Business Process Re-engineering
Implementation in Practice
What this Topic Focuses On

• Background History to BPR
• Case Studies of BPR Implementation in the Private Sector
  + Case Study 1: Ford Procurement
  + Case Study 2: IBM Credit
• Motivations for Change in Public Sector
• Reasons for differences between Public Sector Organizations (PSOs) and their Private Sector Counterparts
• Characteristics of Public Sector Organizations
• Case Studies of BPR Implementation in PSOs
  + Case Study 3: Housing Development Board in Singapore
  + Case Study 4: PubliCorp in Brazil
• Summary
Background: Some History

- BPR has been widely adopted by private businesses and has been a focus of research since the 1990s.
- Many private sector examples of (not always successful) BPR implementation over last two decades (we will look at two).
- As we will see, BPR still one of the top five management concerns for information technology (IT) executives globally.
- However, public sector adoption of BPR in general, (especially in developing economies), is a relatively recent and little researched phenomenon.
- We will look at two examples of this (in this lecture) as well as possible National/Cultural reasons later on.
Case Study 1: The Ford Case Study [1]

Background/Problems

- Ford needed to review its procurement process to:
  + Do it cheaper (cut costs)
  + Do it faster (reduce turnaround times)
  + Do it better (reduce error rates)

Accounts payable in North America alone employed > 500 people and turnaround times for processing POs/invoices \( O(\text{weeks}) \)

Possible Fix:

Automation would bring 20% saving but Ford chose not to - Why?

- technology needed to automate the process was not available?
- nobody could develop the technology to automate the process?
- not enough computers/computer-literate employees at Ford?

Correct answer: Mazda showed how to do it with 15 people!
Case Study 1: Ford As-Is Process (cont'd)
Case Study 2: Ford To-Be Process (cont'd)
Case Study 1: The Ford Case Study (cont'd)

Ford Motor Corp.

- **Old process** involved 3 functions - purchasing, receiving and accounts payable
- All participated *indirectly*
- Sequential document flow
- **New process** uses shared database
- Every function participates *directly*
- 75% reduction in work-force (500 -> 125)

This is an example of reducing mediation through IT
Case Study 2: IBM Credit [2]

IBM Credit Corp finances goods and services that IBM sells.

five steps:

1. On a request from an IBM field sales representative an operator in the central office wrote down the request on a piece of paper.
2. The request sent to credit department where a specialist checked the client's creditworthiness, wrote the result on the piece of paper and sent it to the business practices department.
3. The business practices department customised the standard loan covenant to the client. Special terms attached to the request if necessary.
4. Request went to the price department where a pricer determined the appropriate interest rate.
5. Administration department wrote a quote letter for the field sales representative.
Case Study 2: IBM Credit (cont'd)

- **Field Sales Rep**: Make financing request
- **Central Office**: Record request
- **Credit Department**: Check credit-worthyness
- **Business Practices Department**: Customise loan agreement
- **Price Department**: Determine interest rate
- **Admin Department**: Write a quote

Flowchart:
- Make financing request → Record request → Check credit-worthyness
- If no, Go back to customer
- If yes, Customise loan agreement → Determine interest rate → Write a quote → Quote to customer
Case Study 2: IBM Credit – Problems & Attempted Fix

1. Process took six days on average.
2. Meantime customer could be seduced by another vendor.
3. Request couldn’t be tracked.

Attempted Fix

- Install a control desk, so they could answer the sale representative's question about the status of the request.
- Instead of forwarding the request to the next step in the chain, each department returned the request to the control desk for logging before sending out the request again.
- Solved tracking problem, but took yet more time.
Case Study 2: IBM Credit (cont'd)

Field Sales Rep

Central Office

Credit Department

Business Practices Department

Price Department

Admin Department

Make financing request

Record request

Check credit-worthyness

Go back to customer

Customise loan agreement

Determine interest rate

Write a quote

Quote to customer

Log

Log

Log
Case Study 2: IBM Credit (cont'd) – Investigation & Solution

- 2 IBM senior managers walked a request thro all 5 steps.
- Performing the actual work took ninety minutes.
- The problem wasn't in the tasks/people performing them, but in the structure of the process.
- IBM Credit replaced its specialists (credit checkers, pricers) with generalists who process entire request from start to finish.
- Old process design assumes every bid request was unique and difficult to process. WRONG! most simple & straightforward:
  -> Find credit rating in DB; Plug numbers into a model; Pull clauses from a file.
- Easily done by single individual supported by an easy-to-use computer system which IBM Credit developed.
- In most cases, the system provides guidance and data to generalists.
- In hard cases, help available from a small pool of real specialists assigned to work in the same team.
Case Study 2: IBM Credit (cont'd) - gains

- Turnaround reduced from six days to four hours.
- Dramatic performance breakthrough by making a radical change to the process - i.e. reengineering.
- IBM Credit didn't ask, "how do we improve the calculation of a financing quote? How do we enhance credit checking?"
- Instead, it asked "How to improve entire credit issuance process?"
- In making its radical change, IBM Credit shattered the assumption that every request needed specialists.
Motivations for Change in the Public Sector

• Recently many Public Sector Organizations (PSOs) are following in footsteps of Private Orgs
  + Due to competitive pressures (direct competition with Private Orgs)
  + Demands from general public for (e.g.) better accountability, increased efficiency, greater level of customer satisfaction, calls for 'reinvention of govt' etc
  + Developments in IT (Cloud, Data Analytics, 'Big Computing', PDAs....)

• “While PSOs may not operate in the same competitive envt, changes in management philosophies are causing them to think and act like private orgs” [3]

• “Competitive pressures and changes in IT constantly force orgs to re-evaluate their business strategies” [4]
Differences Between PSOs & Private Sector Counterparts

• Rainey [5] summarized the differences between these 2 groups:

  • **Environmental Factors:**
    + PSOs generally tend to have less market exposure, resulting in lack of incentive for productivity & efficiency
    + Also tend to have lower availability of market information
    + Tend to have more hierarchical structures, more external, political and legal constraints (e.g. cannot 'hire & fire' at will)

  • **Organization-Environment Transactions**
    + PSOs interact more frequently with the public due to nature of org
    + PSOs come under heavy scrutiny from public/private officials
    + High levels of 'red-tape' & responsibilities across org boundaries
    + Frequent turnover of admin/support staff (=> loss of org memory)
Differences Between PSOs & Private Sector Counterparts (cont'd)

• Internal Structure and Politics:
  + Most PSOs have conflicting and intangible politics
  + Top managers tend to be more politically motivated (=> their decisions)
  + Can often be little incentive for employees to take part in BPR effort

• Rainey [5] concluded that unique characteristics of PSOs have a considerable impact on BPR in these organizations, esp in:
  + Deciding on implementing BPR
  + Setting objectives for BPR
  + Carrying out BPR action
Differences Between PSOs & Private Sector Counterparts (cont'd)

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Further Characteristics of PSOs

- **Culture (From Harrington et al [6]):**
  - PSOs find it hard to implement BPR due to prevailing culture & politics
  - Problems arise as changes BPR causes are affected by culture & politics

- **Authority (From Eccles [7]):**
  - During BPR many PSOs don't empower employees, authority pushed down
  - “BPR empowerment can become little more than delegation: responsibility pushed down but staff don't gain empowerment”
  - No apparent inconsistency in BPR where delayering is advocated thro implementation of hierarchical/dictatorial methods!

- **Obstacles (From Hutton [8]):**
  - Traditional Attitudes emphasize continuity, predictability & fairness
  - Often lack of senior mgmt commitment/willingness to take risks
  - Often misunderstanding of requirements of business
  - Other obstacles: communication with staff, initiative fatigue
Case Study 3: Housing Devpt Board in Singapore

- Case Study from Tong et al [9]
  - HDB est'd, Singapore in 1960 to provide high quality housing to Singapore Public
  - In a 1947 report, Singapore had “world's worst slum” with more than 0.5M in slums/squats due to lack of quality, affordable housing
  - HDB increased proportion of such housing from 8% to 86% by 1998
  - Provided financial/administrative services to tenants

- Why was BPR initiated for HDB in 1998?
  - Pre-98 HDB was organised around District Branch Offices (DBOs) with a complex structure with multiple layers of authority
  - DBOs had 5 specialized counters: finance, carparks, renovation, maintenance and Lease/Tenancy spread over separate floors
  - Visits to HDB were Tedious:
    1. Applications for renovation at Renovation Counter
    2. Next queue at Finance Counter to pay related fees
    3. Return to Renovation Counter to collect permit
  - Reported counter waiting time up to 40 minutes! Up to 200 people per queue!
Case Study 3: HDB in Singapore (cont'd)

• **Solution:**
  + Neutral Mgmt Services Team in model Branch Office for 1 year intensive study.
  + Studied the workflow of the as-is process.

• **After BPR**
  + 'One stop service' created by merging five specialized counters into just two:
    - Housing Finance & Housing Services
  + Extensive use of
    - Information Systems (e.g. 'groupware') to support new processes
    - Flatter management structure with fewer middle management roles
  + Dramatic improvements post BPR:
    - Waiting times at HF counter down 97%
    - Number of unanswered calls down 85%
    - Backlog of cases dropped by 85%
    - Mean time to process maintenance request down 78% in two weeks
    - Savings of S$1M annually, staff morale up etc
Case Study 3 (cont'd)

• **Lessons for PSOs from HDB Case Study**
  + Most PSOs are highly resistant to change => social/political pressures are main pressures for BPR change (social from press, political from legislative change)
  + Press publicity is a powerful change agent and emphasizes the importance of BPR change to staff due to public attitudes
  + Neutral staff in BPR team draws on expertise from other departments and helps overcome resistance
  + Higher mgmt support/approval is essential. In the HDB case, this was confirmed by interviews of staff post-BPR.
  + As it is hard to quantify improvements in PSOs, the pilot site implementation can be useful in getting public/political buy-in (in political as well as financial terms) for resources to carry project further.
Case Study 4: PublicCorp Case Study from [10]

- **Background to PublicCorp (a pseudonym)**
  - PublicCorp (PC) was a large Civil Engineering Org in Brazil
  - It comprised a technical & clerical side with 10-20% of mgmt positions being assigned on the basis of political patronage
  - Motivation for undergoing BPR was deregulation in the construction industry (due to international standards such as ISO9000 being implemented)
  - PC held a monopoly over local regulatory & related enforcement services, such as land and building inspection, that were compulsory and closed to competition.
  - => Current processes faced obsolescence

- **Prior to BPR**
  - To assist in implementing BPR, PC hired in two large companies to provide both technical and methodological support to PC.
  - BPR methods provided by multi-national Management Consulting Company (OR)
  - IT company (with previous experience in the construction industry) tasked with setting up new IT systems for PC, & support of BP changes proposed by OR
Case Study 4: PublicCorp (cont'd)

- Implementation of BPR: IT Company's Findings:
  1. Central Processing Dept (CPD) was main process bottleneck as had to run applications on central mainframe fulfilling other depts' info intensive requests.
  2. Number of internal points of contact in core processes, to detriment of efficiency and quality of services PubliCorp provided, caused by number of separate org'l sub-divisions involved in execution of PubliCorp's core processes.

- Implementation of BPR: OR Group's Findings:
  1. OR's work hindered by opposition from PC staff who hindered OR analysis of processes, adding uncertainty to BPR proposals and related structural change.
  2. Some redesign proposals failed on legal grounds (e.g. common process of setting up public bids found to be v. complex and cluttered with unnecessary activities).
  3. Frustration led OR to shift focus to other activities, e.g. helping understaffed departments with some critical activities like setting up bids and contracts.

- End result: Successful failure!
  + IT infrastructure at PubliCorp was considerably improved.
  + But no dramatic bottom-line results.
Case Study 4: PublicCorp (cont'd)

- Reasons for BPR Failure in PublicCorp:
  1. CEO's levelling of political interests with objective goals; started with hard success measures, then later accepted any other "apparently" positive results.
  2. The gradual shift of the focus of the OR group from core business process redesign to problem solving and automation of existing processes.
  3. The hiding of failure signs; consciously at first, for self-preservation then unconsciously.

- Lessons that can be learned from PublicCorp Case Study
  + Immediate outcome can be misleading.
  + Success/Failure viewed differently by separate entities.
  + Effort can stray from original plans for apparently valid reasons.
  + Political issues can influence BPR within public sector more than private.
Summary

• More literature/experience of BPR in the Private Sector
• This doesn't mean it's always successful!
• Significantly more challenges in Public Sector BPR implementation
  + Motivations for change
  + Organizational structures
  + Politics (internal and external)
References - 1


References - 2

