Business Process Re-Engineering (BPR)

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BPR Case Study#1

Ford Motors: Reengineering the Accounts Payable Department

Results of BPR effort

- Reduction of paper flow
  ("invoiceless processing")
- Up-to-date data
- Personnel reduction by 75%
- Accurate financial information
Ford: Reengineered Procedure
Enabled by IT

- Process: Accounts Payable
- Accounts Payable Department: 500 Personnel
  (400 after improvements, vs. 15 at Mazda)
- Enormous paperwork, non-matching data
- Purchase Order, Receiving Document, Invoice

  BPR → Just-in-time Purchasing
  Eliminate Non-value-adds
  → Handle Exceptions (5%)
Ford: Reengineered Procedure Enabled by IT
Value Creation

In the eyes of the Customer

Value Stream >> Customer
BPR Starts from Strategy, and then

BPR involves rethinking and redesigning business processes to create value to Customers.
Ford: Reengineered Procedure Enabled by IT

Technology facilitates the processes
People should drive the processes!
BPR Projects fail

BPR projects fail not because the tasks are intellectually huge, but because they're engendered by an effort to *transform the company*. IT is used as the mechanism for that change and makes a convenient scapegoat if things turn ugly. When a BPR project fails, it may look like IT failed— but it's almost always because *organizational change* failed.

Source: http://www.darwinmag.com/read/06 0101/dirty.html

Tom DeMarco
Author & consultancy
BPR Characteristics

- Seeking of dramatic levels of improvements.
- Break-away from outdated rules and fundamental assumptions that underlie operations.
- Break-away from the constraints of organizational boundaries.
- Broad and cross-functional in scope.
- One-time change
- Information technology is the primary enabler
- BUT: Other enablers (structure, management style, facilities, measurement, compensation) need to be considered as well
- Focus is on internal and/or external customers.
- Risky
“There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success than to take the lead in the introduction of a new order of things.”

Jean-Jacques Rousseau
Management: the first thing which needs Re-engineering

- Managers are most difficult to change
- Managers are causes of most BPR failures
- Middle managers add little Value after BPR

Managers as Leaders/Role Models Vs. Management by Walking Around
BPR Case Study#2

Mutual Benefit Life: Processing Life Insurance Applications

Results of BPR effort

- Reduction of time flow
  (“average 4 hours in compare to 5 to 25 days”)
- Customer satisfaction
- Personnel reduction by 50%
- IT based expert system
Mutual Benefit Life: Processing Life Insurance Applications

Function-based approach:

- Long, sequential process involving credit checking, quoting, rating, underwriting, Ö

- Work spanned 5 departments

- Involved 19 people

- Turnaround time: ranged from 5 to 25 days.
Mutual Benefit Life: Processing Life Insurance Applications

Process-based approach:

- Creation of ìCase Managersî: Total responsibility for an application, from receipt to policy issuing
- Use of expert systems as a support technology
- When needed, assistance from a senior underwriter or physician
- Turnaround time: average 2 to 5 days (for some cases: < 4 hours)
- More enriching jobs, increased productivity and better customer service.
What BPR Is Not

- **BPR** is not automation as is
- **BPR** is not managing complexity but reducing it
- **BPR** is not down-sizing; it is doing more with less means, effort and people (right-sizing?)
- **BPR** is not TQM (the former seeks change of the process, while the latter seeks incremental improvement using existing processes).
# Process Redesign / Total Quality Management

<table>
<thead>
<tr>
<th></th>
<th>T.Q.M.</th>
<th>B.P.R.</th>
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</thead>
<tbody>
<tr>
<td>Magnitude</td>
<td>Incremental</td>
<td>Radical</td>
</tr>
<tr>
<td>Improvement sought</td>
<td>30% - 50%</td>
<td>10X - 100X</td>
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<tr>
<td>Starting base</td>
<td>Existing process</td>
<td>Blank sheet a</td>
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<tr>
<td>Top management commitment</td>
<td>Relatively low</td>
<td>High</td>
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<tr>
<td>Role of Technology</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Risk</td>
<td>Low</td>
<td>High</td>
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BPR new job titles

- *Manufacturing* as the *procurement-to-shipment* process
- *Product development* as the *concept-to-prototype* process
- *Sales* as the *prospect-to-order* process
- *Order fulfilment* as the *order-to-payment* process
- *Service* as the *inquiry-to-resolution* process
BPR Case Study#3

- Texas Instruments (France): Procurement Process

Results of BPR effort
- Cost reduction 40 times
- Productivity more than 5 times
- Zero stock
- IT based distributed system
- External goal!
Traditional Procurement Process

End User

PURCHASE REQUEST (PR)

QUEUE

APPROVAL

QUEUE

NEGOTIATE

PURCHASE ORDER (PO)

MATCH

GOODS RECEIPT NOTICE

A/P

INVOICE

PAYMENT

MAIL

Supplier

Warehouse

TRANSPORT

PREPARE SHIPMENT

ORDER-ENTRY BILLING

RECEIVE GOODS

Cycle-time PR-PO 8 days*

System Costs/line item $15-20

Total Costs $200

Productivity line/pers./mth 155

* for low-value, non-strategic items.

Source: Adapted from Texas Instruments (France) internal documents. January, 1996.

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B-2-B: Electronic Procurement Process

- **End User**
- **Purchase Order (PO)**
- **Warehouse**
- **Transport**
- **Prepare Shipment**
- **Order-Entry Billing**
- **Supplier**
- **A/P**
- **Match**
- **Invoice**
- **Goods Receipt Notice**

**Cycle-time PR-PO**: 0*
**System Costs /line item**: $1-2
**Total Costs**: $5
**Productivity line/pers./mth**: 800

* for low-value, non-strategic items.

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Strategic Gains

- Improve efficiency (internal goal)
- Enhance effectiveness (internal goal)
- Gain/sustain competitive advantage (external goal).
Primary Concepts in BPR

- Think out of the box, innovate the new processes enabled by IT
- Starting point for organizational design and change: Clean sheet of paper
- An orientation to broad, cross-functional business processes, or how work is done
- Radical change in process performance,
- I.T. as an enabler for change in how work is done,
- Changes in organizational and human arrangements that accompany change in technology,
- Change activation program is the key to success
Another BPR Examples

- **Wal-Mart Case** (Continuous supply)
  
  **Results of BPR:**
  
  - Merchandise always in stock
  - Suppliers are responsible for the management of their own displays
  - Elimination of distribution intermediate
  - Costs reduction
  - Better customer service