Why Business Process Management?

- Consultant
- Manager
- Software Architect
Process Improvement

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Compare
Film crews on top of workflow

Jennifer Foreshew | The Australian | August 19, 2008 12:00AM

An organisational tool designed to simplify the process of movie production, from Hollywood blockbusters to art-house shorts, could dramatically reduce the time it takes to organise filming.

The YAWL4Film workflow management system had its first run earlier this year in the production of Australian feature film Prime Mover, starring William McInnes, Ben Mendelsohn and Emily Barclay and due for release next year.

The system was designed by researchers at
This Tutorial is about:

- Introduction to BPM
- Essentials of BPMN
- Process Analysis and Redesign
- Process Automation

http://fundamentals-of-bpm.org/
What this Tutorial is *not* about

- It is broad, but not complete
- It does not cover the whole book
- It is not a BPMN tutorial
- It does not cover all topics in equal detail
- It does not take four, but only three sessions
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<td>MON</td>
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Institute for Information Business
Introduction to BPM
What are Processes?

”a collection of activities that take one or more kinds of input and create an output that is of value to the customer”
[Hammer & Champy 1993]

”a set of logically related tasks performed to achieve a defined business outcome for a particular customer or market”
[Davenport 1992]
To take an example, the trade of a pin-maker: But in the way in which this business is now carried on, it is divided into a number of branches:

One man draws out the wire;
another straights it;
a third cuts it;
a fourth points it;
a fifth grinds it at the top for receiving the head;
to make the head requires three operations;
to put it on is a peculiar business;
to whiten the pins is another;
to put them into the paper;
and the important business of making a pin is, in this manner, divided into about eighteen distinct operations.
[Adam Smith 1776, abbreviated]
Goals of Business Process Management

- get holistic view on how an organisation works
- understand activities of an organisation and their relations
- understand embedding of activities within an organisational and technical context

Potential for improving the business process
Approaches to BPM

Different waves of process-orientation

Scientific Management
  F. W. Taylor around 1911

Business Process Re-engineering & Innovation
  Hammer & Champy, Davenport 1990s

“Third Wave” BPM
  Smith & Fingar 2000s

BPM Lifecycle
Scientific Management

Basic principles

1. Scientifically analyse and define each element of work
2. Train and teach workers according to the identified rules
3. Assure that work is conducted according to the rules
4. Divide work equally such that management is responsible for planning and worker for performing

Result

Fine-granular division of labour
Less emphasis on the coordination of activities, but on their isolated analysis
Starting point

Business processes had grown to be very bureaucratic and fragmented
Focus too much on individual activities

Re-Engineering

Focus on overall goal of a process
Processes are radically changed

“It is no longer necessary or desirable for companies to organize their work around Adam Smith’s division of labor. Task-oriented jobs in today’s world of customers, competition, and change are obsolete. Instead, companies must organize work around processes”

[Hammer & Champy]
BPM Lifecycle

Starting point

Radical changes work out only under specific conditions
Re-engineering neglects continuous changes of environment

Continuous evaluation and monitoring of a process
Incremental improvements

“Business process management includes concepts, methods, and techniques to support the design, administration, configuration, enactment, and analysis of business processes”
[Weske]
BPM Lifecycle

1. Process identification
2. Process architecture
3. Process discovery
   - Conformance and performance insights
   - As-is process model
4. Process monitoring and controlling
   - Executable process model
5. Process implementation
6. Process analysis
   - Insights on weaknesses and their impact
7. Process redesign
   - To-be process model
Business process versus case

Business process
Activity
Business process attributes

Case (process instance)
Instance activity
Case attributes
Essence of Modelling

A model is the result of modelling

- A mapping of an original
- A reduction of the original
- Serving a specific purpose

Original

- May be existing, fictitious, or planned
- May be a model as well
Object Models
Process Models

Model Level

Model of

Abstraction

Original

Abstraction
1) Mapping Business Processes

What is mapped to a process model?

- **Activities**
  Building blocks that describe elementary pieces of work
- **Routing conditions**
  Describe temporal and logical constraints on the execution of activities
- **Inputs, Outputs**
  Informational or physical artefacts processed by activities
- **Events**
  How time, messages, exception influence the execution
- **Resources**
  Persons, organisational units, systems that execute activities
2) Simplifications

- Abstraction is information loss
  - Projection
    Remove information considered irrelevant
  - Classification
    Aggregate related information
    From cases to process types
Abstraction Overview

Levels of Abstraction

- Meta-model
  - process \(\rightarrow\) activity

Levels of Granularity

- Level 1: Process landscape
- Level 2: Accounting, Production, Sales
- Level 3: Make pin, Request credit, Hire staff, Book trip

Cases

- Pin made by Adam Smith, 1776
- Pin made by Peter Smith, 1776
- Pin made by John Smith, 1776
- Credit request by Hammer & Champa, 1990
- Credit request by Davenport, 1990
- Credit request by Kettinger, 1997
- Hiring of Taylor, 1911
- Hiring of Ford, 1925
- Hiring of Rosemann, 2003
3) Purpose of a Business Process Model

3.1) Business Scenarios
Process Documentation
Process Improvement
Quality Management Certification
Challenges of Process Modeling

- Lodge Loan Application
- Validate Form Completeness
- Check Credit Rating
- Decide
- Grant Loan
- Refinance
- Provide Payment

Why can’t I directly provide cash after approval?

We make a photocopy before handing over the application.

We bundle refinancing to get better interest rates.

I make a photocopy before handing over the application.

Why can’t I directly provide cash after approval?

We bundle refinancing to get better interest rates.
Systematic Description using Process Modeling Languages
Summary

- BPM as a means to organise and improve operations
- Process models are abstractions of business processes
- Process models support process automation
Process Identification
BPM Lifecycle

1. Process identification
2. Process architecture
3. Process discovery
4. Process monitoring and controlling
5. Process implementation
6. Process analysis
7. Process redesign

- Conformance and performance insights
- Executable process model
- Insights on weaknesses and their impact
- To-be process model
Key activities of Identification: Designation and Evaluation

- 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

See Davenport (1993)
Different Levels of a Process Architecture

Level 1
Process Map

Level 2
Abstract Process Models

Level 3
detailed Process Models (e.g. BPMN)
Definition of Modeling Guidelines

- **Level 1** processes
  - shown as activities
  - Allowed elements: task

- **Level 2** processes
  - shown as activities
  - Allowed elements: task

- **Level 3** processes
  - shown with sequential flow
  - Allowed elements: start/end event, task, sequence flow

- **Level 4** processes
  - elaborately modeled
  - Allowed elements: all

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Example Process Landscape

Management processes
- Strategic planning & implementation
- Budgeting & controlling
- Operational management
- Risk and compliance management
- Business Process Management

Core processes
- Research & Development
- Production
- Logistics
- Customer services
- Procurement
- Marketing & sales
- Financial services

Support processes
- HR
- Finance & Legal
- Communication & Information management
- Facility management
Reuse Reference Models, e.g., eTOM
APQC

1.0 Develop Vision and Strategy
1.1 Define the business concept and long-term vision
1.2 Develop business strategy
1.3 Manage strategic initiatives

2.0 Develop & Manage Products and Services
2.1 Manage product and service portfolio
2.2 Develop products and services

3.0 Market and Sell Products and Services
3.1 Understand markets, customers, and capabilities
3.2 Develop marketing strategy
3.3 Develop sales strategy
3.4 Develop and manage marketing plans
3.5 Develop and manage sales plans

...
Start from Scratch
How to start?

Identify major inputs and outputs
Identify major milestones and their sequence
Define categories, e.g.,
  Managerial processes
  Core processes
  Support processes
What makes a good process map?

1. Collect all processes and define process relationships

2. Choose appropriate visual variables to represent the processes

Perceptual discriminability

Process categories are easily distinguishable from each other
Cognitive fit
Design process map according to goals and audience
Semantic transparency
Symbols are mnemonic & transparent relationship between processes belonging to same category
Cognitive integration
Integration between process categories
Dual Coding
Use text to complement graphics
How good are process maps?

Perceptual discriminability
„Categories are easily distinguishable”

Cognitive fit
„Design map according to goals and audience”

Semantic transparency
„Transparent relations between processes”

Cognitive integration
„Integration between process categories“

Dual coding
„Use text to complement graphics”

Summary

- Process Map of strategic importance for identification
- Reuse reference models or start from scratch
- Carefully consider quality criteria