MTAT.03.231
Business Process Management

Lecture 2 – Process Identification

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Course structure

- **Weeks 3-4**: Process discovery
- **Week 2**: Process identification
- **Weeks 5-7**: Process analysis
- **Weeks 8-9**: Process redesign
- **Weeks 10-11**: Process implementation
- **Weeks 12-14**: Process monitoring and controlling
Many years later, as he faced the firing squad, Colonel Aureliano Buendía was to remember that distant afternoon when his father took him to discover ice. At that time Macondo was a village of twenty adobe houses, built on the bank of a river of clear water that ran along a bed of polished stones, which were white and enormous, like prehistoric eggs. The world was so recent that many things lacked names, and in order to indicate them it was necessary to point.
Process identification

What?
1. Identify an organization’s business processes
2. Prioritize their management based on certain criteria

Why?
1. Understand the organization
2. Maximize value of BPM projects
Process identification steps

1. Designation step
   - Enumerate main processes
   - Determine process scope

2. Prioritization step (aka Process selection)
   Prioritize processes based on:
   - Importance
   - Health
   - Feasibility

After Davenport (1993)
Process Enumeration

“Most businesses have just three core processes:
1. Sell stuff
2. Deliver stuff
3. Making sure you have stuff to sell and deliver”

Geary Rummler
Porter: Types of processes

After Michael Porter (1985)
Example: core, support and management processes

**Wholesaler**

**Core processes**
- Sales (lead-to-quote, quote-to-order, order-to-cash)
- Direct procurement (supplies replenishment)
- ...

**Support processes**
- Indirect procurement (parts replenishment, operational resources replenishment...)
- HR (policies update, recruitment, induction, probation...)
- ...

**Management processes**
- Suppliers management (suppliers planning, suppliers acquisition...)
- Logistics management (logistics planning, logistics controlling...)
- ...
Relations between core, support, mgt processes

Management processes provide direction, rules and practices

Core processes generate value as they are directly linked to external customers

Support processes provide resources to be used by other processes
Example: process architecture

Wholesaler

Management processes
- Strategic Management
- Logistics Management
- Suppliers Management
- Warehouse Management
- Demand Management

Core processes
- Direct procurement
- Sales
- Distribution
- Marketing
- Service

Support processes
- Finance
- Indirect procurement
- IT
- HR

Process group
Example: process architecture

Insurance company

- Strategic Management
- Corporate Development
- Market Development
- Investor Relations

Management processes

- Risk Assessment & Management
- Marketing & Sales
- Underwriting Management
- Policy Servicing
- Claims Management
- Payments Collection and Disbursement
- Assets Management

Core processes

- Finance/Treasury
- Legal/Audit
- Reinsurance
- IT
- HR

Support processes
Process Architecture Example

Television New Zealand
Exercise: identify process types

These groups of processes are typically performed at a university. Categorize each process group as core, support or management.
Solution: identify process types

- Strategic Management
  - Course Management
  - Additional services mgmt

Management processes

Core processes
- Admission
- Marketing
- Teaching award courses
- Language training
- Teaching professional courses
- Sport services

Support processes
- Finance
- Indirect procurement
- IT
- HR
Process scoping

Processes are interdependent → insights into interrelations required

- **Specialization**: general – special product/service
- **Horizontal**: upstream – downstream processes and their value chains
- **Vertical**: main processes – sub-processes

Process architecture
Value chain modeling

• Chain of *processes* an organization performs to deliver value to customers and stakeholders

• More generally, a mechanism to group high-level business processes according to an order relation (can be applied to core, support and management processes)
Guidelines to identify horizontal boundaries in value chains

1. Change of key business object in the process
2. Change of granularity of main business object
3. Change in frequency/time
4. Change in intermediate outcome/resolution/objective
Example: value chain

Wholesaler
Core processes
Building up a value chain (for core processes)

Think around three main steps:

- Imagine it (design new product/service)
- Build it (source, assemble, deliver product/service)
- Sell it (market, sell, service product/service)

Example: Producer

Stocked products:
- Source stocked products
- Make-to-stock
- Deliver stocked products
- Service stocked products

MTO products:
- Source MTO products
- Make-to-order
- Deliver MTO products
- Service MTO products

ETO products:
- Source ETO products
- Engineer-to-order
- Deliver ETO products
- Service ETO products
Example: value chains for service provider

IT service provider

- Design
- Market
- Sales
- Deliver
- Service

Systems Integration

Outsourcing

Network Services

Enterprise Server Technology
Example: value chain of non-core processes

Support processes

HR:
Recruitment → Induction → Probation → Performance planning & review

Accounting:
Payroll → Book-keeping → Reporting & Analysis → Auditing

Management processes

Suppliers management:
Suppliers evaluation → Contract signing → Sourcing procedure definition

Risk management:
Risk identification → Risk analysis → Risk evaluation → Risk treatment
Example: process architecture & value chains

Wholesaler

Management processes
- Strategic Management
- Warehouse Management
- Logistics Management
- Suppliers Management
- Demand Management

Core processes
- Direct procurement
- Sales
- Distribution
- Marketing
- Service

Support processes
- Finance
- Indirect procurement
- IT
- HR

Chevron: collapsed value chain

Box: groups processes/value chains
Alternative: process architecture – groups

Consultancy Firm

Management processes

1.1 Plan the Business
1.2 Govern the Business
1.3 (Re)design Processes
1.4 Develop Methods & Standards
1.5 Change the Business

Core processes

1.1 Optimize Stakeholder Relationships
2.2 Develop Service Offerings
2.3 Raise Awareness of Services
2.12 Evaluate Client Solution Delivery
2.1 Optimize Stakeholder Relationships
2.2 Develop Service Offerings
2.3 Raise Awareness of Services
2.12 Evaluate Client Solution Delivery
2.4 Plan Delivery of Service to Service Corp.
2.5 Gain Initiative Commitment
2.13 Adjust Portfolio
2.6 Deliver Infrastructure Solutions
2.7 Deliver Business System Solutions
2.8 Provide Professional Services

Optimize Portfolio

2.4 Plan Delivery of Service to Service Corp.
2.5 Gain Initiative Commitment
2.13 Adjust Portfolio
2.6 Deliver Infrastructure Solutions
2.7 Deliver Business System Solutions
2.8 Provide Professional Services

Optimize Solutions

2.9 Operate Infrastructure & Business Systems
2.10 Retire Solutions
2.11 Support Users

Support processes

3.1 Provide Expert Advice & Knowledge
3.2 Provide HR Capabilities
3.3 Provide IT Tools
3.4 Acquire Goods & Services
3.5 Obtain Financial Services
3.6 Provide Working Facilities

Support Firm

Expanded process group
Typical artifacts for vertical scoping

**Value chains**
Chains of processes. Stay at a high level. Rule of thumb: 3-7 processes
- *Procure-to-service, Risk management*

**(Root/Main) Processes**
Build up value chains and affect each other. They are abstract
- *Lead-to-quote, Quote-to-order, Order-to-cash*

**Subprocesses**
Build up processes. They are detailed, involve multiple activities and can be layered on different levels of abstraction (i.e. sub-subprocesses)
- *Order shipment, invoicing*

**Process tasks**
Build up processes and sub-processes. They are atomic and performed by human beings, IT systems or equipment
- *Approve invoice*
Process architecture: hierarchical view

Level 1
Process Landscape

Level 2
Main Processes (e.g. BPMN)

Level 3+
Subprocesses, Tasks (e.g. BPMN)
How many levels in the process architecture?
Example: process hierarchy

Insurance company

Level 1

Management processes

Strategic Management
Corporate Development
Market Development
Investor Relations

Risk Assessment & Management
Marketing & Sales
Underwriting Management
Policy Servicing
Claims Management
Payments Collection and Disbursement
Assets Management

Core processes

Finance/Treasury
Legal/Audit
Reinsurance
IT
HR

Support processes
Example: process hierarchy

Insurance company

Level 2

- **Strategic Management**
  - Define business concept & long-term vision

- **Corporate development**
  - Design & manage corporate policies

- **Marketing development**
  - Define offering and customer value proposition

- **Investor relations**
  - Plan investor relations

- **Develop business strategy**
  - Manage knowledge
  - Define pricing strategy

- **Manage strategic initiatives**
  - Manage change & improvement
  - Define and manage channel strategy

- **Process group**
  - Manage partners
  - Manage investments & divestments

- **Process subgroup**
  - Communicate with stakeholders
Example: process hierarchy

Insurance company

Level 3

Management processes

- Develop business strategy
- Evaluate strategic options
- Select long-term business strategy
- Coordinate functional and operational strategies
- Align functional and operational strategies
- Create organisational design
- Develop organisational goals
- Formulate business unit strategies

- Define offering and customer value proposition
- Develop value proposition
- Validate value proposition
- Develop new branding

- Process subgroup
- Main process
Example: process hierarchy

Insurance company

Level 4

- Develop overall mission statement
- Define current business
- Formulate mission
- Communicate mission

Main process

Subprocess
Designation via reference models

A reference model is used as a template to design the process architecture

Examples:
- Information Technology Infrastructure Library (ITIL)
- Supply Chain Operations Reference Model (SCOR)
- Process Classification Framework (PCF)
- Control Objectives for Information Technology (COBIT)
- Value Reference Model (VRM)
- Voluntary Interindustry Commerce Solutions (VICS)
- eTOM Business Process Framework
- Performance Framework
Example: APQC Process Classification Framework (PCF)

- Industry-neutral enterprise model
- Open standard for benchmarking
- Four levels
  - Categories
  - Process group
  - Process
  - Activity
APQC PCF Overview

OPERATING PROCESSES

1.0 Develop Vision and Strategy
2.0 Design and Develop Products and Services
3.0 Market and Sell Products and Services
4.0 Deliver Products and Services
5.0 Manage Customer Service

MANAGEMENT AND SUPPORT SERVICES

6.0 Develop and Manage Human Capital
7.0 Manage Information Technology
8.0 Manage Financial Resources
9.0 Acquire, Construct, and Manage Property
10.0 Manage Environmental Health and Safety
11.0 Manage External Relationships
12.0 Manage Knowledge, Improvement, and Change

Category
APQC Classification Framework

4.1.8.4 Identify performance trends (10273)
4.1.8.5 Analyze performance benchmark gaps (10274)
4.1.8.6 Prepare appropriate reports (10275)
4.1.8.7 Develop performance improvement plan (10276)
4.1.9 Develop quality standards and procedures (10368)
4.1.9.1 Establish quality targets (10371)
4.1.9.2 Develop standard testing procedures (10372)
4.1.9.3 Communicate quality specifications (10373)

4.2 Procure materials and services (10216)
4.2.1 Develop sourcing strategies (10277)
4.2.1.1 Develop procurement plan (10281)
4.2.1.2 Clarify purchasing requirements (10282)
4.2.1.3 Develop inventory strategy (10283)
4.2.1.4 Match needs to supply capabilities (10284)
4.2.1.5 Analyze company’s spend profile (10285)
4.2.1.6 Seek opportunities to improve efficiency and value (10286)
4.2.1.7 Collaborate with suppliers to identify sourcing opportunities (10287)
4.2.2 Select suppliers and develop/maintain contracts

4.3.1.4 Release production orders and create lots (10309)
4.3.2 Produce product (10304)
4.3.2.1 Manage raw material inventory (10310)
4.3.2.2 Execute detailed line schedule (10311)
4.3.2.3 Rerun defective items (10313)
4.3.2.4 Assess production performance (10314)
4.3.3 Schedule and perform maintenance (10305)
4.3.3.1 Determine process for preventive (planned) maintenance (Preventive Maintenance Orders) (10315)
4.3.3.2 Determine process for requested (unplanned) maintenance (Work Order Cycle) (10316)
4.3.3.3 Execute maintenance (10317)
4.3.3.4 Calibrate test equipment (10318)
4.3.3.5 Report maintenance issues (10319)
4.3.4 Perform quality testing (10369)
4.3.4.1 Perform testing using the standard testing procedure (10374)
4.3.4.2 Record test results (10375)
4.3.5 Maintain production records and manage lot traceability (10370)
4.3.5.1 Determine lot numbering system (10228)
APQC Classification Framework

Available industry sectors:
• Aerospace & Defense
• Automotive
• Banking
• Broadcasting
• Consumer Electronics Just released
• Consumer Products
• Education
• Electric Utilities
• Petroleum Downstream
• Petroleum Upstream
• Pharmaceutical
• Retail
• Telecommunications
Prioritization (aka Process Selection)

1. **Importance**
   Which processes have greatest impact on the organization’s strategic objectives?

2. **Health (or Dysfunction)**
   Which processes are in deepest trouble?

3. **Feasibility**
   Which processes are most susceptible to successful process management?

Prioritized process portfolio

Hammer, Champy (1993)
Example: prioritized process portfolio

Financial institution

<table>
<thead>
<tr>
<th>Health</th>
<th>Feasibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Low</td>
</tr>
<tr>
<td>Poor</td>
<td>Medium</td>
</tr>
<tr>
<td>Short</td>
<td>High</td>
</tr>
</tbody>
</table>

- **High**
  - Loan controlling
  - Loan decision
  - Handling of payments
  - Loan application
  - Loan market evaluation
  - Rating
- **Medium**
  - Contract preparation
- **Low**
  - Loan planning

Possible

Strategic fit?
Prioritization

1. **Importance**
   Which processes have greatest impact on the organization’s strategic objectives?

2. **Health (or Dysfunction)**
   Which processes are in deepest trouble?

3. **Feasibility**
   Which processes are most susceptible to successful process management?

Prioritized process portfolio

Hammer, Champy (1993)
Example: prioritized process PICK chart

Financial institution

Short-term action

Feasibility
- Low
- Medium
- High

High

Importance

Possible

Strategic fit?

- Loan controlling
- Loan decision
- Loan market evaluation
- Handling of payments
- Loan application
- Rating
- Loan planning

Feasibility
- Low
- Medium
- High
Further Readings & Resources

• Fundamentals of Business Process Management
  • Chapter 2 – Process Identification
Next Week

Process Modeling

Finance Department

ERP

Enter Invoice Details

Check Invoice Mismatches

Post Invoice

Invoice

Report

Invoice

Invoice DB

Senior Finance Officer

Block Invoice

Invoice posted

Invoice posted

Invoice blocked

Invoice

mismatch exists

no mismatches