IS 2006 – Business Process Management

PROCESS REDESIGN (PART II)

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Goal of re-designing

Redesigning a process is usually about making it;

- Better – delivers higher levels of satisfaction to its stakeholders, particularly customers
- Cheaper – does the above to the highest level of efficiency
- Faster – the ultimate goal for every organization is that all its activities should "add value" in some way to the customers

Approaches to BPR

Evolutionary Approach

- Systematic Redesign

Revolutionary Approach

- Clean Sheet Approach

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Systematic Redesign

Identify and understand existing processes and then work through them systematically to create new processes to deliver the desired outcomes.

Ultimate goal: 'add value' to customer

How?

- ESIA Rule

The systematic approach is most often used to implement performance improvement in the short term, it require more incremental changes over time

- Preferred by Japanese companies
- Typical with stability of economy

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ESIA Rule

When redesigning existing processes the emphasis is on the elimination of all non value adding activities.

The rule for doing this is called the ESIA rule (meaning **E**liminate, **S**implify, **I**ntegrate, **A**utomate)

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ESIA RULE *(Focus areas for systematic re-engineering)*

Eliminate	Simplify	Intergrade	Automate
Excess Production	Forms	Jobs	Dirty work
Waiting time	Procedures	Groups	Difficult work
Transport	Communication	Customers	Dangerous work
Storage	Technology	Suppliers	Boring work
Defects/Errors	Problem areas		Data capturing
Duplication	Flow		Data transfer
Reformatting	Processes		Data analysis
Inspection			
Reconciliation			

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Eliminate

- Eliminate non value adding activities
- The non value adding activities are the first targets in any systematic redesign initiative
- Non-value added - activities that do not contribute to the product or the process and should therefore be eliminated. Non-value added steps are waste.
- Non-value added but essential - production activities ensuring that the value-added steps have been properly completed. For example, inspection does not contribute to the product, but it is necessary unless the process can be improved to the point where inspection can be eliminated.

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Eliminate (cont.)

- How to select these activities?

1. Over-production/over-provision
   - Producing more than needed is a waste. Applied in services too. E.g. over supply of foods in a restaurant
2. Waiting time
   - Having to wait for the next activity to happen. Paperwork or inventories buildup, tracking and monitoring become more complex
3. Transportation, movement and motion
   - Every time people, material and paper move, it costs money
4. Inventory & paperwork
   - Why is inventory or paperwork needed? Is it strictly necessary to ensure immediate customer satisfaction?
5. Defects, failures and reworking
   - The goal should be to get all things right first time and avoid the cost of labour, materials, disruption and costs involved in rectifying problems

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Eliminate (cont.)

6. Duplication of tasks
   - If a task is repeated it does not add value but contributes to costs
   - Duplicate data entry can create errors and mismatches between first and second, or subsequent inputs of data
7. Reformatting or transferring of information
   - This is another form of duplication. Quite often data is transferred from one form to another, or printed from one computer system only to be input manually to another
8. inspection, monitoring & controls
   - Many procedures exist for historical reasons and have become part of the justification for jobs and management layers
   - regulatory (e.g. health and safety)
9. Reconciling
   - It was the significant reduction, and then automation, of the number of details to be matched that led Ford to achieve a 75 percent reduction in the staffing levels of its Accounts Payable function

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Toyota Plant - observations

- 5 percent can be observed not working
- 25 percent are waiting for something
- 30 percent are manufacturing something that increases inventory levels, which are not value adding
- 25 percent are working, but with less efficient standards or procedures

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Simplify

Having eliminated as many of the unnecessary tasks as possible it is important to simplify those that remain. The search for areas which are overly complex can be aided by identifying areas which match the following:

- Forms - Make the forms clear to the user
- Procedures - Complex procedures are error prone, so simplify the procedures and make the clear
- Communication - Avoid jargon, and miscommunication
- Technology - Appropriate – simple (e.g. interfaces)
- Flow - Simplify the process flow (logical and physical), Rearrange items

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Integrate

1. Jobs
   - may be possible to combine several jobs into one
   - empowering one person to complete a range of simplified tasks
   - 'case worker' / 'case manager'- responsible
2. Teams
   - Combine specialists into teams where it is not possible for a single team member to undertake the whole range of activity - 'Case Teams'
   - Where possible teams should be located together.

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Integrate (cont.)

3. Customers
   - Integrating one's own service provision into the processes of a customer organisation. Lock-in customer e.g. walmart and J&J (value-added services)
   - Value-added service- additional services to the basic that is purchased
4. Suppliers
   - E.g. Just-in-Time manufacturing (JIT manufacturing)
   - Integrate often through IT the flow of orders, invoices, design data

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Automate

- It is important to automate after having eliminated, simplified and integrated tasks in the process
- tasks suited for automation
  - dangerous, boring, data capture, data transfer, data analysis
- role of IT
  - dss/ scanners/ artificial intelligence/ databases

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Advantages and Disadvantages of Systematic Redesign

ADVANTAGES

- Change can be made incrementally
- Conduced with small chunks
- Reduced disruptions and risks

DISADVANTAGES

- Its base is the existing process
- It's less innovative
- It can result in significant step changes in performance when applied on a massive scale

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Clean Sheet Approach

The clean sheet approach allows the company to develop new ways to compete in the medium to long term, it's more synonymous with making radical changes

- Preferred by Western companies
- High failure rate (>70%)
- May not outperform immediately the old process (especially in financial terms): what is important is that new processes have the potential to offer considerably higher levels of performance over the medium period

Organizations adopt a "clean sheet" either because:

- In their opinion they have reached a breakpoint
- Previous attempts to re-engineer process through a systematic approach have failed the results
- Creating the desired culture with a new workforce is easier

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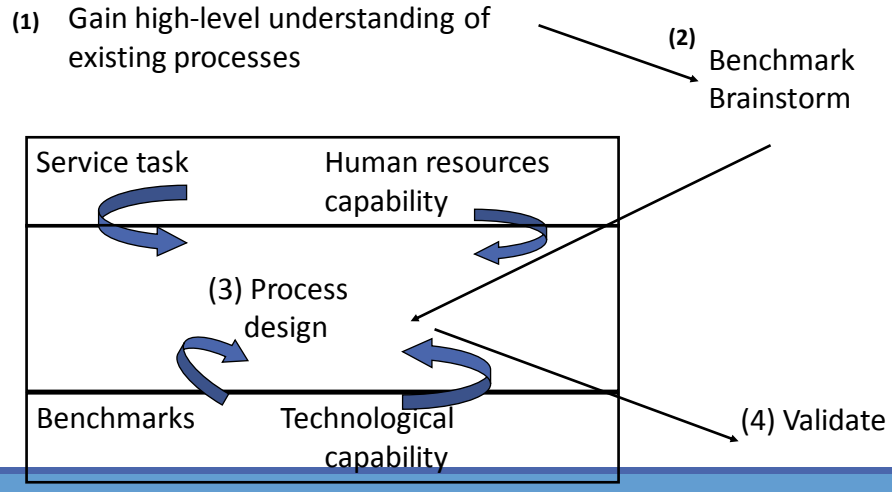
Process Design from a clean sheet



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Process Design from a clean sheet (cont.)

Step 1: understand existing process

- Not necessary to get into detail. Important to identify core processes.
- Analyze key stages in these processes. Also may include analysis of the outcomes which these processes currently deliver

Step 2: benchmarking, brainstorming

- Benchmarking will highlight alternative ways of working but should not be viewed as the end of the matter.
- Brainstorming and fantasizing from the view of the customer will help to generate new ideas

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Process Design from a clean sheet (cont.)

Step 3: Process design

- Ideas generated through brainstorming is thought through in more detail
- Designing the process may be highly iterative with process, people and technology considerations being examined a number of times
- It is important that the 'clean sheet' considers the 'service task' in some detail, human resources capability which will include new ways of working, technological capability and finally benchmarks to ensure people do not revert to the traditional ways of doing things

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Process Design from a clean sheet (cont.)

Step 4: Validate

- Validate the design by simulating how it will operate in the real world
- A process map provides an ideal way of representing the new process and aids its overall construction
- The ESIA rule should be applied to this process to ensure it is optimal in terms of delivering the desired outcomes along the dimensions of effectiveness, efficiency and adaptability

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How to choose between the 2 approaches?

- The choice between these two approaches (systematic and clean sheet) will depend on what the organization is most comfortable with and also on the time scales involved.
- Always remember that the objective is to obtain significant improvements in performance. More attention should be paid, therefore to the new process rather than the old, which is merely a starting point.

Where to start re-design?

- Each organization will have to find its own way
- Some guidance can be found by utilizing
  - Performance importance Matrix – by considering performance and importance levels of priorities
  - The learning star, considering the different sources for improvement; customers, suppliers, staff, consultants, benchmarking activity

Performance Importance Matrix

Performance/importance matrix (Martilla and James)

IMPORTANCE	Low	High
High	Concentrate here	Maintain performance
Low	Not important?	Possible overkill?

PERFORMANCE

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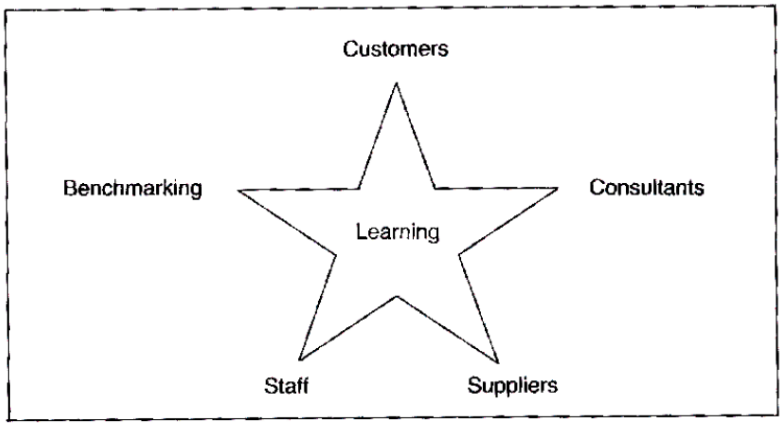
Learning Star



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Customer and Supplier Feedback

- A source for valuable information of how well the organization is performing are customers
- Most important customers are the best place to start with, though there can be others who are much more innovative
- Often particularly demanding customers may provide a view of what might be possible targets for a clean sheet approach

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Staff and Consultants

- An organization's staff are a key resource which know a great deal about its processes
- One of the main mechanism for utilizing this knowledge and expertise is through the generation of process maps
- Consultants and academics can provide a useful outsiders view and act as facilitators for the BPR program

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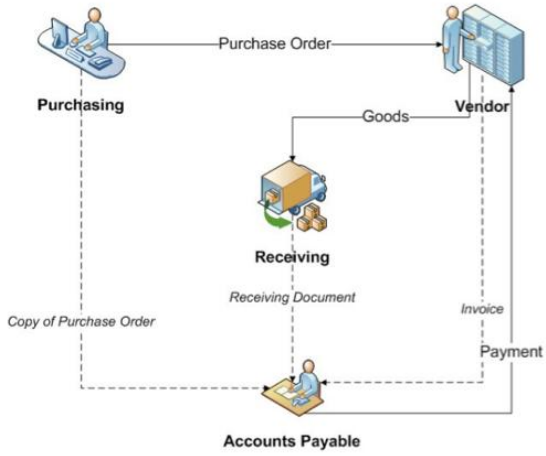
Business Process Redesign can lead to..

- changes in organizational structure.
- designing of new reward systems.
- staff turnover.
- incremental improvements.
- reevaluation of organizational culture.

BPR Cases

- Ford: Accounts Payable
- Mutual Benefit Life: New Life Insurance Policy Application
- Capital Holding Co.: Customer Service Process
- Taco Bell: Company wide BPR

Ford Case: A/P (before BPR)



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Trigger for Ford's A/P Redesign

Mazda only uses 1/5 personnel to do the same A/P (Ford: 500, Mazda:5)

When goods arrive at the loading doc at Mazda;

- Bar code reader is used to read delivery data
- Inventory data are updated
- Production schedules maybe rescheduled if necessary
- Send electronic payment to the supplier

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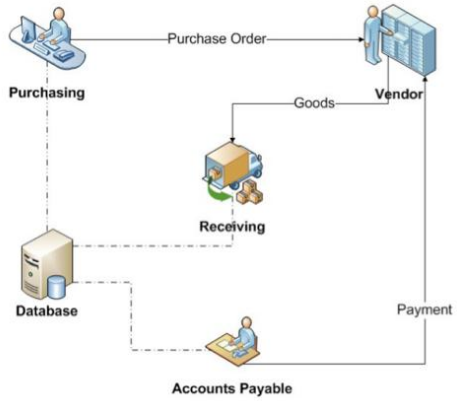
Ford Case: Redesigned Procurement process (with A/P)



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Ford A/P process before and after..

BEFORE

- More than 500 A/P clerks matched P/O, receiving documents and invoices then issued the payment
- It was slow and cumbersome
- Mismatches were common

AFTER

- Redesign of the whole process (procurement) rather than A/P
- The new process cuts the head count in A/P by 75%
- Invoices are eliminated
- Matching is computerized
- Accuracy is improved

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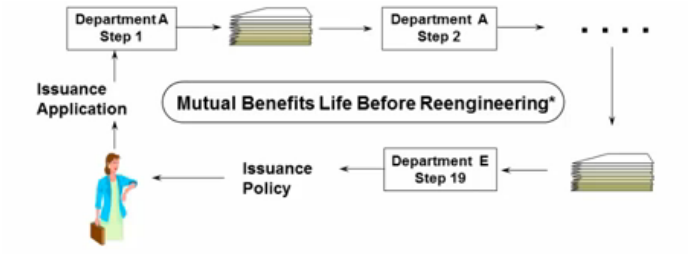
Mutual Benefit Life: New Life Insurance policy application process (Before BPR)



30 steps, 5 departments, 19 persons

Insurance application process cycle time: 24hrs minimum, average 22 days

Only 17 minutes for actual processing of the application!!!!!

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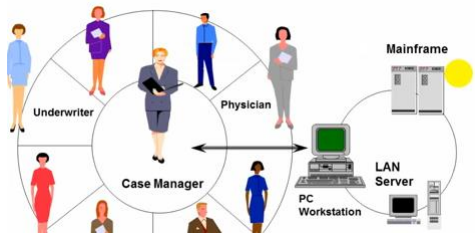
Mutual Benefit Life: New Life Insurance policy application process (After BPR)



Application processing cycle time: 4hr minimum, 2-4 days average

Application handling capacity doubled

100 field positions cut down

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