MTAT.03.231
Business Process Management

Lecture 2 – Process Identification

Marlon Dumas

marlon.dumas ät ut . ee
Course structure

Week 2
- Process identification

Weeks 3-4
- Process discovery

Weeks 5-7
- Process analysis
- Process redesign

Weeks 8-9
- Process implementation

Weeks 10-11
- Process monitoring and controlling

Weeks 12-14
- Strategy
- Governance
- Culture
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

Management Processes

Core Processes

Support Processes

Suppliers / Partners

Customers / Stakeholders

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
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
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.

- Sport services
- HR
- Indirect procurement
- Strategic Management
- Teaching award courses
- IP Management
- Marketing
- Course Management
- Additional services mgt
- Language training
- Admission
- IT
- Market management
- Teaching professional courses

Diagram:
- Core processes
- Support processes
- Management processes
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-quote → Quote-to-order → Order-to-cash → After-sale care

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

Supplies purchase → Storage → Sales → Distribution → After-sale care
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

Specializations
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
- Bookkeeping
- 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

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

Management processes

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

Chevron: collapsed value chain

Support processes:
- Finance
- Indirect procurement
- IT
- HR

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

Consultancy Firm

<table>
<thead>
<tr>
<th>Management processes</th>
<th>Core processes</th>
<th>Support processes</th>
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<tbody>
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<td>3.1 Provide Expert Advice &amp; Knowledge</td>
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<td>2.2 Develop Service Offerings</td>
<td>3.2 Provide HR Capabilities</td>
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<td>3.3 Provide IT Tools</td>
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<td>2.4 Plan Delivery of Service to Service Corp.</td>
<td>3.4 Acquire Goods &amp; Services</td>
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<td>1.5 Change the Business</td>
<td>2.5 Gain Initiative Commitment</td>
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Manage Firm

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Optimize Portfolio

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Optimize Solutions

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<td>2.9 Operate Infrastructure &amp; Business Systems</td>
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<td>2.10 Retire Solutions</td>
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<td>2.11 Support Users</td>
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Deliver Solutions

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<td>3.6 Provide Working Facilities</td>
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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)

Process hierarchy
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

**Process group**

**Process subgroup**

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

Insurace company

Example: process hierarchy

Level 3
Example: process hierarchy

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 Process Classification Framework](APQC-PCF.png)
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

4.2 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)
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

Short-term action

Feasibility
- Low
- Medium
- High

Possible
- Handling of payments
- Loan application

Strategic fit?
- Loan controlling
- Loan decision
- Contract preparation
- Loan market evaluation
- Rating
- Loan planning
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?

Rating

Contract preparation

Handling of payments

Loan controlling

Loan decision

Loan market evaluation

Loan application

Loan planning

Health

Good

Poor
Further Readings & Resources

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

Process Modeling

- **Finance Department**
  - Invoice received
  - Enter Invoice Details
  - Check Invoice Mismatches
  - Invoice DB

- **ERP**
  - Invoice
  - Report
  - Invoice

- **Senior Finance Officer**
  - Invoice
  - Block Invoice
  - Invoice exists
  - Invoice blocked

- **Decision**
  - No mismatches
  - Invoice posted
  - Invoice blocked