

# Business analysis & BPM methodologies

PV207 – Business Process Management

Spring 2015

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# Last lecture recap

- Service Oriented Architecture and BPM

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- 3 meanings of the word “service”

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- 3 meanings of the word “service”
- Enterprise Service Bus
- Web services
  - WSDL
  - SOAP

# Lecture overview

- Why a methodology for BPM development?
- Methodology overview
- BPM and SOA again
- BPM development approaches
  - Top down
  - Bottom up
  - Meet in the middle
- CBM in a nutshell
- Library scenario:
  - Strategy and vision
  - Goals, objectives and KPIs
  - CBM heat map
  - Stakeholders identification
  - Business components
  - Processes and services
  - Process description
  - Process BPMN diagram

# Why we need specific methodologies for BPM-oriented development?

- **BPM differ significantly from traditional data-based approach** to system design
  - Special analysis & design steps needed
  - Traditional methodologies do not fit
- **BPM oriented SW solutions depend on proper organisation structure**
- **BPM discipline has impact both on business structure and EIS**
- **Organisation changes are often necessary**
- **Processes have to be aligned with business**

# Some significant BPM methodologies

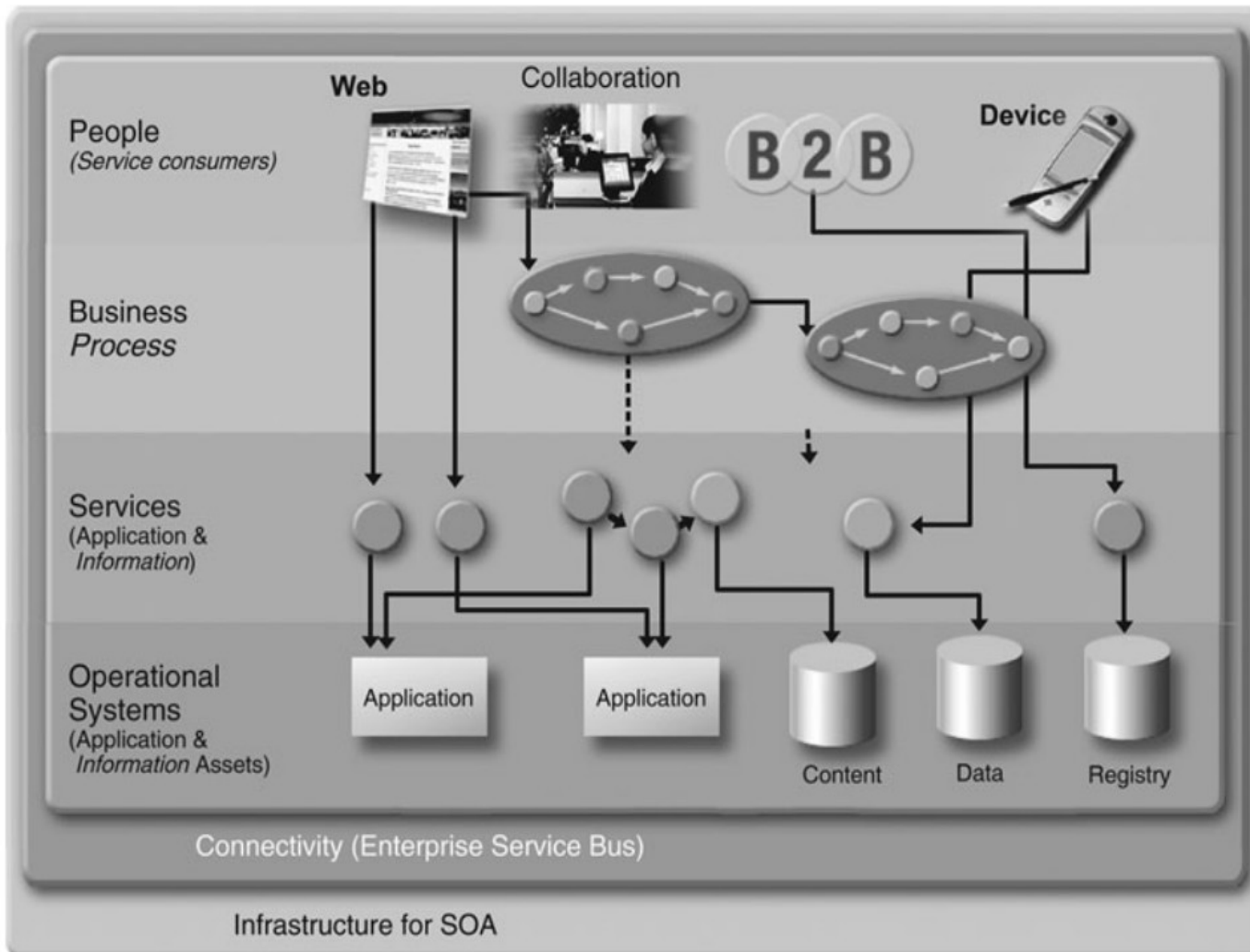
- **General BPM methodology (Mathias Weske)**
  - Rather general, End-to-end, very complete
- **CBM-BPM-SOMA**
  - IBM specific, proprietary, tight with IBM technologies
- **IBPM**
  - Focused on general organization of a BPM project
  - Emphasis on SOA-based implementation
- **BPM4SME**
  - End-to-end
  - Focused on small scale BPM adoptions
  - by Jiri Kolar



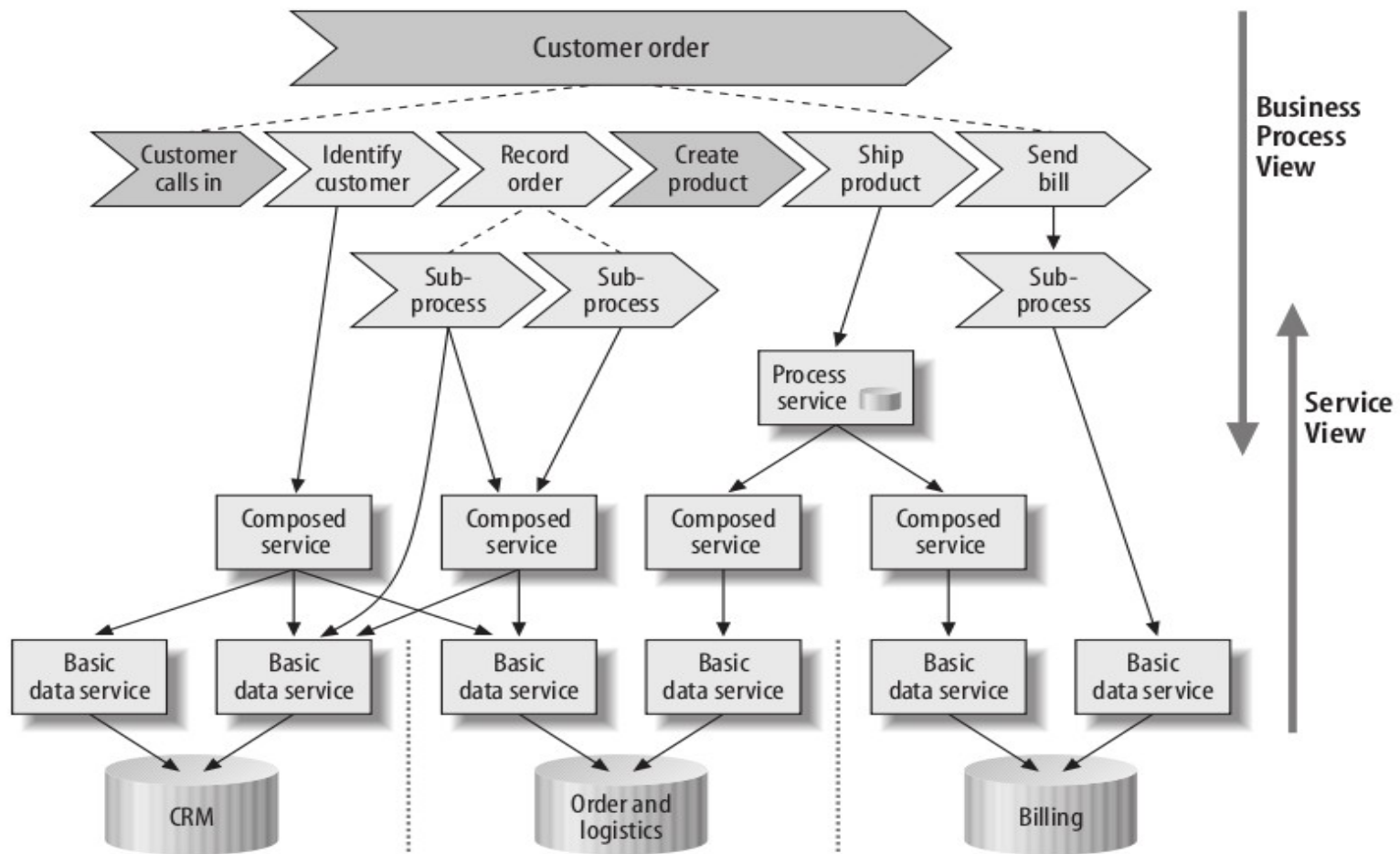
# Relationship of SOA and BPM

- **Process can be decomposed to activities**
- **Many automated activities are implemented as services** (service orchestration)
- We want to **assemble our processes** from many independent services
- At least a **basic SOA infrastructure** is useful for well implemented BPM solution
- SOA infrastructure provide flexibility we need to achieve process evolution and improvement

# Relationship of SOA and BPM (cont.)

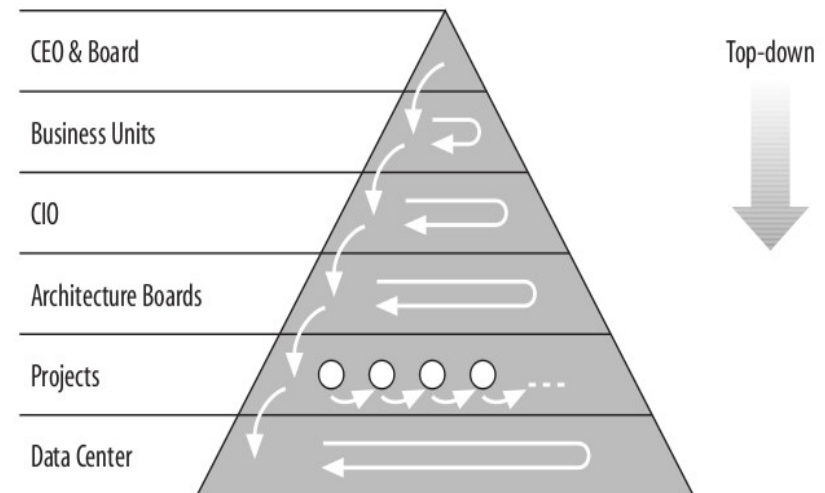


# Relationship of SOA and BPM (cont.)



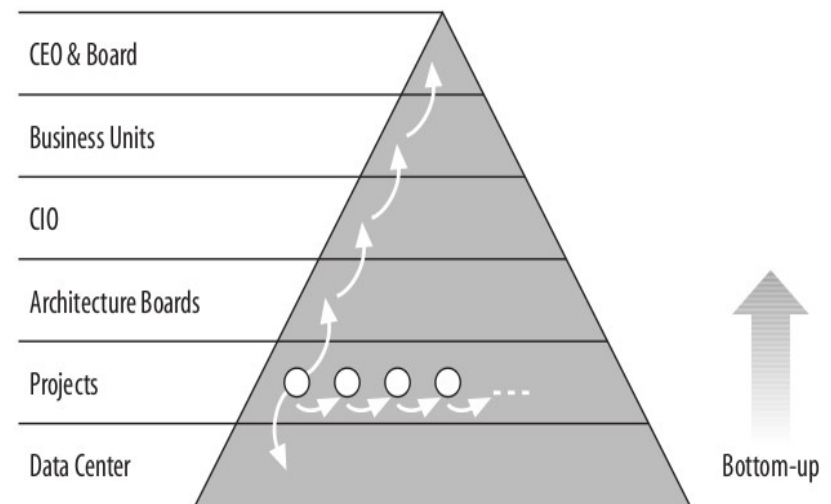
# Top down BPM development approach

- Sum business **strategy and vision**
- Identify/Define **business goals and objectives**
- Identify **business components and competencies**
- Define/Identify **processes and roles**
- Map to component competences
- Reuse/Implement required **services** and **SW components**



# Bottom up BPM development approach

- Identify **services** on lowest level (code)
- Identify **composed services**
- **Discover processes** (by hand, algorithmic)
- **Refine processes**
- **Map processes to Business Components** (CBM output)
- **Align with goals and strategy**

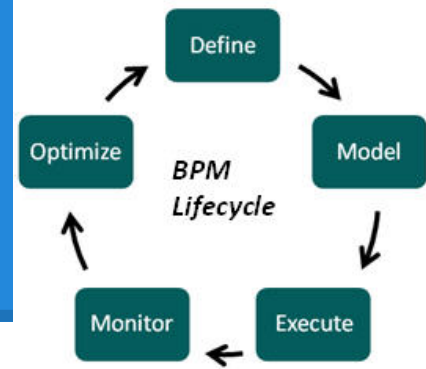


# Reality: Meet in the middle

## In parallel:

- Top down
  - Define/refine strategy and vision
  - Identify/refine goals and components
  - Define KPI/KRI
  - Identify components
  - Identify/define processes
- Bottom up
  - Identify existing services and SW components
  - Identify composed services
  - Assign to processes

# Recap (Lecture 2): BPM adoption phases



## 0. Business analysis

- Roles
- Goals
- Objectives
- AS-IS processes
- Process architecture
- Reengineering plan
- KPIs/Business Metrics

## 1. Process definition

- Process boundaries
- Business value
- Inputs/Outputs
- Process metrics
- Process Owner
- Roles

## 2. Process modeling

- Process models L1+L2
- (BPMN + text)

## 3. Implementation

- Executable models
- BPMN L3, BPEL, other

## 4. Monitoring

- Fault/error detection
- Performance measurement
- Tracking goal fulfillment

## 5. Process Improvement

- Process changes

# Business strategy:

## "A way we want to go"

- An organisation should state **clearly** it's purpose and it's goals
  - This is important for outside world as much for the company itself
- There should be a **mechanism for evaluation** of achievement of these goals
- Evaluation has to be **performed regularly**
- Results are used as an **input for continuous business improvement**
- Organisation **reflects changes in Business environment** by adjusting its strategy



# Business strategy: Mission and vision

## Simple and **clear** statements:

- **Vision:**

- Desired future state of the organisation
- Guiding, motivating, Inspiring, **Long term**

**Alzheimer's Association:** "Our Vision is a world without Alzheimer's disease."

**Microsoft:** "Empower people through great software anytime, anyplace, and on any device."

- **Mission:**

- Define current state and purpose
- Answer: what, who, how questions
- Short term, direct relation to Goals and objectives

**NatureAir:** "To offer travelers a reliable, innovative and fun airline to travel in Central America."

# Business strategy: Goals and objectives

Desired outcomes, things we want to achieve:

- **Goals**

- The purpose toward which an effort is directed.
- Long term, general intentions, hard to measure

**Goal:** Students will gain a greater appreciation for poetry.

- **Objectives**

- Narrow, concrete easy to measure
- Achievable in mid-to-short term
- Related to a goal

**Objective:** read at least 10 poems

**Objective:** attend 2 live poetry readings

**Objective:** identify 4 different poems used in lyrics of modern music

**Objective:** write a poem containing 3 verses

# Performance measurement

- **Metric**

- Standard measurement
- Related to one instance of object/process/service

**Metric:** Incident resolution time

**Metric:** Incident severity

- **Performance Indicator/ Key PI ~ KPI**

- Actual/short term measurement = input for action
- Indicator of actual business performance

**KPI:** Number of incidents in progress, number of incidents waiting for input

- **Result Indicator/ Key RI ~ KRI**

- Result from the past = input for planning
- Indicator of recent business performance

**KRI:** Unresolved incidents this month, quartal average incident solving time

# Measurement guidelines

- Make sure you are able to compute or estimate values for your indicators
- Make sure you give a frame to your indicators
  - Time frame, milestone, limit
  - Wrong: number of logged incidents
  - Correct: number of logged incidents per week
- Make sure you have a driver for measurement ~ relation of your indicator to a goal/ objective / SLA / contract..

# CBM in a nutshell (cont.)

- Each Business Component provide certain **business competencies**
- Ex.: Competencies of marketing department
  - Advertising
  - Product promotion
- **We map our processes to competencies**

# CBM in a nutshell

- Component Business Modeling is a technique introduced by IBM for **business modeling and analysis**
- **CBM splits enterprise to separate "building blocks"** - business components

*"A **business component** is a grouping of the people, technology, and resources delivering specific business value and able to operate independently" --Principal architect for SOA, IBM*

- **Example:** Marketing department
- CBM is primary Business modeling concept
- Very important in **outsourcing context**

**Questions?**  
**Break 10mins**

# Example: Library scenario

Strategy and vision:

We want to provide best **library services in town** by offering **easily accessible book rentals** through **simple time saving rental process**.

We help people to **extend their knowledge in modern way** by **offering access to all major electronic information sources** and provide 24/7 support to information consumers..



# Library scenario: Goals and objectives (cont.)

- Goal: Provide access to all major forms of modern electronic information sources
  - Objective: Provide access to common internet sources and to 40 major digital libraries
    - KRI: Number of accesses per library / month
  - Objective: Sell electronic books and reading devices
    - RI: Turnover and profit in devices sold / Quartal
    - KRI: Number of electronic books sold per sold device
  - Objective: Provide separate high-speed access for mobile devices
    - KPI: average response time of service today
    - PI: number of simultaneously connected users

# Library scenario: CBM heat map

	Business administration	Front office (Book rental)	IT department	Finance department
Directing	Business planning	Rental planning	IT infrastructure planning	Financial planning
Controlling	Business unit tracking	Rentals management	IT management	Accounting
	Staff appraisals	Services management	Infrastructure monitoring	
Executing	Purchasing books	Renting book	Systems maintenance	Billing
	Services administration	Providing services	system development	
		Rentals	Providing IT support	Handling penalties

# Library scenario: Stakeholders involved

- State administrative (Regulations, state funding)
- Library management
- Library employees (staff)
- Readers
- Banks (online payments)
- Business partners (device resellers)
- Service providers (digital libraries)

# Library scenario: Processes and services

- Objective:  
Provide full-featured 24/7 online IS for readers
  - Process: Register new reader
    - Service: Create reader's record
    - Service: Update reader's details
    - Service: Subscribe reader for service
  - Process: Book reservation
    - Service: Find book according to name or ISBN
    - Service: Retrieve book rental state
    - Service: Reserve book for certain period of time

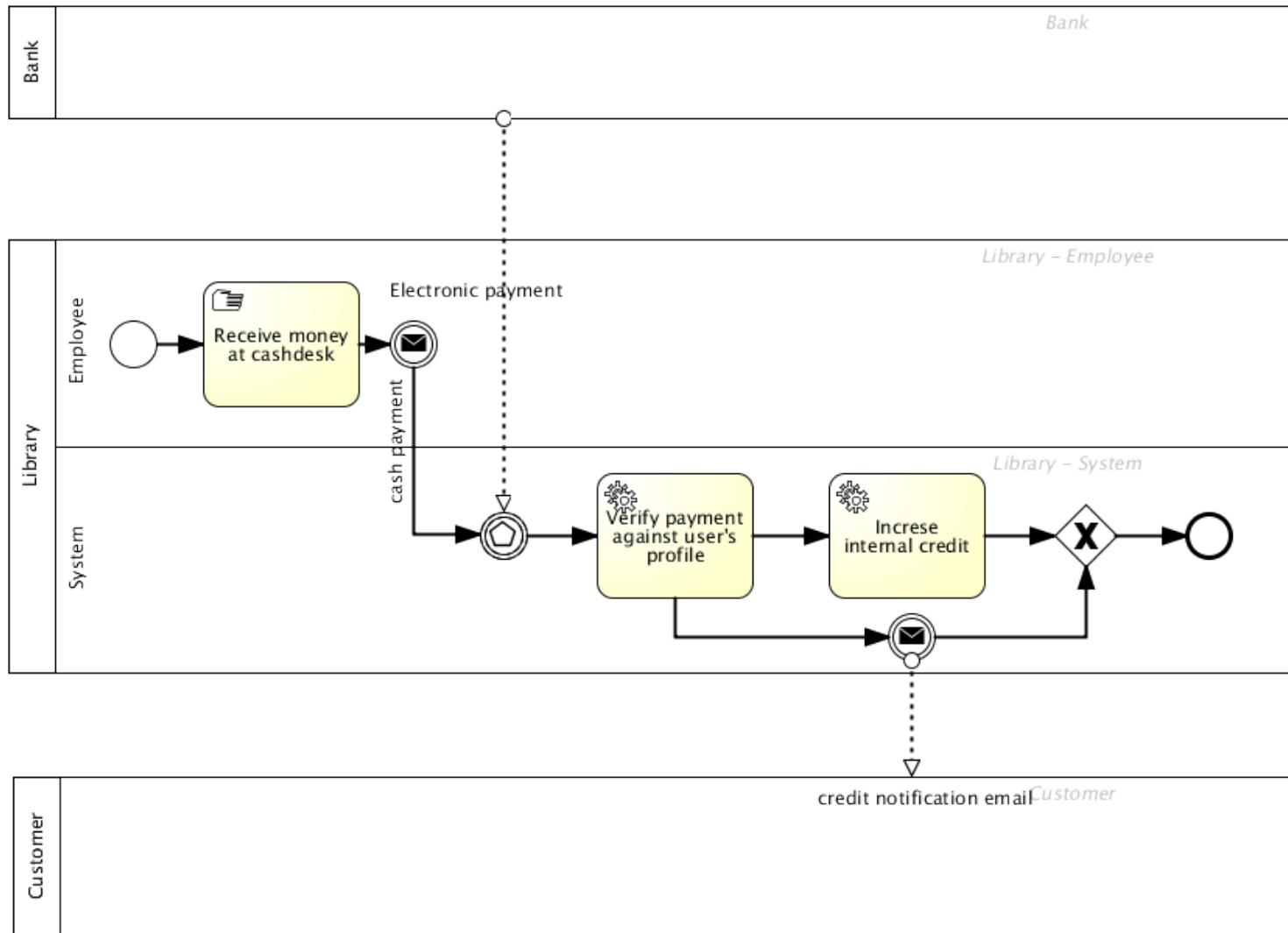
# Library scenario: Processes and services (cont.)

- Objective: Introduce 3-steps-3-minutes e-payment method
  - Process: Direct electronic payment
    - Service: Verify payment credits
      - Composed service: Create invoice
      - Metric: Manual corrections necessary
    - Service: Retrieve payment details
      - Metric: processing time
    - Service: Retrieve order details
      - Metric: processing time

# Library scenario: Process: Charge internal credit

<b>Process name</b>	<b>Charge internal credit</b>	
<b>Description</b>	Registered <b>customer</b> pay certain amount of money. Money are received either through direct electronic from <b>bank</b> , or at <b>cash desk</b> in cash . <i>Payment</i> is verified against <i>user's profile</i> by <b>system</b> and <i>internal credit</i> is increased for certain <u>amount</u> . <b>Customer</b> receive bill and credit notification.	
<b>Input:</b>	<i>Payment</i>	
<b>Output:</b>	<i>Credit amount</i>	
<b>Data objects:</b>	<i>Payment</i> : payment information <i>User's profile</i> : contain information about user such as personal details and activated payment methods	<i>Credit amount</i> : actual user's credit
<b>Roles:</b>	<b>Customer, System, Cash desk, Bank</b>	
<b>Metrics:</b>	Payment amount	
<b><u>KPI's</u>:</b>	Sum of all charge amounts per day	

# Library scenario: BPMN: Charge internal credit



# Analysis structure recap

Strategy and vision (Clean and simple text)

- Goal
- Goal
  - Objective
  - **Objective**
    - KPI/KRI PI/RI
    - Process
    - **Process**
      - Service
        - Metric
      - **Composed Service**
        - Service
        - **Service**
          - Metric
          - Metric



# FIN

## Questions?

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