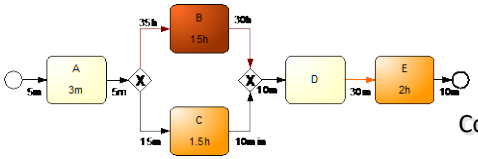
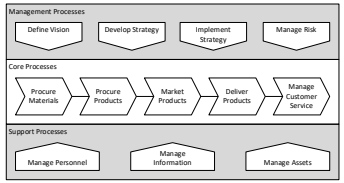
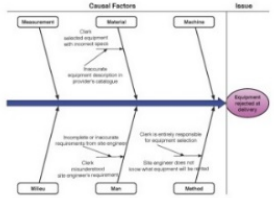
Business Process Management (8)

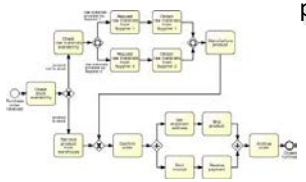
Slides adapted from: Dr. Marlon Dumas

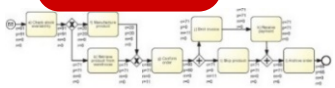
Process Redesign











Process identification

Process architecture

Process discovery

As-is process model

Process analysis

Insights on weaknesses and their impact

Process redesign

To-be process model

Process implementation

Executable process model

Process monitoring

Conformance and performance insights

Process redesign approaches

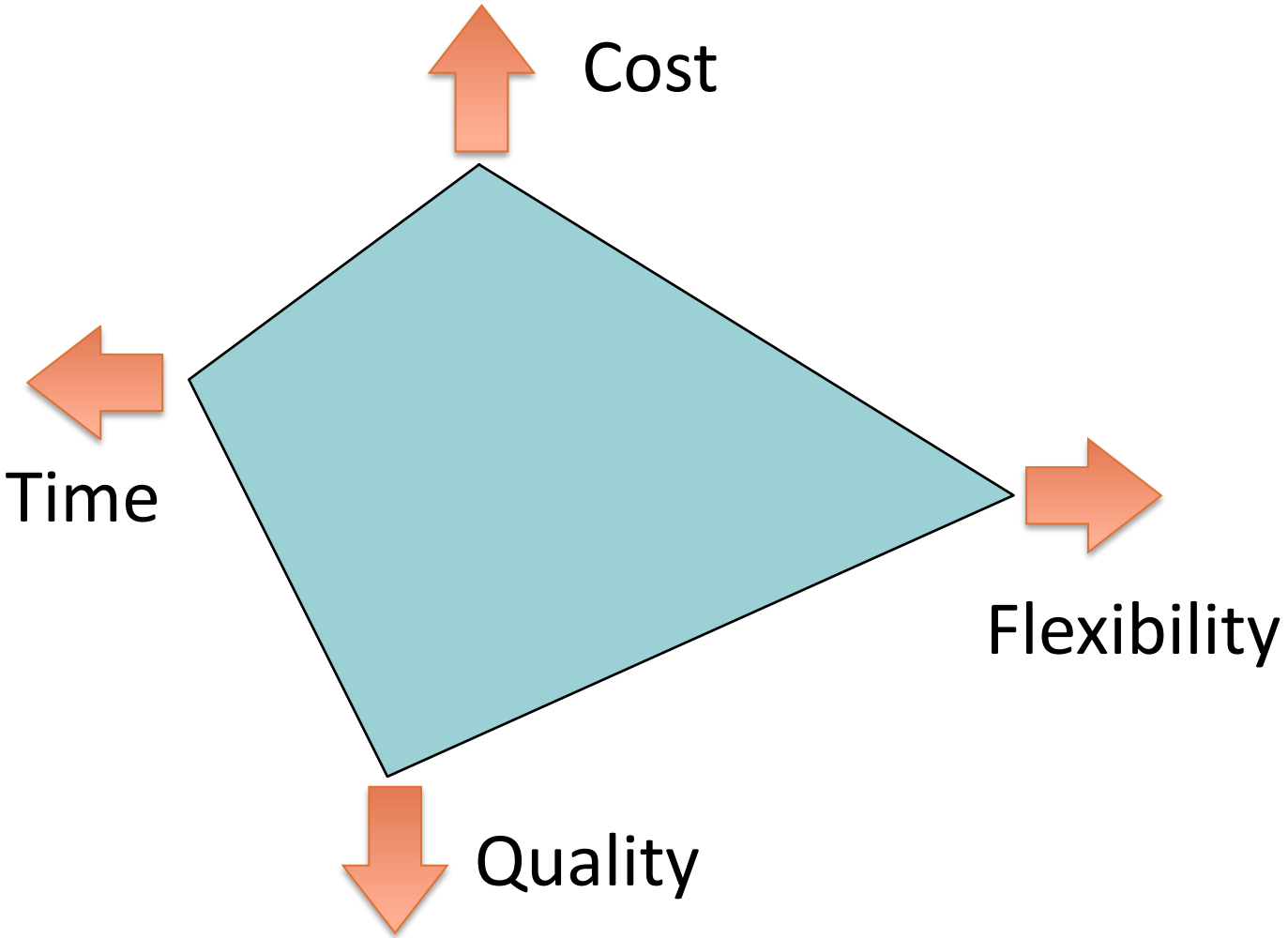
Exploitative Redesign (transactional)

- 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)**

Performance measures: the Devil's Quadrangle



Redesign heuristics

Task-level	• Task elimination • Task composition/decomposition • Triage
Flow-level	• Re-sequencing • Parallelism enhancement
Process-level	• Specialization & standardization • Resource optimization • Communication optimization • Automation

Process-level redesign heuristics

6. Process specialization & standardization
7. Resource optimization
8. Communication optimization
9. Automation

H6. Process specialization/standardization

Process specialization

- One process is split into multiple ones: by customer class, by geographic location, by time period (winter, summer), etc.
- Resources are split accordingly

Process standardization

- Two processes are integrated
- Resources are pooled together

H6. Process specialization & standardization

Specialization example:

- Procure-to-pay process: One process for Direct procurement (e.g. raw materials) and one for Indirect procurement (MRO - Maintenance, Repair and Operations)
- Claims handling process: One claims handling process for the summer season (stormy season - peak) and one for the winter season (off-peak)

Standardization example:

- Claims handling process: Integrate claims handling for motor insurance across different brands of a group

Specialization: (C+/-, Q+/-, F-)
Standardization: (C+, Q+/-, F+)

H7. Resource optimization

Use resources of a given type as if they were in one room

- Avoid one group of people overloaded and another (similar) group idle

Let people do work that they are good at

- However, avoid inflexibility as a result of specialization

When allocating work to resources, consider the flexibility in the near future

- Allocate work to specialized resources first

Avoid setups as much as possible

- *Chain* multiple instances of the same task [sequential]
- *Batch* multiple instances of the same task [parallel]

H7. Resource optimization

Resource integration example:

- Claims handling process: Share resources across different types of claims (e.g. motor and personal insurance)

Batching example:

- Claims handling process: Batch all claims for a given geographic area and assign them to the same resources
- University admission process: Batch all applications and handle them to the assessment committee

(T+, C+, F+/-)

H8. Communication optimization

Automate handling, recording and organization of messages

Monitor customer interactions, record exceptions

Optimize

1. Number of interactions with customers and business partners
2. Type of interaction (synchronous vs. asynchronous)
3. Timing of interactions

(T+,Q+,C+/-,F-)

H8. Communication optimization

1. Optimize number of interactions
   - Gather sufficient information to get to the next milestone (reduce external interactions)

2. Optimize type of interaction
   - *Synchronous* interactions effective to resolve minor defects
   - *Asynchronous* to notify, inform, resolve major defects, request additional information to reach next milestone

H8. Communication optimization

3. Optimize timing of interactions:

- *Front-loaded process*: bulk of information exchange and processing happens upfront
  - Complete-kit concept
- *Back-loaded process*: bulk of information exchange and processing happens downstream
  - Example: CVS Pharmacy in early 2000s

H8. Communication optimization

Complete-Kit Concept: *"Work should not begin until all pieces necessary to complete the job are available"*

Boaz Ronen

Principles for complete-kit process design:

- Provide complete and easy-to-follow instructions for those who will initiate the process.
- If a process cannot start, the client should be notified of all defects that could be reasonably identified at the onset of the process
- Consider the tradeoff between "incomplete-kit" process initiation vs. roundtrip to revise and resubmit a request

H9. Automation

Use data sharing (Intranets, packaged enterprise systems) to:

- Increase availability of information to improve visibility and decision-making (subject to security/privacy requirements)
- Avoid duplicate data entry and transportation

Use network technology to:

- Replace physical flow (e.g. paper documents) with information flow
- Enable self-service via e.g. online forms and Web data services

H9. Automation

Use tracking technology to identify and locate materials and resources

- Identification: Bar code, RFID
- Location: GPS, indoor positioning

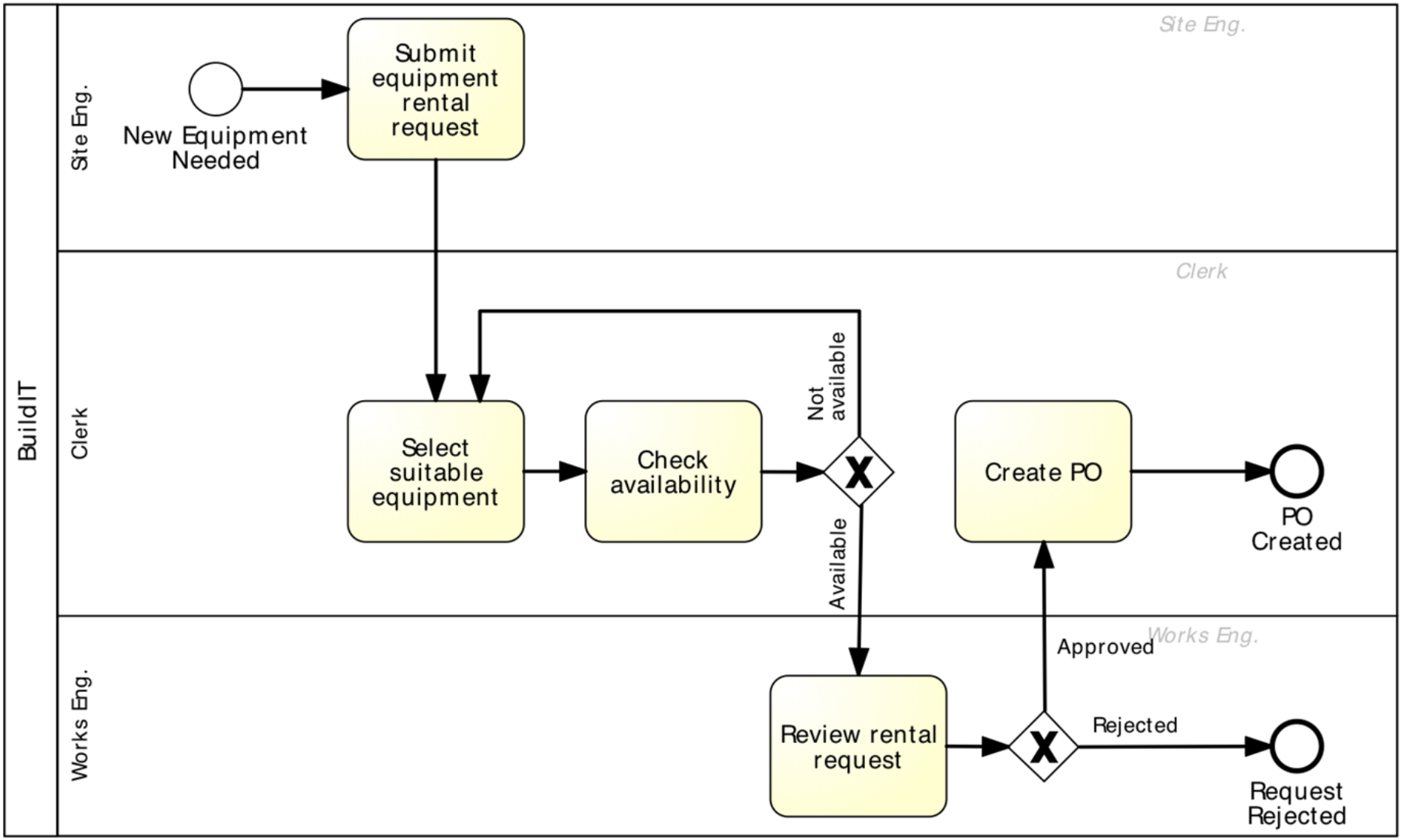
Use business rules technology to automate information processing tasks (including decisions)

Automate end-to-end processes with a dedicated BPM system or system with process automation functionality

(T+,C+/-, Q+/-, F-)

Applying redesign heuristics

Example: Equipment rental process

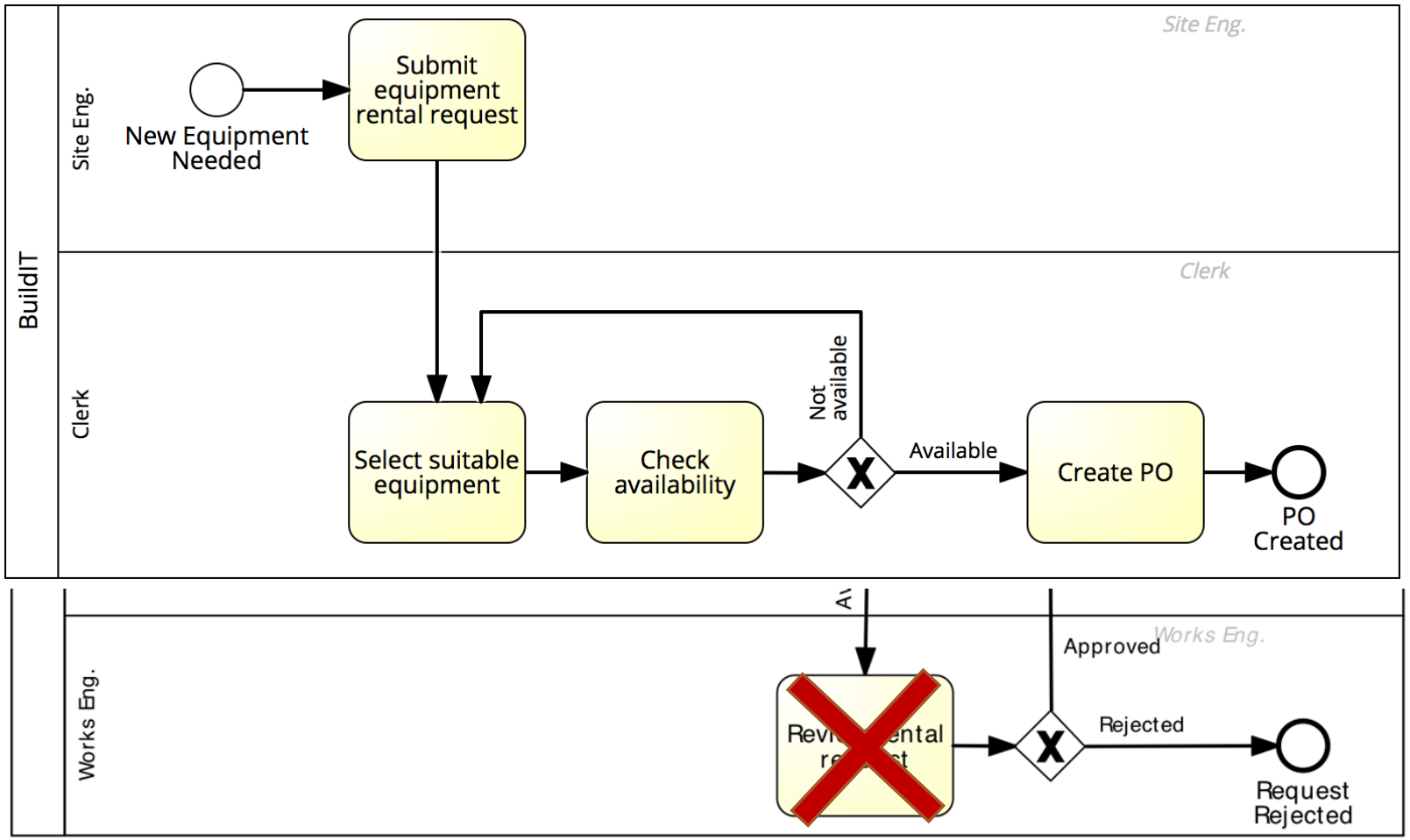


Applying redesign heuristics

Example: Equipment rental process

Heuristic 1: Task elimination

- Eliminate “Request for approval” for *small* equipment

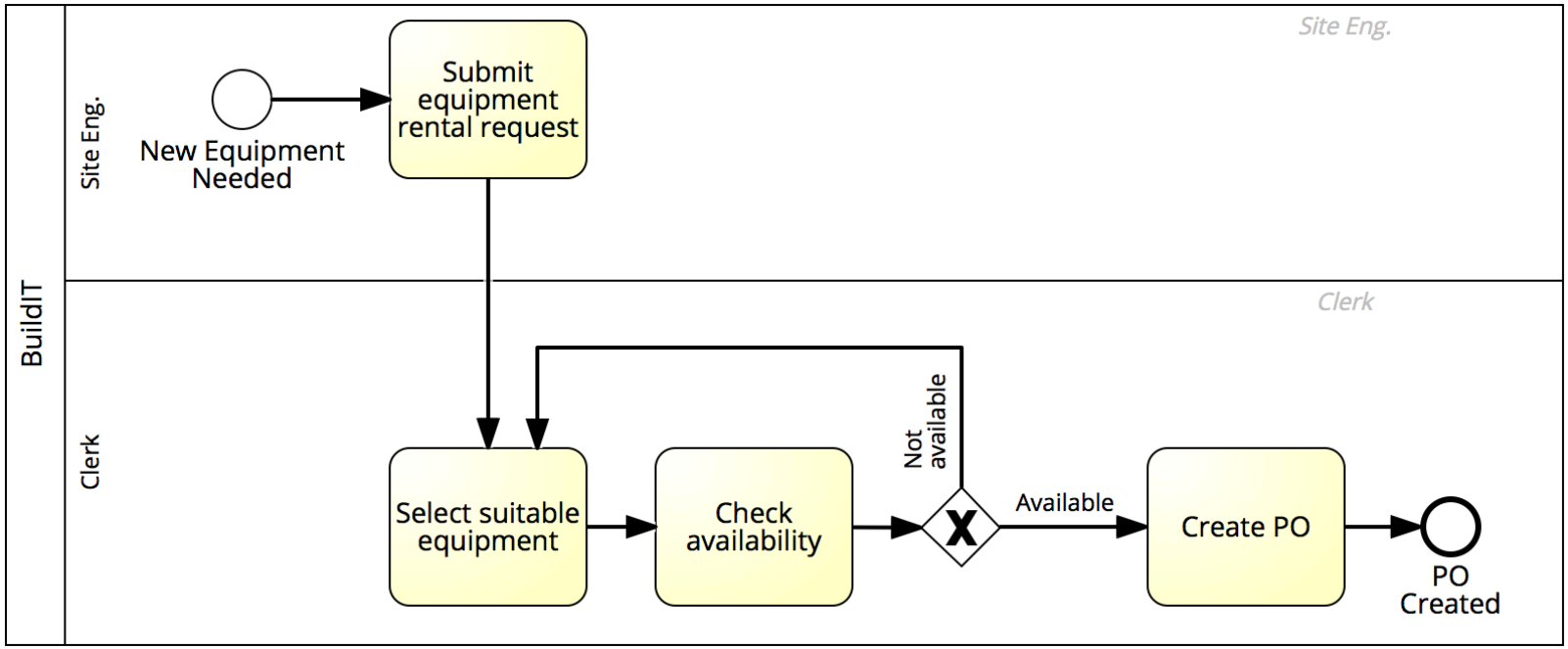


Applying redesign heuristics

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

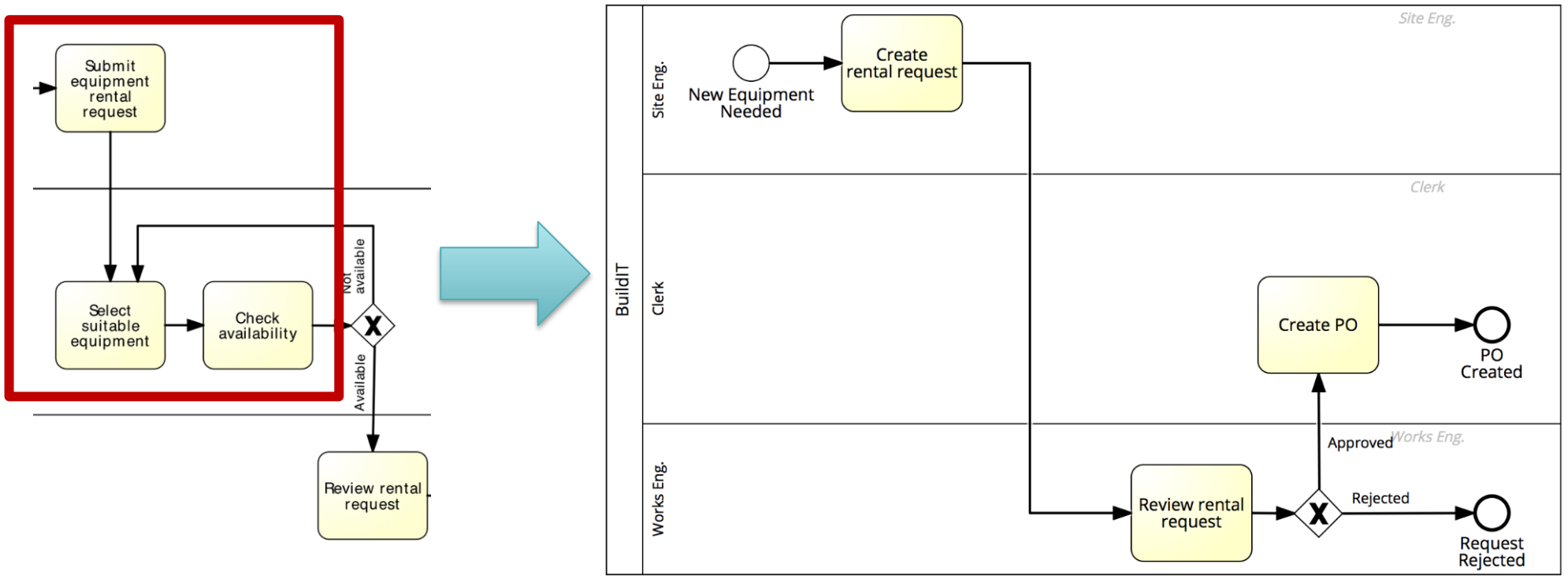


Applying redesign heuristics

Example: Equipment rental process

Heuristic 2: Task composition

- Merge equipment selection, availability check and rental request creation



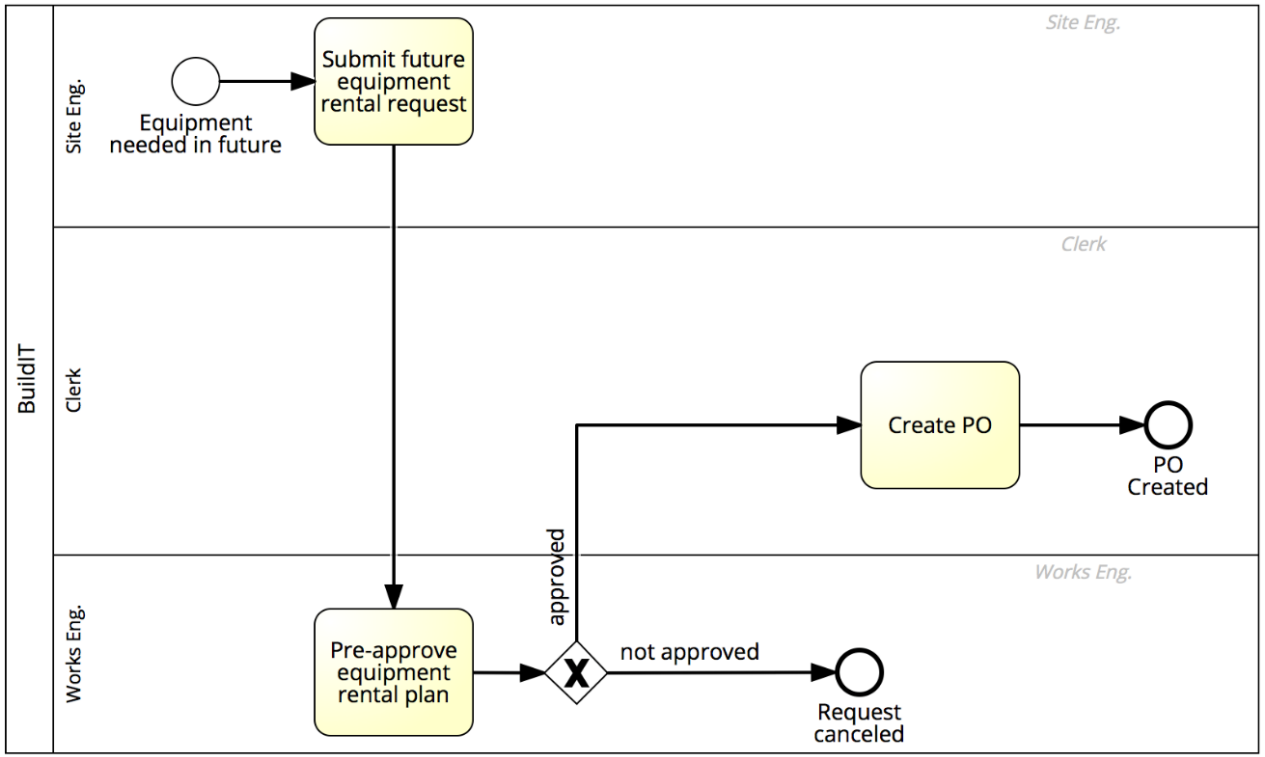
Applying redesign heuristics

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

Large equipment Small equipment

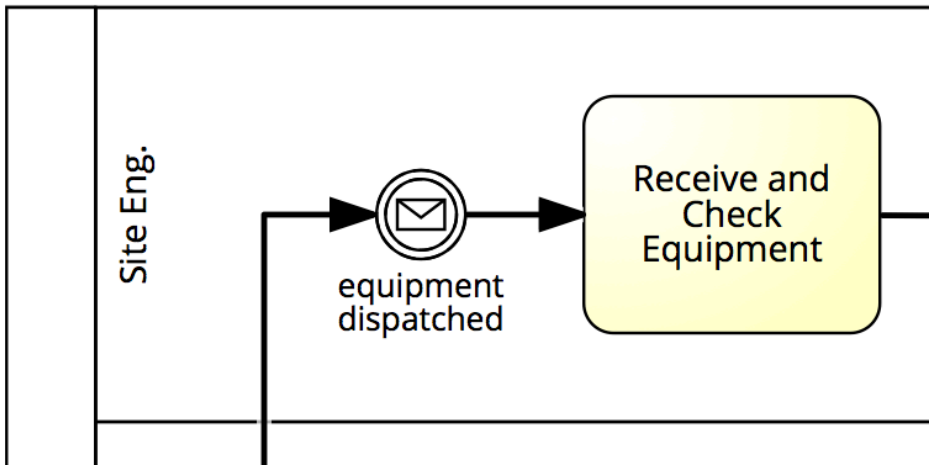


Applying redesign heuristics

Example: Equipment rental process

Heuristic 8: Communication optimisation

- Inform the site engineer when the equipment is dispatched

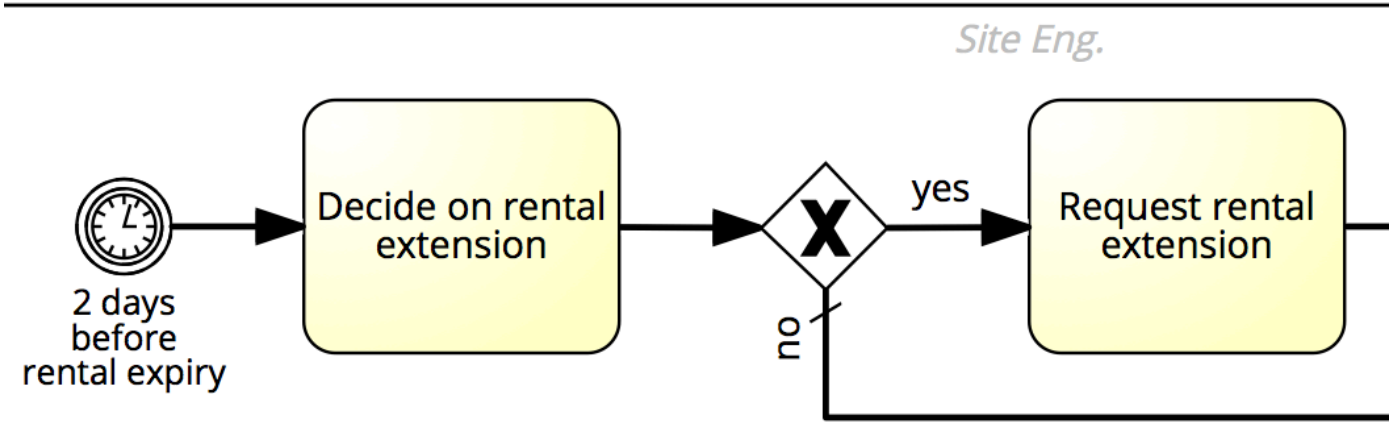


Applying redesign heuristics

Example: Equipment rental process

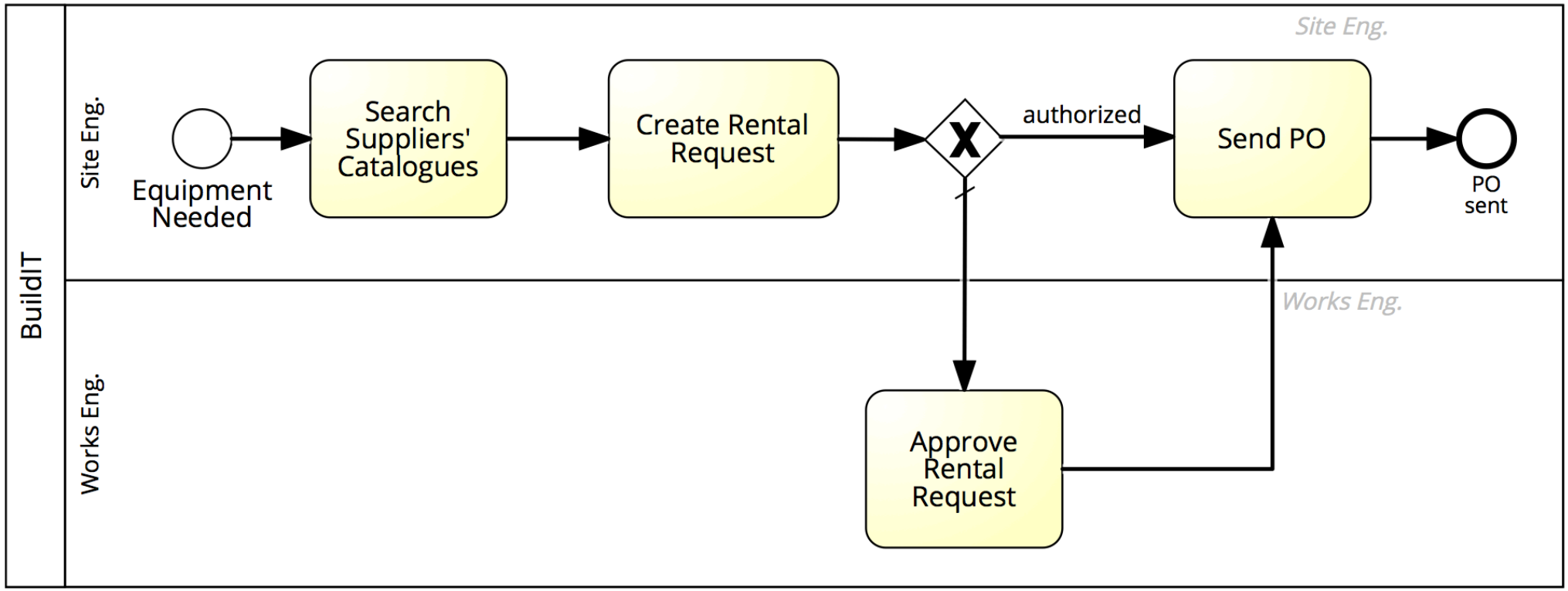
Heuristic 8: Communication optimisation

- Inform the site engineer when the equipment is dispatched
- Add interaction to handle extensions



Redesign output: to-be process model

Example: Equipment rental process

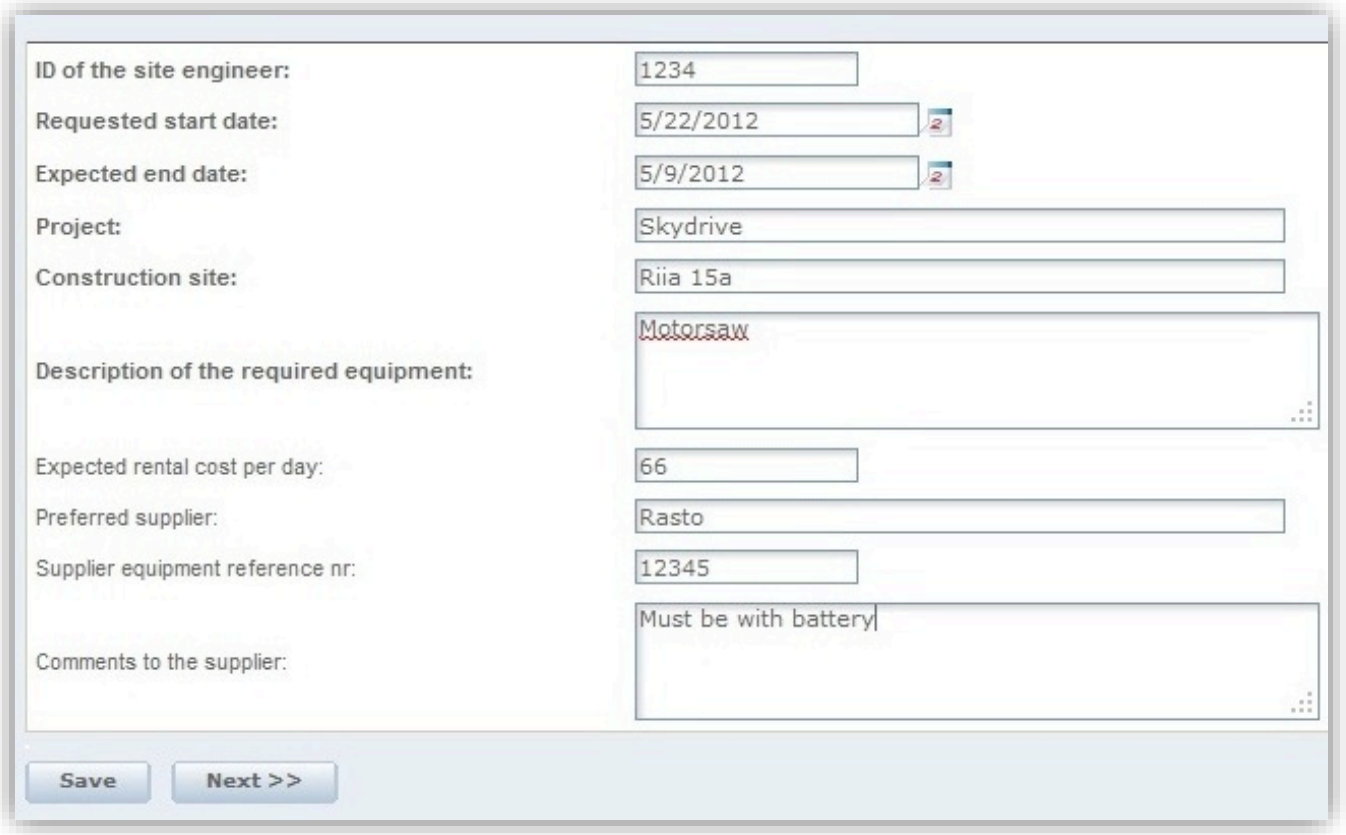


Applying redesign heuristics

Example: Equipment rental process

Heuristic 9: Process automation

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

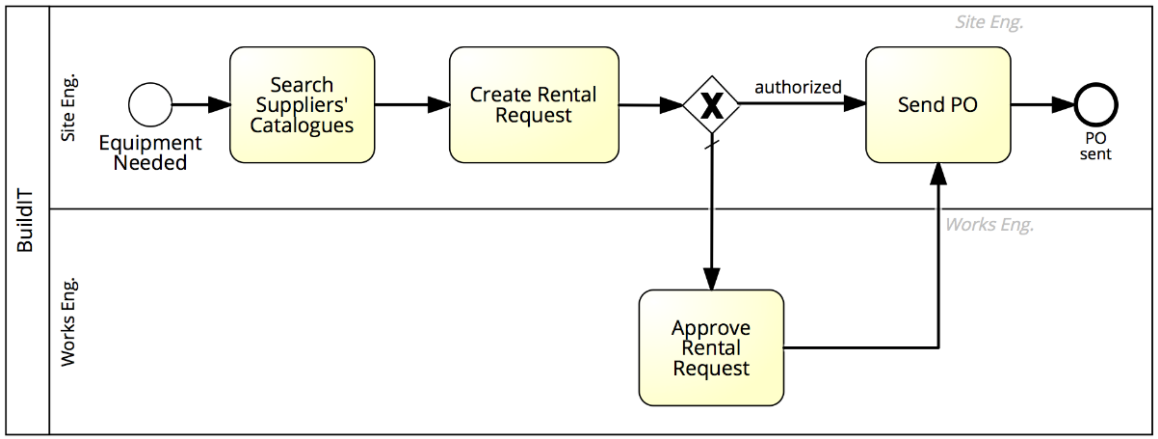


Applying redesign heuristics

Example: Equipment rental process

Heuristic 9: Process automation

- Use self-service for the equipment search and availability checking
- Use process automation to coordinate handovers



Redesign heuristics for Equipment rental process

Heuristic 1

- I1. Eliminate request for approvals for small equipment
- I2. Replace approval with empowerment & stat. controls

Heuristic 2

- I3. Compose equipment selection, availability check and rental request creation

Heuristic 6

- I4. Separate process for small vs. large equipment, streamline “small” process

Redesign heuristics for Equipment rental process

Heuristic 8

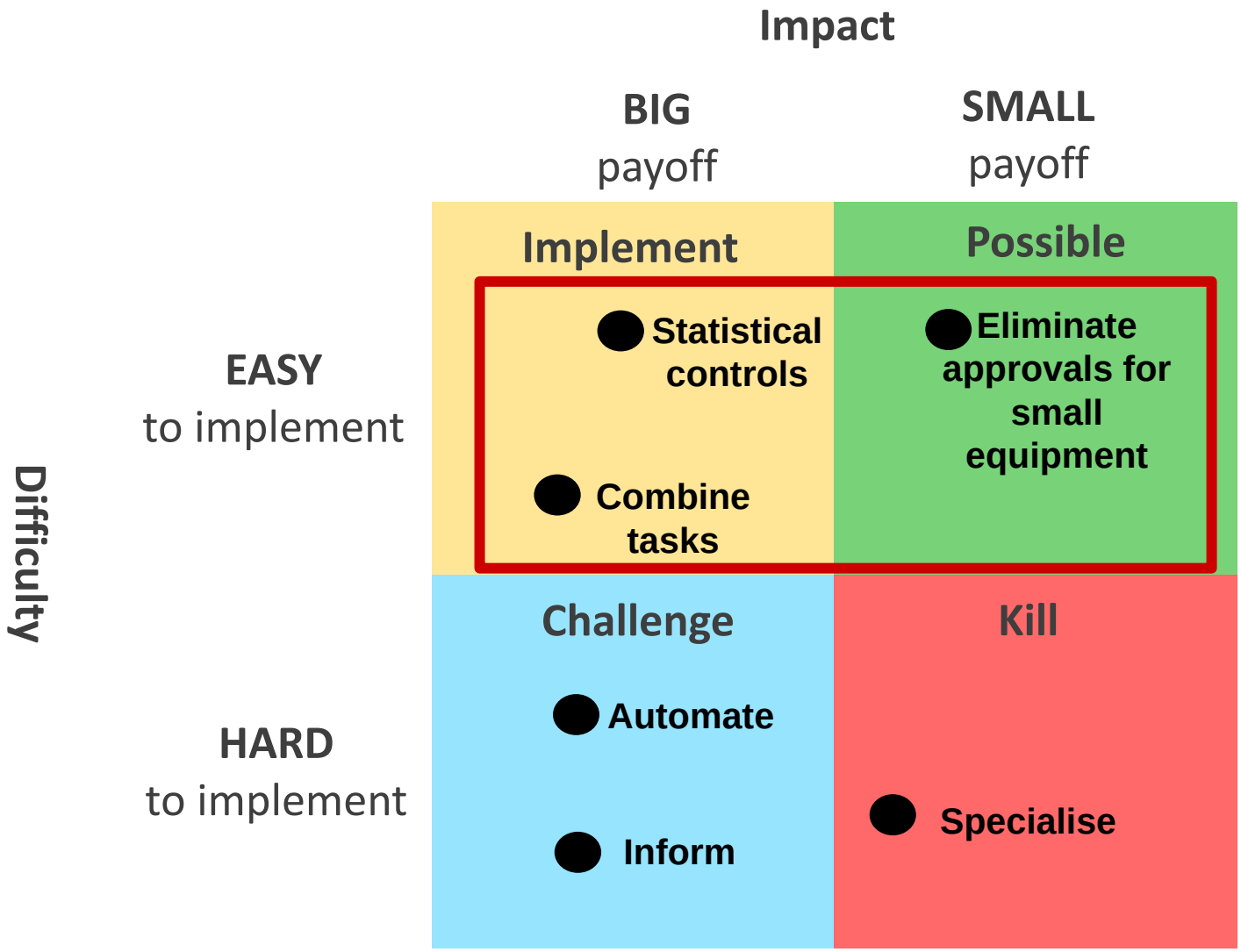
- I5. Inform site engineer when equipment dispatched
- I6. Ask site engineer if extension required

Heuristic 9

- I7. Use self-service for equipment search and availability checking
- I8. Use process automation to coordinate handovers

Prioritizing redesign options

PICK chart



Questions