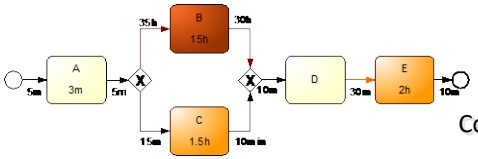
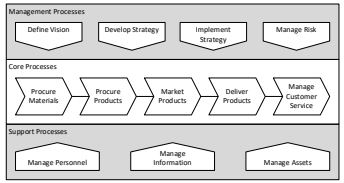
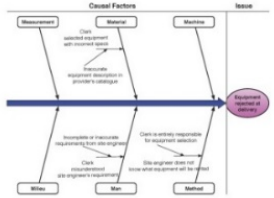
Business Process Management (7)

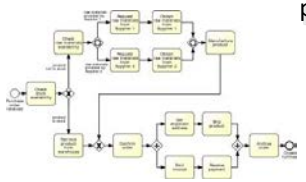
Slides adapted from: Dr. Marlon Dumas

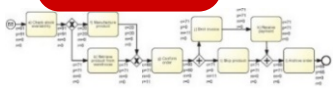
Process Redesign











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)**

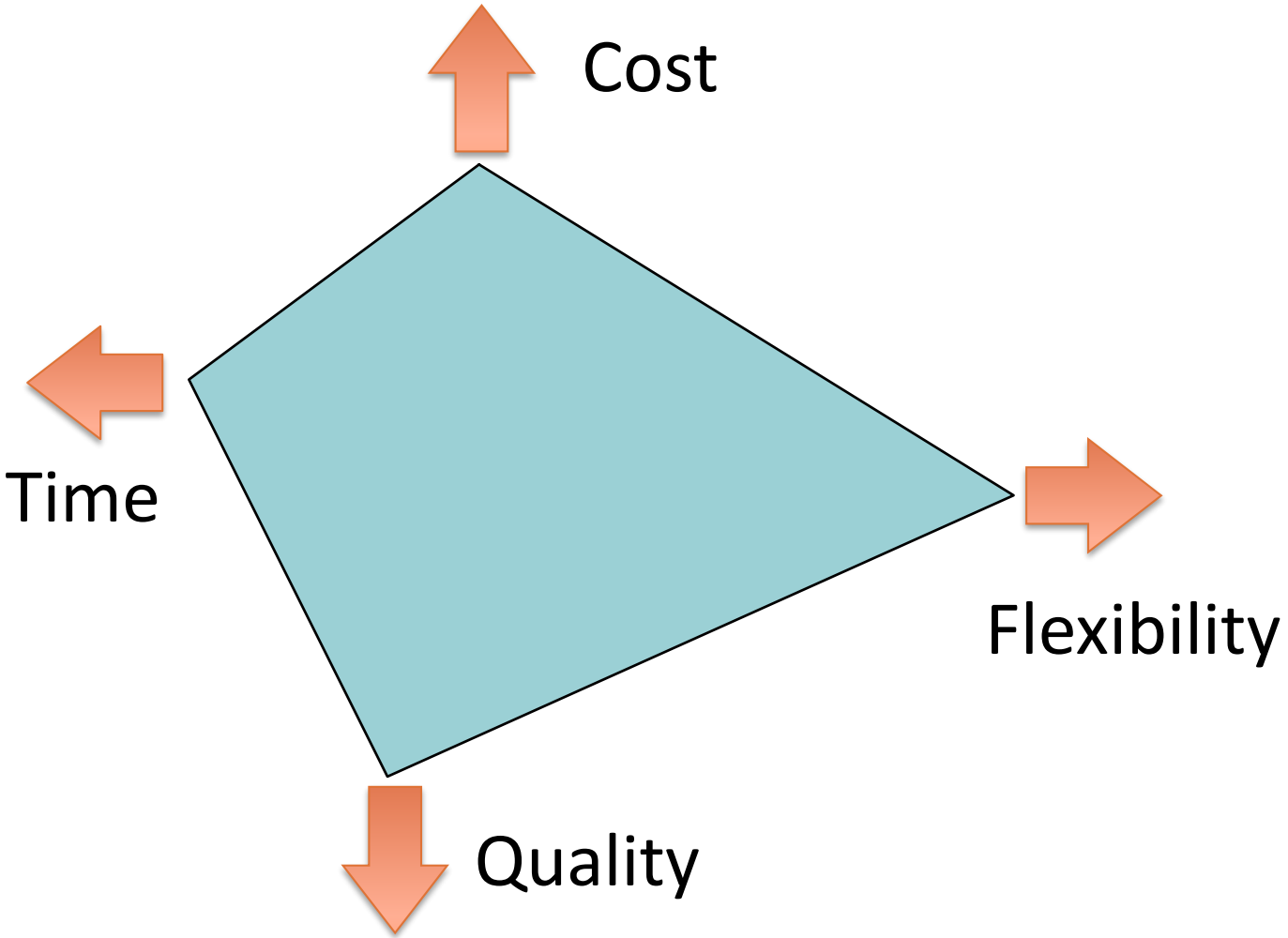
Some principles of BPR

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.

Heuristic process redesign

- **Transactional:** changes the “as is” process incrementally
- **Inward-looking:** operates within the scope and context of “as is” process
- **Analytical:** based on redesign heuristics that strike tradeoffs between:
  - Cost
  - Time
  - Quality
  - Flexibility

Performance measures: the Devil's Quadrangle



Flexibility

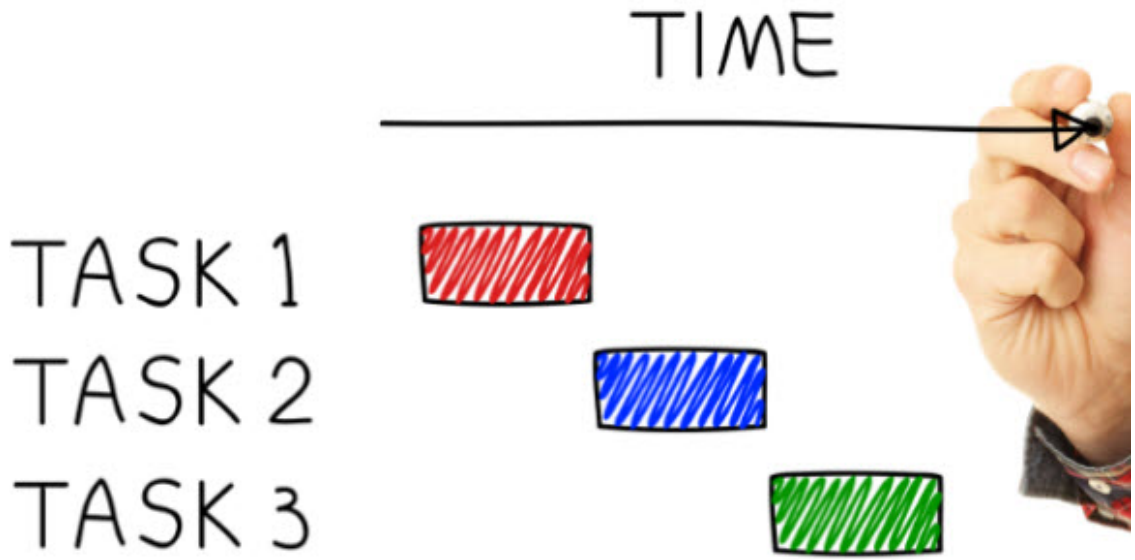
- Ability to react to changes in:
  - Workload
  - Customer demands and expectations
  - Resource and business partner availability and performance
- Example: Following natural disasters (e.g. storms), the number of home insurance claims increases by tenfold
- To address this surge, flexibility is required at:
  - **Resource** level: Staff redeployment, faster performance
  - **Process** level: Performing tasks differently to speed up the front-end
  - **Management**: Relaxing business rules and controls where possible

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

Task-level redesign heuristics

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



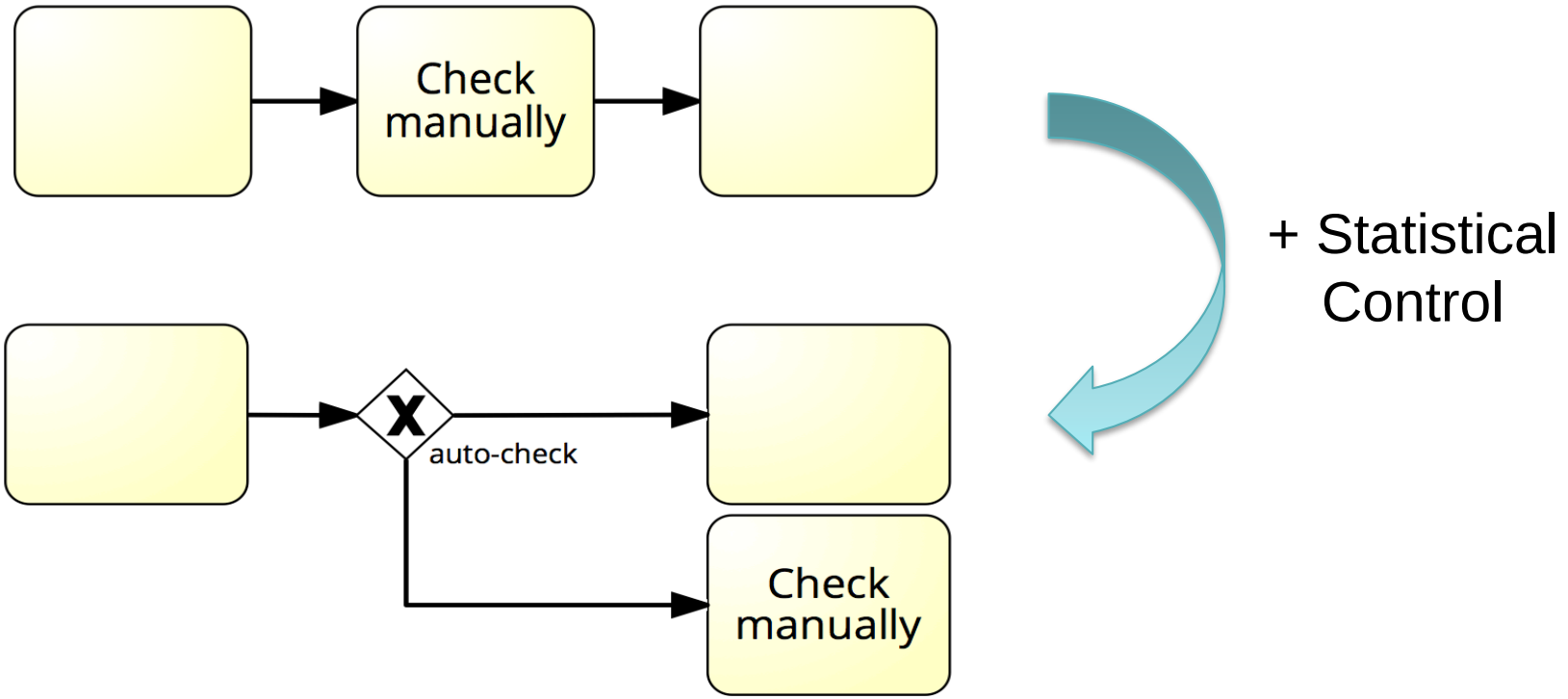
H1. Task elimination

Eliminate non-value-adding steps wherever these can be isolated

- Forward, send, receive, …

Consider reducing manual control steps (checks & approvals) by:

- Skipping them where feasible
- Replacing them with statistical controls
- Skipping them selectively



H1. Task elimination

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

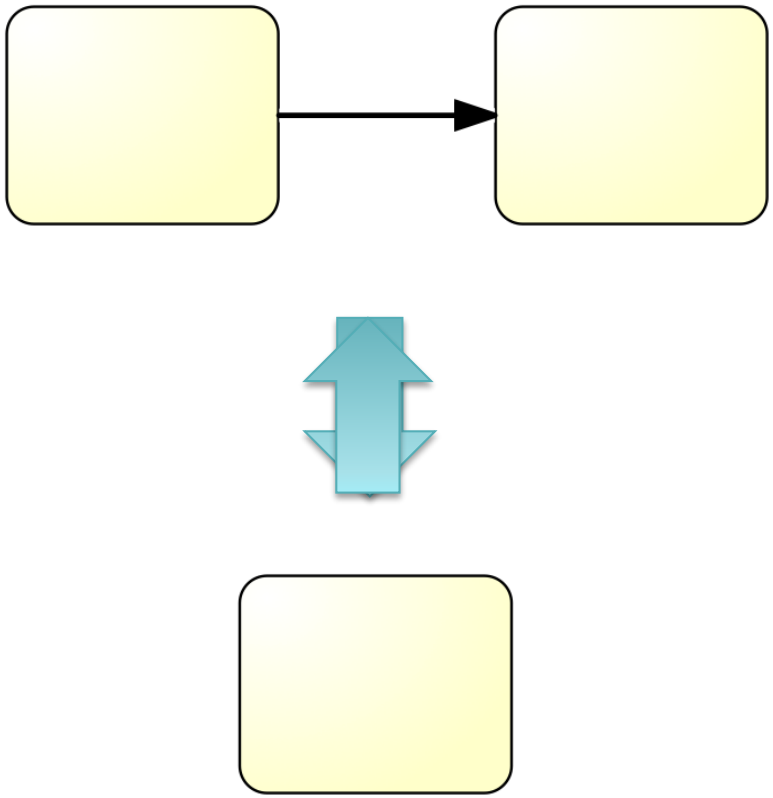
Consider trade-off between the cost of the check and the cost of not doing it

Examples:

- Procure-to-pay process: some types of employees are empowered to trigger isolated purchases below $500 without supervisor approval
- Order-to-cash process: invoices from trusted suppliers under $1000 are not checked on a one-by-one basis
- University admission process: authenticity check is very expensive, yet it leads to only 1% of applications being rejected

H2. Task composition/decomposition

- Consider composing two tasks to eliminate transportation and reduce “context switches”, OR
- Consider splitting a task into two and assign to separate, specialized resources



H2. Task composition and decomposition

Composition example:

- Procure-to-pay process: Merging two checks: “Check necessity of purchase” and “Check budget”

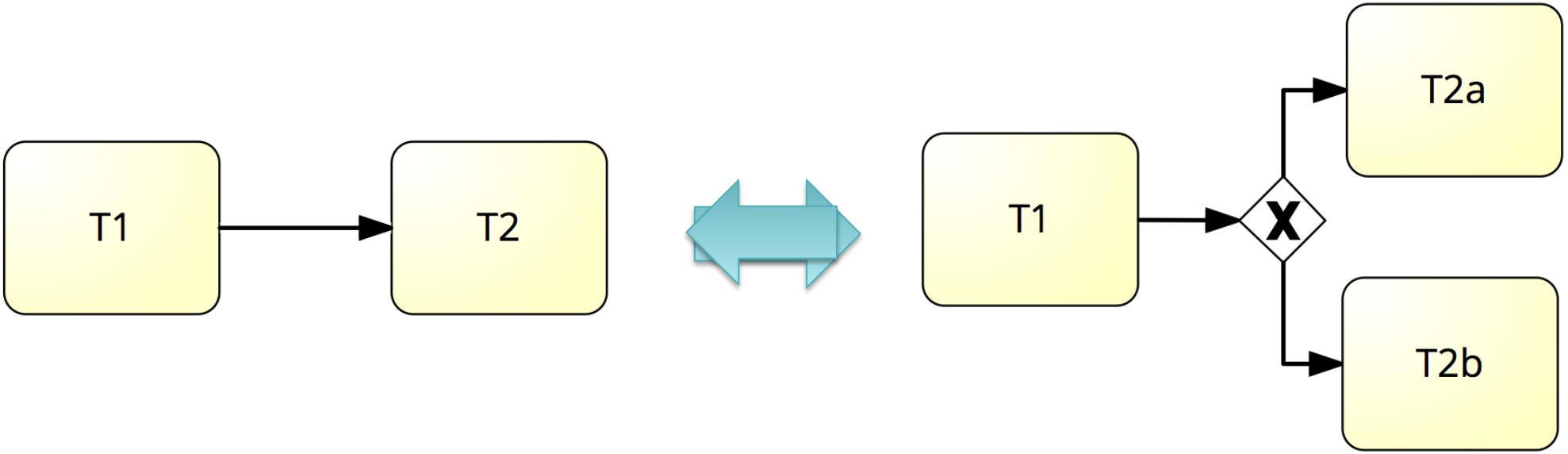
Decomposition example:

- Make-to-order process: Separate a single thick “prepare quote” task into “prepare bill of materials”, “prepare production plan” and “estimate costs and delivery time”

Composition: (T+, C+/-, F+)
Decomposition: (T-, C+, F-)

H3. Triage

- Specialize a task: divide a *general* task into two or more alternative tasks
- Generalize tasks: integrate two or more alternative tasks into one general task



H3. Triage

Specialization example:

- Procure-to-pay process: Separate approvals of *small* purchases, *medium* purchases and *large* purchases

Generalization example:

- Make-to-order process: Integrate quote preparation for two product lines into one single task

Specialization: (T+, C+/-, F-)
Generalization: (T-, C+/-, F+)

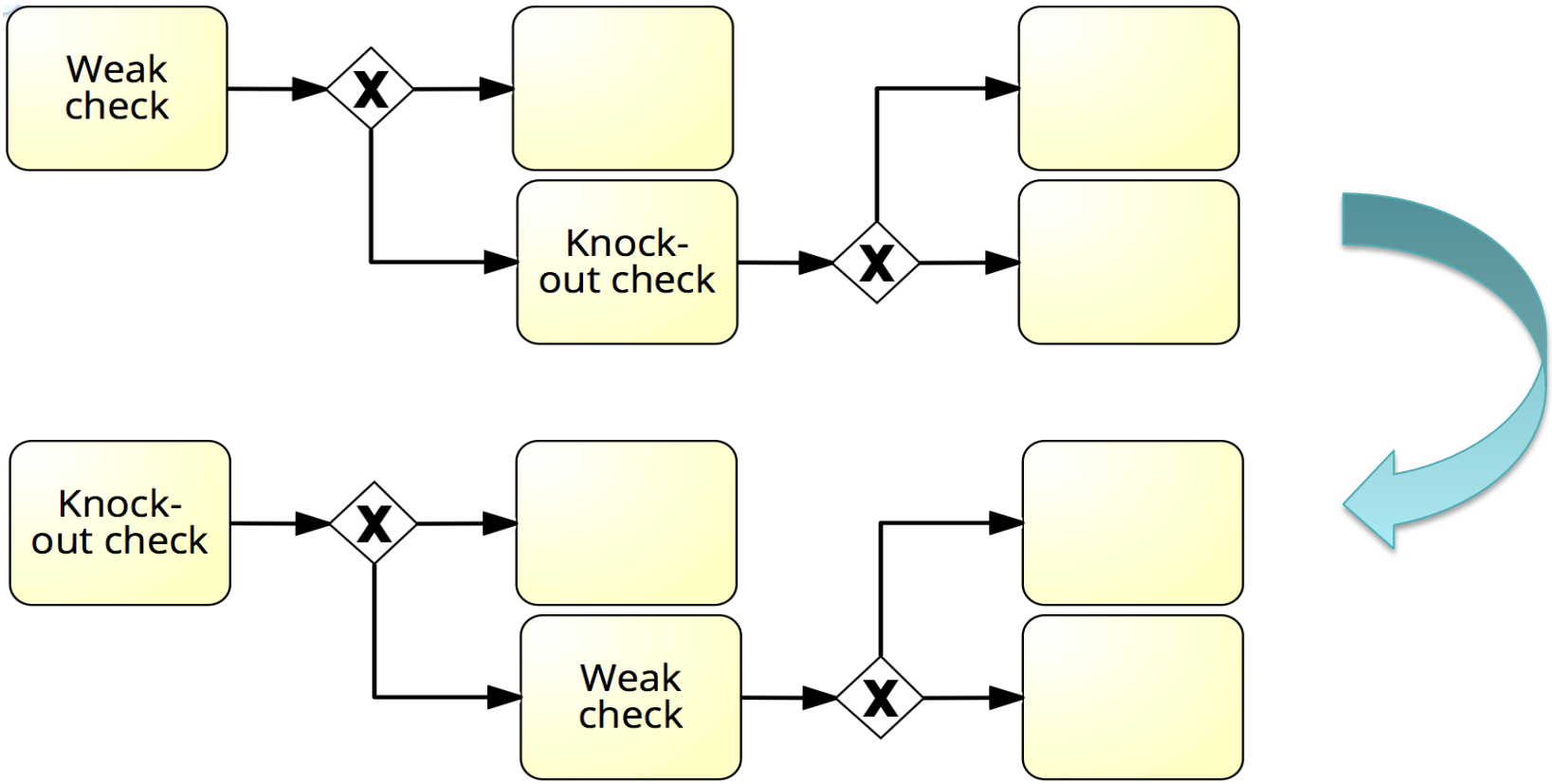
Flow-level redesign heuristics

4. Re-sequencing
5. Parallelism enhancement

H4. Re-sequencing

Re-order tasks according to their cost/effect ratio to minimize over-processing

- Postpone expensive tasks that may end up not being necessary until the end
- Put *knock-out* checks first in order to identify problems early



H4. Re-sequencing

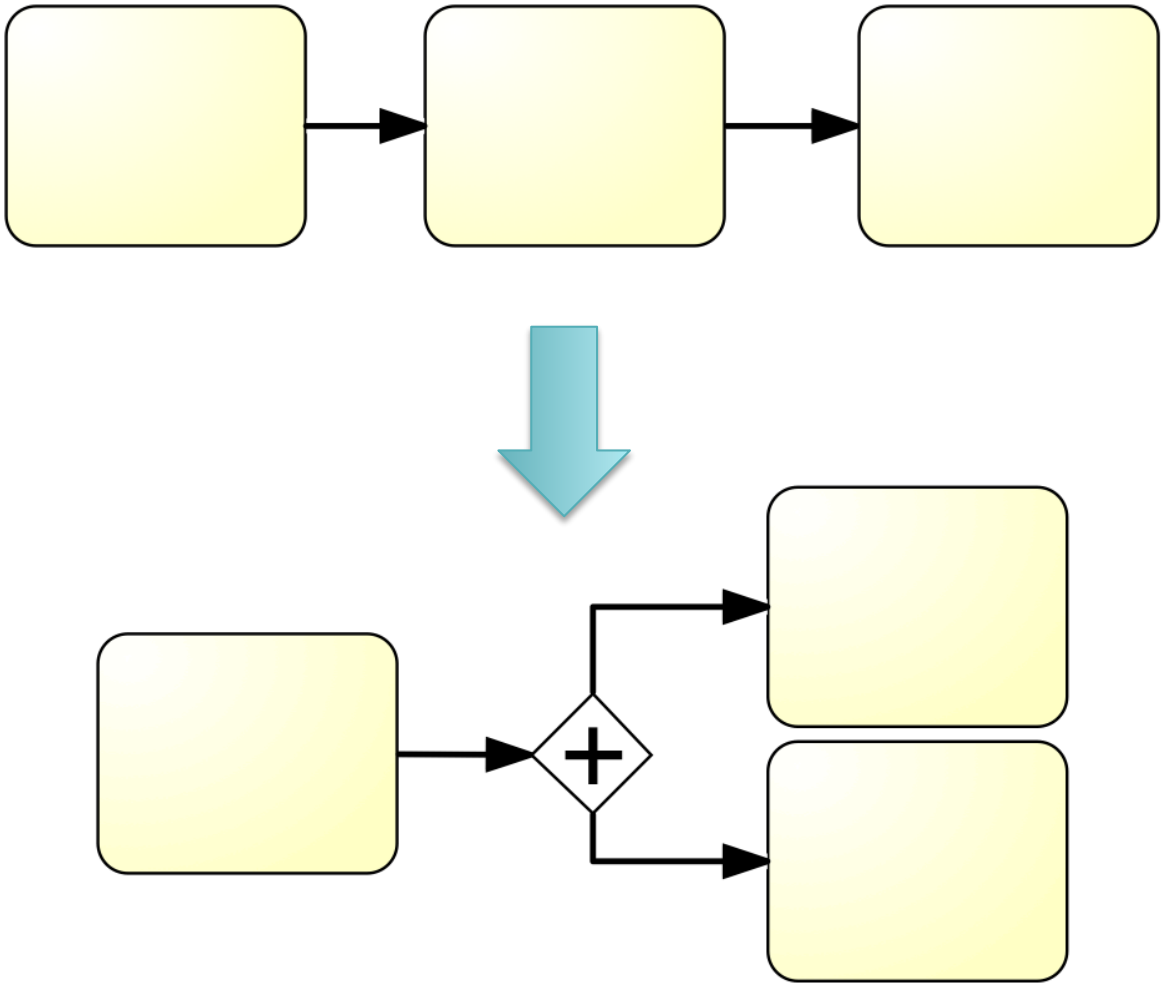
(T+,C+)

Examples:

- Make-to-order process: If “Prepare production plan” is time-consuming, postpone it until after the quote price has been tentatively accepted by the customer
- Procure-to-pay process: If “Check necessity of purchase” leads to 20% of knock-outs and “Check budget” leads to 2%, perform “Check necessity of purchase” first
- University admission process: authenticity check (very slow) leads to 1% of applications being rejected while committee’s check leads to 80% of applications being rejected. Put committee’s check first

H5. Parallelism enhancement

Parallelize tasks where possible in order to reduce cycle time

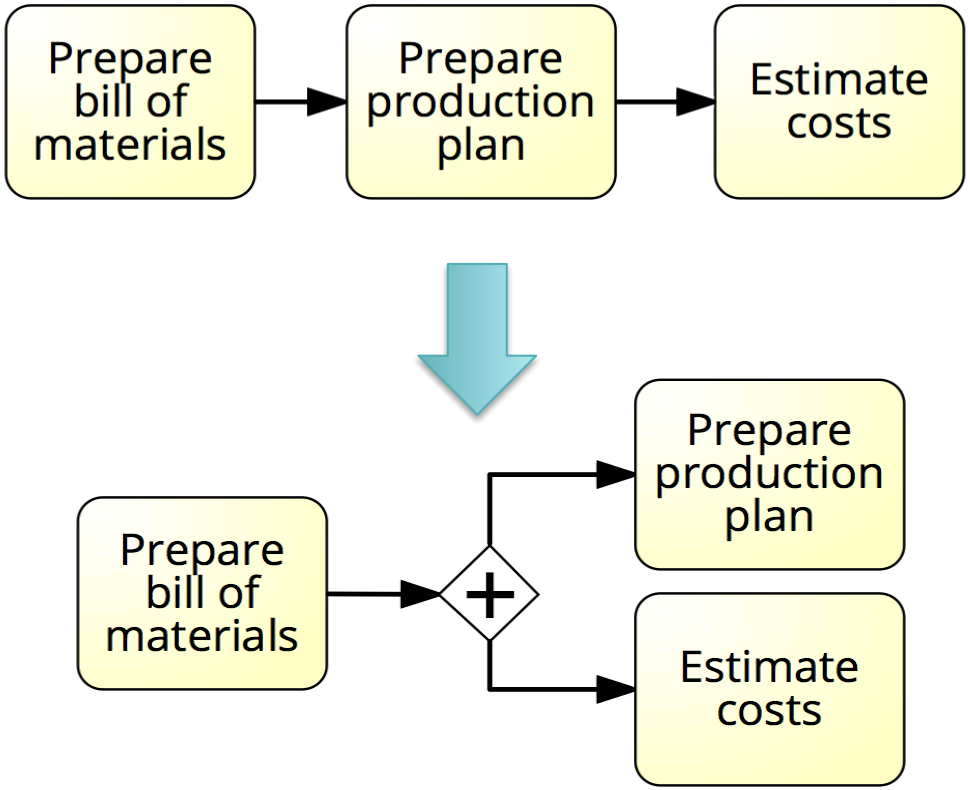


H5. Parallelism enhancement

(T+,C-)

Examples:

- Procure-to-pay process: Parallelize “Approve budget” and “Approve necessity of purchase”
- Make-to-order process: After “Prepare bill of materials”, perform “Prepare production plan” and “Estimate costs” in parallel



Questions