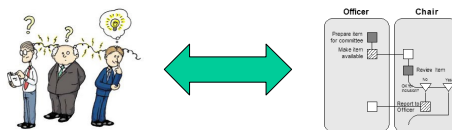


Integrating Knowledge Management with Business Process Support



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Lecture based on the Inka research project

- Integration of business process support with knowledge management:
<http://processplatsen.ibissoft.se/node/39>
- Questions to answer:
 1. What business processes have to do with eGovernment?
 2. What business processes have to do with knowledge management?



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Government – 90% bureaucracy, 10% - politics

- Bureaucracy does nothing else than run business PROCESSES (in Swedish there is a difference between affärsprocesser and verksamhetsprocesser)
- Examples:
 - processing an application for building permit (office of architecture)
 - processing an application for financial help (social services)
 - processing application for child adoption (social services)
 - preparing a decision to be taken in a committee (administrative office)



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Example: Preparing a decision to be taken in a committee

Decision making process

Reference # 98/KK0190 Decision Maker MB MUNICIPALITY BOARD Start 98.09.17

Title Creation of a plan for elderly care Status Ongoing

Origin

Initiated by ADMINISTRATIVE UNIT Resolution Status Preparing Proposal Meeting

With document Need plan for elderly care Typ & Version Proposal v0.9 99.02.16

Contact Administrative Manager Document Proposal for elderly care Author Larry Wall

Grounds	Type	Request	Receive	Status	Document	Author
1	Review	Yes	Yes	Evaluated	98/99/0190 Review from	Organization for Elderly Intra
2	Review	Yes	Partly	-		Department for Culture
3	Review	Yes	No	-		Department for Elderly Care
4	Review	Yes	Yes	Unevaluated	Review concerning 98/99/0	Department for City Plannin
5	Opinion	-	-	Final	Opinions regarding 98/99/0	Municipality Lawyer



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One of our first BP analysis projects

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Goals with eGovernment – achieve better governance

- For example:
 - Better service to citizens/residents
 - More transparency and accountability
 - More democracy
- These goals cannot be achieved without having better order inside the government, i.e. more efficient business processes based on the latest achievements in:
 - Technology
 - Theory and practice of BPM



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Working definition of Knowledge

- Practical knowledge - information used by a person to perform action in a **real-world situation** (context).
- Operational knowledge – Knowledge needed to carry out routine daily operations in a work place/office
 - Knowledge on operational goals, policies, and procedures (routines)
 - Knowledge on current state of affairs in the organization
 - Knowledge on past experience



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Two types of practical/operational knowledge

- Experience-based knowledge (EBK) - info on actions undertaken in the past together with description of contexts and outcomes
- Generalized knowledge (GK) - laws and/or rules relevant in a context. Laws establish limitations on what actions can be valid/successful in a given context; rules prescribe/ prohibit/ recommend actions for a given context



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Working definition: Knowledge Management System (KMS)

- A system for gathering, storing and giving access to operational knowledge
- Goals:
 - make knowledge a property of an organization rather than individuals
 - make organization less vulnerable to absence of staff members
 - make effective use of knowledge independent of who have acquired it



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Why it is difficult to introduce KMS in practice?

- Extra burden for staff members
- Solutions:
 - Free people from other assignments, or
 - Introduce computer-based KMS



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What should computer-based KMS provide?

- Automatic gathering of experience-based knowledge
- An active generalized knowledge base
- What is needed for the above: access to the context in which knowledge is used/should be used
- This cannot be obtained unless KMS is integrated with a system that support business activities, i.e. routine everyday activities



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Which system to integrate with?

- What operational knowledge is structured around? – Business Processes
- Context of knowledge application – business process instance/case I am currently working with
- EBK - histories of finished process instances supplied with rating of outcomes
- GK – rules of how to handle process type

Required – integration of KMS with BPS
How?



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Business Process Support System

Multi-case/desk/worker environment

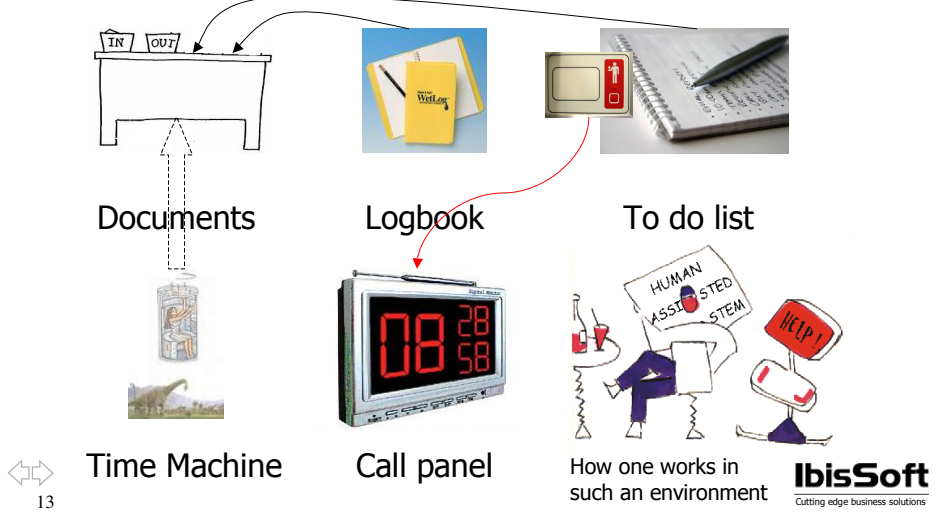


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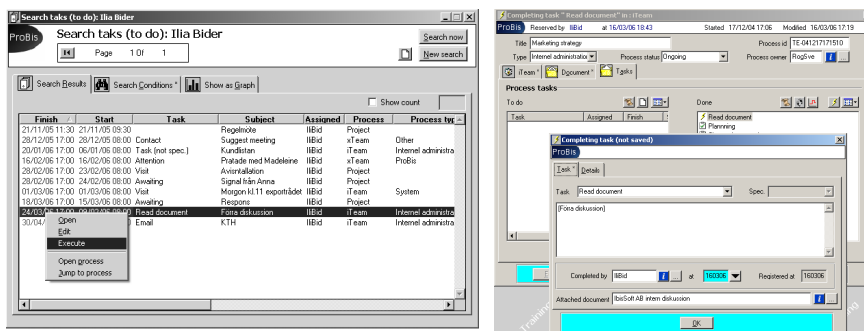
In which

Desks are arrange in a proper way



How one works in such an environment **IbisSoft**
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Example of how it could look like



Call panel

Executing task in context

Adding Knowledge Management

- Automated identification where and when some person is needed
- Automated decision on whom to move to this place
- Automated provision with right tools to complete the task
 - books and manuals
 - histories of similar process instances from the past



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Activating GK via rules of planning

- Automated identification where and when some person is needed
- Automated decision on whom to move to this place
- Types of rules
 - Obligations
 - Recommendations
 - Prohibitions
 - Negative recommendations



Two step planning how it works?



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Rules of planning: example

Details : Project process

PROBis Started 01/06/06 16:42 Modified 01/06/06 16:43

Title CAISE'06 Scenario 1 Process id PRJ-060601164234

Process status Suggested Process owner SCEN_1

Project Participants Planning Meeting Documents Dgme

Meeting date and time 05/06/06 0900 Place

Meeting duration till 1500 Confirmation date 02/06/06 Meeting status Planned

Meeting participants To do

Signatur	Namn	Task	Assigned	Subject	Start	Cl	Finish	Cl
Alex	Alexey Striy	Meeting	TomAnd	You have a meeting	05/06/06	0900	05/06/06	1500
IliaBider	Ilia Bider	Meeting	Alex	You have a meeting	05/06/06	0900	05/06/06	1500
TomAnd	Tomas Andersson	Meeting	IliaBider	You have a meeting	05/06/06	0900	05/06/06	1500

Agenda Protocol

Edit Save Cancel Delete Revive



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Summary

- Effective KMS for operational knowledge require computerization and integration with BPS
- BPS automatically accumulate EBK
- Permit activation of GK via rules of planning
- Automated use of EBK requires metrics on similarity of process instances/cases



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Literature from Inka project

- Bider I., Johansson L., Perjons E., Striy A. Activation of Knowledge in an Integrated Business Process Support / Knowledge Management System, LNCS 4333, Springer, 2006, pp. 13-24.
- Andersson B., Bider I., Perjons E. Business Process Support as a Basis for Computerized Knowledge Management, LNCS 3782, Springer, 2005, pp. 542 - 553.
- Andersson B, Bider I., Perjons E. Integration of Business Process Support with Knowledge Management - A Practical Perspective, LNCS 3336, Springer, 2004, pp.227-238



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Thank you for your attention!

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