# *Good Models*

Some Criteria for good models

■ Salient – selectively represent those things that are most relevant to the task at hand

■ Accurate – The  model should precisely encode the actual state of affairs and not an erroneous or biased view

■ Completeness vs. parsimonious – The model should be as simple as possible, but no simpler

■ Understandable – The audience must be able to make sense of the model; it should not be too complicated or unfamiliar

■ Coherent – Models do not exist in isolation but in interlocking systems, thus any particular model should be coherent with other related models.

Source. M. Clemens, http://www.idiagram.com/ideas/models.html

# *Principles of Proper Modelling*

- Correctness

- Relevance

- Economics

- Understandability

- Comparability

- systematic construction

**The principles can be clarified by explicit modelling conventions**

# *Modelling Conventions*

- Objective:
  - ♦ consistent use of modelling techniques
  - ♦ reduce variability of modelling
  - ♦ improve understandability of models

- Categories of conventions
  - ♦ modelling elements
  - ♦ naming conventions
  - ♦ layout conventions
  - ♦ granularity – level of detail

# *Granularity – Level of Detail*

BPMN covers all different levels of modelling details:

- **Process Maps** – simple flow-charts of the activities; a flow diagram without a lot of detail other than the names of the activities and perhaps the broad decision *conditions.*

- **Process Descriptions** –provide more extensive information on the process, such as the people involved in performing the process (roles), the data, information and so forth.

- **Process Models** – detailed flow-charts encompassing sufficient information such that the process is amenable to analysis and simulation. Moreover, this more detailed style of model would also enable either direct execution of the model or import into other tools that could execute that process (with further work).

# Hierarchy of Model Details



- The process models of an enterprise are typically hierarchically organised

- At least 3 levels are usually distinguished
  - ◆ Enterprise level – process map
    - Core, support and management processes of an enterprise
    - every core processes "produces" one product or service
  - ◆ Main Process Level – process model
    - Describing the main activities of a core process
  - ◆ Detailed Processes – process model
    - Sub Processes of a core process

- For larger companies it may be useful to have a second enterprise level where processes of a business division are collected

- Also the second and third level can be further separated, depending on the required level of detail.
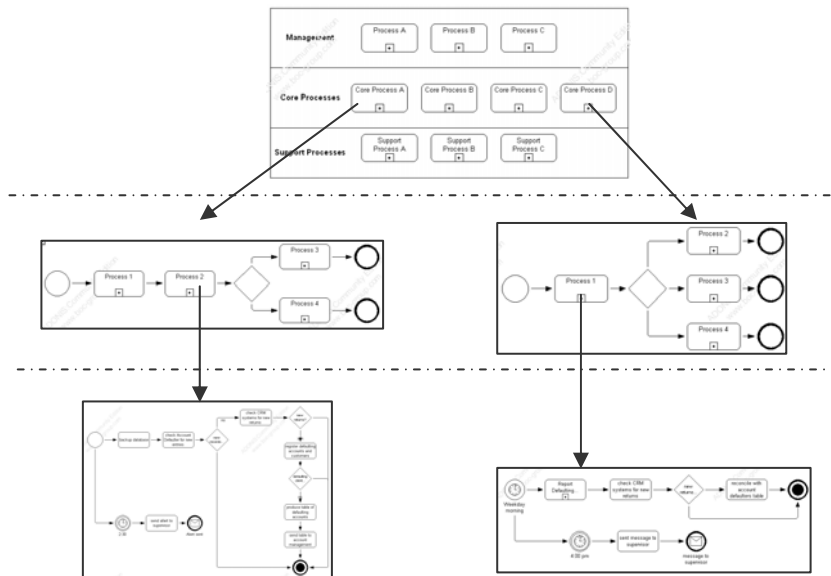
# Hierarchy of Model Details
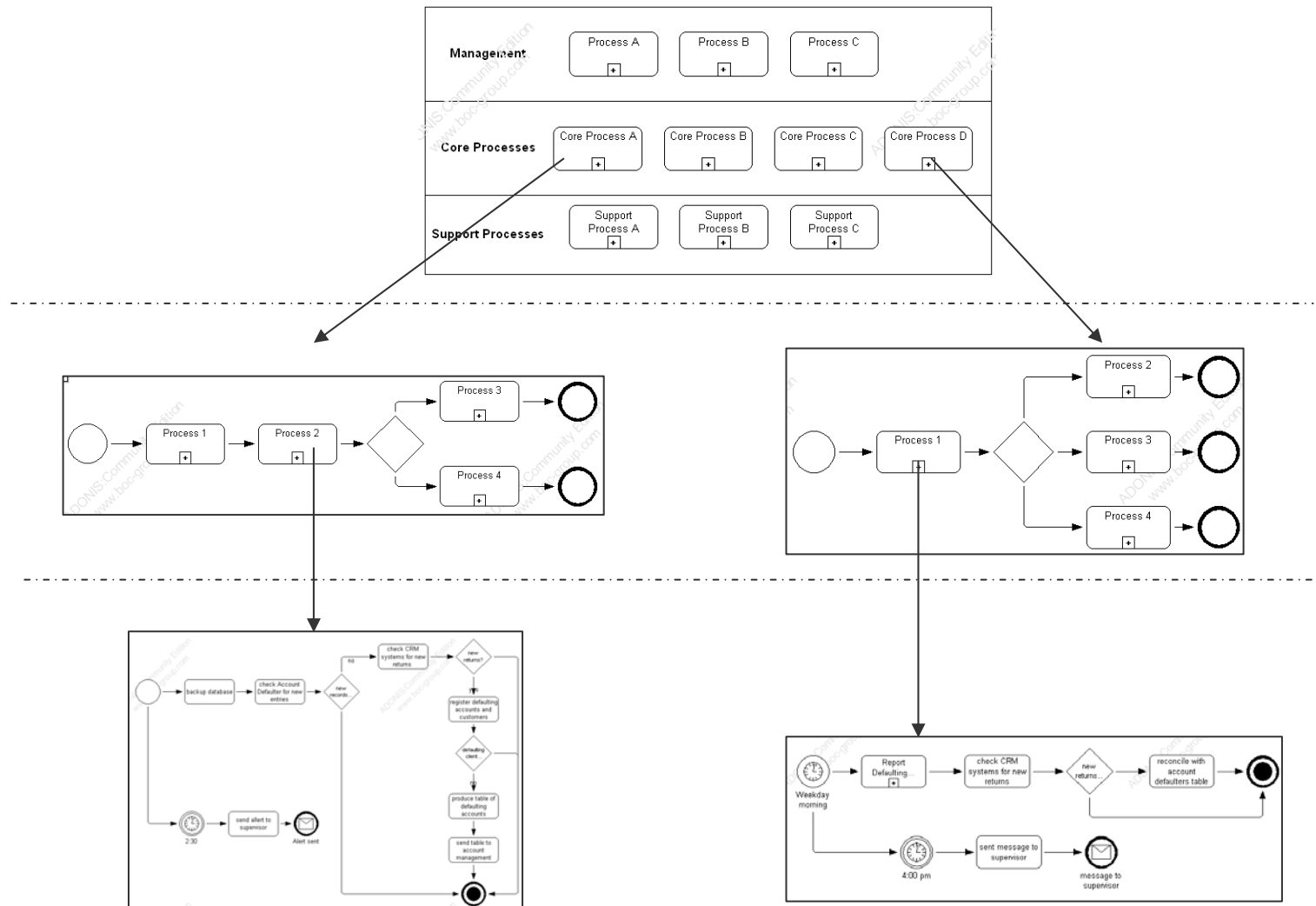
# *Naming and Layout Conventions*

- Rules for naming objects and models
  - Naming activities with verbs
    - Example: "*document requirements*" instead of "requirements documentation"
    - Reason: Verbs make clear that an activity is meant and not an object (the document with the requirements)
  - Glossary of prefered names for processes, departments, roles people etc.

- Specify visualization of objects and models
  - Specify size, form, color of objects and relations
  - Specify a preferred modelling direction and use it consistently
    - either horizontally or vertical

# *Level of Detail*

- All models at the same level should have comparable level of detail

- Finding a good level of detail is a core question of modelling
  - "as detailled as necessary"
  - "less details as possible"

- There are no general "objective" criteria for the adequate level of detail
  - adequate level of detail depends on the objective of the model (description vs. execution)
  - Find an adequate level by intensive consultation between modellers ("trial and error")

- Some general thoughts
  - new tasks whenever responsibility for the work changes
  - each task should process a (data) object as a whole (customer data instead of name, adress, email etc.)