Agile Processes – Combining Business Processes and Business Rules
Knowledge and Processes

knowledge about processes:
- workflow
- roles
→ process logic
used at design time

knowledge in processes:
- skills, experiences
- background knowledge
→ business logic
(expert knowledge)
used at run time
Agility – Flexibility and Change

Process Management must satisfy two types of agility

- Agility at **design time**
  - Reaction on changing environment
  - Changing **process definitions**

- Agility at **run time**
  - Dealing with specific events and unforeseen situations
  - Flexible **process execution**
Structured Processes vs. Knowledge Work

Structured Processes

- Characteristics
  - Routine processes

- Objectives
  - Efficiency, productivity
  - Traceability
  - Uniformity
  - Automation

- Process flow defined at design time

Knowledge Work

- Characteristics
  - Unforeseeable events
  - Exceptional situations
  - High variability
  - Complex tasks

- Objectives
  - Flexibility
  - Autonomy of the workers

- Process flow determined at run time based on expert knowledge
Structured Processes vs. Knowledge Work

Different proportions of process logic and business logic (expert knowledge)
Modelling Knowledge Work: Separating Business Logic from Process Logic

- **Approach:** Combine business process modeling with the business rules approach
  - Simplified process model - representing process logic
  - Business logic could be represented in business rules
    - assigned to knowledge-intensive tasks and gateways
    - no detailed process model for knowledge-intensive tasks

- Separating business logic from process logic
Assigning Business Rules to Tasks and Gateways

- Decision making
- Context-dependent resource allocation:
  - participants
  - relevant information
- Intelligent branching:
  - complex decisions
- Determine next task in adhoc sub-processes

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Assigning Business Rules to Tasks and Gateways

Business logic can determine process execution

- Decision making
  - computing values (e.g. risk score, eligibility)
  - avoiding violation of integrity constraints and guidelines

- Determine process flow
  - Intelligent branching
  - Determine next activities in ad-hoc (sub)processes

- Intelligent resource allocation
  - Determine person to execute a task based on process context and special skills
  - providing relevant information and knowledge
Separating Business Logic from Process Logic – Example (Part 1)

This process model does NOT separate business logic from process logic

- Decisions and events are based on business logic
- Any change of the business logic (i.e. other threshold for risk score) would result in a change of the process model
Separating Business Logic from Process Logic – Example (Part 2)

This process model separates business logic from process logic

- The business rules represent the business logic (e.g. customer is eligible if risk score is less than 90 and car model is insurable)
- Changes of the business logic only require changes of the business rules but not the process model

Note: The task «Ask previous insurer» is omitted and regarded as part of the task «Assess risk». In the same way we could also omit the activity «Request information» and regard this as part of validate data. If for reasons of process optimization we would like to measure processing time and waiting time more accurate, we should make the tasks explicit.
Representing the Business Rules

- Making business rules explicit does not imply that a business rules management system is used.

- Business rules can be represented:
  - in a business rules management system
  - in applications or databases
  - in documents
  - ...

  depending on whether they should be automated and how.

- The level of detail for the business process model can depend on different criteria (cp. note on page 10).
The Whole Picture

terms and facts

rules

process models

Modelling

Execution

rule engine

application data

workflow engine
Advantages of Combining Business Processes and Business Rules

■ Supporting knowledge work

■ Design-time agility: Simplified Process Models
  ♦ Define a process skeleton: structured process part
  ♦ No sub-structure for knowledge-intensive tasks
  ♦ Change of business logic does not affect process models

■ Run-time agility: Business Rules take into account process context to guide execution of knowledge-intensive tasks
  ♦ Decision Support
  ♦ Resource allocation
  ♦ Ad-hoc process execution