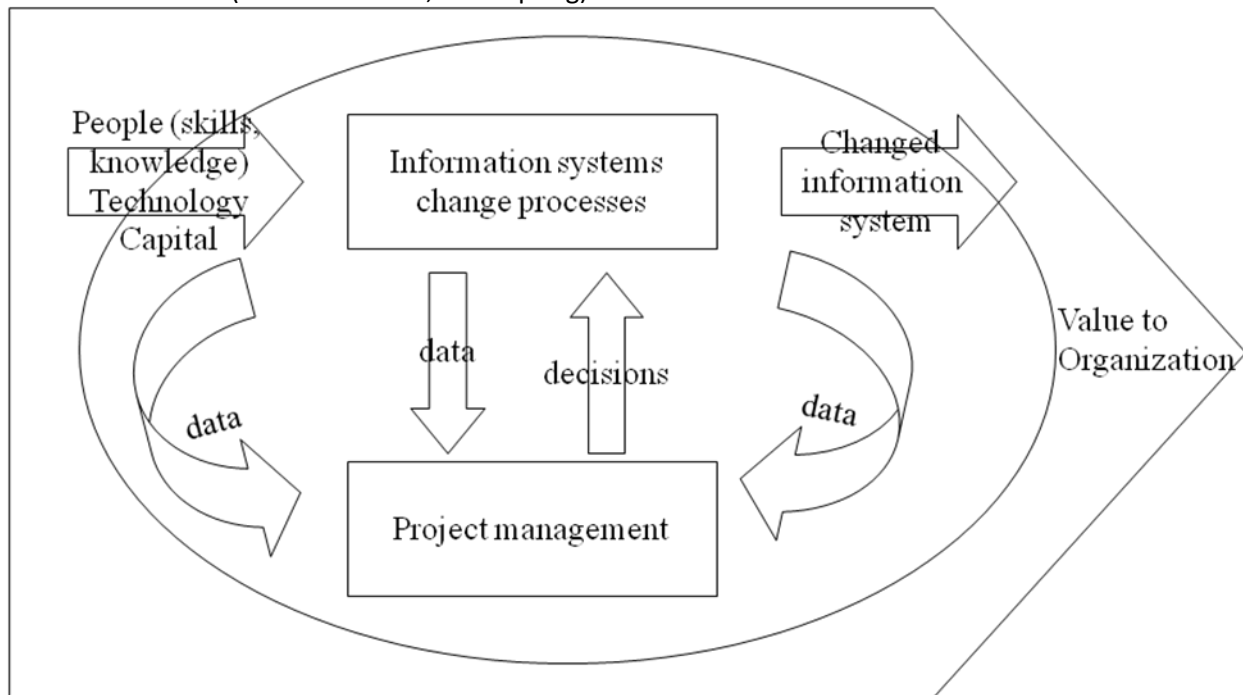


Figure 2 Information systems project as organization

Here is again one system model describing project, and especially information system project as organization or work system. Main processes are as earlier mentioned, information systems change processes. Inputs are again people, their skills and knowledge and respective IT infrastructure (modeling, developing, testing tools or software etc). Outcome from these processes if they succeed is changed information system what brings to the organization benefits or value. Management part of that work system is project management. Here sits project manager who is responsible for all that this system performs properly

## 11. Project management

Here are some definition to project management

The application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. (*PMI*)

Tools and methods by which the work of the resources assigned to the temporary organization is managed and controlled to deliver the beneficial change desired by the owner. (*Turner*)

Project management includes:

- planning – planning of temporary organizations work,
- organizing – defining resources needed by work,
- performance – work assigning to resources
- control – performance monitoring, making corrective actions to insure that required outcome (change) is achieved and this is capable to bring benefit to the owner

Project Management includes among other things:

- understanding the project
- specifying clear and achievable goals

- balancing mutually competing requirements related with quality, scope, time and costs
- adapting definitions, plans and approaches to meet interests of several stakeholders . This is most difficult part
- risk management

## 12. Project stakeholders

Persons or organizations (e.g., customers, sponsors, the performing organization, or the public), who are actively involved in the project or whose interests may be positively or negatively affected by the performance or completion of the project (*PMI*)

They may have varying levels of responsibility and authority when participating on a project and these can change over the course of the project life cycle

There are positive and negative stakeholders. Positive stakeholders gain from project outcomes some kind of benefit. Negative not. The interests of negative stakeholders are served by impeding the project's progress. Project Managers job is in the first place determine negative stakeholders, with them he/she must be cautious and of course positive stakeholders are they who give help to project manager when he/she is needed it.

## 13. Project manager

Project Manager is as manager of little (temporary) company. He is responsive of everything what is needed to be project successful. Project success lies in bringing benefit to the owner. Full success lies in bringing optimal benefit to the owner. Project manager must be capable of listening, producing administrative documents, manage meetings, acquire information, build and hold team performing, communicate and manage his time

## 14. Reality statistics

The Standish Group CHAOS Report 2008 (2006 - 2004), USA)

- 58% USA, 24% Europe, 18% others
- Successful IT projects – 32% (35% - 29%)
- Challenged projects– 44% (46% - 53%)
- Failed projects – 24% (19% - 18%)
- IT projects were divided in 3 categories:

Successful, this is project meets time, scope and costs requirements. Challenged projects, this is 1 or 2 or all 3 requirements were not meet. Abandoned means project was terminated and no results were gained or attained change was not introduced.

Some failure reasons:

- lack of user input
- lack of executive support
- unclear objectives
- project management incompetence
- technology incompetence

Some conclusions

Individuals who participate on projects don't have mutual understanding of to where they must reach and why and how to reach to there. They don't have mutual agreements at all or they are unrealistic and therefore it is not possible to follow them. These agreements are subject to uncontrolled changes

Solution

Introduce and follow Project management methodologies, standards and best practices

First of all have healthy mind, logical thinking and willingness and skills to work with people to insure satisfaction of all projects participants

The main goal of project management is doing right projects right!

## 15. Course goals are to give knowledge

- about information systems development project and it management
- about initiation and starting a project and associated problems
- about project performance and closing and associated problems
- about expressing project life cycle in project management tool, especially in MS Project 2007

## 16. Topics in lectures

- project environment and success factors
- project management frameworks, methodologies, standards
- project initiation and justification
- project planning – nature, processes and objects
- project management patterns and antipatterns
- project performance, tracking, control and project information system
- problems in project management (people, processes and technology side)
- project change and risk management
- people management principles, team work and collaboration
- project closing
- project management in multi-project environment and project management office
- program and portfolio management
- project management maturity in organization

## 17. Main literature

- Jolyon E. Hallows: Information Systems Project Management, 1998
- Project Management Institute: Project Management Body of Knowledge (PMBOK®), 2004
- Michael W. Newell, PMP, ENP: Preparing for the Project Management Professional (PMP) Certification Exam, 2-nd Ed, 2002
- Walker Royce: Software Project Management, 1998
- William J. Brown, Hays W. McCormick III, Scott W. Thomas: Antipatterns in Project Management, 2000



- Alistair Cockburn: Agile Software Development, 2002

- Articles form Internet

## 18. Used literature in lecture

- Jolyon E. Hallows: Information Systems Project Management, 1998
- Project Management Institute: Government Extension to Project Management Body of Knowledge (PMBOK®), <http://www.scribd.com/doc/8796960/PMI-PMBok-Govt-Ext-To-The-PMBOK-Third-Edition>
- Introduction to Project Management, <http://www.scribd.com/doc/4744097/Intro-to-Project-Management>
- J. Rodney Turner, Towards a theory of project management: The nature of the project, [http://www.sciencedirect.com/science?\\_ob=ArticleURL&\\_udi=B6V9V-4HVF0YG-2&\\_user=553274&\\_origUdi=B6V9V-4HVF0YG-3&\\_fmt=high&\\_coverDate=01%2F31%2F2006&\\_rdoc=1&\\_orig=article&\\_origin=article&\\_zone=related\\_art&\\_acct=C000028238&\\_version=1&\\_urlVersion=0&\\_userid=553274&\\_md5=fad73c7ea472ab9d8670c21bfbd9bf0b](http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6V9V-4HVF0YG-2&_user=553274&_origUdi=B6V9V-4HVF0YG-3&_fmt=high&_coverDate=01%2F31%2F2006&_rdoc=1&_orig=article&_origin=article&_zone=related_art&_acct=C000028238&_version=1&_urlVersion=0&_userid=553274&_md5=fad73c7ea472ab9d8670c21bfbd9bf0b)
- Steven Alter, Work Systems Theory, [http://www.fsc.yorku.ca/york/istheory/wiki/index.php/Work\\_systems\\_theory](http://www.fsc.yorku.ca/york/istheory/wiki/index.php/Work_systems_theory)
- The Standish Group, CHAOS Summary 2009. The 10 Laws of CHAOS, [http://www.pccd.state.pa.us/portal/server.pt/document/690719/chaos\\_summary\\_2009\\_pdf](http://www.pccd.state.pa.us/portal/server.pt/document/690719/chaos_summary_2009_pdf)
- Project Vs Operational Work, <http://leadershipchamps.wordpress.com/2008/02/19/project-vs-operational-work/>
- How Projects Really Work (version 1.5), <http://www.projectcartoon.com/pdf.php?CartoonID=2&PaperSize=A4>