

Business Process Modelling - Orchestration, Choreography, Collaboration

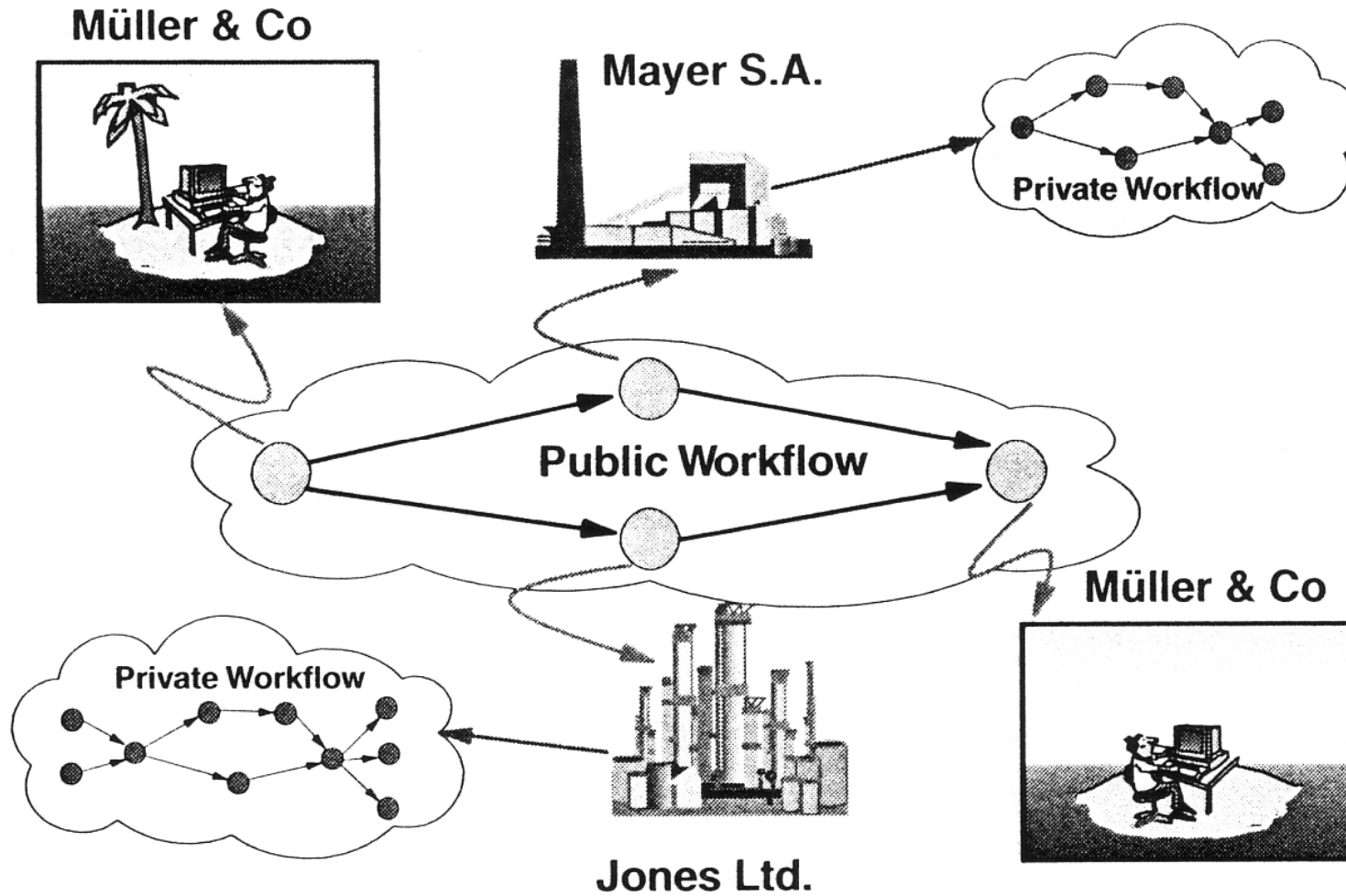
Knut Hinkelmann



Public vs. Private Processes

- Often multiple agencies (organisations, companies) cooperate, e.g.
 - ◆ Classical purchasing scenarios with customer, retailer and transporter
 - ◆ Partnership where different partners with their resources and know how contribute to a service or product
- In this case we can distinguish between public and private processes
 - ◆ Public Process: coordinates work between partners
 - describes the inter-organisational cooperation
 - internal processes of the partners are treated as "black boxes"
 - Specifies the information and objects that are exchanges between partners
 - ◆ Private Process: Process within one organisation
 - Detailed process flow for each partner

Public and Private Processes



Private and Public Processes in BPMN

- BPMN uses Pools when representing the interaction between an organisations and participants outside of its control.
- Each participant operates a separate process represented by pools.
- Within a company, a single pool covers its own internal operations. It is only when it interacts with external participants that additional pools are required.
- Message Flow cannot communicate between Tasks inside a single Pool. This is what Sequence Flow and data flow does.
- Message Flow moves the Process from one agency to another.

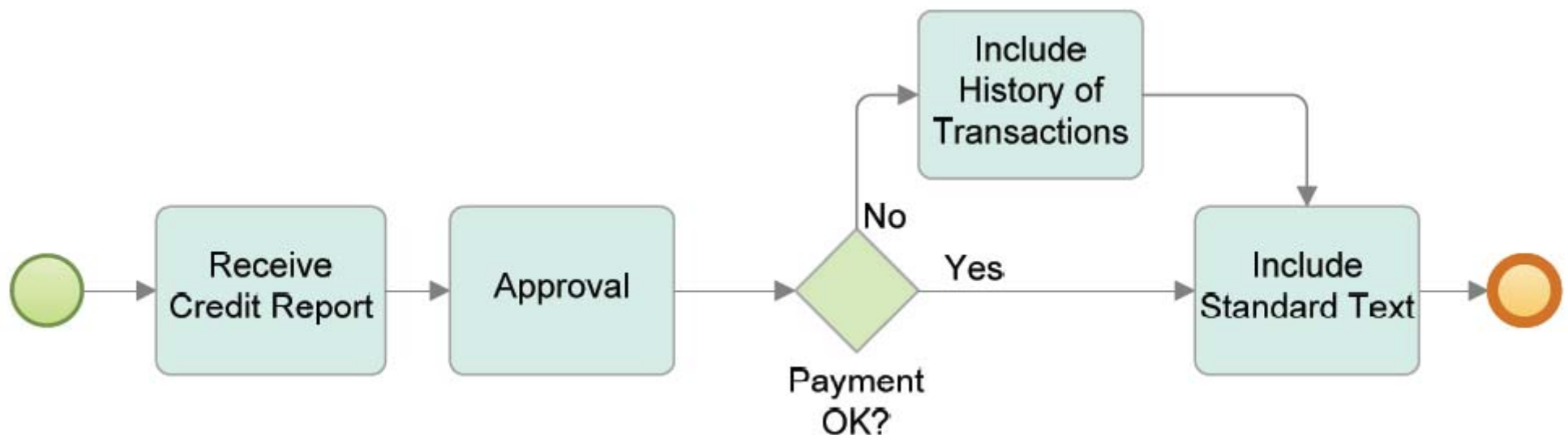
Orchestration, Choreography, and Collaboration

- BPMN supports three main categories of Processes:
 - ◆ Orchestration
 - ◆ Choreography
 - ◆ Collaboration
- Orchestration models imply a single coordinating point of view. An orchestration Process describes a process within a single business entity.
 - ◆ An *orchestration* is contained within a Pool and normally has a well-formed context.
- A *choreography* process model is a definition of the behavior between interacting *participants*.
 - ◆ A *choreography* does not exist within a well-formed context or focus of control. There is no central mechanism that drives or keeps track of a *choreography*. Therefore, there are no shared data available to all the elements of the *choreography*.
 - ◆ To place choreography within BPMN diagrams is to put them between the Pools.
- Collaboration shows the participants and their interactions
 - ◆ In BPMN a collaboration only shows Pools and the message flow between them

(White & Miers 2008, pp. 29ff)

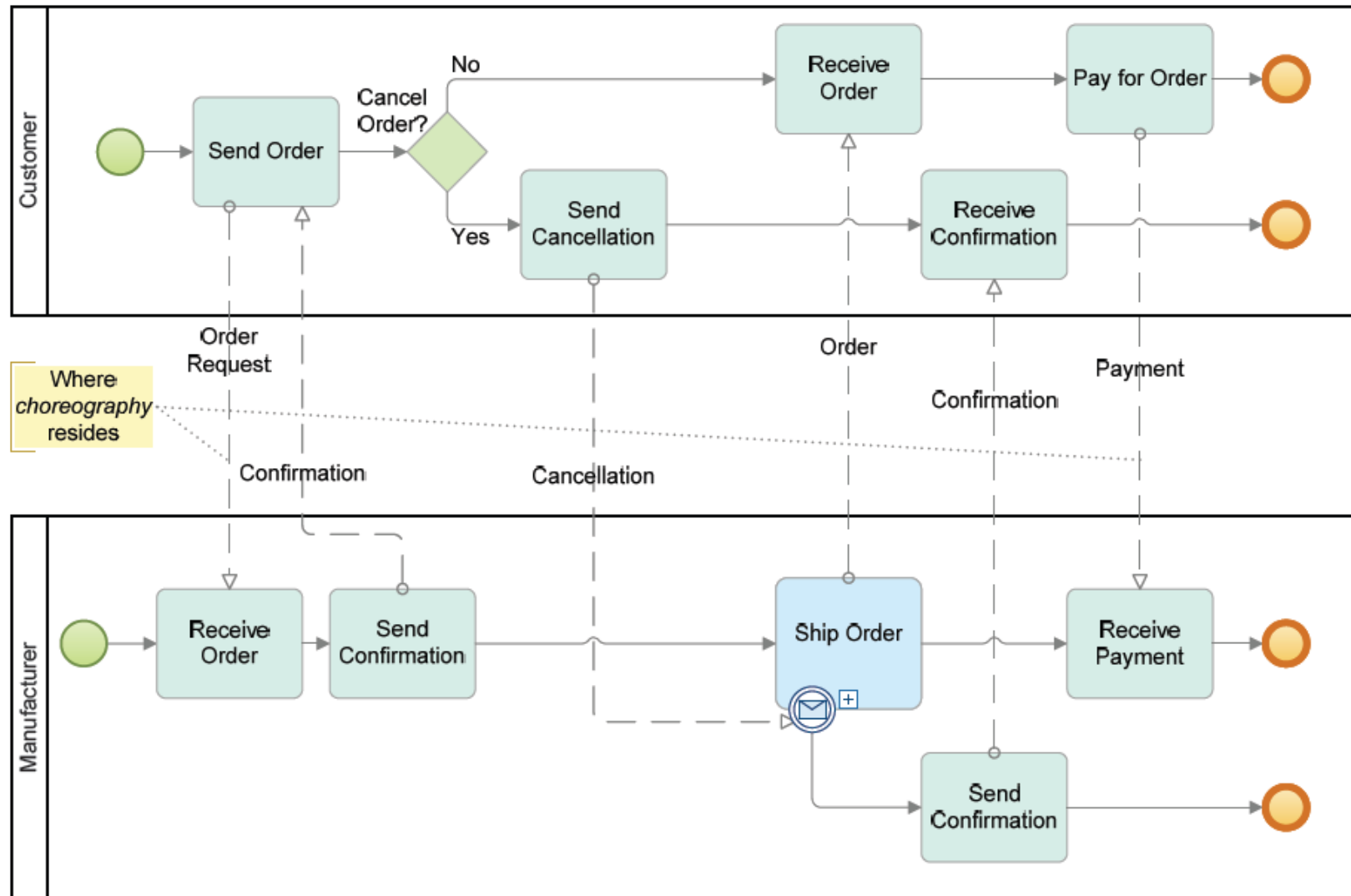
Orchestration in BPMN

- A BPMN diagram may contain more than one *orchestration*. If so, each *orchestration* appears within its own container called a Pool. Thus, *orchestrations* (i.e., Processes) are always contained within a Pool.



(White & Miers 2008, p. 29)

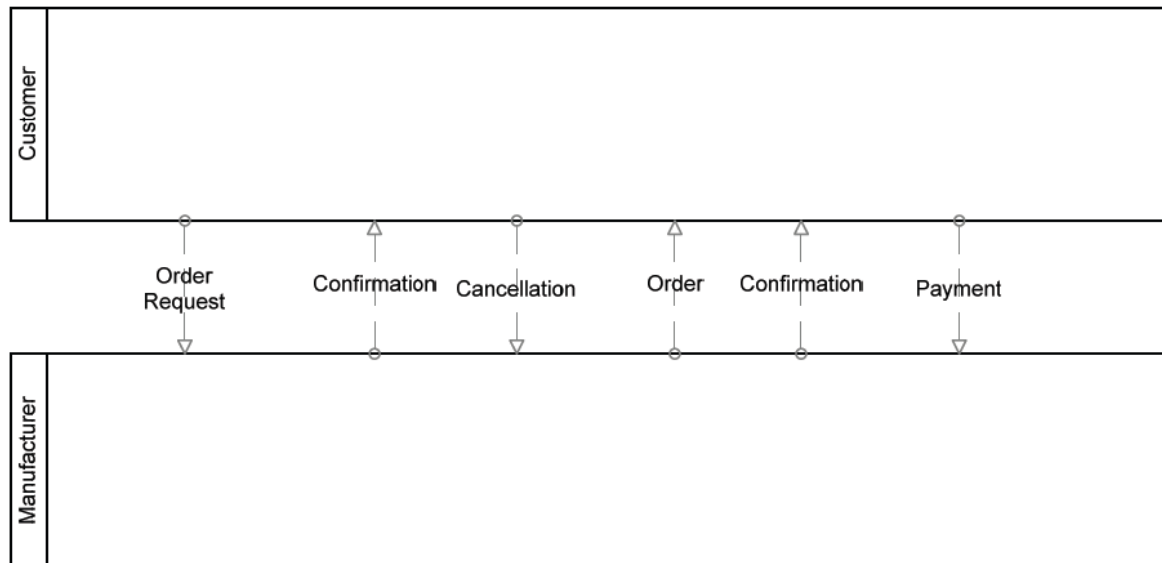
Choreography Example



(White & Miers 2008, p. 30f)

Collaboration

- Collaboration has a specific meaning in BPMN.
- Where a choreography defines the ordered set of interactions between participants, a collaboration simply shows the participants and their interactions.
- To be more specific, a collaboration is any BPMN diagram that
 - ◆ contains two or more participants as shown by Pools.
 - ◆ The Pools have Message Flow between them.



(White & Miers 2008, p. 31f)

- What is the relation between
 - ◆ Public/Private Workflow
 - ◆ Orchestration/Choreography?

