Adaptive Case Management from the Activity Modality Perspective

Lars Taxén
Linköping University
lars.taxen@telia.com
www.neana.se
Outline

• Point of departure
• The Activity Modalities and the Activity Domain
• A BPMN analysis
• Some alternative models

• Discussion
  – Reconceptualization of “business process”
  – Modeling in the “large” and in the “small”
  – Ontology of models
  – Implications for BPM and ACM
Point of departure ...
BPM and ACM need to acknowledge our human, innate predispositions for acting in the world

Otherwise, we may contrive means – approaches, methods, notations, tools – that aggravates BPM and ACM rather than alleviates them
Integrationism – a new theory of communication

Knowledge is not a matter of gaining access to something outside yourself; all knowledge is internally generated by the human capacity for sign-making;

the external world supplies input to this creative process but does not predetermine the outcome;

signs and, hence knowledge, arise from creative attempts to integrate the various activities of which human beings are capable.

(Roy Harris, 2009, p. 162)
... activity ...
The Activity Domain

Enacting means
Aligning individual meanings

Activity Modalities
- motivation
- objectivation
- contextualization
- spatialization
- temporalization
- stabilization
- transition

Motivated by some need
About something - a target
Frame a context of relevance
Orient ourselves in space
Conceive of actions
Work out relevant actions
Change focus
An example - Travelling to the ACM workshop

Motivation
Present and get feed-back on my ideas

Target: the travel - objectivation
A context for planning the action before carrying it out

The map: orientation in space - spatialization

The route: actions - temporalization

The scale in km: convention - stabilization

A context for planning the action before carrying it out
A BPMN analysis
Developed by an industry consortium
Took six years and more than 140 meetings
Specification defines 53 constructs
Majority of users use about 10

Recker (2010)
BPMN example ‘payment process’
Activity domains – motive and target
Transitions between activity domains
Temporalization - work flow, actions

Recker et al. (2010)
Spatialization – relevant things
Summary

• **Activity**
  – Activity domains: Pools and Lanes
  – Transition: between Pools (Message Flow)
  – Temporalization: Activities, events/states, control flow logic
  – Spatialization: Data objects, artifacts (no relationships)
  – Stabilization: Business rules not included in BPMN
  – Objectivation: Target implicit (“The payment process”)
  – Interdependencies between modalities: Not salient

• **Main focus of BPMN is on the temporalization modality**
  – Other modalities are less attended

• **Provides a one-dimensional conceptualization of activity**
  – Not aligned with human, innate faculties for acting
“A great deal of research and development progresses without considering one important question, that of how BPMN is actually being used in practice.”

Recker (2010, p. 194)
Some models aligned with the Activity Modalities
Target model - objectivation
Integration within and across activity domains
Information model - spatialization

Diagram showing the relationships between Requirement Issuers, Requirements, Anatomy Items, Design Items, Progress Control Items, Change Proposal Items, and other entities with arrows indicating dependencies and relationships. The diagram also includes icons and labels for testing, integration, product, and documentation.
Process model - temporalization

**Delivery to Order states**
- PC0: Offer requested
- PC1: Order / Contract
- PC2: Product arrived
- PC3: Ready for Acceptance
- PC4: Customer Acceptance
- PC5: Product in service
- PC6: Solution fulfillment

**New Product Development states**
- SC1: Market offer intent
- SC2: Product release intent
- SC3: Product model approval
- SC4: Design Implementation Decision
- SC5: Market offer
- SC6: Product quality approved
- SC6.5: Product ready for deployment
- SC7: Market release decision
- SC8: Full deployment acknowledged

**Performance Need or Incident**
- Solution need
- Sales object
- Changes & expectations - Gaps
- New standards & technologies

**Solution**
- PC0: Offer requested
- PC1: Order / Contract
- PC2: Product arrived
- PC3: Ready for Acceptance
- PC4: Customer Acceptance
- PC5: Product in service
- PC6: Solution fulfillment

**Product**
- SC1: Market offer intent
- SC2: Product release intent
- SC3: Product model approval
- SC4: Design Implementation Decision
- SC5: Market offer
- SC6: Product quality approved
- SC6.5: Product ready for deployment
- SC7: Market release decision
- SC8: Full deployment acknowledged

**Steps**
- Create Business
- Sales
- Supply Solution
- Implement Solution
- Define Business Opportunity
- Define Product Content
- Specify Product
- Design & Verify Product
- Design Market Offer
- Prepare Deployment
- Exhibit Product in Service
- In Service Support
Enterprise systems supporting integration

IT infrastructure, Internet

ERP

PLM
Discussion
Reconceptualization of “business process”

• **Business process definition?**
  - “Process is a series of actions bringing about a result”
  - Human-centric BPM, Data- and Artifact-centric BPM, knowledge-driven BPM, “the process contains data…”

• **Business process a proxy for several modalities**
  - Not only temporalization
  - “Compresses” the multi-dimensional character of the Activity Modalities into a single dimension

• **Replace “business process” with “activity domain”**
  - “Decompresses” activity into full modality dimensions
  - “Process” retained for the temporalization modality
Modeling in the “large” and the “small”

• BPM – “large”, business, community perspective
• ACM - “small”, individual perspective, agile and adaptive
• Same basis in the Activity Modalities
  – Regardless of acting in solitude or in collaboration, actors need to master all the modalities
• Knowledge located in the individual; constructed in the social
  – Vygotsky
  – Notions like “shared” understanding, “distributed cognition”, “organizational knowledge” and the like, are rejected
Integrationist versus representative view on models

“Bunge-Wand-Weber (BWW) [is a] **representation model**, which specifies a set of rigorously defined ontological constructs to describe all types of **real-world** phenomena”

Recker (2010)

In which “world” is the model located?
Models are signs in the integration of activity (Roy Harris)
Implications for BPM and ACM

BPM (workflow)  ACM (data)

“route”  both!  “map”

Balance

“Routines are a double-edged sword. They are helpful when they provide options, but detrimental when they hinder detection of changes in the task or environment.”

Butler and Gray (2006)
Conclusion

Work in progress, attempting to ground BPM and ACM inquiries in human predispositions for integrating activities

Necessary to advance the current state of play

Or?