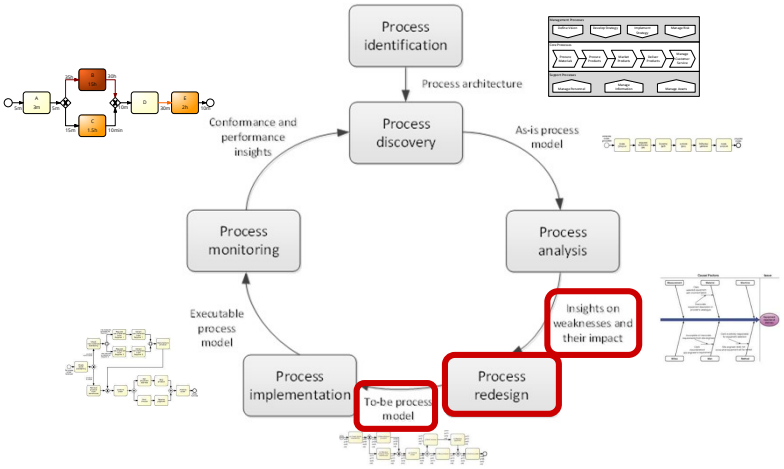
Process Redesign

Spring 2021 - MAJU

Nauman H. Ansari

1

Process Redesign



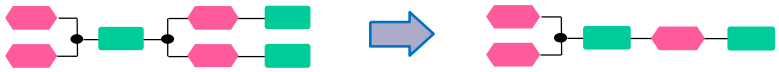
2

Process Redesign

Identify possibilities for improving the design of a process

AS-IS: **Descriprive** 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

3

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

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)

4

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

5

5

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)

6

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

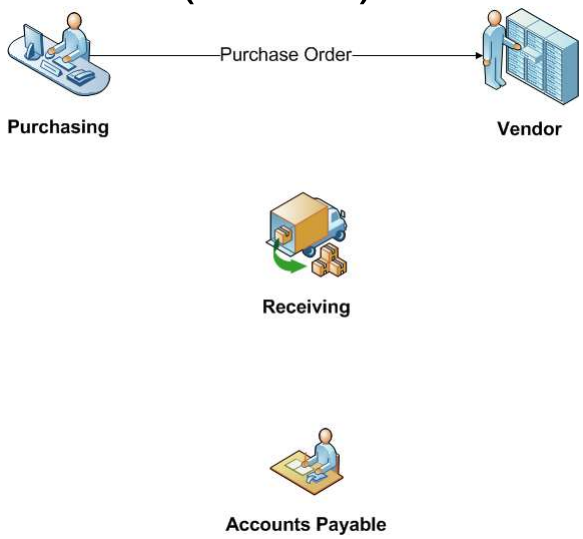
7

The correct answer is …

Mazda's Accounts Payable Department

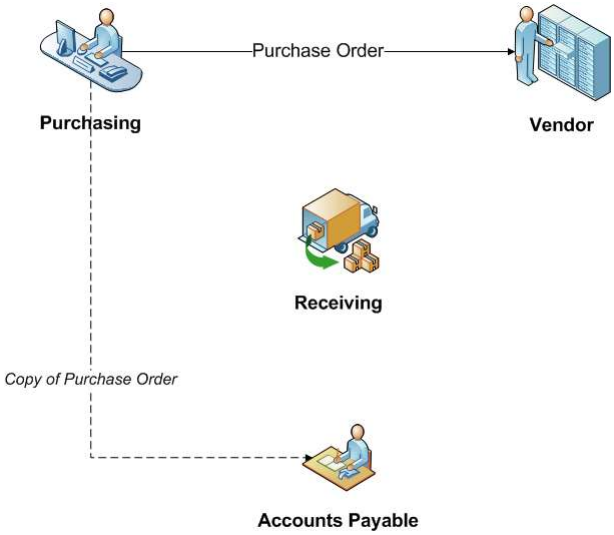
8

How the process worked? ("as is")



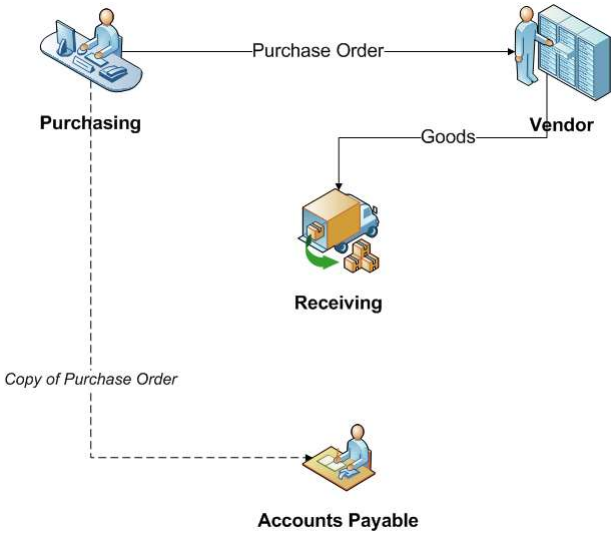
9

How the process worked? ("as is")



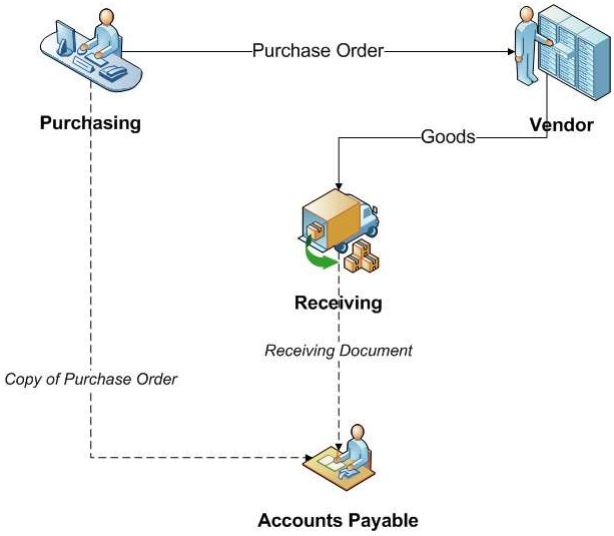
10

How the process worked? ("as is")



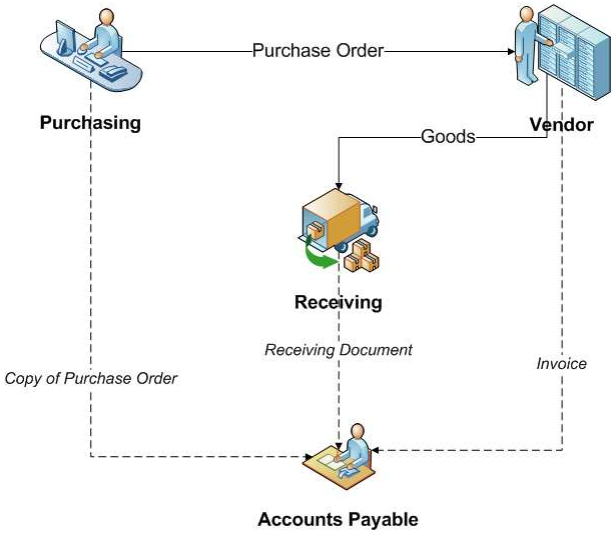
11

How the process worked? ("as is")



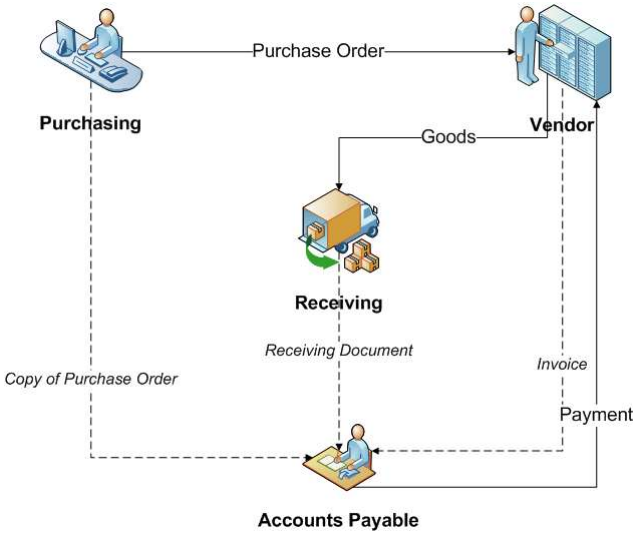
12

How the process worked? ("as is")



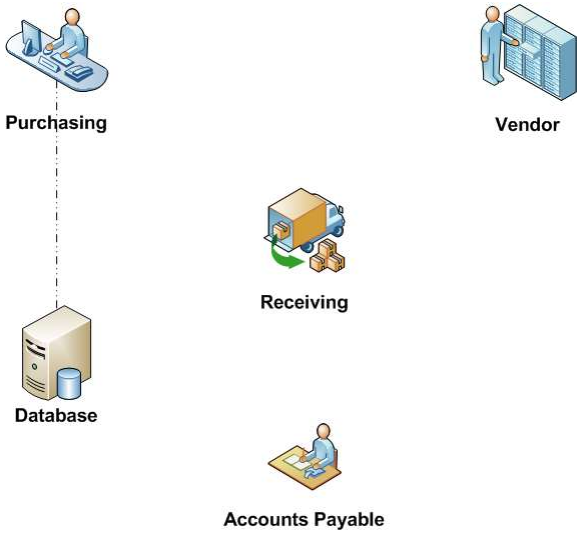
13

How the process worked? ("as is")



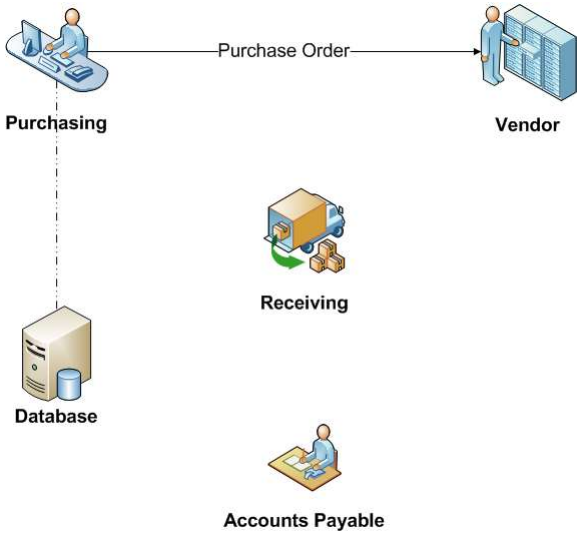
14

Reengineered Process (“to be”)



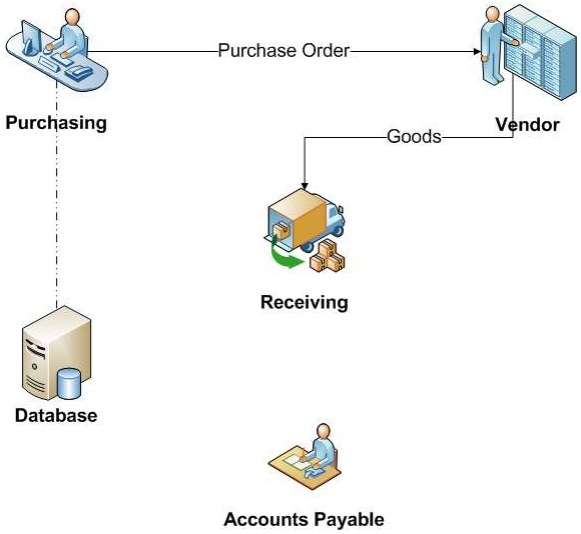
15

Reengineered Process (“to be”)



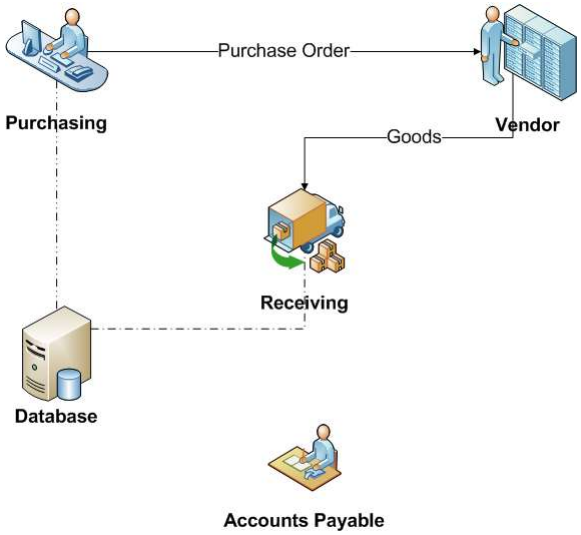
16

Reengineered Process (“to be”)



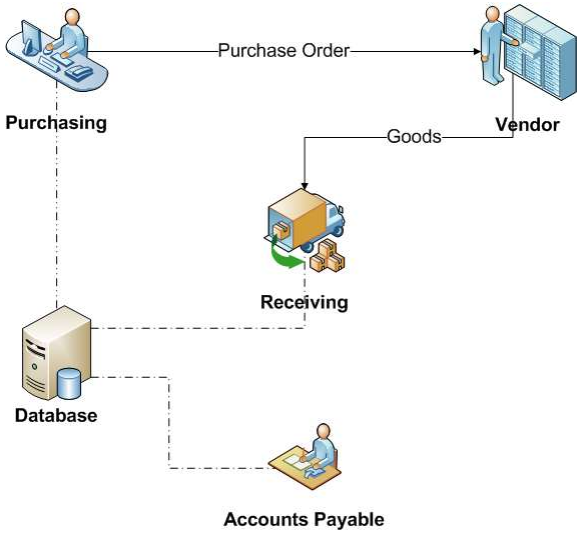
17

Reengineered Process (“to be”)



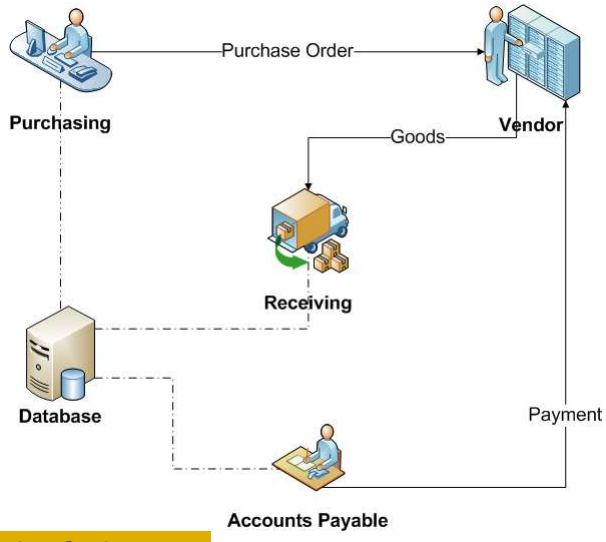
18

Reengineered Process (“to be”)



19

Reengineered Process (“to be”)



Evaluated Receipts Settlement

20

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)

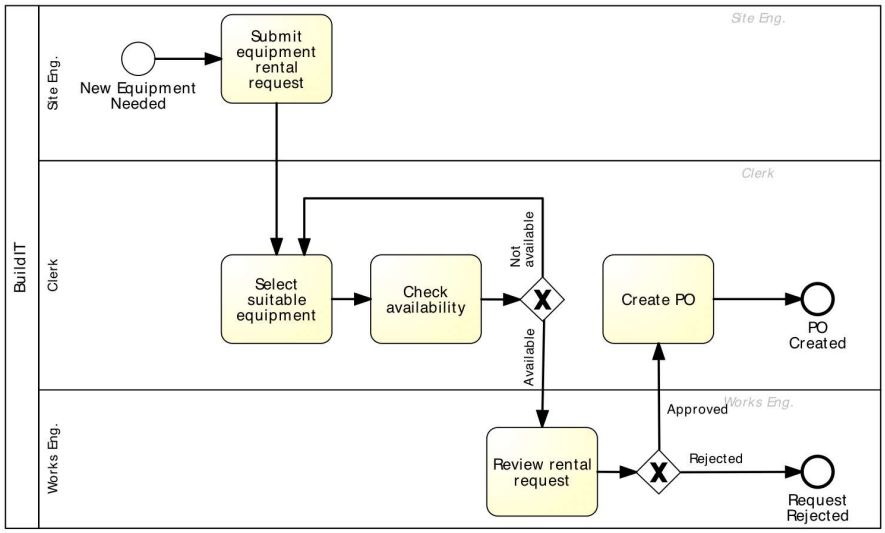
21

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.

22

Equipment Rental Process



23

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

24

24

Principle 5

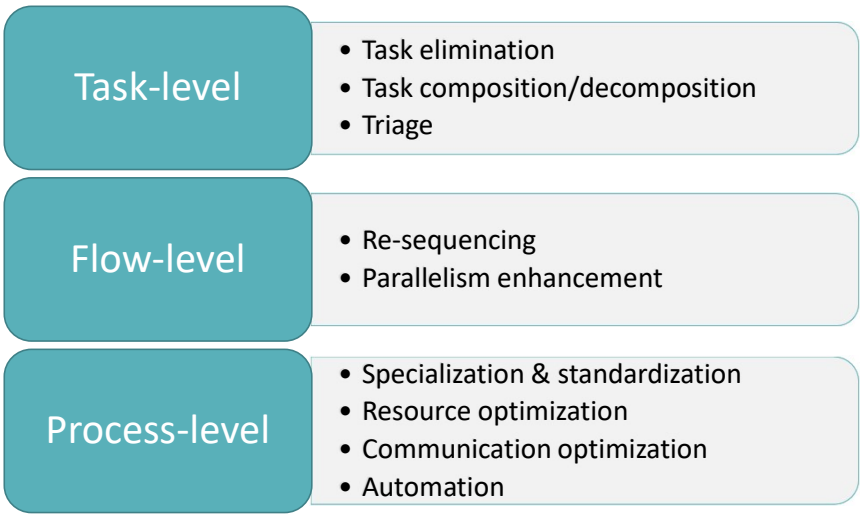
Treat geographically dispersed resources as though they were centralized.

- 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

25

25

Redesign heuristics

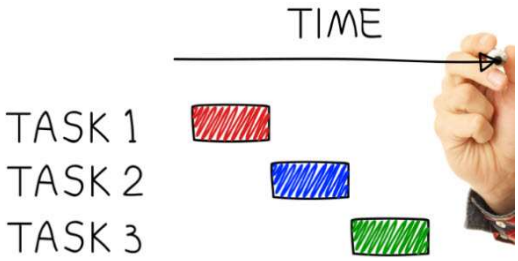


26

26

Task-level redesign heuristics

1. Task elimination
2. Task composition/decomposition
3. Triage

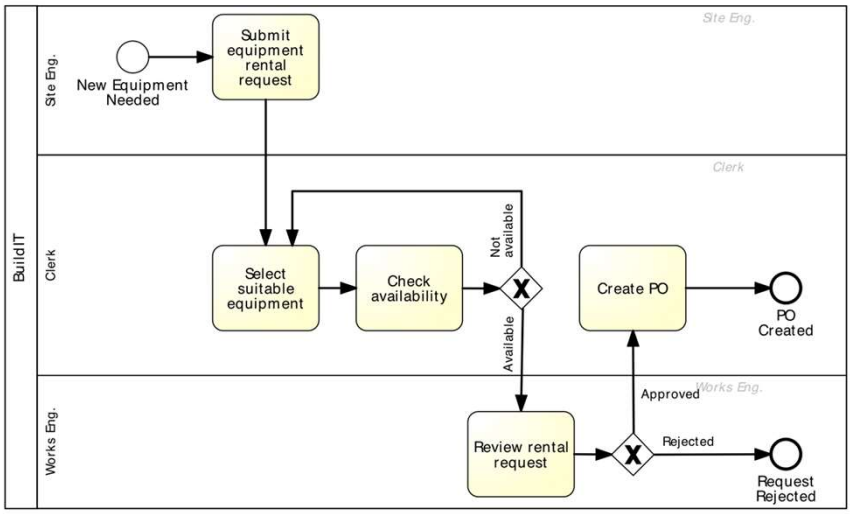


27

27

Applying redesign heuristics

Example: Equipment rental process



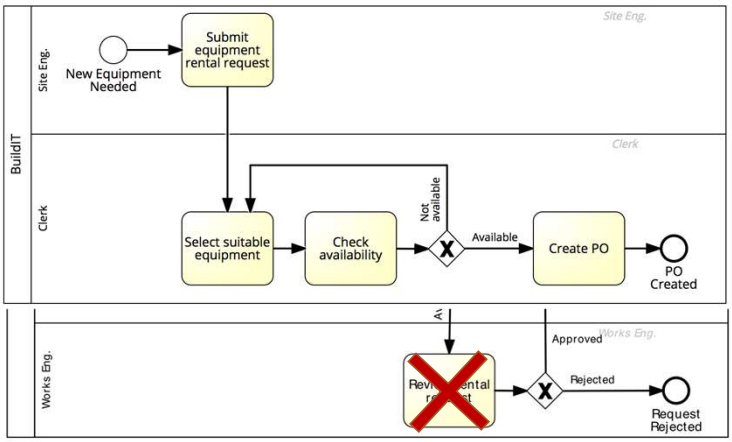
28

Applying redesign heuristics

Example: Equipment rental process

Heuristic 1: Task elimination

- Eliminate "Request for approval" for *small* equipment



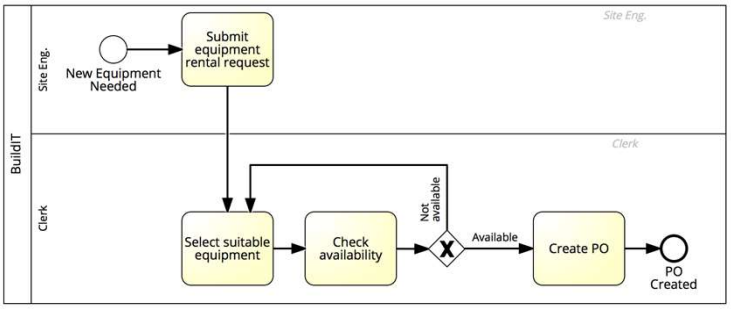
29

Applying redesign heuristics

Example: Equipment rental process

Heuristic 1: Task elimination

- Eliminate request for approvals for small equipment
- Replace approval in all cases, with empowerment and statistical controls



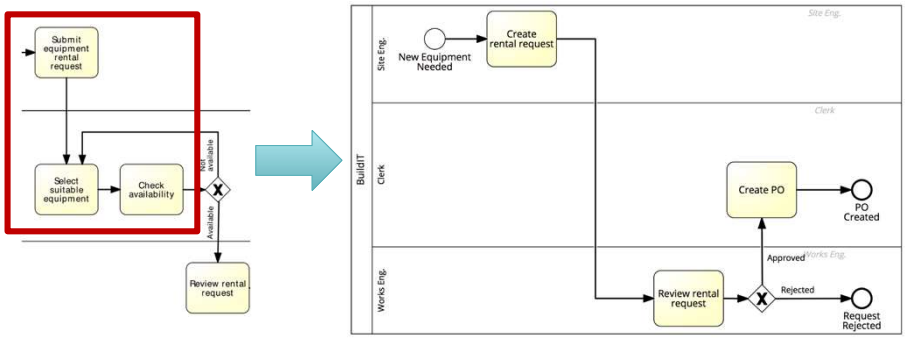
30

Applying redesign heuristics

Example: Equipment rental process

Heuristic 2: Task composition

- Merge equipment selection, availability check and rental request creation



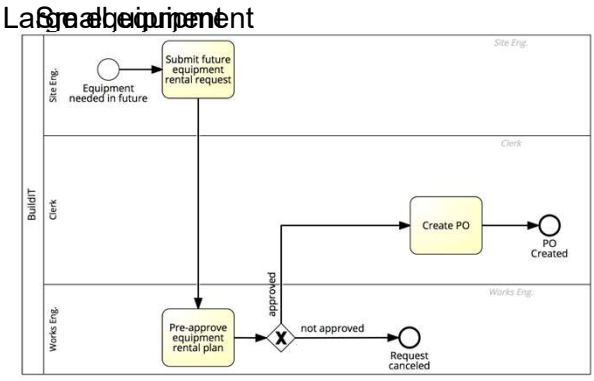
31

Applying redesign heuristics

Example: Equipment rental process

Heuristic 6: Process specialisation and standardisation

- Separate the process for small versus large equipment and streamline the process for small equipment



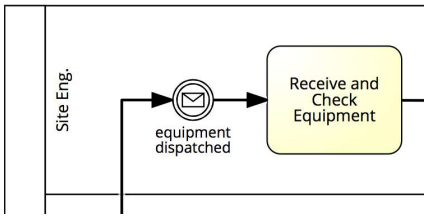
32

Applying redesign heuristics

Example: Equipment rental process

Heuristic 8: Communication optimisation

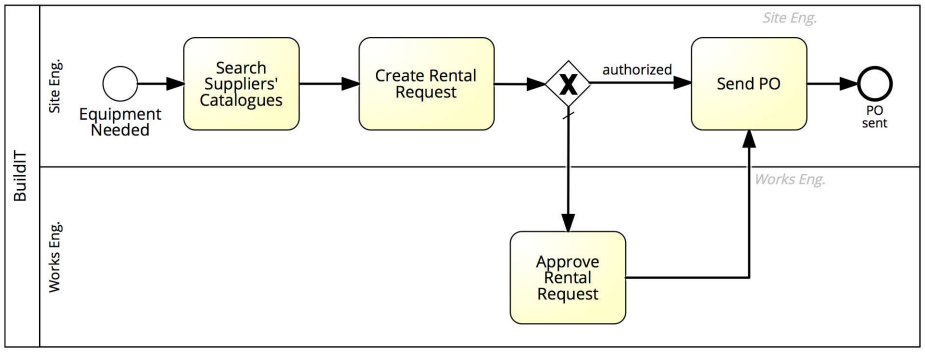
- Inform the site engineer when the equipment is dispatched



33

Redesign output: to-be process model

Example: Equipment rental process



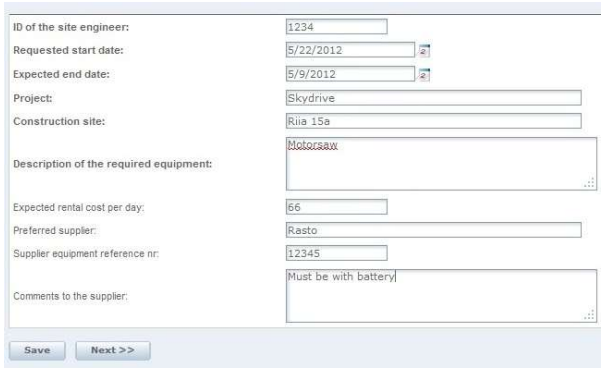
34

Applying redesign heuristics

Example: Equipment rental process

Heuristic 9: Process automation

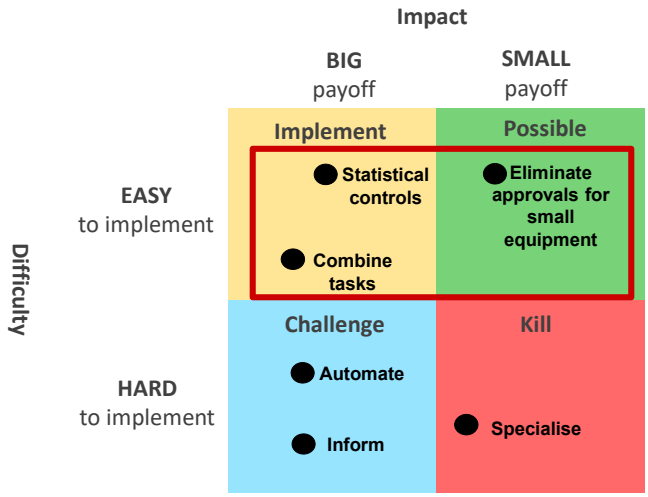
- Use self-service for the equipment search and availability checking



35

Prioritizing redesign options

PICK chart



36