MTAT.03.231
Business Process Management

Lecture 8 – Process Redesign 1

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Process redesign

- Process identification
- Process architecture
- Process discovery
- As-is process model
- Process analysis
- Insights on weaknesses and their impact
- Process implementation
- To-be process model
- Executable process model
- Process monitoring and controlling
- Conformance and performance insights
1. Introduction
2. Process Identification
3. Essential Process Modeling
4. Advanced Process Modeling
5. Process Discovery
6. Qualitative Process Analysis
7. Quantitative Process Analysis
8. Process Redesign
9. Process Automation
10. Process Intelligence
Identify possibilities for improving the design of a process

AS-IS: Descriptive modelling of the real world

TO-BE: Prescriptive modelling of the real world

- No silver-bullet: requires creativity
- Redesign heuristics can be used to generate ideas
Process redesign approaches

Exploitative Redesign (transactional)
- Doesn’t put into question the current process structure
- Seeks to identify problems and resolve them incrementally, one step at a time
- Example: Heuristic redesign (next week)

Explorative Redesign (transformational)
- Puts into question the fundamental assumptions and principles of the existing process structure
- Aims to achieve breakthrough innovation
- Example: Business Process Reengineering (BPR)
Business Process Reengineering (BPR)

- **Transformative:** Puts into question the fundamental assumptions of the “as is” process

- **Analytical:** Based on a set of principles that foster:
  - Outcome-driven processes
  - Integration of information gathering, work and decisions
The Ford Case Study

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 and invoices was in the order of weeks

(Hammer, 1990)
The Ford Case Study

Automation would bring some improvement (20% improvement)

But Ford decided not to do it… Why?

a) Because at the time, the technology needed to automate the process was not yet available.

b) Because nobody at Ford knew how to develop the technology needed to automate the process.

c) Because there were not enough computers and computer-literate employees at Ford.

d) None of the above
The correct answer is ...

Mazda’s Accounts Payable Department
How the process worked? ("as is")

- **Purchasing**
- **Purchase Order**
- **Vendor**
- **Receiving**
- **Accounts Payable**
How the process worked? ("as is")

- **Purchasing**
- **Vendor**
- **Receiving**
  - Copy of Purchase Order
- **Accounts Payable**
How the process worked? ("as is")

Purchasing → Purchase Order → Vendor → Goods → Receiving

Copy of Purchase Order → Accounts Payable
How the process worked? ("as is")

Purchasing → Purchase Order → Vendor

Purchasing

Vendor → Goods → Receiving

Receiving

Receiving Document

Copy of Purchase Order

Accounts Payable
How the process worked? ("as is")
How the process worked? ("as is")
Reengineered Process ("to be")

- Purchasing
- Vendor
- Database
- Receiving
- Accounts Payable
Reengineered Process (“to be”)
Reengineered Process ("to be")

- **Purchasing**
- **Vendor**
- **Receiving**
- **Database**
- **Accounts Payable**

Flow:
- Purchase Order from Purchasing to Vendor
- Goods from Vendor to Receiving
- Database connection from Purchasing to Receiving
- Accounts Payable from Receiving
Reengineered Process ("to be")

- **Purchasing**
- **Vendor**
- **Database**
- **Receiving**
- **Purchase Order**
- **Goods**
- **Accounts Payable**
Reengineered Process ("to be")

- Purchasing
- Vendor
- Goods
- Receiving
- Database
- Accounts Payable

Flow:
- Purchase Order from Purchasing to Vendor
- Goods from Vendor to Receiving
- Database from Receiving to Accounts Payable
Reengineered Process ("to be")

Purchasing

Purchase Order

Vendor

Goods

Receiving

Database

Payment

Accounts Payable

Evaluated Receipts Settlement
Outcome…

- 75% reduction in head count
- Simpler material control
- More accurate financial information
- Faster purchase requisition
- Less overdue payments

Lessons:
- Why automate something we don’t need to do at all?
- Automate things that need to be done.

“Don’t Automate, Obliterate!” (Hammer, 1990)
Some principles of BPR

1. Capture information once and at the source
2. Subsume information-processing work into the real work that produces the information
3. Have those who use the output of the process drive the process
4. Put the decision point where the work is performed, and build control into the process
5. Treat geographically dispersed resources as though they were centralized.
Capture information once and at the source

- Shared data store
  - All process workers access the same data
  - Don’t send around data, share it!

- Self-service
  - Customers capture data themselves
  - Customers perform tasks themselves (e.g. collect documents)
Principle 2

Subsume information-processing work into the real work

- Evaluated receipt settlement: when receiving the products, record the fulfillment of the PO, which triggers payment
Principle 3

*Have those who use the output of the process drive the process*

- Vendor-managed inventory
- Scan-based trading
- Push work to the actor that has the incentive to do it
Example: problematic claims process

Client

Authorize

Pay

Client

Claim

Insurer

Approved
glass
vendor

Request quote

Pay
Redesigned claims process

Client

Insurer

Approved glass vendor

Claim

Pay

Drop
Principle 4

Put the decision point where the work is performed, and build control into the process

- Empower the process workers
- Provide process workers with information needed to make decisions themselves
- Replace back-and-forth handovers between workers and managers (transportation waste) with well-designed controls
Principle 5

Treat geographically dispersed resources as though they were centralized.

- If same people perform the same function in different locations, integrate and share their work wherever possible
- Larger resource pools → less waiting times even with relatively high resource utilization
Equipment rental process

1. New Equipment Needed
2. Submit equipment rental request
3. Select suitable equipment
4. Check availability
5. Create PO
6. Review rental request
7. Approved
8. Rejected
Self-service-based redesign

Principles 1 & 2

- When equipment is needed, site engineer queries the suppliers’ catalogue, selects equipment and triggers PO

Principle 3

- Supplier stocks frequently used equipment at construction site, site engineers scan to put them into use

Principle 4

- Site engineer is empowered with the authority to rent the equipment; works engineer performs statistical controls
Next week

• Transactional process redesign
  – Redesign heuristics