Beyond Flexible Information Systems: Why Business Agility Matters

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Motivation

- Stretchability
- Elasticity
- Bendability
Motivation

What is Flexibility?

- Capability to adapt to new, different, or changing requirements [MW05]
- The quality of being adaptable or variable [Wordnet 2.0]

Flexible information systems (IS) are

- Reacting to perceived stimuli ("sources of pressure") [KJ94]
- Adapting IS to both incremental and revolutionary changes [NN97]
Frequent Assumptions

- **Change is unavoidably** perceived by a system
  (active perception is not necessary)

- **Change disturbs the status quo** of a system
  (the status needs to be restored)

- **Flexibility is an ability of a system**
  (rather than a process)

Today,

- pro-active search for opportunities,

- an *improvement of the status quo* and

- a *process approach*

To *Business-IT alignment* is necessary.
A Concept for Business Agility

Agility: from Latin agilis, from agere to drive, act [MW05]

Environment (social, technological and organizational systems)

Report by the company lawyer

New legal regulations

Change in the environment

Based on [HJ01, SR05]

Redesigning eBusiness Application

New IT Functionality

IT Compliance with laws

Decision making

Organization

Goal

Representation

Perception

Action

Impact

Impacts

New IT Functionality

Updated with laws

Report by the company lawyer

New legal regulations

Change in the environment

Based on [HJ01, SR05]

Redesigning eBusiness Application

New IT Functionality

IT Compliance with laws
Parameters for Business Agility

An organization can be assessed to be agile if the activities perception, decision making, action and impact are concerted in a timely and adequate manner, contributing to its set of goals.

Agility = f(Δp, Qp, Δd, Qd, Δa, Qa, Δi, Di)

Based on [SR05]

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Types of Flexibility

[NN97]

Structural Flexibility

- Characteristics of information systems themselves
  - e.g. modularity, acceptance of change or consistency

Process Flexibility

- Ability of organizations to adapt information systems to new situations
  - e.g. programming skills, change management or coordination of activities
Flexibility and Business Agility

Perception

Representation

goal

decision making

decision

Per

impact

observed variables

affected variables

action

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Adressing the Perception Gap with B-KIDE

CONTROL SYSTEM:
IT department / experts

knowledge-based Models

visual perception latency \( \Delta p \)

visual perception quality \( Q_p \)

organizational work

change in the environment

observed variables

affected variables

Business-IT Alignment

Design of a Knowledge Infrastructure

Implemented Knowledge Infrastructure

change in the environment

decision latency \( \Delta d \)

decision quality \( Q_d \)
B-KIDE Framework  
A knowledge-based Approach

The B-KIDE Framework aids in

» perceiving change in organizational environ. through
  ◆ The identification of knowledge flows in organizations based on process-oriented interviews

» The elicitation of requirements on top of these models

» The specification of business process-supportive knowledge infrastructures

➔ To improve and shorten perception and decision making processes

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B-KIDE
Knowledge Infrastructure Development
Based on [Schreiber et al. 02]

Focus of B-KIDE

- Perception
  - Change in the environment
- Decision Making
  - Knowledge Infrastructure Designer
  - Knowledge Analyst
  - Knowledge Worker
  - Project Manager

Knowledge Manager
- defines knowledge strategy
- initiates KM development projects
- facilitates knowledge distribution

KI Development Project
- manages
- analyzes
- designs
- uses & validates
- delivers requirements to
A Simplified Example – Work & Knowledge Flows

Acquisition Process

Dev. Process

Marketing Process

Problem: How can such knowledge flows be identified and supported?

Knowledge about customers
B-KIDE Tool
Perceiving the Environment

B-KIDE Tool Principle Approach

Perception

Modeling Structure

Interviews

Knowledge Analyst

Models

KI Designer

B-KIDE Tool Interview Form

B-KIDE Modeling Structure

B-KIDE Tool Report

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B-KIDE Case Study
Tool Supported Modelling of Knowledge Processes

Decision Making

Knowledge-Based Representation

Priorization

Requirements Elicitation

Knowledge Infrastructure Design
B-KIDE Case Study Results
A Developed Knowledge Infrastructure
Case Study Results
Core Findings

Positive Experiences

- Quick perception of organizational changes & environments ($\Delta p$)
- Developed models were accurate and fit for use ($Q_p$)
- Models represent support for decision making ($\Delta d$, $Q_d$)

Current Drawbacks

- Only covers aspects of revolutionary change
- Needs to be reapplied continuously
- Covers only parts of the introduced processes of agility (lacks e.g. action aspects: $\Delta a$, $Q_a$)
Conclusions

- **Flexibility** is a *fundament* rather than a *solution*
- In the context of flexibility, the notion of **Agility**
  - *broadens* the perspective
  - focuses on a *pro-active approach*
  - strengthens *process- and goal orientation*
  - strengthens the aspect of *perception*
- **The B-KIDE Framework** can support organizations in their attempt to become agile, by
  - *addressing* the perception gap
  - *supporting* process flexibility
Thank You.

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UPCOMING:
I-KNOW ‘05
International Conference on KM
June 29th - July, 1st, 2005, Graz
http://www.i-know.at
expected 300+ attendees

Including the
One-Day Workshop BPOKI ‘05
on „Business Process Oriented Knowledge Infrastructures“