

OKM: Modeling knowledge work by combining BPMN with business rules and cases

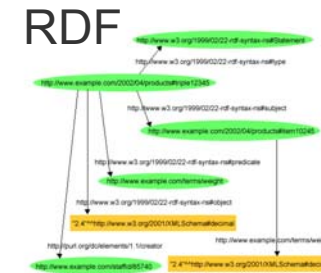
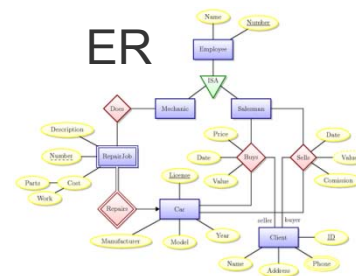
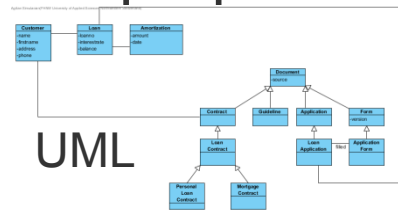
Knut Hinkelmann



OKM – Open Knowledge Models

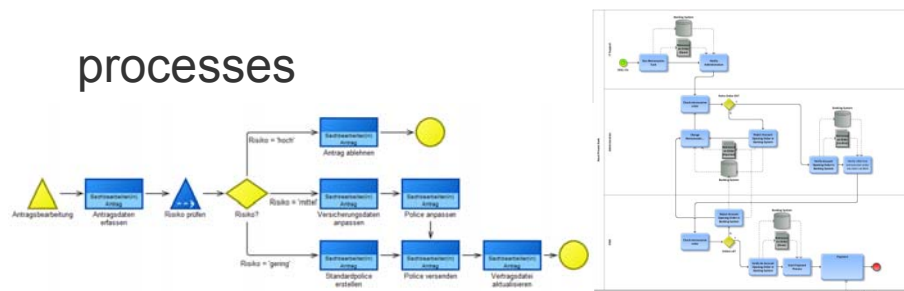
■ Modeling knowledge graphically

◆ General-purpose

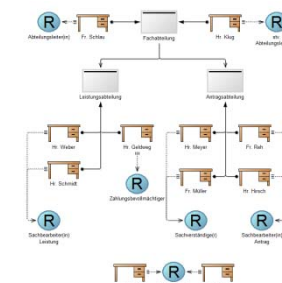


◆ Special-purpose

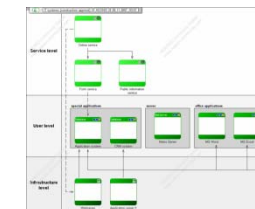
processes



people



systems



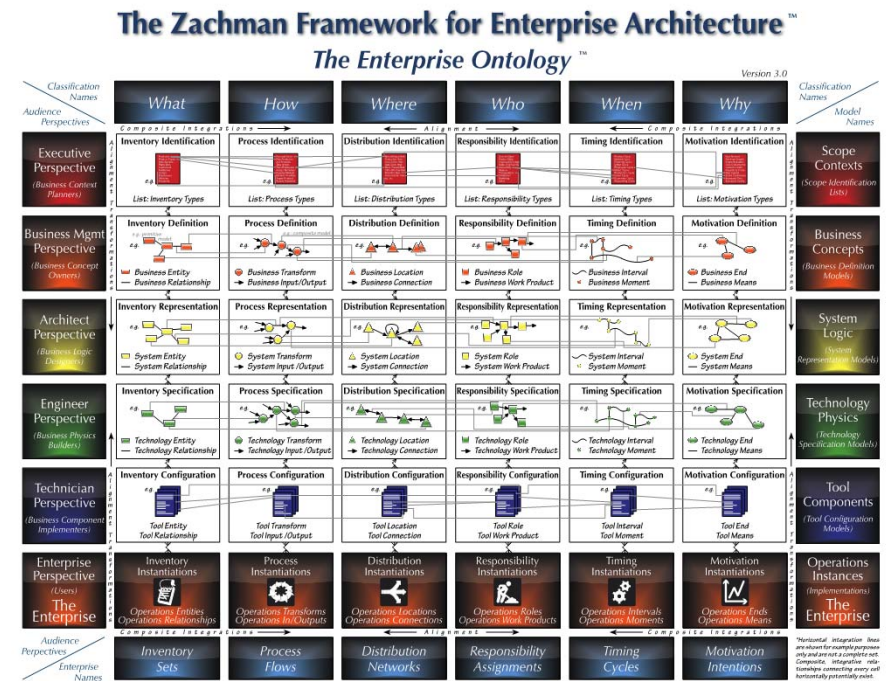
Modeling Enterprise Knowledge

Knowledge about

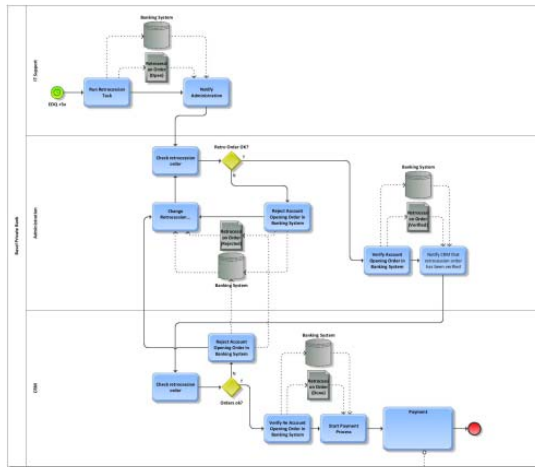
- ◆ processes
- ◆ people
- ◆ systems
- ◆ motivation
- ◆ domain
- ◆ ...

Agility and Flexibility

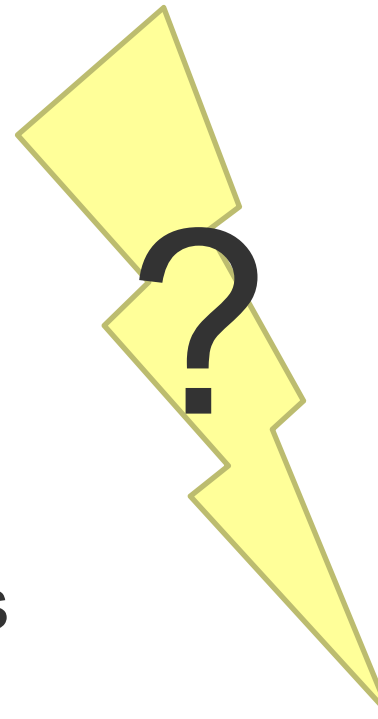
- ◆ Business and IT Alignment
- ◆ **Support Knowledge Work**



Business Processes vs Knowledge Work

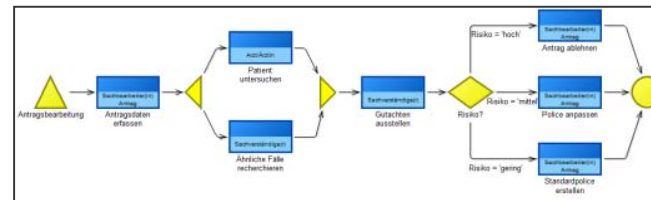


Structured Processes



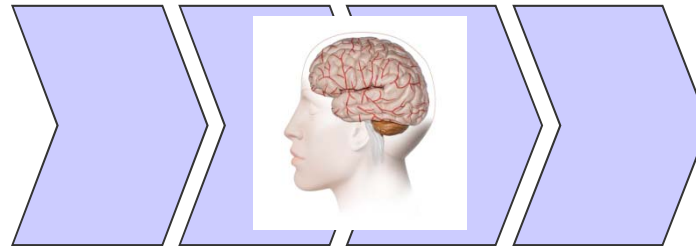
Knowledge Work

Business Process Management



- Structured Processes
- Objectives: Efficiency, traceability, automation
- **Process logic:** knowledge **about** processes
 - ◆ workflow
 - ◆ participant roles
 - ◆ resources
- Knowledge at **design time**

Knowledge Work

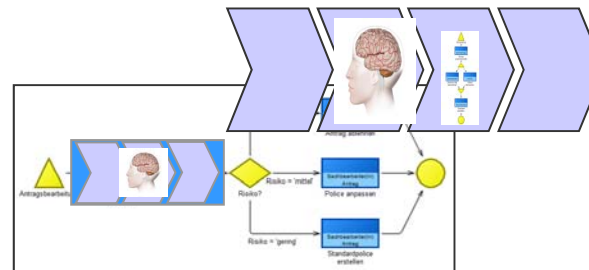
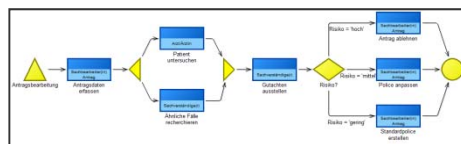


- Characteristics: High variability, unforeseen situations, exceptions
- Activities and path of execution is determined by participants
- **Business Logic:** Knowledge **in** processes
 - ◆ Expertise
 - ◆ Skills, experience
- Knowledge at **run time**

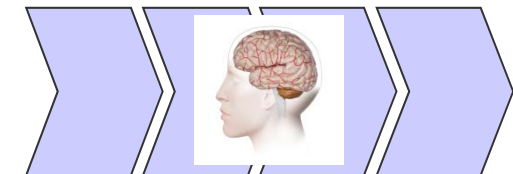
Continuum between Process and Knowledge Work

The more flexible and agile
the more knowledge is required at run-time

Structured Processes



Knowledge Work



Process Logic

Business Logic

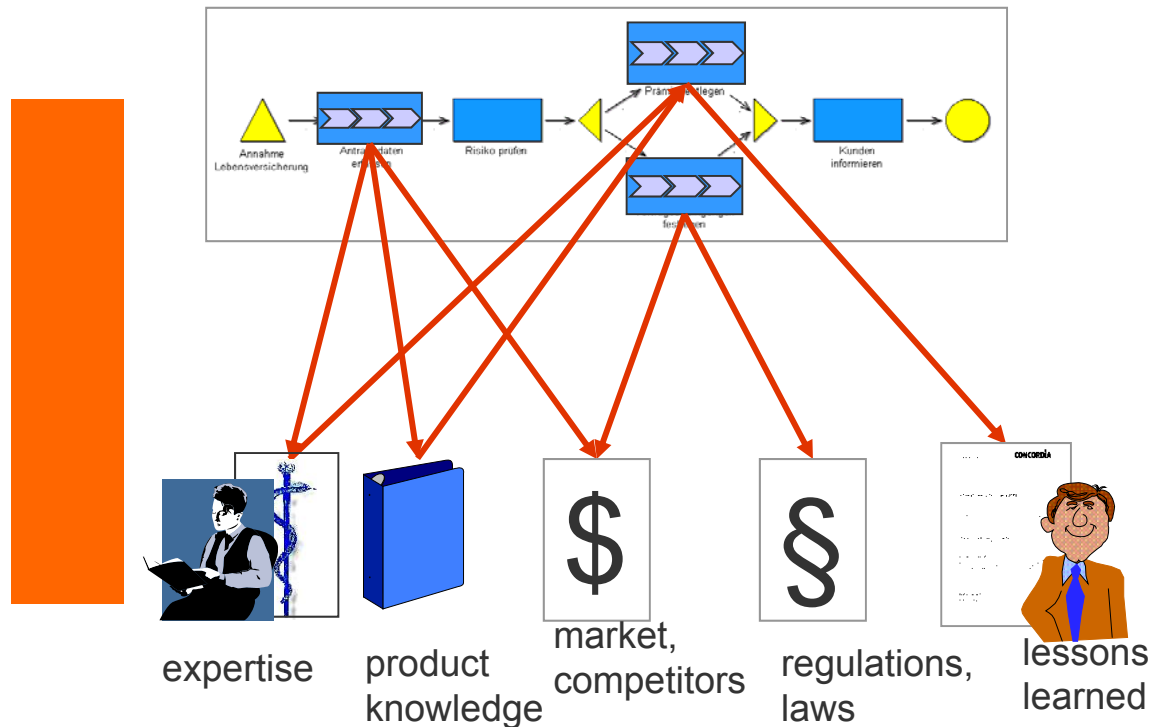


Thesis

- Knowledge work cannot and should not be controlled and enforced with Business Process Management

- Separating process logic from business logic allows for
 - ◆ tracability, efficiency and automation of processes
 - ◆ flexibility and agility of knowledge work

Separating Process Logic and Business Logic



- process skeleton: representing **process logic** at **design time**
- **Business logic**: support of knowledge work at **run time**
 - ◆ allocation of people and resources
 - ◆ decision support
 - ◆ ad hoc (sub)process

Adaptive Case Management (ACM)

Case Management is the management of long-lived collaborative processes that require coordination of knowledge, content, and resources to achieve an objective

Some Characteristics of Adaptive Case Management

- The path of execution cannot be predetermined in advance of execution
- Human judgment is required to determine how the end goal can be achieved
- The state of a case can be altered by external events
- Members of a team will collaborate on decision-making and planning

Case Management Metamodel

- Content model
 - ◆ Documents
 - ◆ Data
- Process model
 - ◆ flow of activities
 - ◆ allows for behavior to be attached to the case
- Case model
 - ◆ Model elements to support knowledge work

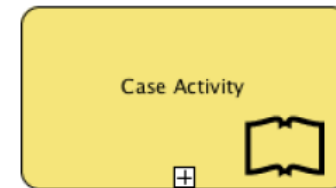
OMG RFP: Case Management Process Modeling

Some requirements for the case model:

- Participant assignment
 - ◆ qualifications and authority of human participants
- Support for human activities
 - ◆ information needed to support human activity
 - ◆ prompts to initiate human action
 - ◆ guidance and planning: specification of potential actions
- Rules
 - ◆ Constraints
 - ◆ Event-condition-action rules
 - ◆ dependency of an activity on completion of another activity
 - ◆ criteria for validation of an activity to be added to the case
- Events
 - ◆ external, change of state, scheduled, activity initiation and completion

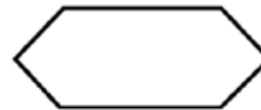
Suggestion for Adaptive Case Modeling Notation

- Extends BPMN
- Cases are specific subprocesses

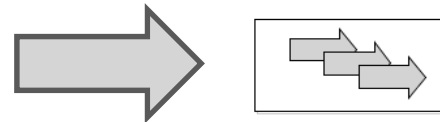


- Case Activities consist of

- ◆ States/Milestones



- ◆ Rules/Rule Sets



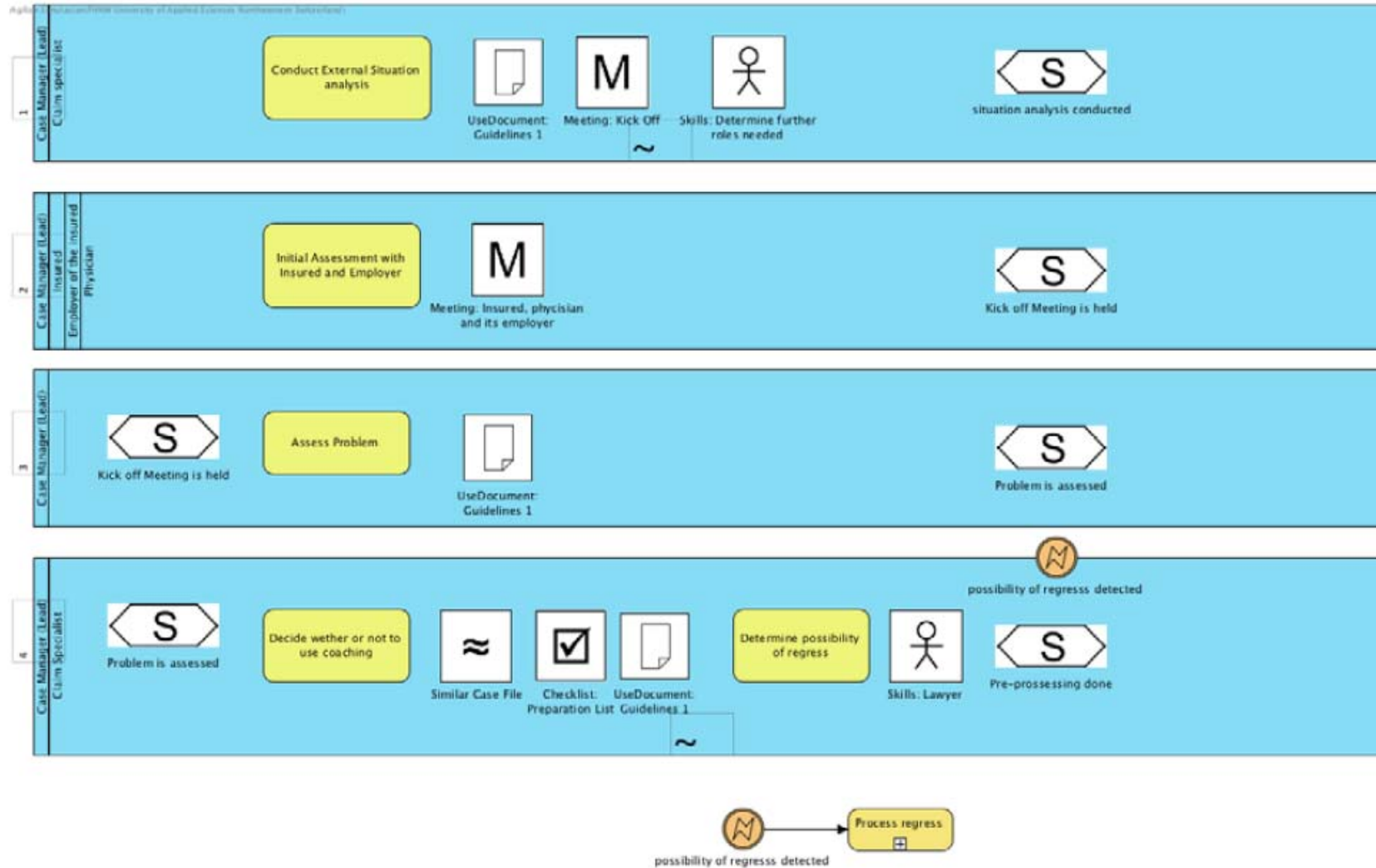
- ◆ Human activities



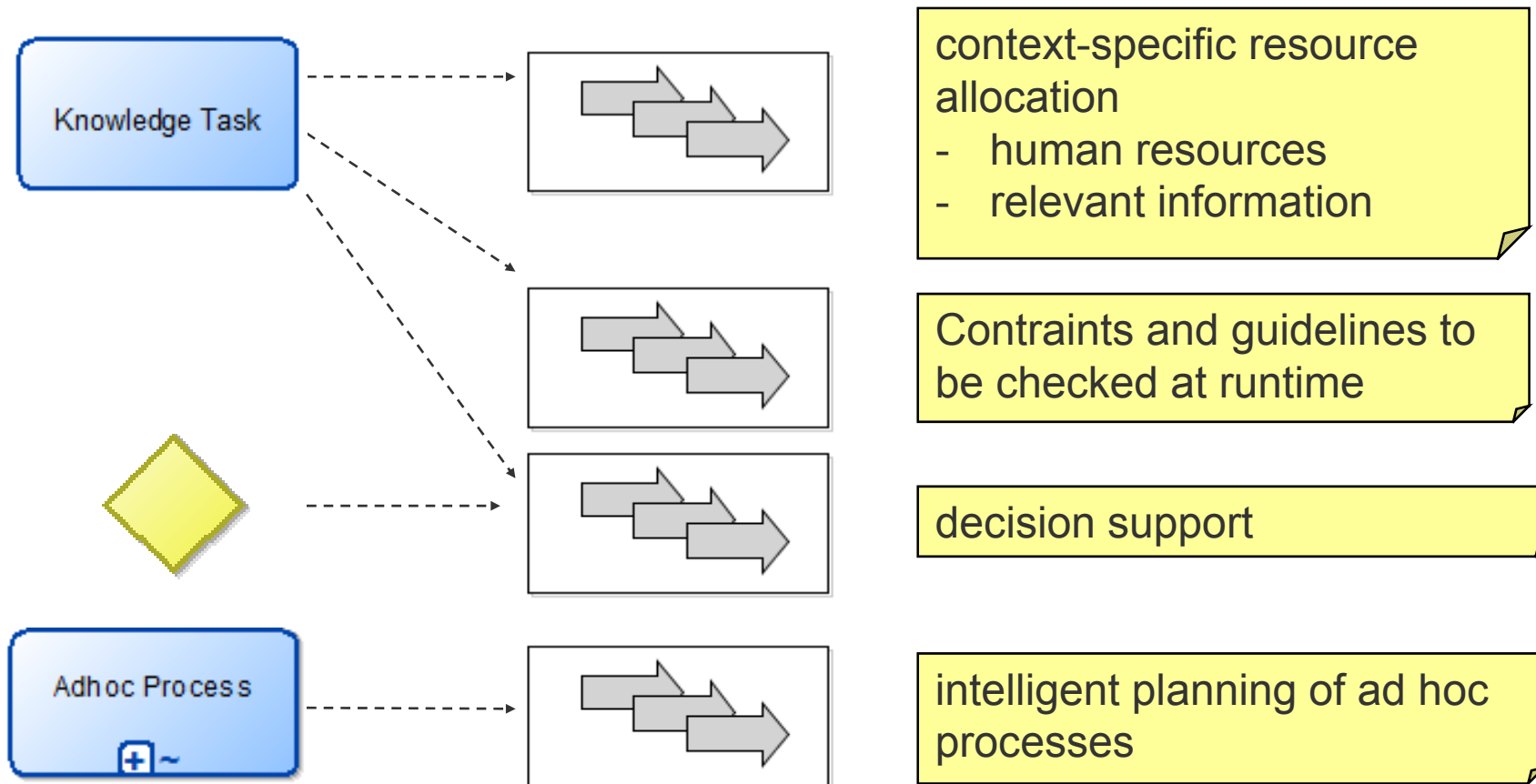
- ◆ Content



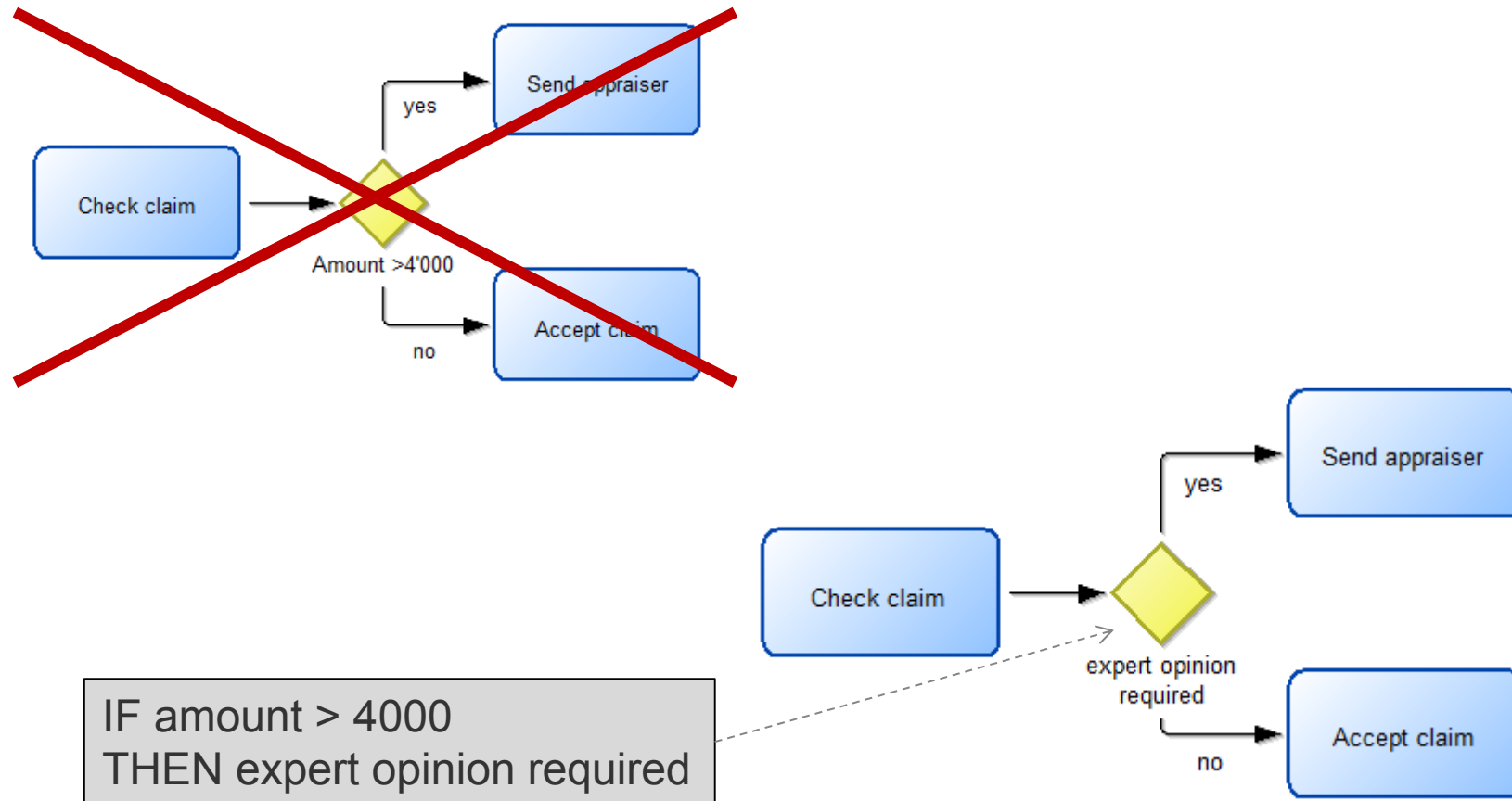
Example of a Case Activity



Business Rules in Business Processes



Separating Business Logic from Process Logic



Enforcement level: pre-authorized override

Conclusion

- Adaptive Case Management combines
 - ◆ Business Process Management
 - ◆ Knowledge Work
- Special purpose knowledge models
 - ◆ Reuse of process modeling notation
 - ◆ Extensions for case management
- General-purpose knowledge models
 - ◆ Terms and facts for business rules