BPMDS'07 Reportage

This document contains notes taken by Selmin Nurcan, Gil Regev and Rainer Schmidt during the BPMDS'07 workshop: http://lamswww.epfl.ch/conference/bpmds07/

9:00 - 9:45 Opening Chair: Gil Regev

Gil Introduces welcomes participants. Participants present themselves.

Rainer Schmidt presents introductory note

What is adequateness. Adequateness: satisfying stakeholders' expectations. These may contradict. Difficult to measure adequateness. Separate between crucial and non-crucial requirements.

What classes of adequateness can be identified? Adequateness with

- Functional
- quality (NFR) requirements
- quality of design (e.g. modularity flexibility)
- conformance (e.g. SOX)

Means for adequate design (e.g. best practices).

Future work:
Formalization and methods for

Q: Identifying crucial requirements. How is this done in practice?
A: Not possible to find crucial requirements by just getting all stakeholders together. Need to have a mediator and negotiate.

Q: How do you relate to RE processes where they don't discuss business processes?
A: This is a broader view. It is not addressed in classical RE (e.g. conformance requirements). Properties of service processes are an example where

Q: Cruciality and priorities. It links with RE prioritization techniques.
A: Yes

Q: How do you link with contextual requirements?
A: Yes, indeed

9:45 - 10:30 Process and enterprise architectures Chair: Selmin Nurcan

Stewart Green: Process architectures and process models: opportunities for reuse

Riva: A process architecture is an invariant for a given organization type. So two organizations in the same business should have the same process architecture.
Essential business entities (permanent) vs Designed business entities (ad-hoc)
Riva was applied to two higher education organizations: University of West of England and University of Bath.
Reuse for existing processes (as-is) and new processes (to-be). Development of a process catalogue that can be queried for process models.
Q: Riva focuses on dynamic relationships. How does Riva hamle relationships between instances of processes and data (for example in DB).
A: Process architecture specifies unique process models. When process models are enacted there's a relationship between processes and processes and data.
Q: Martin Ould is against hierarchical decomposition. He advocate just two levels but this results in complicated processes. Isn't it important for reuse in terms of understanding a complicated process?
A: Martin not against hierarchies but only below the process model (i.e activities steps etc.) . He favors networks.
Q: How do you know what is a type of business and where is the invariant path?
A: This is a fundamental question. For example, higher education seems like a university and therefore it has a some properties. We know this is a weakness because it is mainly an intuitive judgement.
Q: Do you have experience in terms of creating the process catalogue? Do you have best practices?
A: No we haven't done that yet. It's just an idea for the moment.
Q: Are there measures of better ways of doing things?
A: If we can identify organization types then we can see the processes of this organization with respect to best practices in its industry.

Arnis Stasko: Enterprise architecture and foresight based business process adequacy analysis (short paper)

Problem: What does it mean to be adequate? How can we technically assume that our support system is adequate? Proposal is to analyze each dimension of BPS to the enterprise architecture. Map to Zachman framework.
Goal, place, time, performer.
BPMN diagram with isolation of these aspects.
Types of adequacy analysis: as-is, change in current situation (short-term), foresight, future situation (changes in mid to long term, will our system be used in 5 years?).
Q: Relationships between the proposed framework and Zachman?

11:00 - 12:30 Design adequacy Chair: Pnina Soffer

Jan Mendling: Adequacy in Process Modeling: A Review of Measures and a Proposed Research Agenda

BPM vs. workflow. BPM is for people, WF is for machines.
Why do tehcnical people use WF and why do business people use BPM?
BWW representational model emphasizes completeness and clarity. Doesn provide an answer
Semiotic quality according to SEQUAL. Aspects of language relate to qualities of the system. Goal of modeling, social actor interpretations technical actor interpretation can be used to explain the difference in language used by the different stakeholders.
Formal correctness notions describe correctness and relaxed correctness showing which stakeholders need which language.
EPC, used by business users, semi-formal technique, communication task
PetryNet; used by technical users, formal techniques, specification task
Jan Mendling's thesis:

- What makes a process model error prone?
- What makes a process understandable?

Adequacy = f(user-abilities, technique-capabilities, task-requirements)
Q: In process automation projects, stakeholders want to use WF techniques. Can you comment on this?
A: This is a task requirements and therefore this fits well within our proposed framework.
Q: My experience is that when business people try to use WF, the results are sub-optimal
A: This relates to user abilities, which are not static.
Q: Did you look at BPMN because it promises to have just one languages
A: We focused on EPCs because we didn't have a large enough repository of models. It is true that BPMN attempts to address these problems.
Q: You can model with BPMN and generate the BPEL code. Why would you want to model with Petri Nets. Are there properties that cannot be defined with BPMN that can be with Petri Nets.
A: Mathias ? group is working on these aspects
Q: BPMN does not handle the data perspective and this is the goal of conceptual models. BPMN is therefore not as useful as it promises.

Signe Ellegaard Borch: Business Process Models as Design Artefacts in ERP Development

Qualitative empirical methods. Situated model design. What are the conditions that constrain the model design activity?
Design artefacts and dimensions of design: Construction, cooperation, conception.
ERP project, more or less an action research project.
Co-construction of model and system.
Inertia in the change process.
Situated model design is heavily constrained by what is already there. It is a pragmatic answer to balancing constraints.
Q: Are the research questions still open? Can they include COTS? Why ERP?

Q: Co-evolution of process and model. What kind of measure does the organization impose to keep the synchronization between the two?
A: For now these measures have not been developed because the project is in its first phases. But some measures have been defined with tool vendors
Q: What are the practical implications of the project? Is someone funding it for obtaining a result?
A: It a basic problem with every enthnographic research, which come up with questions rather than answers.
Q: The trend is for ERP's to move to enterprise services on which applications are built. Did you look into this area?
A: People in the organization complain about changes to the architecture of the system and its legacy systems. They have looked into MDA. They are looking into it from a pragmatic point of view.
Q: Are you going to use a theory?
A: Yes, participatory design theory. The question is do these methods scale. I'm also using Activity Theory and others.

Boris Wyssusek: On Adequacy of Business Process Design (short paper)

Is business process modeling or business processes themselves adequate.
Magritte: Ce n'est pas une pipe. The picture of a thing is not the thing.
"We behave as if the charts, boxes etc. are the real thing. If we want change we change the structure" Waterman et al. 1980 p. 14.
Where are the people in business process models?
Is the BPM methodology appropriate, adequate to the problems of organizations?
Q: Isn't one of the reasons to model processes to make them less dependent on the users who execute them?
A: Yes, and there's nothing wrong with it. The question is what we put in our models? WFMS attempt to foresee all possibilities but that overlooks creativity and problem solving as well as organizational culture.
Q: Organization, culture, people are all characteristics of BP design. BP is not inadequate in itself. It depends on the characteristics you take into account. BP exist anyways in organizations. They are just ways of working.
A: Business processes don't exist without someone conceptualizing them. Without people defining a process nothing exists.
Q: Do business process models stifle or encourage creativity?
Q: WFM ???

13:30 - 15:00 Process and context modeling Chair: Manfred Reichert

Oumaima Saidani: Towards Context Aware Business Process Modelling

Why is adequacy required, how is adequacy reached, which mechanisms require adequacy?

The method is called CxRB^{2}PM
Determine relevant context (context elicitation), structure the context (context tree), adapt and measure the context to a specific BP (select only the significant context attributes), Instantiate BP.
Future work: Guidelines for BP instantiation, context-oriented process patterns, metrics, dependency relationships between contexts.
Q: What is the scope of the context tree. Isn't it too big? It must be difficult to assign mental states. I wouldn't want my mental state in this model.
A: I tried to model the actor attributes but they are not easy to measure. For some actors we may need psychological and social help. I adapt the taxonomy to different situations.
Q: If you want to automate task assignments you will have to deal with stuff that may be difficult.
A: The idea (for the moment) is not to automate tasks but only to be aware of the context of the actor.
Q: How do you assign an actor to a task is it based on context or not?
A: This was presented in BPMDS'06. Context may support this operation.
Q: I don't think the context is complete. How do you evaluate completeness.
Q: You may add many different conditions such as weather. It can be dynamic
Q: Context may be dynamic. How do you adapt the process to a changing context. Such as a patient whose state of health changes during treatment.
A: If there are changes, we should update the context tree. For the moment I am exploring this subject.

Michael Soanes: Value Configuration Design – an evolution in adequate business process design

Completeness as an objective for adequate BP design
Balance Breadth/Depth complexity
Context: dynamic configuration of the value chain (value networks, Porter++)
Holistically looking at all processes and not only one process
Focus on the completeness of functional requirements
Method: Process, activity, resource (customer, worker, resource). Social aspects will be introduced later.
Value Configuration Design,
Q: B/D complexity very appealing. Did you try to evaluate the distribution of a footprint on the graph?
A: B/D KPIs important to do and can only be based on experience at the moment. It will be worthwhile to do.
Q: Your main motivation is to address complexity but flexibility is also an important aspect.
A: The motivation of this work is not only complexity. In the business world it is agility. The goal is to manage complexity to achieve flexibility.

15:30 - 17:00 Collaboration, Coordination and Processes
Chair: Gil Regev

Renata Mendes de Araujo: Designing Collaborative Processes

Organizations are interested in collaboration to improve productivity and knowledgesharing; however both do not achieve their full potnetial
Main issue

- Encourage collaboration
- Increase collaboration visibility
- Increase collaboration comprehension

Proposal
How collaboration can be designed in business process models, aiming at turning processes
more adequate to collaborative support ?
Collaboration Maturity Model for Business Processes
Ad-hoc, planned, aware, reflexive
Ad-hoc Level 1

- Collaboration is not explicitly represented in business processes
- Collaboration may occur, but it is still dependent on individual initiative and skills, and its success depends on the relationship and/or affinity among people

Planned Level 2

- Planning for collaboration: Formalizing groups, roles and responsibilities (social awareness); Defining the appropriate communication channels among group members
- Coordination is a strong aspect at this level and is centralized
- Communication: the leader plans the communication
- Memory: the individual efforts have to be integrated, aiming to complete the whole with clear understanding of the entire group
- Awareness: understanding the composition of their groups and know their colleagues

Planning Level 3

- Monitoring and controlling how collaboration occurs
- Communication: assure that the necessary information will be adequately available for the group members
- Coordination: the group is more self-directed
- Memory: explicit knowledge sharing between group members
- Awareness: group members understand their roles and responsibilities, how their activities are related with others and are committed towards them

Level 4 – Reflexive

- Process designed to allow the group to manage and share the knowledge created during the process enactment
- Communication: formal conclusion of workgroup
- Coordination: evaluation of individual and group results
- Memory: tacit knowledge share

- Awareness: aware of collaboration during the process execution

Method overview

- Business model plus Collaboration level

Q: Is there any link to interorganizational processes ? What happens if two companies with different maturity levels cooperate?
A: No, did not consider it yet
Q: Is this method for specific organizations or for organizations in general ?
A: The method was applied to the internal organization and the Brasil Oil . It can be generalized for all kinds of organizations
Q: Is the model more general than CMMI?
A: Usability depends of kind of process
Q: What happens in level 4 ?
A: Syncronization of terms.
Q: What was the OIL Company working at ?
A: Wanted to achieve level 4, have been 2

LianneBodenstaff: Towards the integration of Value and Coordination Models

Value modeling
Coordination Modeling
Establish Collaboration with value models and coordination models
Value models describe the exchange of value
Coordination model describes the exchange of messages and their orderings
Design Time:
Problem: Consistency between Value Model and Coordination Model
Three Layers: Business Layer, Process Layer, Implementation Layer
Problems: During design time: semi-dynamic consistency, static consistency
During run-time: How to check consistency during run-time, addressing inconsistencies
Log-Files give information about the ordering and the values exchanged
Value Model has been adapted.
Problem 3: Real Life Scenarios. Incomplete, erroneous models, incomplete, erroneous data
Q: If business numbers are different are from the expected. Who is to blame? IS or Business ?
A: Models are the starting point. They have to be consistent with the reality.
Q: Do the coordination models contain more information than the value models ?
A: Yes.
Q: did you consider other kinds of processes?
A: no
Q: Is one of the consistency types dominant?
A: Not addressed so far. Coordination model more difficult to adapt

Peter Bollen: A Conceptual Modeling Language for the Adequate Design of Business Processes

Business process modeling approach based in the data-orientation

7 Document architecture
Typology of derivation process types: determination, mixed determination and … types
Q: What do we model processes for ? What do we gain ?
A: Not much.
Q: What about maintainability ?
A:
Q: Where is the knowledge about derivations?
A: It is separated from the enterprise data base

CAiSE Workshop Dinner

The menu:

Rainer's Plate:

9:00 - 10:30 Requirements and processes Chair: Rainer Schmidt

Oscar Pastor: Business process-driven requirements engineering: a goal-based approach

Presenting the work of Jose Luis De la Vara González, Juan Sánchez Díaz
Reduce abstraction level o fan organizacional model so that it is closer to requirements model.
Mapping BPMN models to goal trees (and/or).
Clothing manufacturing case study.
Goals in the tree are labeled as A (automated), C (Cancelled), M (Manually executed).
Only A goals are retained.
Q: The goals identified don't look like business process goals but rather as IT system goals.
A: I agree. They have a previous step where they create business conceptual models that identify business goals. Here they only want to identify the as-is situation.
Q: Do they map BPMN exceptions?
A: Not yet but they will be doing it.
Q: Goals are changing, how do you take it into account?
A: There must be a schema evolution that technique that allows to change the goal tree through model transformation.

Kioumars Namiri: A Formal Approach for Internal Controls Compliance in Business processes

Formal approach to internal controls compliance in business processes.
Done ad-hoc right now with knowledge held by business analysts
SOX: compliance hype. Japan: J-SOX, Germany: GoBS
SOX compliance cost exceeded $4 million per company in 2004.
Know You Customer Act (KYC Act): All sales orders must have a corresponding customer contract.
SOX recommends the use of COSO, a 20 year old framework. Identify significant accounts, relevant processes affecting these accounts, define control objectives for the BP, di risk assessment for BP, design and implement effective controls to prevent or detect identified risks.
Internal controls monitor the execution of business processes. They are tightly coupled.
Separation of business objectives and control objectives.
A control is a typical ECA rule.
Strive for autonomy between business processes and control processes.
Q: Is this any different from other types of rules, tax rules etc.
A: No. Business rules is one other possibility. BR is only an implementation level. We introduce an conceptual level. We don't care about the implementation.
Q: You cannot totally separate the BP and the control. How do you merge them?
A: The business environment
Q: You didn't talk about process design. You only talked about process instances. Do you change the process design?
A: Ideally, we completely remove controls from BP but this will require modification of existing BP so we are currently moving away from this ideal.
Q: There is detection of fraud in real-time and after the fact (historical analysis, audit). Traditionally this is done historically. Companies want to move to real-time detection. It will be difficult to separate completely. Fraud may be connected to the use of a set of processes making it more complicated to detect.
Q: Are all your compliance rules related to authorization or are there others? Do you have a taxonomy of compliance rules?
A: There are other kinds of rules and there are taxonomies . We still need to develop one.

Alfonso Rodríguez: Using QVT for obtaining Use Cases from Secure Business Processes modeled with BPMN (short paper)

QVT to obtain use cases from secure business processes modeled with BPMN.
CIM2PIM
BPSec UML Profile: Security requirement access control, non-repudiation etc.
QVT rules: ex. From pool to actor.
Q: How do security aspects derived from the process? Who defines them?
A: They are derived from the secure BP that was defined by business analysts. The use cases are then further analyzed by security specialists
Q: Do you have an explicit threat model to which the secure BP responds
A: Not at this time. Maybe in future version.

Sebastian Adam: On the Notion of Determining System Adequacy by Analyzing the Traceability of Quality (short paper)

Quality issues are essential
Adequacy: functionality (how/what) map to FR, quality (how well) map to NFR.
Organization strive for goals. They are constrained by the environment.
Goal: Quality goal => NFR, functional goal => functional goal mapped to business activities grouped in business processes.
Hypothesis about BP design (compliance with goals)
Hypothesis about software design
Adequacy of software design is not equal to fitness.
Q: Do you have a transformation from BP to goals?
A: Yes, both functional and non-fucntional
Q: Do you address compliance
A: Yes, through the constraints from the environment.
Q: In your hypothesis you have the concept of minimal processes for achieving a goal. How do you guarantee minimal?
A: Our minimality concept says that every activity has to fulfill at least one goal. Another minimality is…well complicated.
Minimality is usually related to redundancy. Maybe you want to use another term.

11:00 - 12:30 Reuse and Generic models Chair: Signe Ellegård Borch

Collette Rolland: On the Adequate Modeling of Business Process Families

Variability as a central concept adequate design, to promote reuse and adaptability
Large portfolios of BP created
Changes are made by reusing, discarding, including parts
Business process family, a collection meeting a common goal
Example: Purchasing, inventory management
Dealing with multi-facetted goals help capturing variability
Map: non-deterministic ordering of intentions and strategies
Nodes represent intentions, edges represent strategies.
OR, XOR, multi-path relationships between strategies
Hierarchy of maps (atomic, composite)
MacNaughton Aymada algorithm to generate variations
Future work: Tool creation
Q: What kind of use do you consider for this? Is it for one organization or across orgs?
A: We begin with one organization and will move further
Q: There are other approaches based on EPC etc. to explicitly define variability in BP.
A: We don't want to go to the details of the BP but only with its essence. This is based on our experience of modeling BP for a company without having enough abstraction and not being able to explain the required change. From then on we believe in goal modeling as an abstraction tool. You can use the goal level to begin the analysis and then move to more detailed descriptions.

Q: Is you approach related to the description of the context analysis presented yesterday (Oumaima)?
A: The context analysis is more detailed but there could be links in the future.

Pnina Soffer: Facilitating Reuse by Specialization of Reference Models for Business Process Design

Reuse with reference models
Adoption, assembly, configuration, specialization
Facilitate reuse by specialization.
Specialization: reduction in generality applying general knowledgege to specific instances
Atomic activities vs. composite activities
Atomic specialization: Refinement (replace an atomic activity with a set of activities), Sub-typing (refinement is a kind of sub-typing but sub-typing is not a kind of refinement), contextual adoption (adapt an activity to a different use).
Composite specialization: Omission (removing internal activities), inclusion (adding internal activities).
Application-based Domain Modeling (ADOM) approach for reference models, guidance for specialization. ADOM-EPC multiplicity indicators attached to each reference model element. Identifying optional and mandatory element based on multiplicity.
Specialization of sales reference model for a chocolate factory.
Future research: develop specialization patterns and evaluate
Q: What about generalization? Omission is generalization which is the inverse of specialization.
A: We didn't look at it. Future work.
Q: Omissions and insertions change the paths so they are not simply specializations
A: Thank you for this suggestion. We will look at it.
Q: CEPCs
Q: Configuration of process models can change the correctness. Do you check this
A: We started working on specific rules but have not yet completed this research
Q: Are you proposing guidance or control. Who wants to control the configuration process?
A: We have some validation procedures for compliance

Manfred Reichert: Workflow Patterns for Business Process Modeling

Workflow patterns for business process modeling
Investigate workflow patterns for BPM based on organizational structure aspects, application domains, specific recurrent functions in BP.
Mining of 190 WF in about 12 companies 1 small 11 large: evidence that patterns exist in real WF, that a set of patterns is necessary and sufficient to describe the 190 WF, a set of rules that connect the WF patterns with specific control flow patterns.
With few patterns it is possible to model a large variety of workflows
Some patterns useful for modeling and execution (BPEL4WS).
Frequency of WF patterns in real WF determined

Encouraging results in investigated companies (85% to 100%) of WF covered with patterns. New WF in automotive and healthcare show non-covered processes requiring more work.
Patterns reduce complexity of modeling
Q: Are the 190 WF are at the instance or model levels?
A: These are 190 models
Q: Are these collaborative or production WF?
A: They are mostly production WF, quite repetitive, but even production WF are difficult to implement in an organization
Q: When adapting a pattern to a WF, which entities in the WF need to change
A: First need to map to an execution engine.
Q: How do I get a WF proposal, are the patterns annotated in some way?
A: We have to think about this
Q: Casati did some work on business level patterns. At SAP research we are looking for patterns for compliance.
A: There's lots of research still needed in this field. At Daimler we are looking into using process families at the operational level. In the BP field we need more empirical research. We are too much technology driven. We have made claims that need to be substantiated.

13:30 - 15:00 Adequacy evaluation Chair: Pnina Soffer

Ilia Bider and Erik Perjons: Effects from introduction of business process support systems and how they can be measured

Mathias Weske: what are the findings in companies of the usage of the approach?
Erik: increased result awareness, collaboration, between employees and between departments, increased transparency
Ilia: What is good for the organisation is not always good for individuals.

Eng Chew: Monitoring the effectiveness of the processes … What are the human aspects?
Eng: To make people involve in the definition of the process for the achievement of the goal.

Hajo: Performance Measures to evaluate the impact of Best Practices

We do not consider adequateness in the broad sense but from the performance perspective.
Ilia seems to think that investment<>cost (?). Hajo tells Ilia is a good consultant.
Other remark: Quality and time grows in the same direction.
Erik talks about the outcome of the process. Hajo answers that perhaps the outcome could be measured using the same dimensions.
Colette: these are NFR. She suggests to interplay -as done in RE- between the functional and NF requirements.
Michael Soanes: is it necessary to add categorisation of the measurement criteria at the strategic, operational etc… level ? The answer is yes.

Said: Estimation of Business Process System Adequacy (short paper)

Pnina: how do you consider your approach with regards to the previous one? Said Complementary. Pnina suggests that the complementarity should be a further more detailed definition of the quality. Said replies that the same applies to the cost.

Bela: Investigating implemented Process Design: A Case Study on the Impact of Process-aware Information Systems on Core Job Dimensions (short paper)

Ilia: examples of the questionary -> in the paper
Hajo: will you continue on this topic? -> yes
Erik: what was the time frame? 3 months after introduction.
What is the impact of the high management for instance in terms of the resource patterns which might be impacted?
Pnina: Qualitative research interviews ? Not yet

15:30 - 16:30 "Best practices" Chair: Stewart Green

Hajo: On pragmatic and formal process design approaches

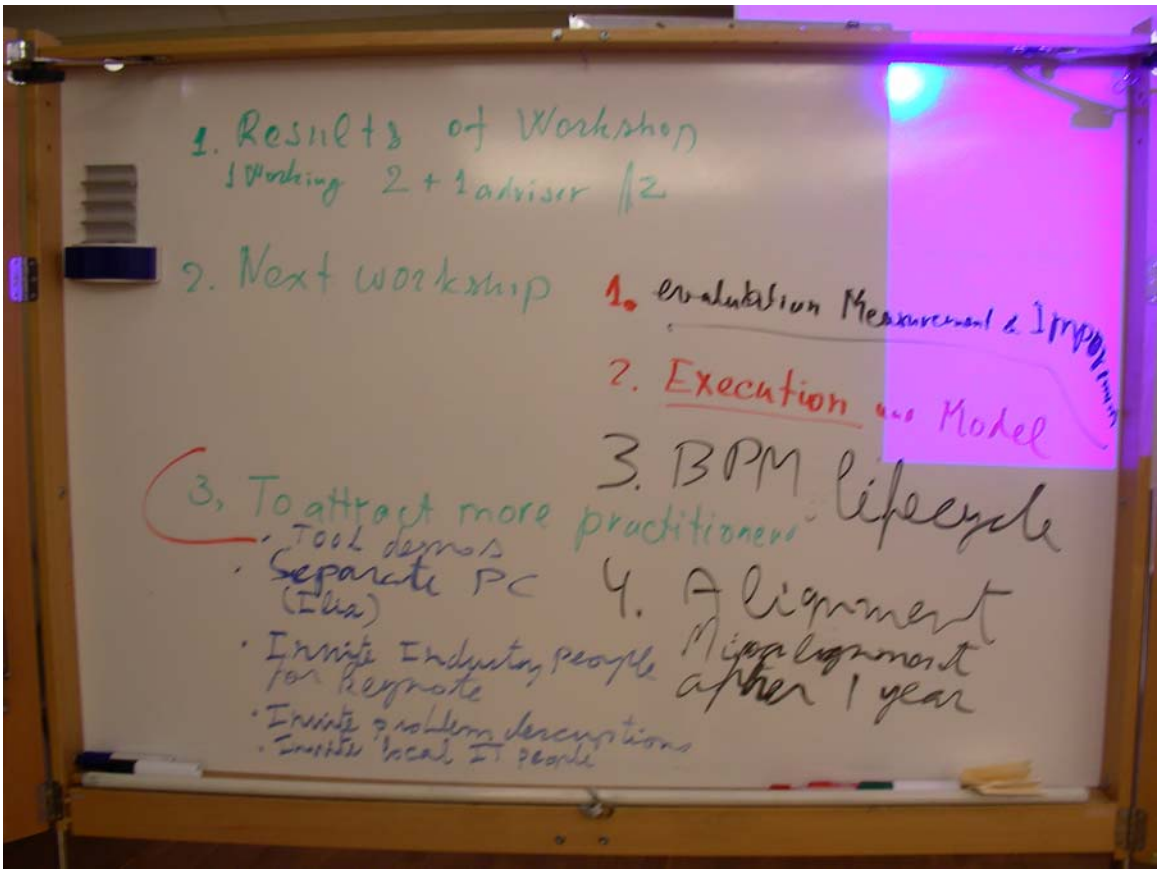
I forgot to note!!
Said: Are there other methods to evaluate best practices than empirical ones ? -> Simulation
Pnina: In order to simulate you have to make some assumptions -> Stakeholders have to make these assumptions in a participative way
Gil: The lines of the CfP 'criticised' by Hajo led to a good paper.

Gil: Adapt and Adopt: An Experiment in Making Best Practices Adequate in an Organization

Ilia: Comment about compliance, compliance with the standards is more important than compliance with ITIL
Gil: ITIL is a list of things to do, the name of "best practices" should be changed
Rainer: new versions ISO 20000, ITIL V3
Pnina: comment on best practices, in op research anything can be optimal with respect to a given objective, best practices can be best for some situations but not for others
Other: "suitability of the best practices"
Rainer: no formal process model in ITIL
Chen: Understand the business problem first, what benefits to change, …

16:30 - 17:30 Discussion and summary Chair: Ilia Bider

Brainstorming and discussion about next year workshop organization. See results in following picture.



Group Picture: