MTAT.03.231
Business Process Management

Lecture 2 – Process Identification

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Course structure

Weeks 1-2:
- Process identification

Weeks 3-4:
- Process discovery
  - Process monitoring and controlling
  - Process implementation
  - Process redesign

Weeks 5-7:
- Process analysis

Weeks 8-9:

Weeks 10-11:

Weeks 12-14:
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 to them with the finger.
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
Example: core, support and management processes

Wholesaler

Core processes
• Sales (lead-to-quote, quote-to-order, order-to-cash)
• Purchase-to-Pay (direct procurement, e.g. supplies replenishment)
• ...

Support processes
• Purchase-to-pay (indirect procurement, e.g. 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

Fill Order Process

Sign Contracts

Evaluate Vendors

Plan Vendors Process

Establish Sourcing Procedure

Stock Supplies

Order Supplies

Receive Supplies

Reorder Supplies Process

Order

Fill Order

Approve Order

Receive Order

Deliver Order
Example: process architecture

Wholesaler

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

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

Support processes
- Finance
- Indirect procurement
- IT
- HR

Process group
Example: process architecture

Insurance company

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

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

Support processes:
- Finance/Treasury
- Legal/Audit
- Reinsurance
- IT
- HR
Exercise: classify by process type

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

Supplies purchase → Lead-to-cash → After-sale care

Supplies purchase → Lead-to-quote → Quote-to-order → Order-to-cash → After-sale care
Typical value chains 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: Products:
- Stocked products:
- MTO products:
- 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

[Diagram with process architecture and value chains]

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

- 2.1 Optimize Stakeholder Relationships
- 2.2 Develop Service Offerings
- 2.3 Raise Awareness of Services
- 2.4 Plan Delivery of Service to Service Corp.
- 2.5 Gain Initiative Commitment
- 2.6 Deliver Infrastructure Solutions
- 2.7 Deliver Business System Solutions
- 2.8 Provide Professional Services
- 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

Manage Firm

Relate to Clients

Optimize Portfolio

Deliver Solutions

Optimize Solutions

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?

25
Example: hierarchical process architecture
Insurance company

Level 1

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

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

Support processes
- Finance/Treasury
- Legal/Audit
- Reinsurance
- IT
- HR
Example: hierarchical process architecture

Insurance company

Level 2

<table>
<thead>
<tr>
<th>Strategic Management</th>
<th>Corporate development</th>
<th>Marketing development</th>
<th>Investor relations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define business concept &amp; long-term vision</td>
<td>Design &amp; manage corporate policies</td>
<td>Define offering and customer value proposition</td>
<td>Plan investor relations</td>
</tr>
<tr>
<td>Develop business strategy</td>
<td>Manage knowledge</td>
<td>Define pricing strategy</td>
<td>Build investor relations</td>
</tr>
<tr>
<td>Manage strategic initiatives</td>
<td>Manage change &amp; improvement</td>
<td>Define and manage channel strategy</td>
<td>Manage investor relations</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Communicate with stakeholders</td>
</tr>
</tbody>
</table>

Management processes
Insurance company

Example: hierarchical process architecture

Level 3

- 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
Example: hierarchical process architecture

Insurance company

Level 4

Develop overall mission statement
Define current business
Formulate mission
Communicate mission

Main process
Subprocess

Management processes
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
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 (10372)
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

Short-term action

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

Feasibility
- Low
- Medium
- High

Importance

Possible
- Strategic fit?

Health

Poor

Good
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

Rating

Possible

Strategic fit?
Further Readings & Resources

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

Process Modeling

Finance Department

ERP

Invoice received

Enter Invoice Details

Check Invoice Mismatches

no mismatches

Post Invoice

Invoice posted

Invoice DB

Report

Invoice

Senior Finance Officer

Block Invoice

Invoice exists

Invoice blocked