Business Process Modelling - Orchestration, Choreography, Collaboration

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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

Müller & Co

Mayer S.A.

Private Workflow

Public Workflow

Private Workflow

Jones Ltd.

Müller & Co
Private and Public Processes in BPMN

- BPMN uses Pools when representing the interaction between an organisation 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?