IS2006 - Business Process Management
Process Identification

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

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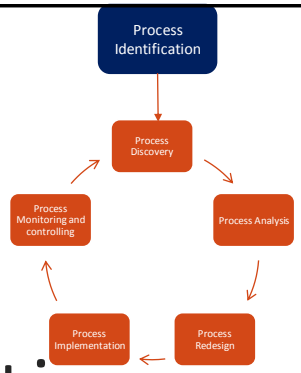
Process Identification



Set of activities aiming to systematically define the set of business processes of a company and establish clear criteria for prioritizing them.

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Goal

Identify processes that are worthwhile to manage

- e.g. to redesign or to support with workflow technology

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Processes are NOT functions!

"Some people take the lazy way out. They use the term 'process' without really understanding it […]. A common indication of this occurs when we ask someone to identify the organization's processes and the response is: 'Sales, marketing, manufacturing, logistics, and finance.' Simply calling your functions processes doesn't make them processes."

Hammer and Stanton (1995)

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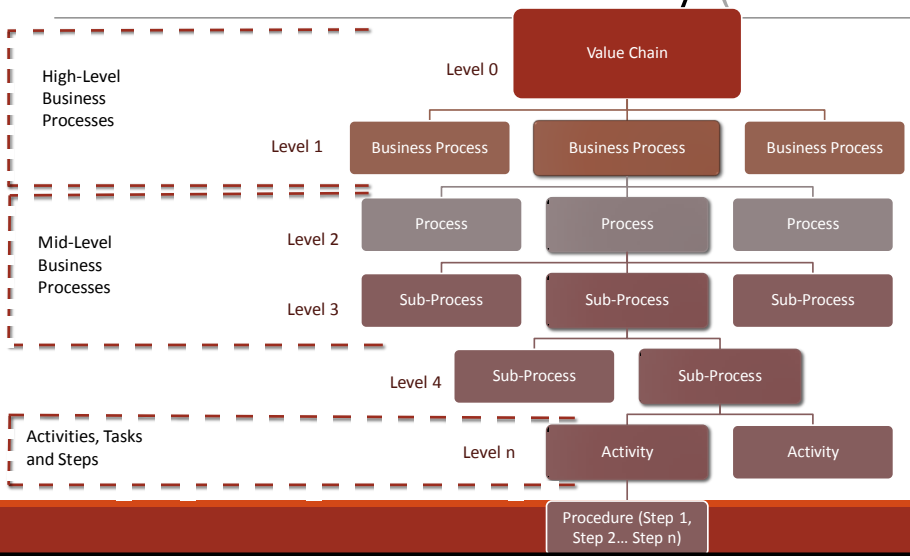
Business Process Hierarchy (Hierarchy of Data)



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Focusing on Key Processes

Not all organizations have resources to model all of their business processes.

BPM is not free, investments on BPM has a pay off.

Its important to focus BPM on subset of processes, thus the processes needs to be prioritized.

Why prioritize processes?

- Processes that are of strategic importance to an organizations survival (processes that created great value)
- Processes that show striking problems (processes that are in significant trouble)
- Or both

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Key Activities

Enumerate major processes

Determine process boundaries

Assess strategic relevance of each process

Render high-level judgments of the "health" of each process

Qualify the culture and politics of each process

Define manageable process innovation scope

Process selection

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Phases of Process Identification

1. Designation phase
   - Enumerate main processes
   - Determine process scope: boundaries (horizontal and vertical) and interrelationships (order and hierarchical)
2. Evaluation phase (*Process Selection*)
   - Alignment with strategic objectives
   - Health (e.g. performance, compliance, sustainability…)
   - Culture & politics
   - Feasibility to being successfully improved
   - Risk of not improving them

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Designation Phase

- Objective: Gain understanding of the processes of the organization and their interrelationships
- Identifying which business processes are independent and which are part of other business processes
- If selected business processes are large, the result would be that they cannot be easily managed, in terms of scope and speed of action.
- The number of processes identified in the designation phase must represent a trade-off between *impact* and *manageability*
- Smaller the processes identified, bigger the individual scope (then each processes will cover numerous operations, large process scope)
- To balance the advantages and disadvantages of a large scope processes broad Davenport suggests to identify both *broad* and *narrow* processes

Advantages and Disadvantages of large scope processes

ADVANTAGES

1. A large process scope will increase the impact one can have managing such a process
2. More operations are considered to be a part of a process the easier it will become to spot opportunity for efficient gains and identify redundancies

DISADVANTAGES

1. Involvement of a large number of people makes it hard for effective communication
2. Difficult to keep models of large processes up-to date
3. Improvement projects are complex

Broad/Narrow Processes (Davenport)

BROAD PROCESSES

- Processes that organization feels its important to completely overhaul the existing operations at some point.
- E.g. If the organizations finds that its procurement process costs are overly high compared to its competitors, they select procurement as a broad process

NARROW PROCESSES

- The processes that are not targeted for major overhauls
- These processes need to be actively monitored
- Subject to continuous fine tuning and updating

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Question…

Explain how the trade-off between impact and manageability works out for broad and narrow processes.

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Relations between broad and narrow processes

Hierarchical relations

- It's important to map how narrow processes relate to broader processes
- E.g. A broad process like order management can be linked to narrowly defined processes like order booking, billing, shipment and delivery
- These can be considered sub-processes of order management

Sequential relations

- Upstream and Downstream
- E.g. For an order if the bill is sent before the shipment billing is an *upstream* process compared to shipment, while shipment is a *downstream* process compared to billing
  - Note- order management process cannot be sequentially related to processes like order booking, billing, shipment or delivery because these are its sub processes.

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Reference Models for business process identification

- Information Technology Infrastructure Library (ITIL)
- Supply Chain Operations Reference Model (SCOR) by the Supply Chain Council
- Process Classification Framework (PCF) by the American Productivity and Quality Center (APQC)
- The Value Reference Model by the Value Chain Group
- The Performance Framework of Rummler

Reference models standardize what can be seen as different processes, with unique characteristics and delivering distinguishable products, and how their performance can be measured.

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Evaluation Phase (process selection)

Objective:

Develop prioritization among the processes to process management activities, such as modeling, redesign, automation, monitoring etc. This is based on the understanding established in the previous phase

Most commonly used process evaluation criteria

- Importance

  Assess the strategic relevance of each process. The goal is to find out which process has the greatest impact on the company's strategic goals. Select the processes to that most directly relate to strategic goals of the organization to active process management.

  - Which processes have the greatest impact on the organization's strategic goals?

- Dysfunction

  Render the high level judgment of the "health" of each of the processes. Determine which processes are in the deepest trouble. These are the processes that benefit most from the process centered initiatives.

  - Which processes are in the deepest trouble?

- Feasibility

  Each process should be determined how susceptible they are to process management initiatives, incidental or on a continuous basis. Process management should focus on those processes where it is reasonable to expect benefits.

  - Which processes are the most likely to be successful

Importance

- Customers are a good source of information in comparing the relative importance of various processes

Production cost – on time delivery – product features

Dysfunction

e.g. A product development process that hasn't developed a product in 5 years

Feasibility

- Scope of processes (higher the scope, greater payoff)
- High cost
- Strength of the system engineers and competence of process owner

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Other things to look for …

Significant effect on customer satisfaction and strategic direction

Is performance far below to best industry standards?

Is it unable to gain more without redesigning?

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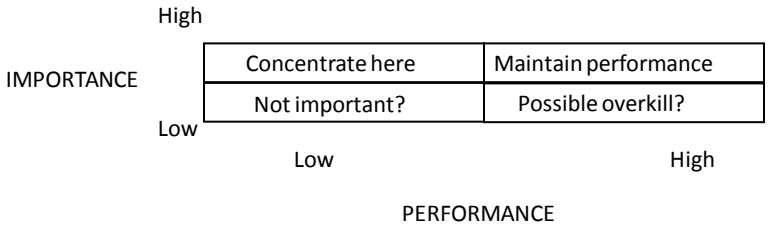
More structured approach for identifying the process

Performance/importance matrix

(Martilla and James)



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BPM Maturity Assessment

A body of techniques to determine the level of systematic process thinking in an organization.

Aspects of BPM maturity assessment

1. To assess to what extent a given organization covers the range of processes that are ideally expected from it.
2. To assess to what degree these processes are documented and supported.

One of the most widely used frameworks for maturity assessment is Capability Maturity Model Integrated (CMMI)

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CMMI maturity levels

Level 1 (Initial)

- Organizations runs its processes in an ad-hoc fashion, without any clear definition of the processes. Control is missing

Level 2 (Managed)

- Project planning and project monitoring and control have been put into practice. Measurement, analysis and product and process quality assurance has been established

Level 3 (Defined)

- Organizations at this stage have adopted a focus on processes. Process definitions are available. Organizational training is provided to enable stakeholders to be engaged in process documentation and analysis.

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CMMI maturity levels (cont.)

Level 4 (Quantitatively Managed)

- Organizational process performance is tracked. Project management is performed using quantitative techniques.

Level 5 (Optimizing)

- At this stage organization has established organizational performance management accompanied with casual analysis and resolution.

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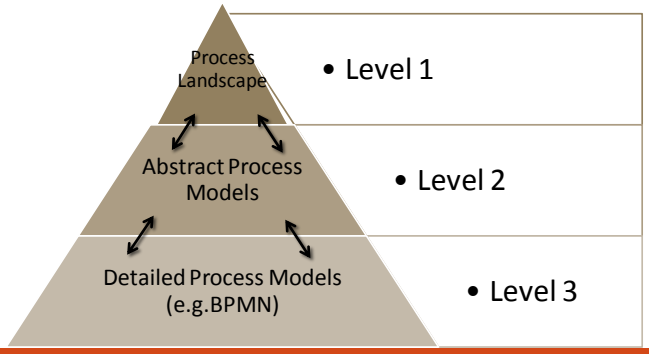
Designing a Process Architecture

A process architecture is a conceptual model that shows the processes of a company and makes their relationships explicit.

Different levels of detail defined by process architecture



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Steps to develop a business process architecture

1. Identify Case Types
2. Identify functions for case types
3. Construct one or more case/function matrices
4. Identify processes

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1. Identify Case Types

- A **case** is something that an organization (or a part of it) handles. Typically, it is a product or a service that is delivered by the organization to its customers.
  - E.g. insurance (service), toy (product)
- Cases can also refer to products or services delivered by one department to another in the same organization.
- The cases can be classified using any number of properties.
  - E.g. in an insurance company, the cases can be classified according to the product type (home insurance, cat insurance etc.) or according to the channel the company uses to interact with its customers (online , telephone etc.)
  - A combination of these properties can also be used
  - E.g. home insurance via telephone
- When identifying case types properties that distinguish cases should be selected, however the properties that distinguish cases but do not lead to different behavior should not be included.

  E.g.
  - Retail shop – same process for all products sold, so product type is not important
  - Insurance Company – different processes for different products (home insurance, car insurance) so product type is important

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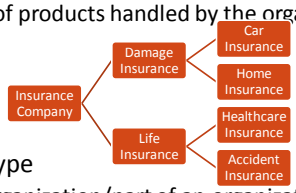
Commonly used types of cases

Product type

- Types of products handled by the organization. They are usually hierarchically decomposed.
- E.g.



Service type

- If an organization/part of an organization handles services this property identify the services handled.

Channel

- Channels through which the organization contacts its customers
- E.g. face-to-face, Online

Customer type

- Types of customers the organization is dealing with
- E.g. Airline company – frequent flyers and regular customers.

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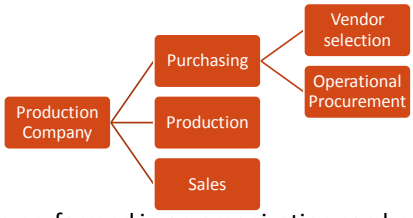
2. Identify Functions for Case Types

- The **function** dimension classifies the functions of the organization. A function is something the organization does.
  - E.g. Functions of a production company – purchasing, production, sales
- Hierarchical decomposition of functions can be made.
  - E.g.



- Functions that are performed in an organization can be related to existing classifications that are proposed by reference models
  - Such reference models can serve as a starting point to develop a classification of business functions and may be adapted to specific needs of the organization (APQC's PCF)

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The APQC Process Classification Framework (PCF)

Process Classification Framework: The Process Classification Framework (PCF) is an Open Standard and is administered by APQC.

It is hierarchically organized and functionally decomposed

Its elements are mutually exclusive and collectively exhaustive business processes.

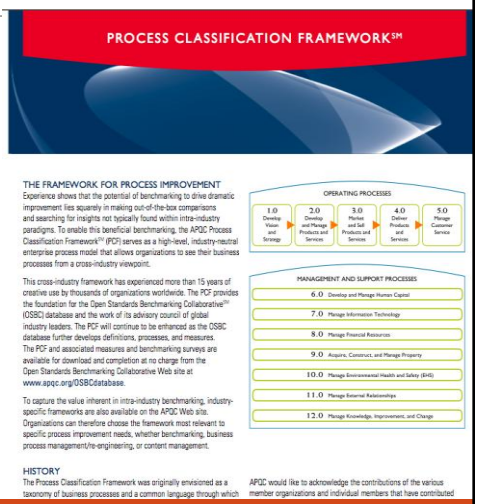
Industry-neutral

Enterprise model

Thus, organizations can leverage the PCF to define work processes comprehensively and without redundancies.

Organizations also use the PCF to support benchmarking, manage content, and perform other important performance management activities.

Four levels
- Categories
- Process group
- Process
- Activity



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APQC's Process Classification Framework

APQC's Process Classification Framework Excel Version						
Version 5.0.3			April, 2008 Release		(c) 2008 APQC	
Unique Identifier	Source	Level 1 = Category	Level 2 = Process Group	Level 3 = Process	Level 4 = Activity	
10002		1 Develop Vision and Strategy (10002)				
10014			1.1 Define the business concept and long-term vision (10014)			
10017				1.1.1 Assess the external environment (10017)		
10021					1.1.1.1 Analyze and evaluate competition (10021)	
10022					1.1.1.2 Identify economic trends (10022)	
10023					1.1.1.3 Identify political and regulatory issues (10023)	
10024					1.1.1.4 Assess new technology innovations (10024)	
10025					1.1.1.5 Analyze demographics (10025)	
10026					1.1.1.6 Identify social and cultural changes (10026)	
10027					1.1.1.7 Identify ecological concerns (10027)	
10018				1.1.2 Survey market and determine customer needs and wants (10018)		
10028					1.1.2.1 Conduct qualitative/quantitative assessments (10028)	
10029					1.1.2.2 Capture and assess customer needs (10029)	
10019				1.1.3 Perform internal analysis (10019)		
10030					1.1.3.1 Analyze organizational characteristics (10030)	
10031					1.1.3.2 Create baselines for current processes (10031)	
10032					1.1.3.3 Analyze systems and technology (10032)	
10033					1.1.3.4 Analyze financial positions (10033)	
10034					1.1.3.5 Identify enterprise core competencies (10034)	
10020				1.1.4 Establish strategic vision (10020)		
10035					1.1.4.1 Align stakeholders around strategic vision (10035)	
10036					1.1.4.2 Communicate strategic vision to stakeholders (10036)	
10015			1.2 Develop business strategy (10015)			

2. Identify Functions for Case Types (cont.)

- To identify functions in a organization it requires interviews with different people in the organization.
- These interviews could either directly identify the functions or to check to which extent the functions from a reference model apply to the organization.
- Interviews must be held with employees that are involved in different cases as well as managers.
- Identify synonyms used by employees
  - E.g. 'acquisition' in one part of the company may be 'market survey' to another
- Functions maybe organized differently in the same organization (e.g. in different locations)

Europe		
Business function	purchasing	Sourcing
		Order-to-pay
	sales	Marketing
		Operational Sales

North America	
Business function	Sourcing
	Marketing
	Order handling

3. Construct Case/ Function Matrices

Identification of cases and functions lead to a matrix that has different case types as columns and different functions as rows

If the corresponding function can be performed by the corresponding case the cell matrix contains a 'X'

		Private Customers	Corporate Customers	Internal Customers
Management	Process			X
	Line			X
	Project			X
Operations	Savings	X	X	
	Loans	X	X	
	Checking	X	X	
Support	HRM			X
	ICT			X
	Finance			X
	Marketing			X

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4. Identify Processes

Guidelines to identify horizontal boundaries

1. Change of flow object in the process
2. Change of multiplicity of flow object in the process
3. Change of transactional state
4. Process contains logical separation in time
5. Process contains logical separation in space
6. Process contains logical separation in other dimension
7. Follow scope in reference model (see later)
8. Based on functions/cases covered

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4. Identify Processes (cont.)

Identify vertical boundaries: typical artefacts in a Process Hierarchy

Value chains

A major line of business, has direct effect on a company's business results and strategic importance. Stays at a high level. For example: presentation of a product to the market.

(Root/Main) Processes

Processes build up value chains and mutually affect each other. For example: market research.

Sub-processes

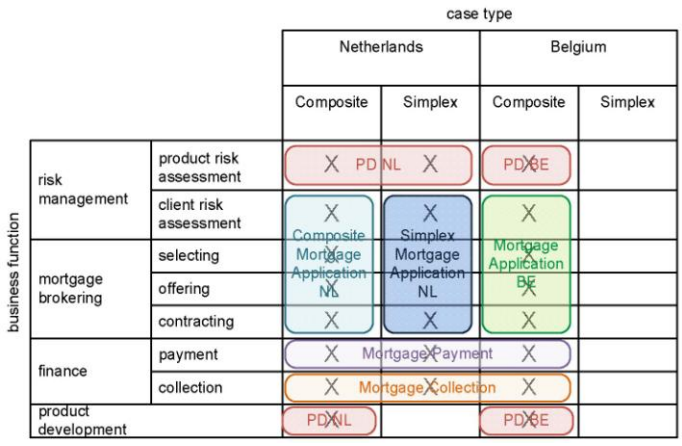
Initial focus of Process Enumeration

Sub-processes build up processes. They involve multiple activities and can be layered on different levels of granularity (i.e. sub-sub-processes). For example: sales operation, preparation of sales budget, reception of customer orders.

Process tasks

Process tasks build up processes and sub-processes. These tasks are conducted by one or more individuals within the same function. For example: reception of customer orders involves review of these orders and incorporating them into the system.

4. Identify Processes (cont.)



5. Complete the Process Architecture

The previous steps (1-4) will lead to a process landscape model , which is Level 1 .

- This will only provide very abstract insight into each process within the process landscape
- It mainly show how the processes differ from each other in terms of the cases and functions they cover.

To complete the process architecture, need to look into

a. Various steps that are taken within each process
b. Organizational units that are involved in carrying these out

With these identified we come Level 2 of the process architecture which is called as a **Process Map**

Even process map is not detailed enough!

- It only shows linear progress along various steps
- Alternative paths, potential exceptions and iterations etc. are left out

Detailed Process Models

Exercise

Purchasing process at Ford

Every purchase that Ford would make needed to go through the purchasing department. On deciding that a particular quantity of products needed had to be purchased, this department sent out an order to vendor in question. It would also send a copy of that order to accounts payable. When the vendor followed up, the ordered goods will be delivered at Ford's receiving warehouse. Along with the goods comes a shipping notice, which was passed on to the accounts payable. The vendor would also send out an invoice to accounts payable directly.

Consider the purchasing process at Ford.

Who are the actors in this process?

Which actors can be considered to be the customer (or customers) in this process?

What value does the process deliver to its customer(s)?

What are the possible outcomes of this process?

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Reading

Dumas, M., La Rosa, M., Mendling, J., & Reijers, H. A. (2013). Fundamentals of business process management (pp. I-XXVII). Berlin: Springer.

- - Chapter 2