

Business Process Modelling

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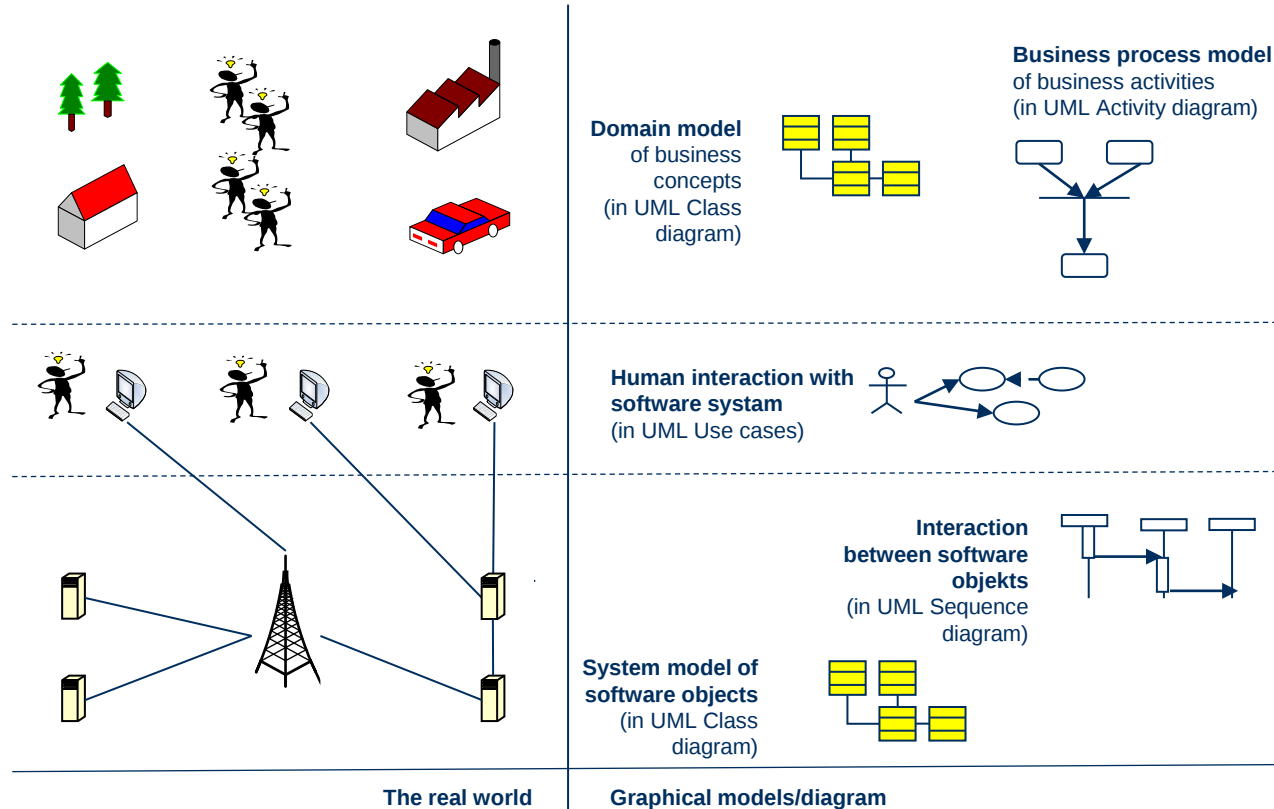


Questions to answer

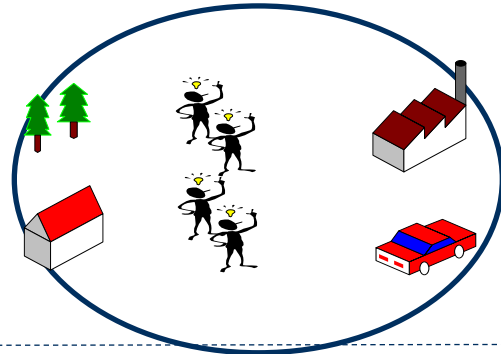
- What is a business process?
- What is a business process model?
- Why do organizations spend time and resources on creating business process models?
- What is the difference between a business process instance and a business process type?
- What is the difference between an as-is process model and a to-be process model?
- How are business process models connected to IT systems?



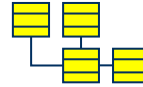
Real World and Models



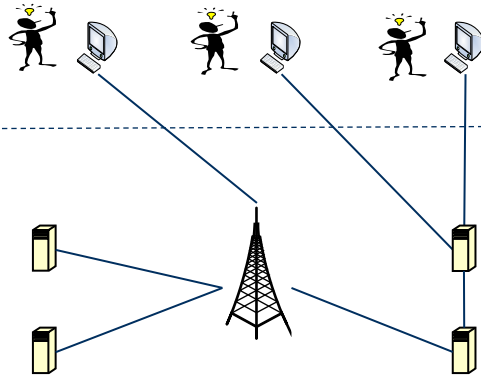
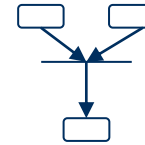
Business Processes (in Real World)



Domain model
of business
concepts
(in UML Class
diagram)



Business process model
of business activities
(in UML Activity diagram)



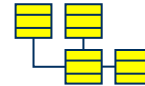
**Human interaction with
software system**
(in UML Use cases)



**Interaction
between software
objects**
(in UML Sequence
diagram)



**System model of
software objects**
(in UML Class
diagram)

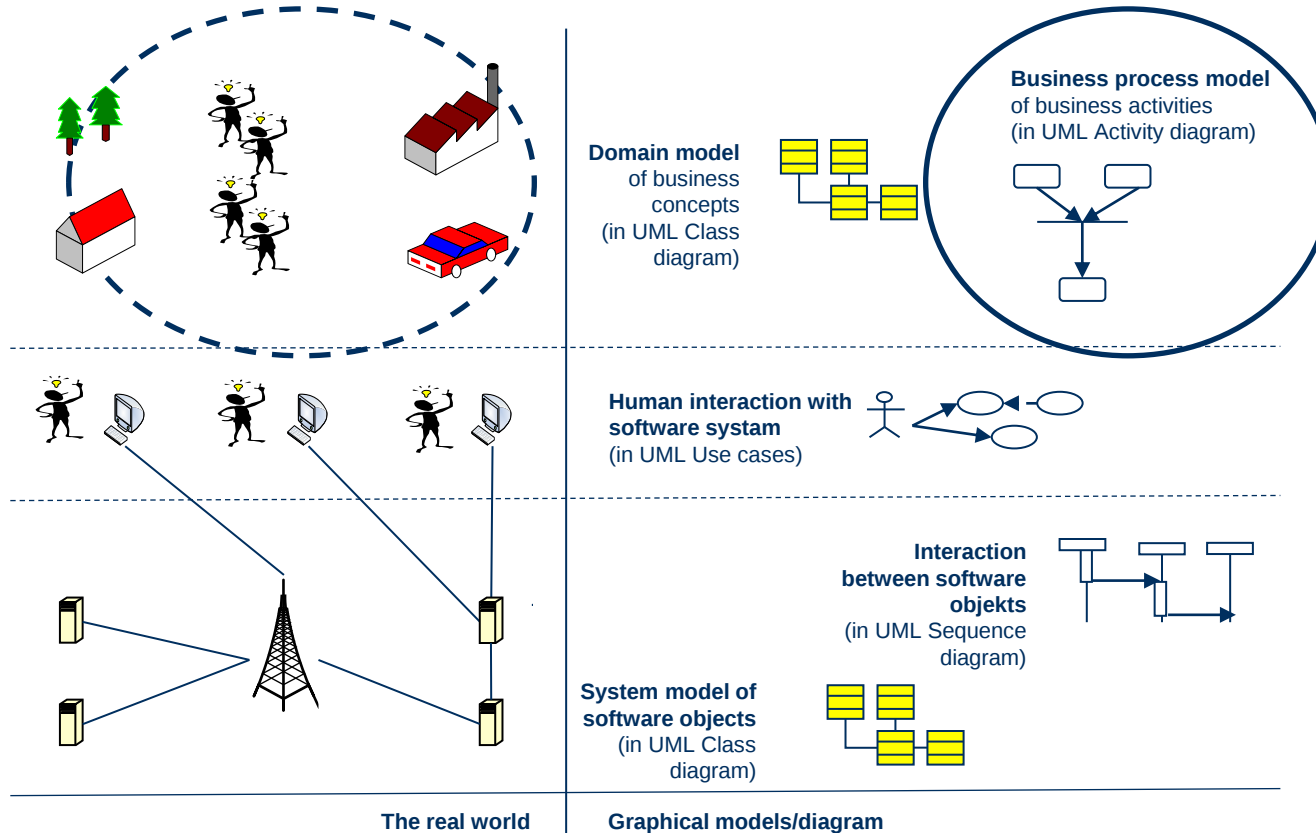


The real world

Graphical models/diagram



Business Process Models

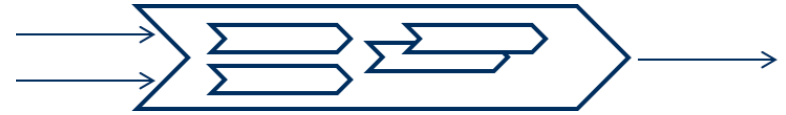


Business Processes (in the Real World)

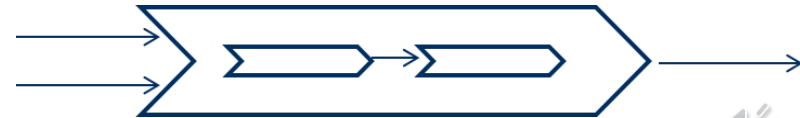


Definitions of Business Process

- “A set of activities that takes one or more types of input and turns them into an output of greater value to the customer” [Hammer]



- “A specific ordering of work activities across time and place, with a beginning, an end, and clearly-defined inputs and outputs” [Davenport]



Which Business Processes Exists?

It is the organization itself that decide what business processes exists, which activities are included in the processes, and how the processes start and end

Example of business processes in an organization:

- Sales process
- Production process
- Order process (which can be part of the sales process)
- Delivery process (which also can be part of the sales process)
- Quality assurance process
- Procurement process
- Labour hiring process



Business Process Instance

- By business process we either mean a **business process instance** or **business process type**



Business Process Instance

- A business process instance (sometimes called case) is the actual carrying out (often called execution) of the process in the real world, resulting in the production of actual goods and/or services.



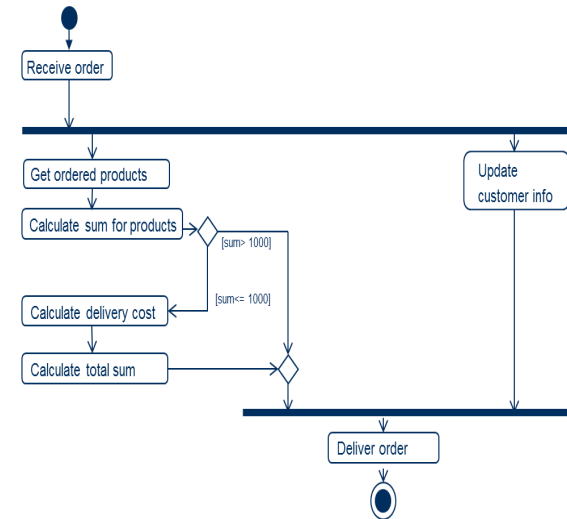
Business Process Type

- A business process type is a grouping business process instances that aim at reaching similar goal in a similar way.
- A business process type can be seen as a idea or understanding of how a business process instances of the same type are or should be carried out



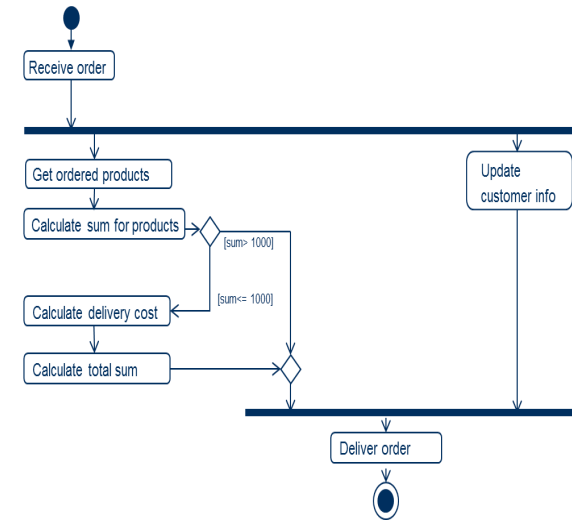
Business Process Model

- Both business process types and business process instances can be represented as models
- However, it is **usually the business process types that are represented as models**, thereby presenting a map of how business processes instances are or should be carried out



Business Process Model

- A **business process model** is a representation of a business process type (if it is not explicitly stated that it is an instance)
- The business process model may be illustrated by means of diagrams of various kinds complemented by textual descriptions and perhaps formal rules



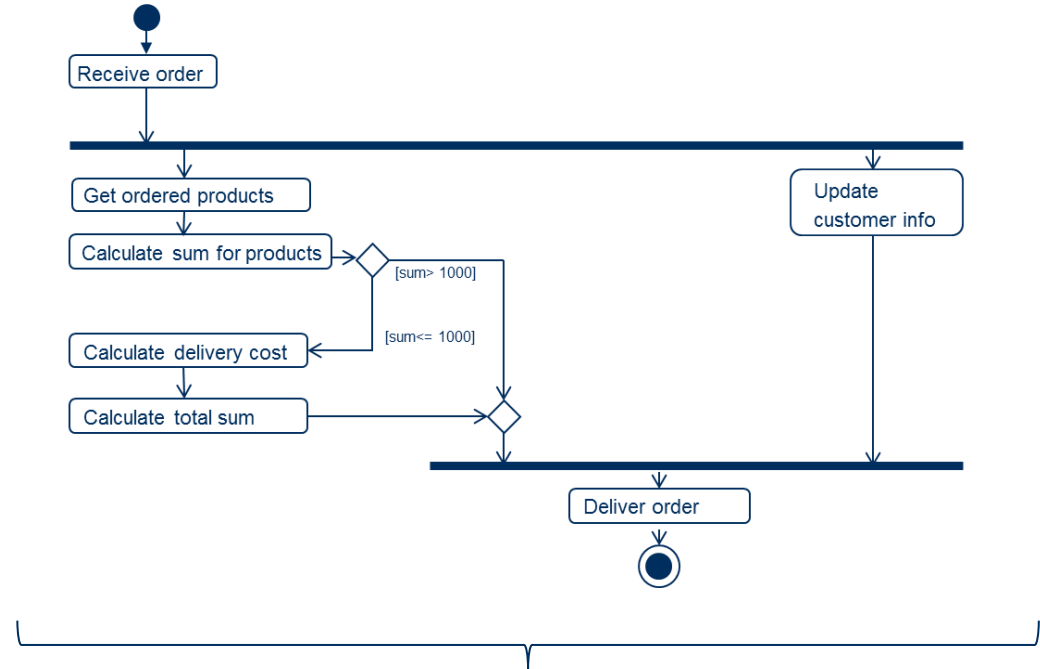
Process Models



Business Processes Models



Abstract description
of a Sales Process



Detailed description of Sales Process



Why Create Process Models? 1(2)

Different goals for creating a business process model:

- **To better understand the business**, that is, understand what activities are actually carried out in what order
- **To analyse business processes to find problems** within the existing business processes
- **To design more effective business process** - for example, more productive/efficient processes, higher quality processes, more compliant processes



Why Create Process Models? 2(2)

Different goals for creating a business process model (cont):

- **To automate business processes** – or part of them, to create more productive/efficient processes. Such automation require that it is made clear what part of the process that should be automated
- **To identify requirements on IT** - since IT needs to be designed to support business processes



From Whom's Perspective are Process Models Created?

Examples of perspectives:

- The organization's perspective, or more precisely:
 - Owners' perspective
 - Executive/Management's perspective
 - Process Participants' perspective
- The customers' perspective
- The suppliers' perspective

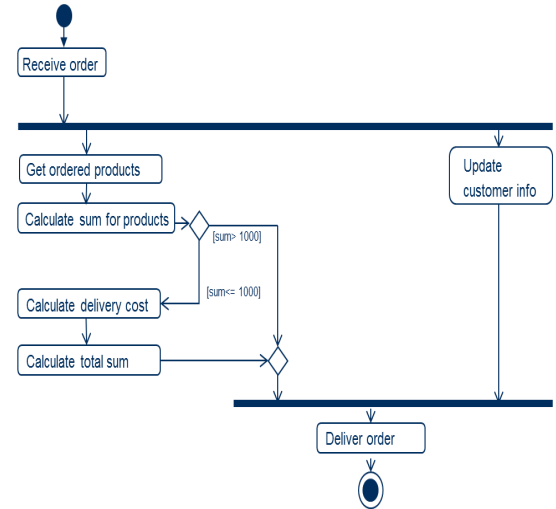


Goal and Perspective

The goal (purpose) and perspective of business process models should be explicitly stated - to support the design as well as interpretation of the process models

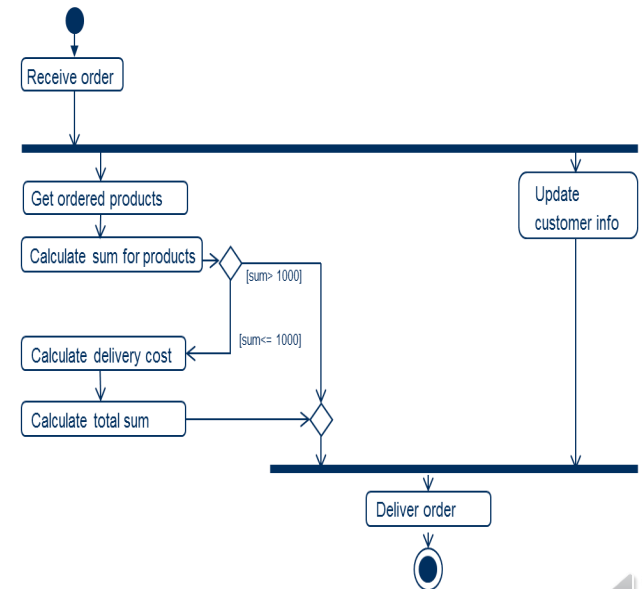
Example:

- *Goal of Business Process Model:* To identify requirements on IT
- *Perspective of Business Process Model:*
Executive/Management's perspective



As-is vs. To-be Process Models

- Business process models can be **descriptive**, i.e. they depict the current way working of the process. These models are often called **as-is models**
- Business process models can be **prescriptive**, i.e. they prescribe a desired state. The models are often called **to-be models**



Modelling Languages

- There are many different modelling languages (sometimes called modelling techniques) that can be used for modelling business processes. The different languages focus on different concepts and thereby give different focus on the business processes
- Business Process Modelling Languages can focus on:
 - the order of the activities (such as UML Activity Diagrams, Event Process Chain, BPMN)
 - input and output (such as IDEF0)
 - states of a process (such as UML State Machine Diagrams)



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