MBA 8225: What is a process? -- Adopting a Process Perspective

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Agenda
- The context
- The approach
- The tool box
A business process is a set of logically related business activities that combine to deliver something of value (e.g., products, services, or information) to a customer. (Cousins and Stewart RivCom, 2002)

A way of seeing organization and what it does beyond the traditional functional or departmental view.

Business process can be viewed as discrete steps or collectively as a set of activities creating value.
**Process re-orientation example**

**IBM Credit**
- **Old:** to make a deal required 7 steps, taking 6 days on average
  - performed by specialists
  - deal logger, credit check, modifying standard loan agreement, pricing loan, quote generation
  - But the actual work only took 90 minutes
- **New:** replaced specialists by generalists each performing several of the steps--delivery in 4 hours
  - How old assumed worst case scenario, the tough cases; new allows or exception procedures
  - Improvement of 100 times or a 90% reduction in cycle time and a hundred fold improvement in productivity

**Ford Motor**
- **Old:** accounts payable department - 500 people vs Mazda’s 5
- **Rethought and designed** “Procurement” as a process
  - Included purchase orders, payables, purchasing and receiving
  - Took into account the 80-20 rule (the law of maldistribution)
  - Assumed most of the time the orders and products received did match.
- **New:** Eliminated the invoice entirely
  - buyer orders and enters order into database.
  - Goods arrive and are accepted iff they are in the database of orders then a check is sent to the vendor.
  - If the goods do not correspond to an order in the database, they are simply refused and returned to the vendor.
- **The change?** Payment authorization
  - Used to be performed by accounts payable and now is performed at the loading dock
Spends most of their time investigating mismatches

“AS-IS” System

Invoice-less payables system

“TO-BE” System
The process principle here is that...

- We reengineer processes
  - not organizations evolved to accomplish them
  - Accounts payable, a department, was an organizational artifact of a particular administrative design process
  - A big change for Ford and its supplies
    - For now the principle was we pay for the parts when we USE them, until then they are your parts
    - In exchange supplier got all of Fords business
    - You get paid when we get the parts, not weeks later
  - Forced a process rethinking downstream with suppliers
    - They became privy to Ford’s production schedule
    - Integrated information systems required

The roots of BPI

The quality movement
Scientific management
Work design
Diffusion of innovation

Business Process Innovation

Increasing change pace
1. Inspections
2. Continuous improvement
3. Process innovation

The decade of BPI

Synonyms: agile business, self-service enterprise, virtual organization, process-focused ...

Definition: Business process fusion is the transformation of business activities that is achieved by integrating previously autonomous business processes to create a new scope of management capabilities.

Gartner October 2003

The drivers behind BPI

Need for agility, flexibility
- IT development
  - BP Standards (Rosetta, ebXML, w3C, Oasis, OMG,...)
- Technology platforms
  - Platform Vendors (SAP, Oracle, IBM MS,...)
- Cost pressures, efficiency
- Regulatory pressures
  - Finance/Accounting
    - Trade/got policy
    - Sarbanes, BASEL II
- Process improvement
  - Variance reduction
- Professional org
  - Quality, Lean, IEEE, ...
- CxO best practice
  - Industry leaders (GE, GM, Dell, Wal Mart, Ashland, ...)
- CxO ‘strategy’
- Thought leaders (Gartner, Meta, HBR, ...)
- Academics
- Consultancies (Accenture, CSC, EDS,...)
- Adopting industry “best practices”
- Maintaining technological currency
BPI starts with customer needs

- Wants it now
  - Anytime, anyplace
  - 24 x 7 x 365
- Expects you to know them
  - Personalized interaction, tailored information
- Product/service tailored to changing needs
  - Mass customization (market of one)
- End-to-end need fulfillment in one-stop
  - Understand the full need
  - Organize to fulfill it, service it, replace it
- With minimum total costs to consumer
  - Minimize client-experienced transaction costs
- Across multiple channels
  - Bricks, clicks, mobile, face-to-face, etc.

BPI covers end-to-end

VALUE THREAD: An End-to-End Business Process

1st – Nth Tier Operations Suppliers

Outsourcing Partners

1st – Nth Tier Customers

Follow the then-what-chain
BPI is multi-disciplinary

BPI has complex solution space
Defining BP

Definitions:

(Smith & Fingar 2003): “The complete, dynamically coordinated set of collaborative and transactional activities that deliver value to customers.”

(Work Flow Management Coalition): “A collection of interrelated works tasks, initiated in response to an event, that achieves a specific result for the customer of the process.”

Characteristics

- Has well-defined products and customers
- Achieves defined customer-related business goals
- Involves several activities that collectively achieve the goals
- Crosses functional and/or organizational boundaries

- Large/complex involving flow of materials, information, value & commitments
- Very dynamic, responding to demands from customers to changing needs
- Widely distributed and customized across boundaries within/between BU’s
- Long running (e.g. cash to order may run for months or years)
- Dependent on human intelligence & judgment; mix of structured & unstructured tasks
- Difficult to make visible; often undocumented and implicit

Smith & Fingar 2003
**Identifying BP’s**

Some high-level business processes:

Supply chain management, demand chain management, product/service design, customer service, contract management, etc.

Made up of a myriad of lower-level processes:

<table>
<thead>
<tr>
<th>Made up of a myriad of higher-level processes</th>
<th>Customer service</th>
<th>Marketing</th>
<th>Technology</th>
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**Maneuvering BP levels**

- **Focal Point:** Easy to Do Business With
  - Customer channel strategy
  - Services Involved
  - Business Process Management
  - Composite Processes
  - Underlying business processes
  - Affected Enterprise Applications
  - Technology Infrastructure

- **Perspective:**
  - Customer relationship management
  - Enterprise resource planning
  - Order fulfillment
  - Financial planning
  - Returns management

- **Marketing:**
  - Sales order management
  - Configuration
  - Payment and billing
  - Problem management
  - Returns management
  - Role-based personalization, etc.

- **Management:**
  - Customer relationship management
  - Enterprise resource planning
  - Order fulfillment
  - Financial planning
  - Returns management

- **Technology:**
  - Customer relationship management
  - Enterprise resource planning
  - Order fulfillment
  - Financial planning
  - Returns management

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Designing BPI approach

Motivations (Why?)
- What motivates the study?
- What are the key performance indicators (KPI’s)?
- Who are the sponsors?
- What’s to be the outcome (s)?

Methods (How?)
- What steps to follow?
- In which sequence?
- Project discipline?

Approach

Models (What?)
- Which aspects to focus on?
- How to capture and represent?
- How do the models inter-relate?

People (Who?)
- Who are the stakeholders?
  - E.g. customers, owners, analysts, designers, users.
  - What roles do they play?
  - How are they engaged?

Some motivations

- Why discover (go instead directly to design)?
  - Model/analyze existing processes
  - Find weaknesses; understand interactions
  - Establish common understanding/vocabulary
  - Have a baseline for comparison to “should be”
  - Invent new service and process
- What performance indicators?
  - As-is; should-be
  - Normative models
- Who is the (assumed) sponsor?
Some method options

- Initialization
- Determine sponsors, purpose, scope, deliverables
- Discover/Analyze
- Discover existing (as-is) process
- Decide methods, tools, teams, metrics, schedules
- Confirm results with users, SME’s and owners
- Design/Develop
- Develop new (should-be) process alternative
- Implement/Deploy
- Elaborate changed roles, structures, applications
- Assess impact on users, owners and other processes
- Work with HR, managers, clients, users to transition to new process

Models & their associated documentation (elaborated and evolved as the project progresses)

Some model types

Model types:
- Process flow diagrams (PFD’s)
  - Show the flow of control from one activity to another
  - Activities/tasks as blocks; control flow as connections
- Information flow diagrams
  - Show the flow of information from one activity to another
  - Generally superimposed on PFD’s
- Resource diagrams
  - Inter-relationship among resources used by an activity, e.g.
    - Organization (have) → Units (staffed by) → Employees (assigned) → Roles (conduct) → Activities
    - Fixed assets (consumed by) → Activities

Views on models
- Hierarchical (e.g. organization chart)
- End-to-end (process diagram)
- Swimlane (activities placed in resource rows)
- Static (diagrams) vs. dynamic (simulations)
The BP triangle

Steven Alter (2002). Substitute:
- Work system → Business process
- Business process → Work practices

1. Create a snapshot of the business process
2. Find problems and opportunities for improvement
3. Explore effects of proposed process changes
Alter’s Collaborative Triangle Elements

Substitute:
- Work system → Business process
- Business process → Work practices

ELEMENTS OF A WORK SYSTEM

CUSTOMERS: The people who use and receive direct benefits from the products and services produced by the work system. They may be external or internal customers.

PRODUCTS AND SERVICES: The products (physical items as well as information) and services the work system produces for its customers. The work system exists to produce these products and services.

BUSINESS PROCESS: The set of steps or activities performed within the work system. These steps may be defined precisely in some situations and relatively unstructured in others.

PARTICIPANTS: The people who perform work in the business process. Some participants require little or no access to information technology in self-service processes (such as withdrawing money from an ATM or buying an airline ticket over the internet, for example), the customers are also participants.

INFORMATION: The data used by participants to perform their work. Not all information needs to be computerized.

TECHNOLOGY: The hardware, software, and other tools and equipment used only by participants in the system to perform their work. Technology is not limited to information technology.

ENVIRONMENT: The outside factors that influence or support the work system. This includes the firm’s strategy for achieving its business goals, the organizational, cultural, competitive, and regulatory context in which the business exists, and shared infrastructure, such as support and training staff and technical resources such as networks and databases.

1. CREATE A SNAPSHOT OF THE WORK SYSTEM

Work together to write a brief summary of the current work system by identifying its customers, products and services, business process, participants, information and technology, and relevant aspects of strategy, context, and shared infrastructure. This snapshot helps resolve disagreements about work system shape. To keep this snapshot to one or two pages, the business process should be summarized in just a few steps.
2. FIND PROBLEMS AND OPPORTUNITIES FOR IMPROVEMENT

The first question, which an organized group will always ask itself, is "What can be improved?" To determine this, the group organizes experiences, processes, and activities in the work system into a model, a framework that identifies tasks, roles, and responsibilities. The model is then compared to the real world, and any differences are noted.

In the model, the process is divided into two parts: the inputs (what the system takes in) and the outputs (what the system produces). The inputs are then broken down into smaller components, and each component is examined to identify any problems or opportunities for improvement.

Once the problems and opportunities are identified, they are prioritized based on their potential impact and feasibility. This prioritization helps the group focus their efforts on the most important areas for improvement.

3. EXPLORE EFFECTS OF PROPOSED SYSTEM CHANGES

After identifying potential changes, the group must then answer the second question: "What would the proposed changes entail?" This involves analyzing the impacts of the changes on the entire work system, including the relationships between different components and processes.

The group should consider the following factors:
- The technical feasibility of implementing the changes
- The organizational and cultural implications
- The economic and financial costs and benefits
- The environmental and social impacts

By carefully examining these factors, the group can make informed decisions about whether the proposed changes are worth implementing and how they can best be executed.
BP models

Created by business owners to describe business problem
Business Problem Specification Model (BPSM)

Created by business analysts to describe business problem - solution
Computation Independent Business Model (CIBM)

Created by designer-architects to describe solution architecture
Platform Independent Component Model (PICM)

Created by developer-tester to implement solution
Platform Specific Model (PSM)

Created by business analysts to describe business problem - solution
Business Problem Specification Model (BPSM)

Computation Independent Business Model (CIBM)

Platform Independent Component Model (PICM)

Platform Specific Model (PSM)

Code

Example swimlane model

Organization structure

Source: Proforma Corporation
BP normative models

What are they?
- A process model constructed from a predefined set of alternatives
- Prescribed view of how the process should be seen and behave

What is their value?
- Simplification of modeling (constrained choice vs. green field)
- Standardization enables
  - Exchange of models across units & organizations
  - Description of common problems and metrics
  - Exchange of industry norms (benchmarking) and best practices

Supply chain normative model

Plan
- P1: Plan Supply Chain
- P2: Plan Source
- P3: Plan Make
- P4: Plan Deliver
- P5: Plan Returns

Source
- SI: Source Stocked Products
- S2: Source MTO Products
- S3: Source ETO Products

Make
- M1: Make-to-Stock
- M2: Make-to-Order
- M3: Engineer-to-Order

Deliver
- D1: Deliver Stocked Products
- D2: Deliver MTO Products
- D3: Deliver ETO Products

Return Source
- RS1: Return Defective Products
- RS2: Return MRO Product
- RS3: Return Excess Product

Return Delivery
- RD1: Return Defective Product
- RD2: Return MRO Product
- RD3: Return Excess Product

Enable

SCOR (Supply Chain Operations Reference model)
Example of SCOR model

Simple thread diagram

SCOR payoffs

1. Metrics

Process Category: Source Stocked Product
Process Number: S1

<table>
<thead>
<tr>
<th>Performance Attribute</th>
<th>Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeatability</td>
<td>% Standardized processes complete</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>Total source cycle time to completion</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Time and cost related to expediting the sourcing processes of procurement, allocation, inventory and transfer</td>
</tr>
<tr>
<td>Cost</td>
<td>Product expansion costs</td>
</tr>
<tr>
<td>Assets</td>
<td>Inventory (CFO)</td>
</tr>
</tbody>
</table>

2. Industry benchmarking

S1. Source Stocked Product

<table>
<thead>
<tr>
<th>Schedule Product Deliveries</th>
<th>S1.2 Receive Product</th>
<th>S1.3 Verify Product</th>
<th>S1.4 Transfer Product</th>
<th>S1.5 Authorize Supplier Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>106 days</td>
<td>19 days</td>
<td>16 days</td>
<td>28 days</td>
<td>8% W Capital Charge</td>
</tr>
</tbody>
</table>

3. Prescribed level 3 processes

S1. Source Stocked Product

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