ACTIVE, Ali and more

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Target group

Organizational Structures
Operational Structures
Information Structures
Knowledge workers
Enterprise
Organizational community

User role identification → Org. processes identification → Application placement
= Harmonisation of organisational processes and application impact
Problem

- **Process:** Conventional processes only focus on standardized aspects by omitting dynamic or informal aspects.

- **Technology:** Contemporary ICT technologies (apps., widgets, systems...) hold the potential to support the broader spectrum of the business processes but the process mapping does not exist so far.

- **Impact:** The contemporary technology is becoming part of the organization but its’ impact on the organizational processes can not be assessed.
Business application

Data sets
Relationships
Logics

Social web
Sharing
Platforms
Interpretability

Enterprise

Knowledge assets
- Information,
- Experience &
- Skills

Business processes
- Formal,
- Semi-formal &
- Informal tasks

Outputs
- Products &
- services

Compilation
Presentation
Completeness*

Compilation
Presentation
Completeness*

OR
Collaborative Technologies

Inter-Enterprise

Formal
- Professional network
- Static workflows
- Structured data

Informal
- Social network
- Dynamic workflows
- Unstructured data

Intra-Enterprise

Customized representation based on MIT-EIA 2004; Linß 1995; Kaib 2002
Context levels

Core Business Process

Information system

Pool of flexi-services

Data Backbone

Data Warehouse

Core business context

Task context

Activity context

Action context

Core Business

Process

Core context

Task context

Activity context

Action context
Knowledge construct

Structure & context → Information → Data → Knowledge → Relevance & justification

Knowledge construct
A Knowledge Process (KP) is...

- a loosely defined and structural ramified collection of actions.
- The structure of such a process and the order of action are not fully defined at the start of a KP.
- Actions require a decision by an actor about the follow-up action.
- Actor uses his knowledge and the context to decide for the successor action.
- Decisions have to been taken during execution time over the process development path and lead to emerging structural ramification constituted by admissible alternatives.
- Dynamic ramification is one of the key features of typical KPs.
Workflows, Business Processes, Knowledge Process

- **Workflow** is a finite set of sequential/parallel activities triggered by events.*

- **Business Process** is a collection of sequential/parallel activities necessary for processing of economically relevant objects.*

- **Knowledge Process** is a collection of loosely defined and ramified activities (actions) necessary for processing of user relevant data.

<table>
<thead>
<tr>
<th>Business Process</th>
<th>Informal Knowledge Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>Business-goal driven</td>
</tr>
<tr>
<td>Scope</td>
<td>User-goal driven</td>
</tr>
<tr>
<td>Structure</td>
<td>Enterprise</td>
</tr>
<tr>
<td></td>
<td>Individual</td>
</tr>
<tr>
<td>Structure</td>
<td>Static</td>
</tr>
<tr>
<td></td>
<td>Ramified</td>
</tr>
<tr>
<td>Description</td>
<td>Formal</td>
</tr>
<tr>
<td></td>
<td>Informal</td>
</tr>
<tr>
<td>Guided</td>
<td>Externally Coordinated</td>
</tr>
<tr>
<td></td>
<td>Ad-hoc/ Spontaneous</td>
</tr>
<tr>
<td>Analyzed</td>
<td>Monitored, Analyzed, Optimized</td>
</tr>
<tr>
<td></td>
<td>Not Monitored, Emerging</td>
</tr>
</tbody>
</table>

*taken from: Computer/Supported Coorperative Work, Uwe m. Borghoff and Johanna Karg, Berlin, December, 2000
Two complementary perspectives

- **CIO**
  - Too many upcoming technologies
  - No readily available approach to measure the value and impact

- **Role**
  - Decision support
  - Visibility in processes
  - Accountability based on value and impact

- **Knowledge worker**
  - Technology savvy profiles
  - Exposure, skill, experience, towards judgment to use new technologies
  - Understanding the needs of the processes

![Diagram](image-url)
Collaboration

Nonaka 1994

Spender 1996 & Lam 1997

Individual

Enterprise relevant

Shared
Ties between Knowledge Workers

None

Potential

Weak

Strong

McAfee 2009
Knowledge Spheres

Knowledge spheres

Potentials
Supporters
Experts
Contributors
Hotdog theory…

- Active node are specialists that define the process dynamics and can only have an interface to the Enterprise knowledge portals
- Dumb nodes are non specialists and are information/data pushers and these roles may be incorporated into the enterprise information systems
- External node are specialists in a sub-process level and therefore should be considered while designing the enterprise information systems
Active nodes are specialists that define the process dynamics and can only have an interface to the Enterprise knowledge portals.

Dumb nodes are non specialists and are information/data pushers and these roles may be incorporated into the enterprise information systems.

External nodes are specialists in a sub-process level and therefore should be considered while designing the enterprise information systems.
Process: Conventional perspective

- **Formal Business processes**
  - High repetition rate
  - Standardized
  - Defined roles

- **Informal Processes**
  - Scope of user or small team
  - Repetition rate is low
  - Depend on skill, experience, and judgment of the knowledge worker
  - Can not be formalized
  - Dynamic in time and scope
  - Can not be directly traced to the product value

**Processes and workflows**

- Supported by ERP, CRM…
- Not supported by conventional systems
Process: Spectrum blend

- Business process
  - Formal tasks
  - Informal tasks

- Identifying and segregate the semi-formal tasks

- Isolating the formal and informal tasks

- Identifying the semi-formal tasks
Process: Relevant perspective

- **Semi-formal**
  - Scope of user to teams
  - Repetition rate is low to medium
  - Depend on domain relevant skill, experience, and judgment of the knowledge worker

- **Known sequential tasks therefore can be formalized at execution time**
- **Can be directly traced to the product value**

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Rate of occurrence

- **Formal**
  - Supported by ERP, CRM...

- **Semi-Formal**
  - Captured & supported through HCPM tools (Bluekiwi, Blueprint...)

- **Informal**
  - Supported by action based activities monitoring tools (Xobni, Lizzon...)

Use of Knowledge

Processes and workflows

- **Standardised Flow diagrams**
- **Dynamic flow Diagrams**
- **Events and Actions**
- **Execution**
- **Planning**
- **Decision**
Process: consolidated overview
Processes and workflows

- **Formal Business**
  - High repetition rate
  - Standardized or fully automated
  - Defined roles and skills

- **Semi-formal**
  - Scope of user or small teams
  - Repetition rate is low
  - Depend on skill, experience, and judgment of the knowledge worker

- **Informal**
  - Scope of user
  - Repetition rate is low
  - Depend on skill, experience, and judgment of the knowledge worker
Transactional flows within system

1

2

Formal task

Semi-formal task

Informal task

System scope / work environment

Flow lines

Transitional flows
Project task scenarios

- **Formal task**
- **Semi-formal task**
- **Informal task**

System Scope
- Flow lines
- Transitional flows

Scenario 1
- Set timeline

Scenario 2
- Expected/planned timeline

Scenario 3
- Cut-off point

Scenario 4
- Set timeline

Scenario 5
- Expected/planned timeline

Scenario 6
- Cut-off point
## Construct of the framework (EVEKS)

<table>
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<th>Individual component level</th>
<th>Organization level</th>
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<tbody>
<tr>
<td>Selection and Classification</td>
<td>Organizational strategy</td>
</tr>
<tr>
<td>Qualitative measures</td>
<td>Organization level</td>
</tr>
<tr>
<td>Qualitative benefits</td>
<td>(Extrinsic value)</td>
</tr>
</tbody>
</table>

**Individual component level**

- **Intrinsic value**
  - Selection & classification
    - Identify functionalities
    - Generate value drivers
  - Assessing & calculating value
    - Determine interfaces
    - Assess actual impact

**Organization level**

- Integration strategy
EVEKS framework

Identify & isolate functionalities

- List of all KM supporting functionalities
- Dictionary of benefit drivers and relevant domains

Generate value drivers

- Selection criteria
- Application functionalities

Determine interfaces

- Matrix of interfaces between key parameters and domains
- Dictionary of benefit drivers and relevant domains

Access value

- Intrinsic value: Qualitative & quantitative measures
- Predictive extrinsic value measures and their impact

Derive integration strategy

- Quantitative (€)
  - Cost model:
  - Benefit model:
- Qualitative (% weight)

Interrelation

- Functionality
- Application domain
Description of pillars

Analyses
- Identify domain specific application functionalities
- Isolate the relevant domain specific benefit drivers and align with each functionality
- Identify interfaces between benefit drivers, task level processes, and business level processes
- Assign quantitative values to the drivers
- Develop overall process to task and IT system to task landscapes

Measures
- Catalogue of requirement classification
- Meta-study on relevant benefit drivers
- Expert interviews
- Task descriptions
- Alternative flow
- Cost model
- Benefit model
- Assessment tool for impact
- Knowledge representation table
- Reorganization charts

Outcome
- List of all KM supporting functionalities
- Dictionary of benefit drivers and relevant domains
- Matrix of interfaces between parameters and domains
- Intrinsic value: Qualitative & quantitative measures
- Predictive extrinsic value measures and their impact
Impact

Organizational value based impact assessment
Task Profiles

- Task 1: Skl 100, Knw 0, Seq 50, Src 0
- Task 2: Skl 0, Knw 50, Seq 0, Src 50
- Task n: Skl 100, Knw 0, Seq 0, Src 0

Aggregate Breakdown

<table>
<thead>
<tr>
<th>Skl</th>
<th>Required Level of Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knw</td>
<td>Required Knowledge</td>
</tr>
<tr>
<td>Frq</td>
<td>Frequency of Execution</td>
</tr>
</tbody>
</table>

Process Profiles

- Informal Task: 10%
- Semi-Formal Task: 30%
- Formal Task: 60%
- of a Process: 100%
Breakdown and aggregate

Processes/Task level

Business level

Aggregate

Breakdown

100% of a processes

Service

Production
FIR: Research Institute for Operations Management

Summer School on Advanced Technologies for Knowledge Intensive Networked Organisations

“Thank you for a productive and exciting week of Summer School.”

Organized by:

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