Business Process Management

Lecture 9
Process Redesign

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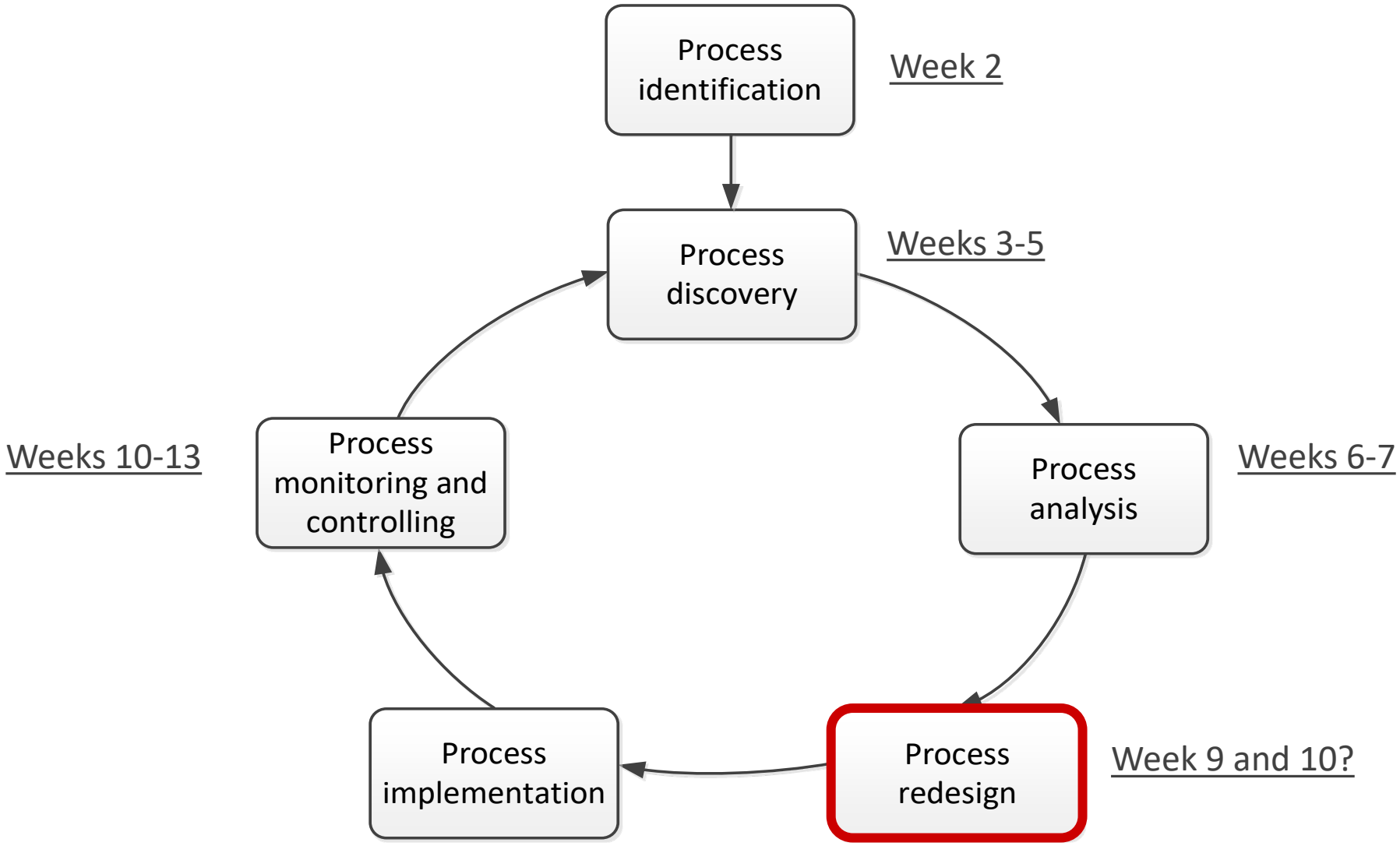
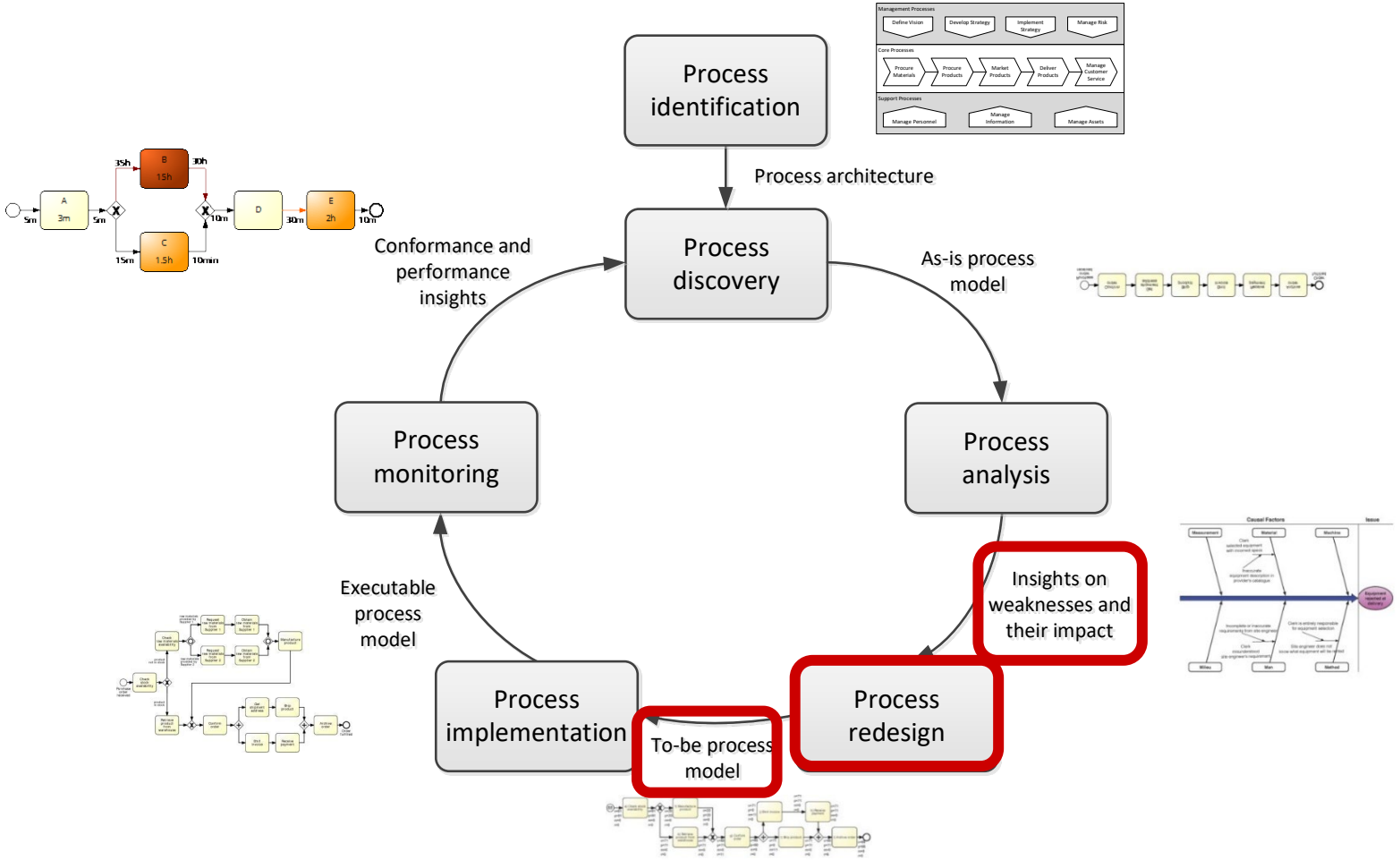
Course structure



Process Redesign



The waves of product and process innovation

Utterback-Abernathy Phase Model

The second wave of innovation

Organizational entropy

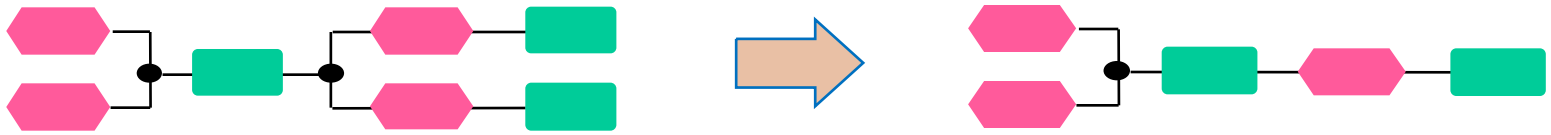
- Reactive motivation
- All business processes evolve over time.
- As a result, they grow more complex and their performance gradually deteriorates
- Ex:
  - Clerk in warehouse forgets to carry out quality check → customer becomes upset → add extra check in the process: a second clerk
  - After some time the initial check becomes automated → The check-on –the-check is not needed anymore, but is still part of the process

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

Process redesign approaches (by ambition)

Transformation Redesign (explorative/revolutionary)

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

Transactional Redesign (exploitative/evolutionary)

- 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)

Process redesign approaches (by nature)

Analytical redesign

- Tends to have a strong mathematical and quantitative focus
- Embraces tools and technology

Creative redesign

- Relies on human creativity
- Embrace group dynamics

Process redesign approaches (by perspective)

Inward-looking redesign

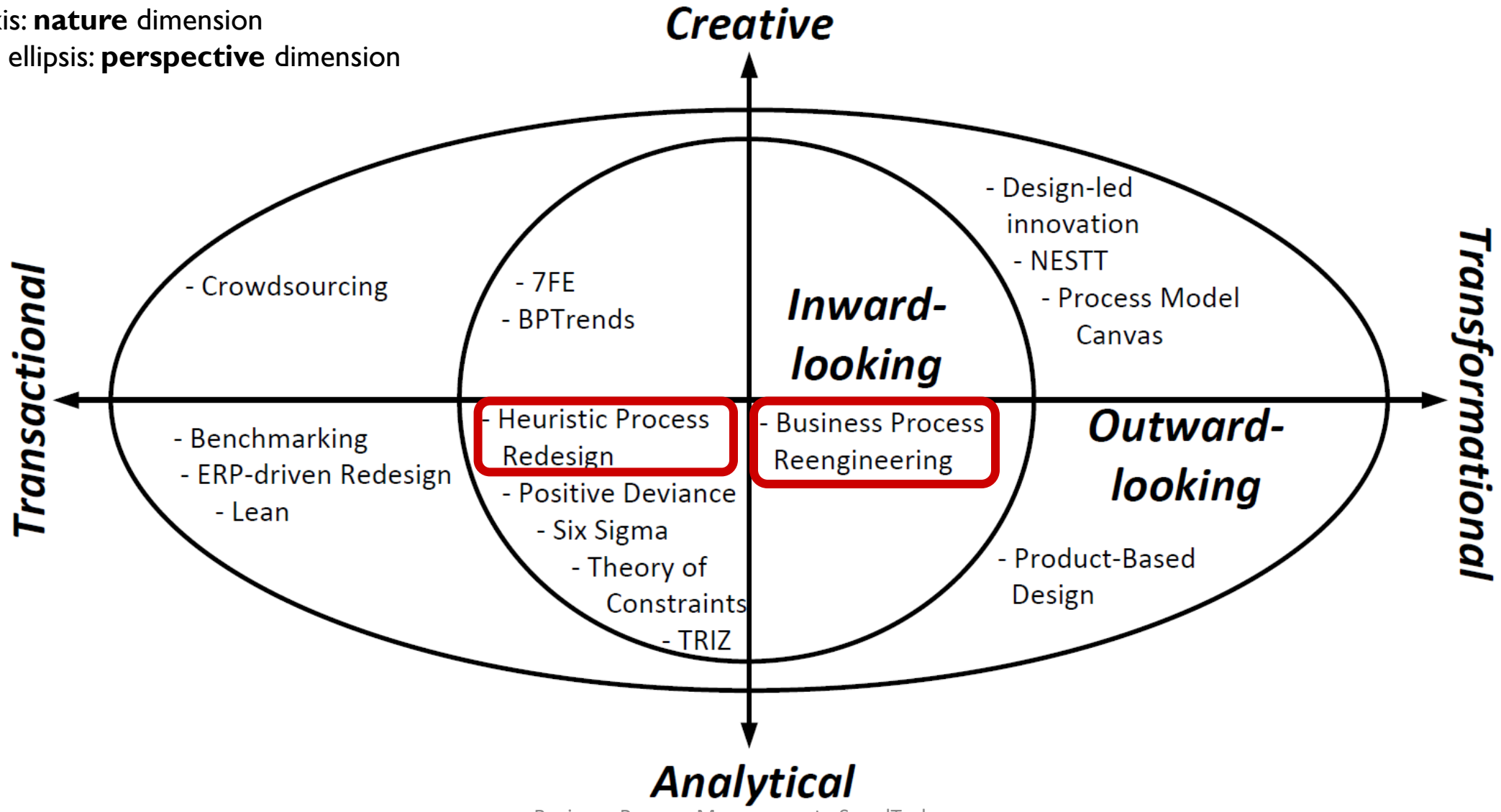
- Considers the process from the perspective of the internal organization
- Draws from objectives and performance measurement

Outward-looking redesign

- Considers the process from an outsider's perspective
- Driven by external opportunities and developments

The Process Redesign Orbit

Horizontal axis: **ambition** dimension
Vertical axis: **nature** dimension
Circle and ellipsis: **perspective** dimension



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 (rather than separated)
- **Inward-looking:** Operates within the scope and context of the existing process it aims to overhaul

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)

https://hbr.org/1990/07/reengineering-work-dont-automate-obliterate

*Turnaround time (TAT) is the time it takes to complete a process or task, from start to finish

The Ford Case Study

Automation would bring some improvement (20% improvement)

→ Aspiring to reduce to a 400 people

But Ford decided not to do it… Why?

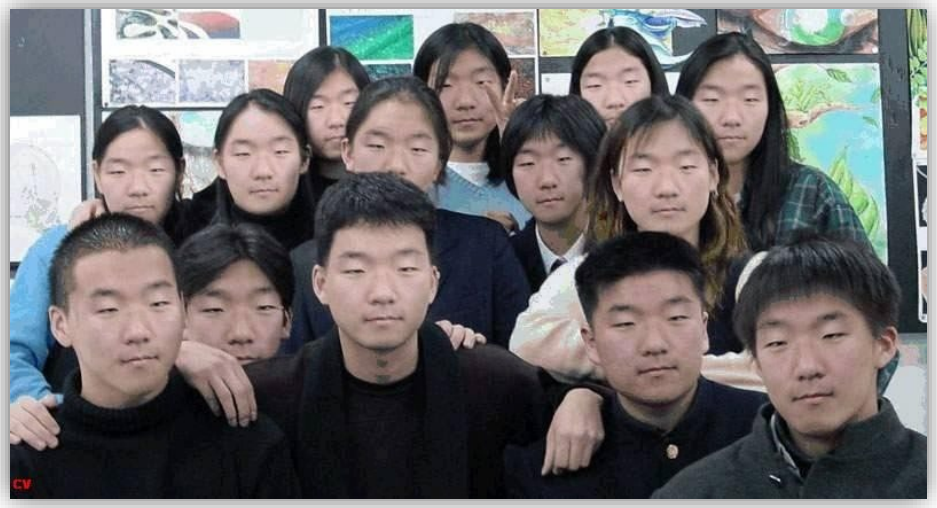
a) Because at the time, the technology needed to automate the process was not yet available.
b) Because nobody at Ford knew how to develop the technology needed to automate the process.
c) Because there were not enough computers and computer-literate employees at Ford.
d) None of the above

The correct answer is …

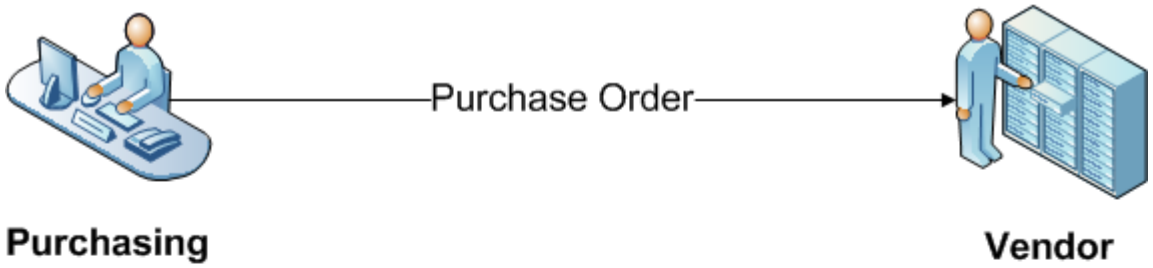
Mazda's Accounts Payable Department

Mazda's accounts payable team was about 5 people, versus a department of over 500 in Ford.

Even after taking into account differences of size, this was 6-7 times smaller than Ford.



How the process worked? ("as is")



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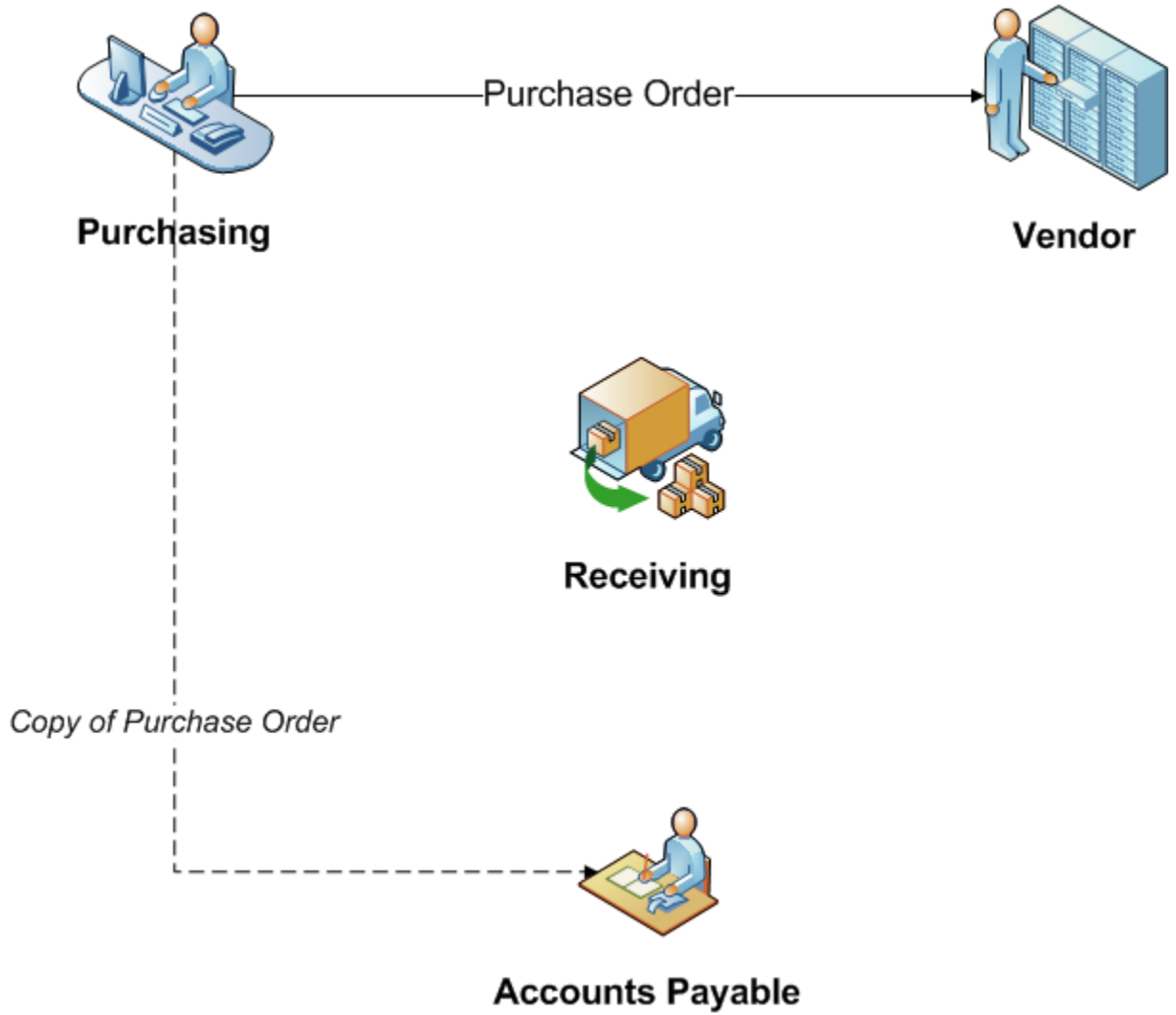

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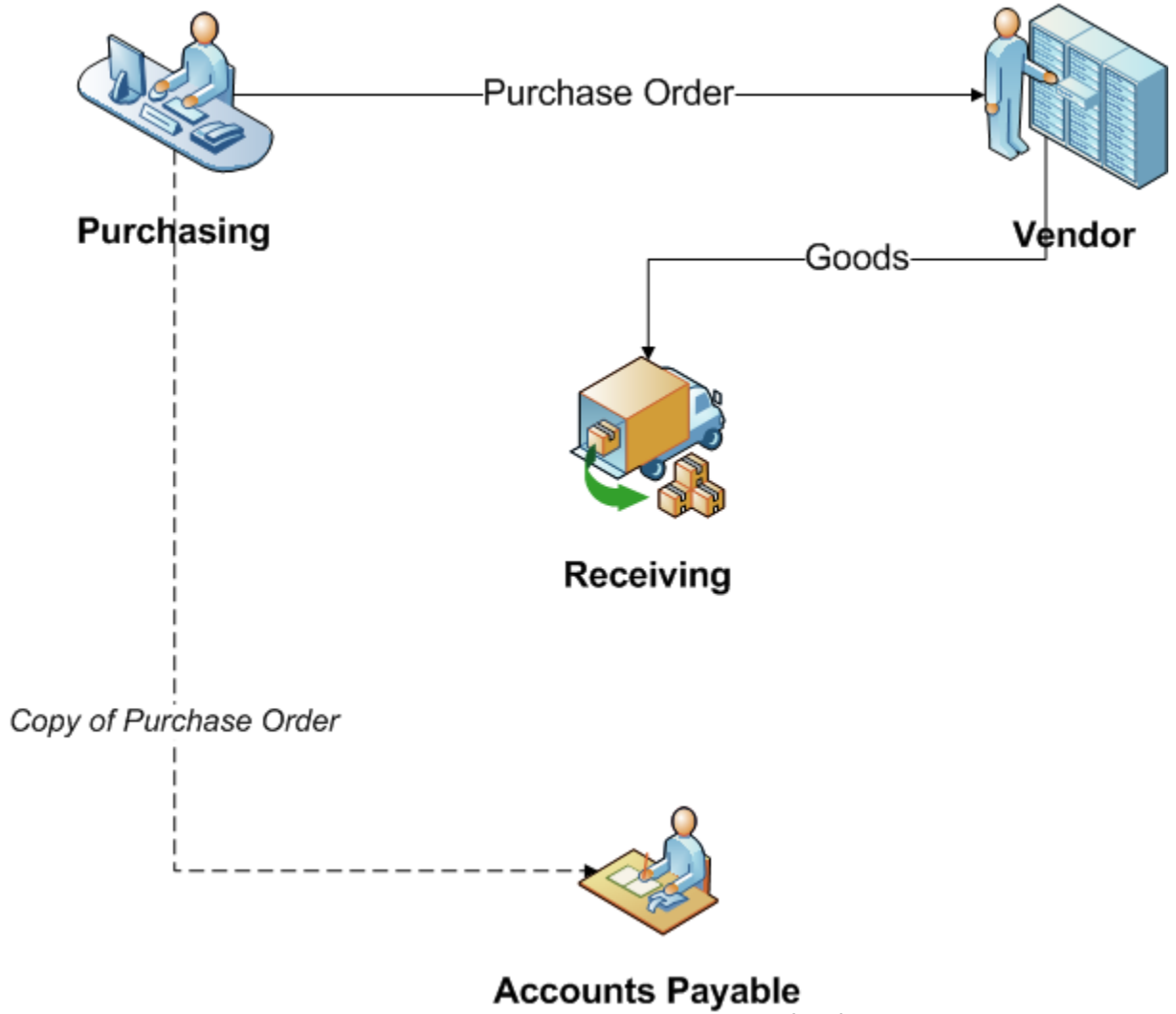

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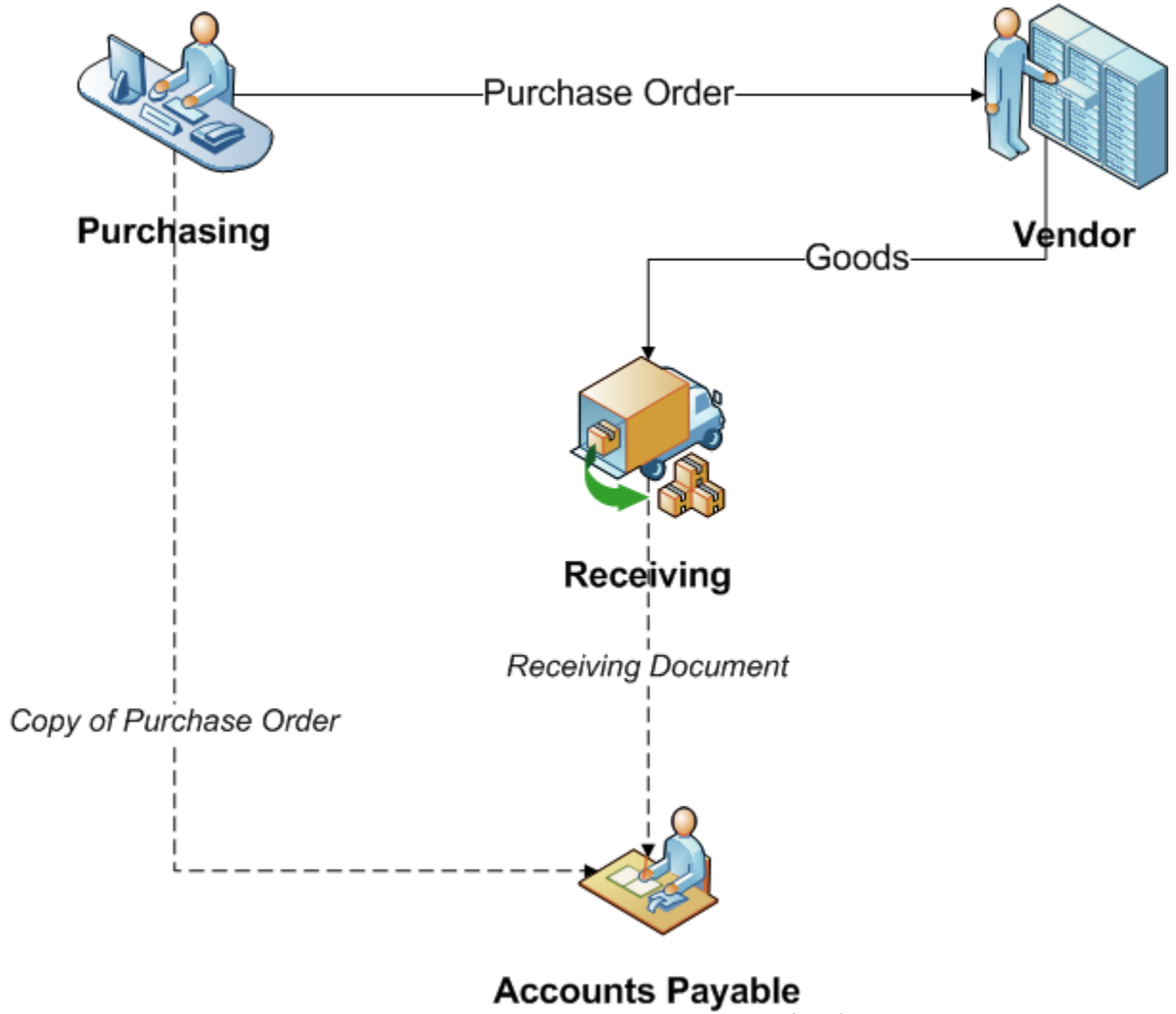

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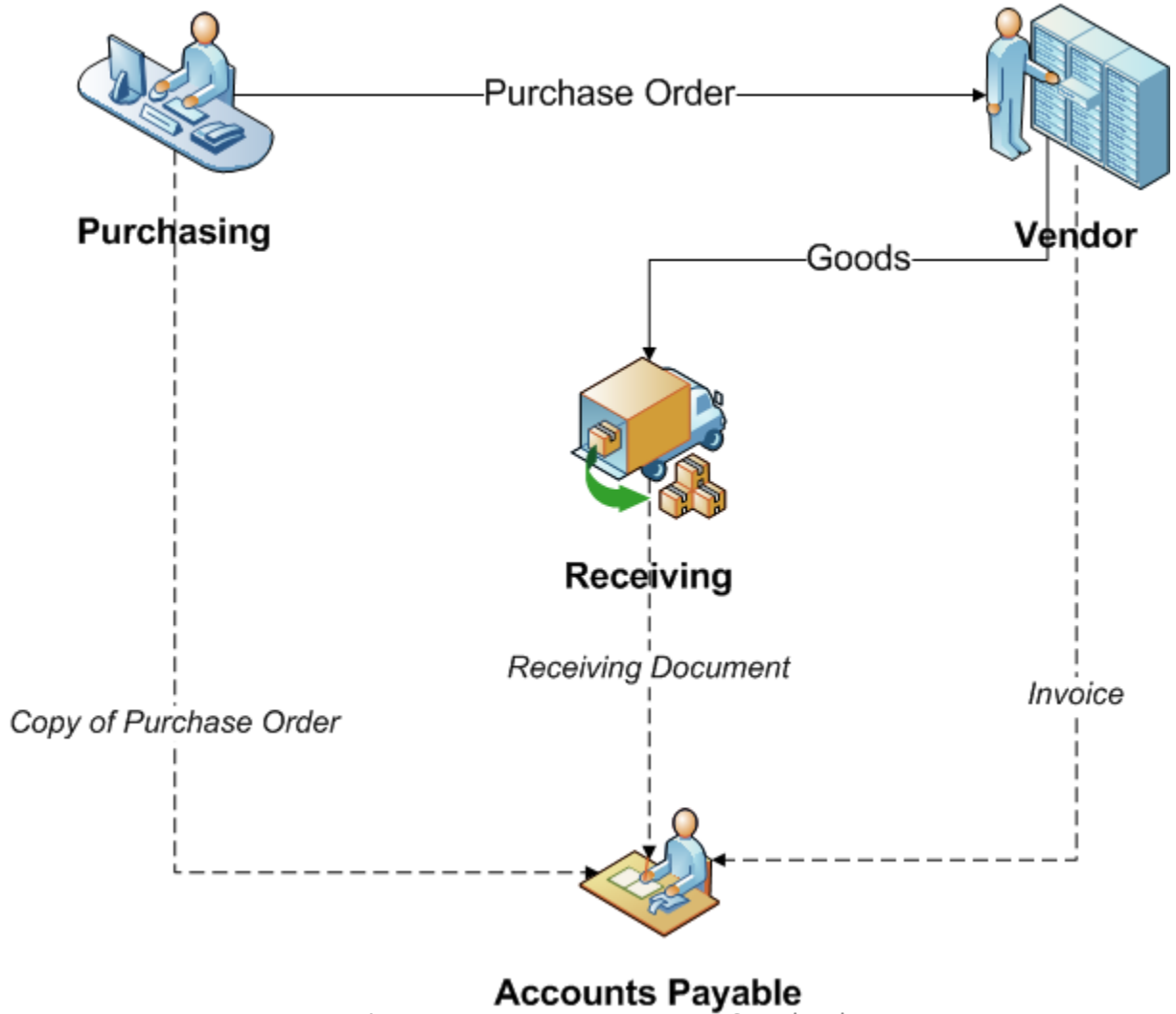

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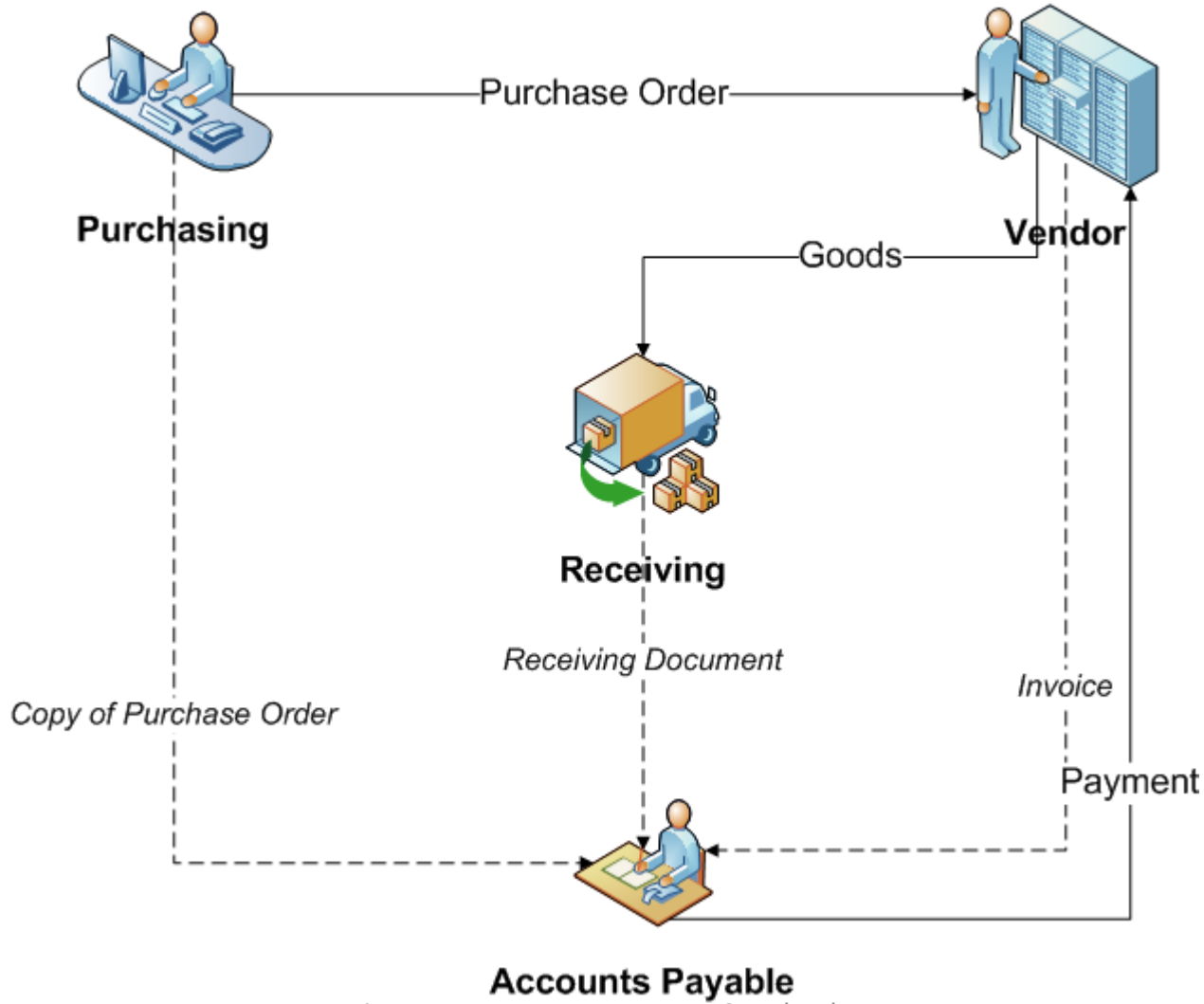
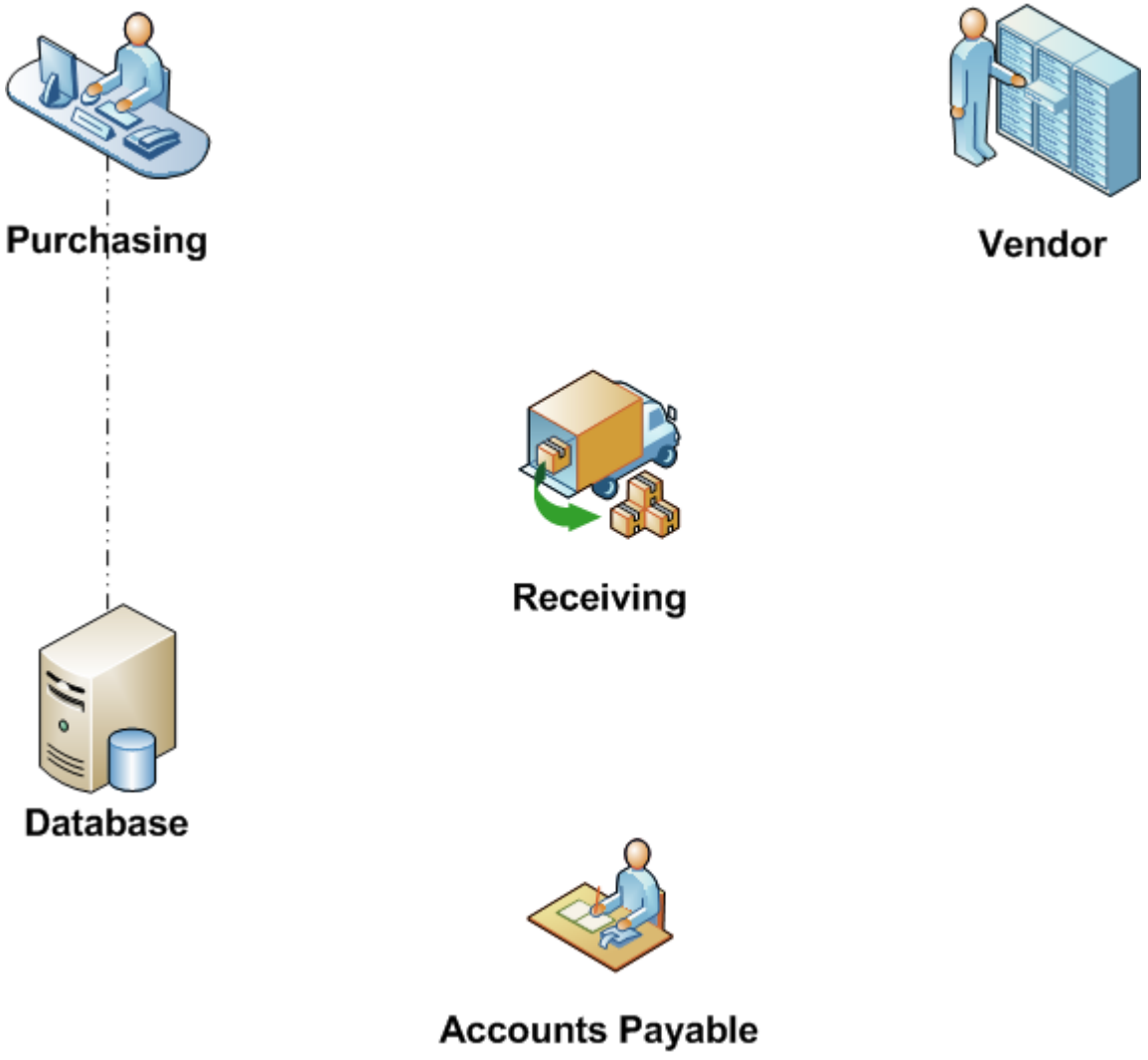


Reengineered Process (“to be”)



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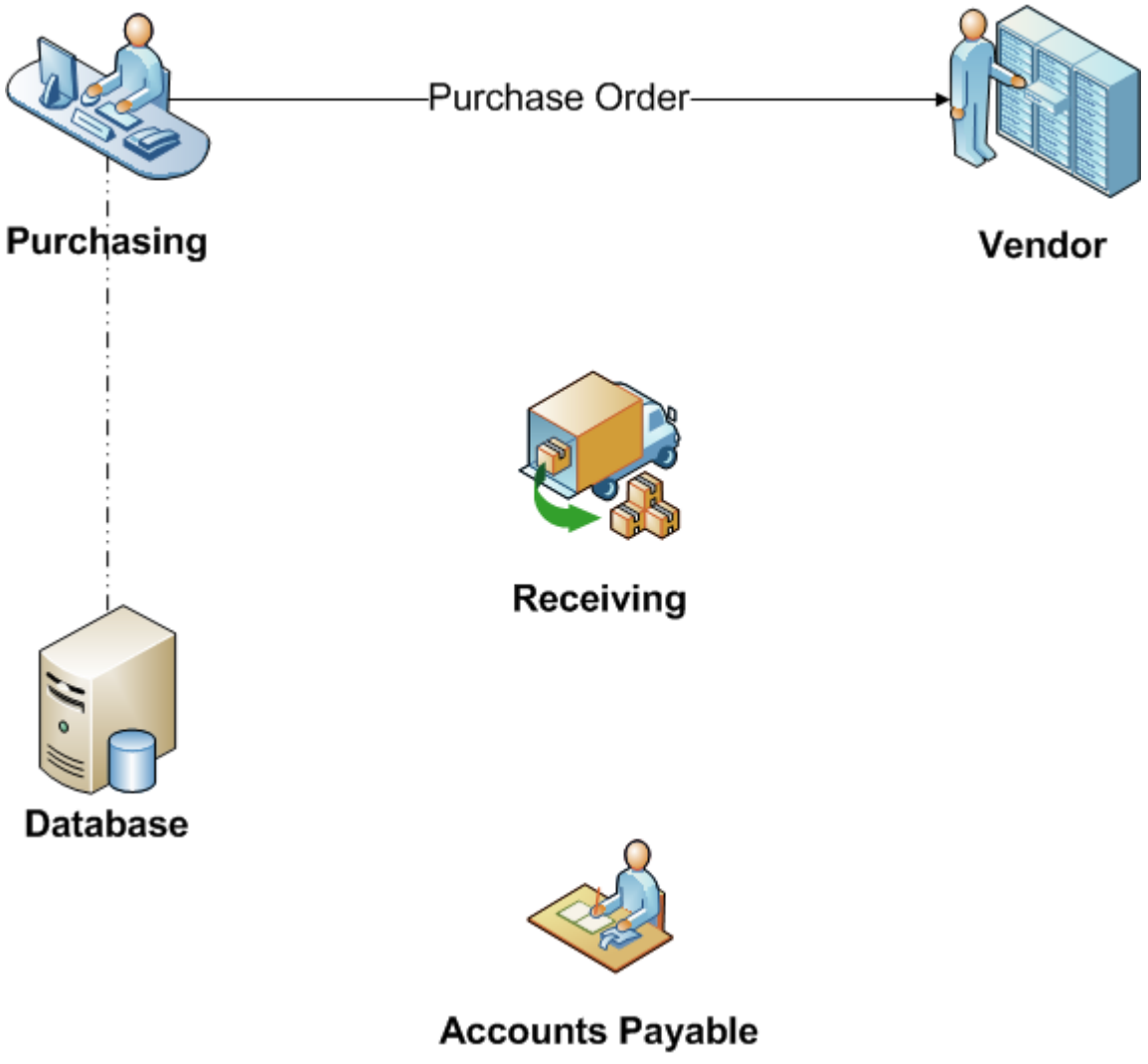

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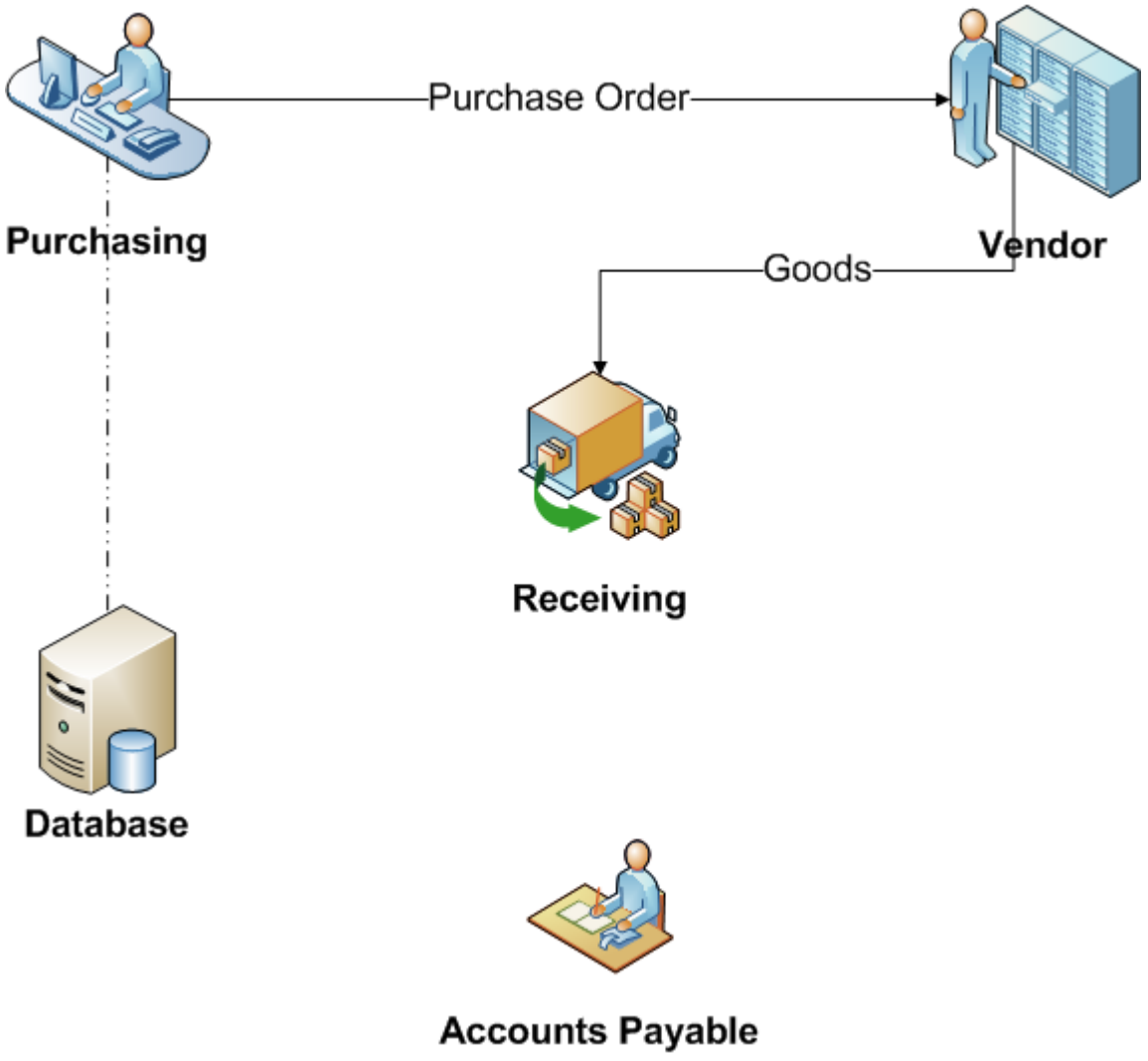

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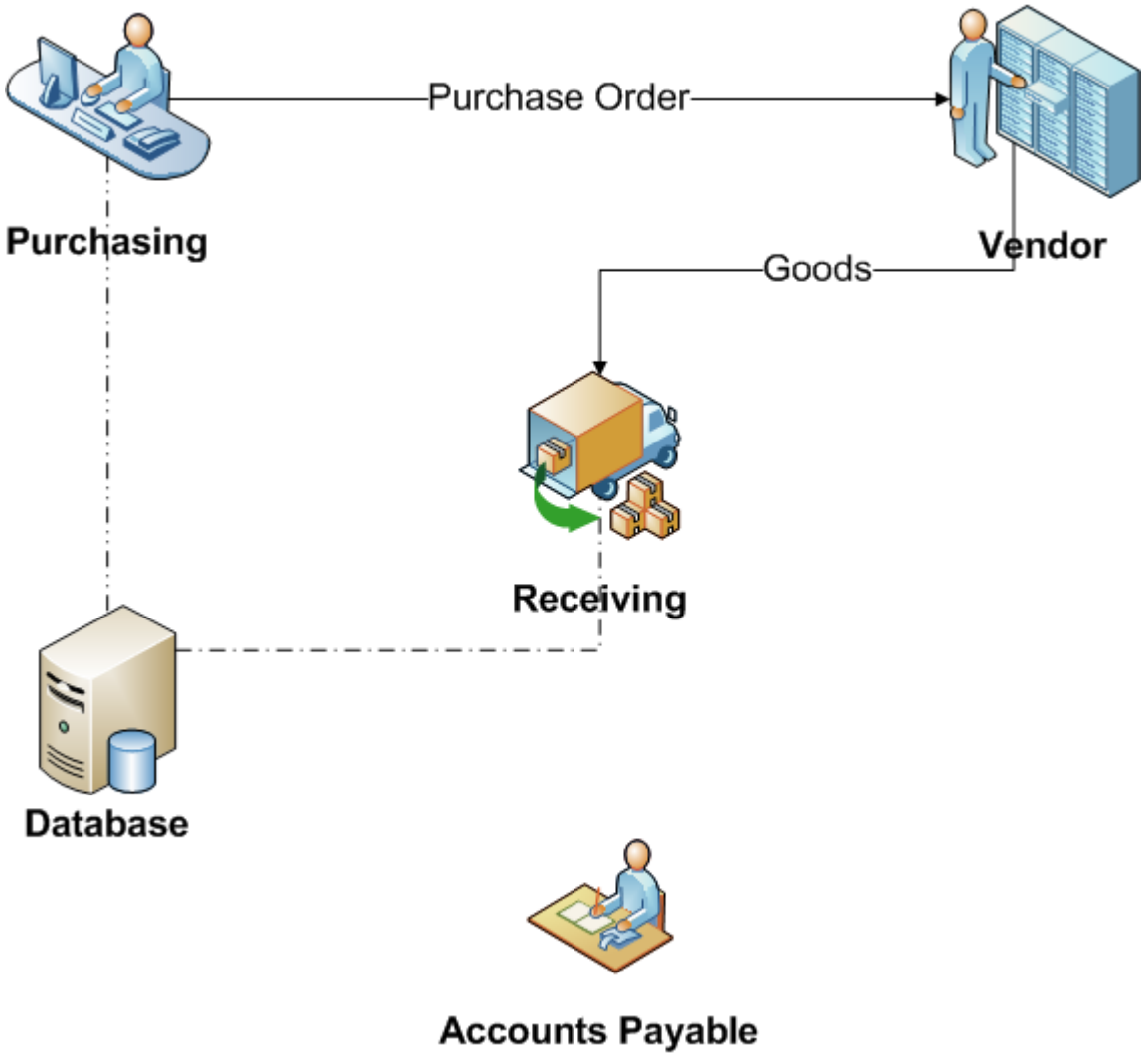

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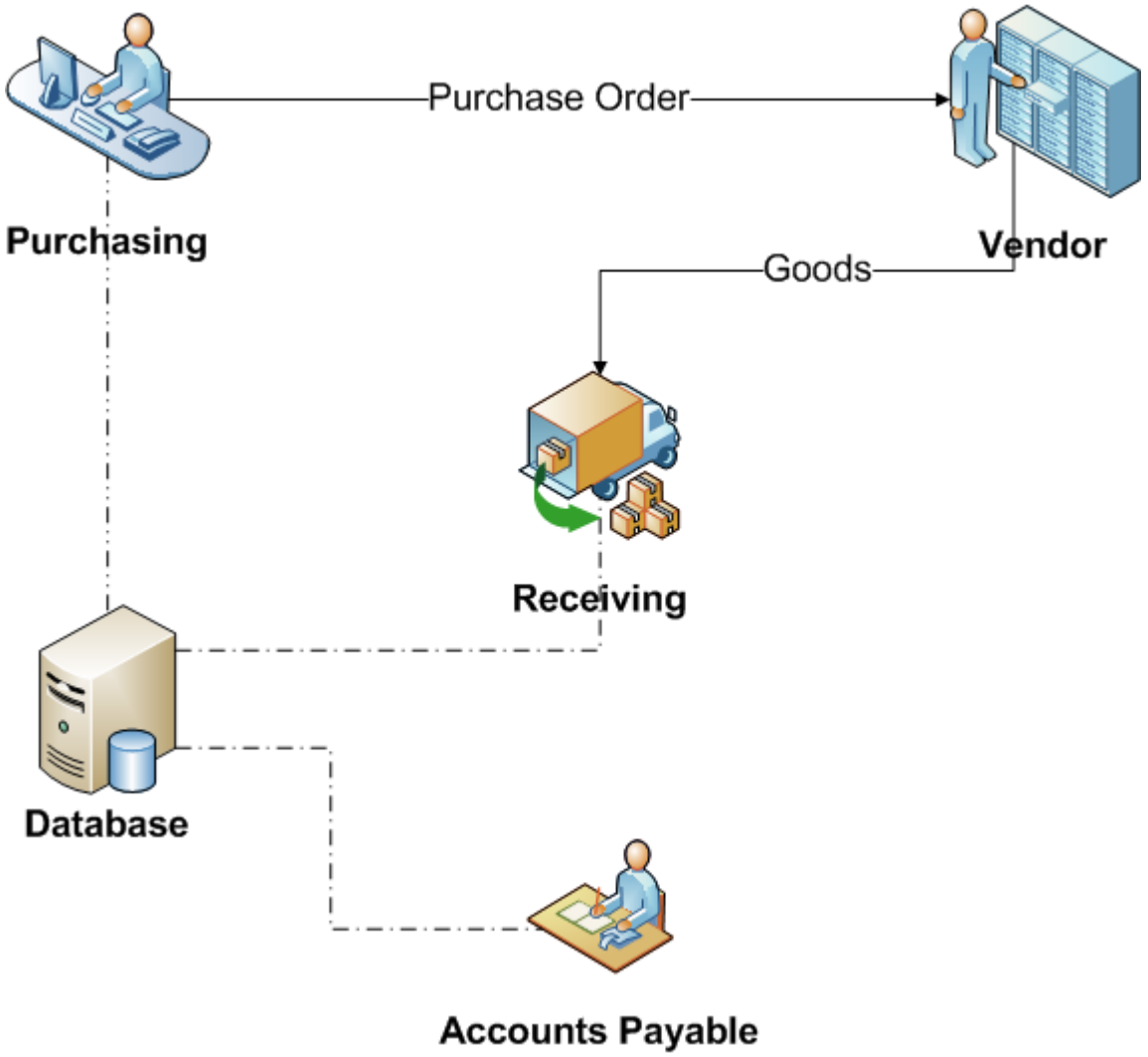

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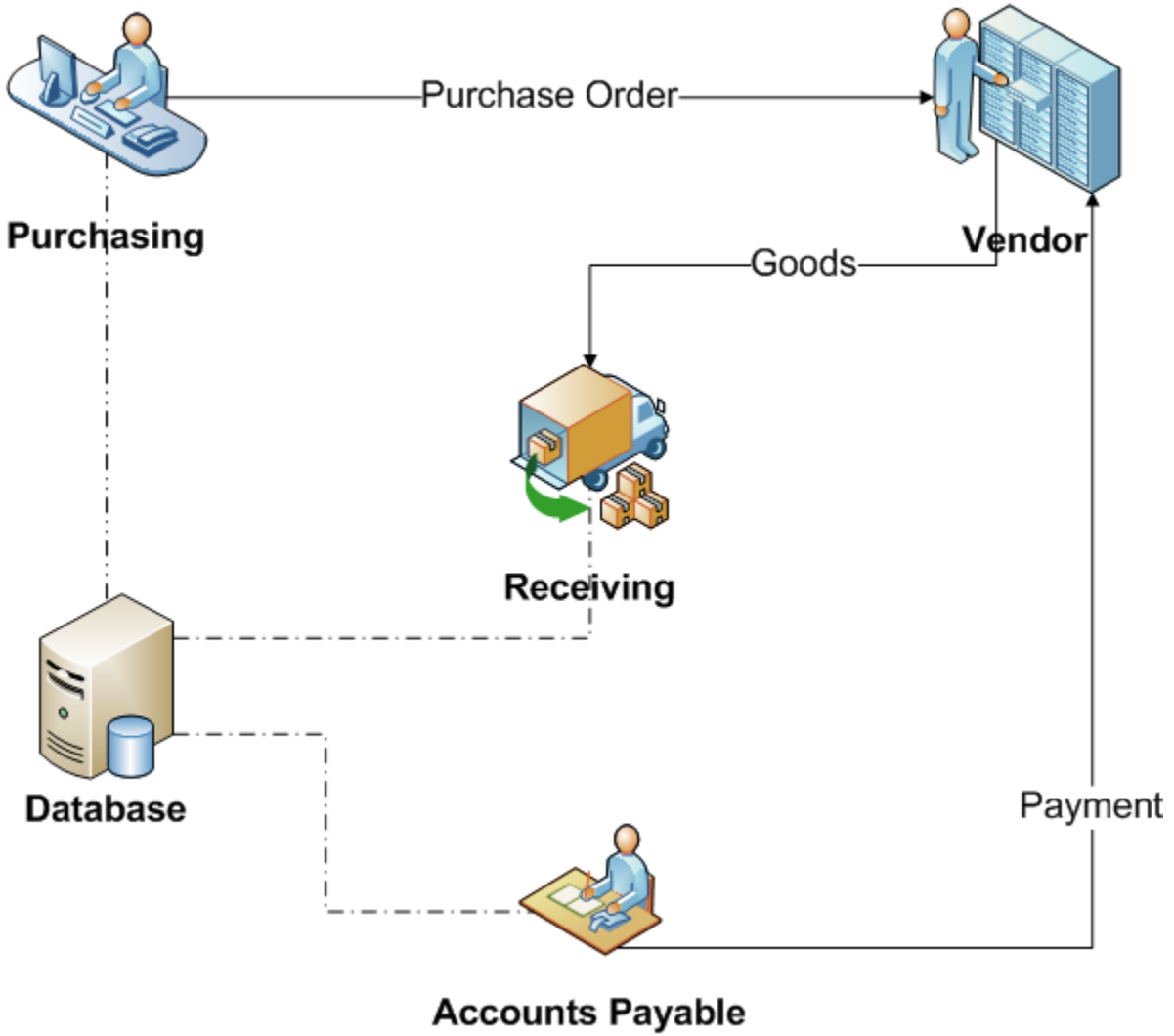


Evaluated Receipts Settlement

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)

https://hbr.org/1990/07/reengineering-work-dont-automate-obliterate

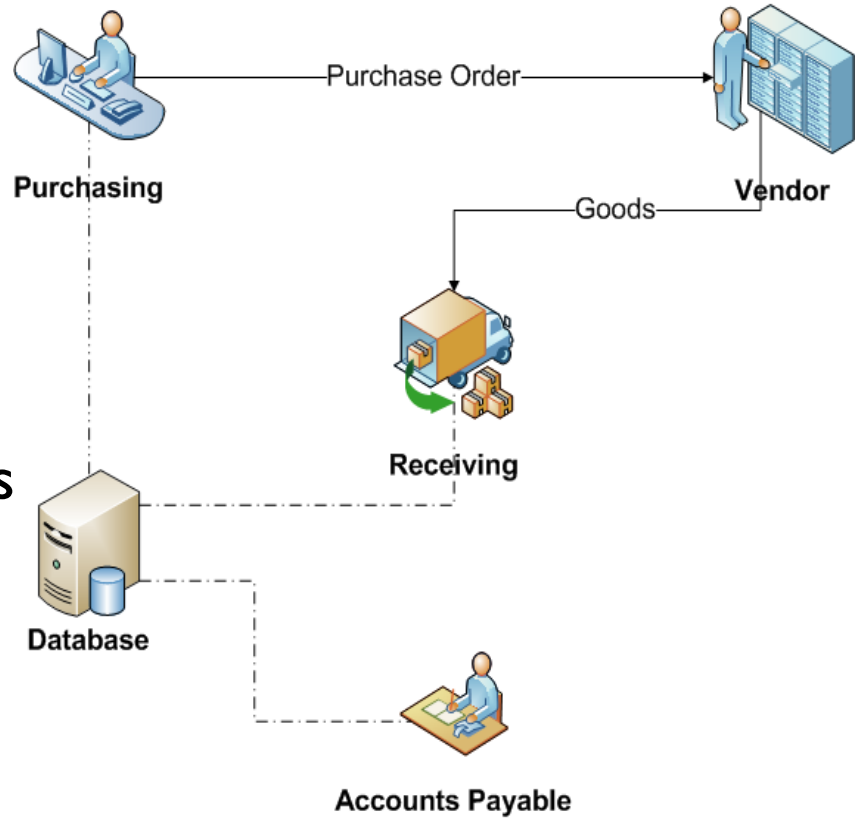
Some principles of BPR

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, empower workers to decide, and build control into the process

Principle 1

Capture information once and at the source

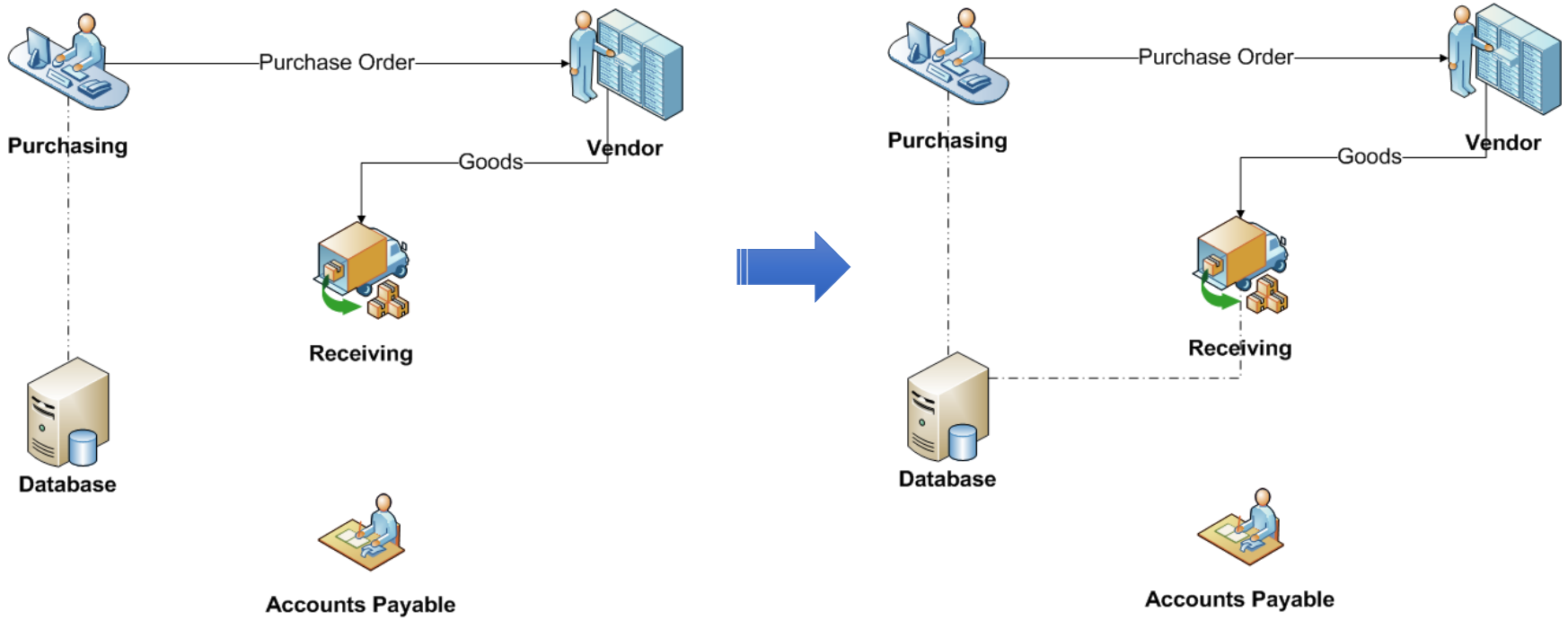
- Shared data store
  - All process workers access the same
  - Don't send around data, share it!
- Self-service
  - Customers capture data themselves
  - Customers perform tasks themselves



Principle 2

Include information-processing work into the real work

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

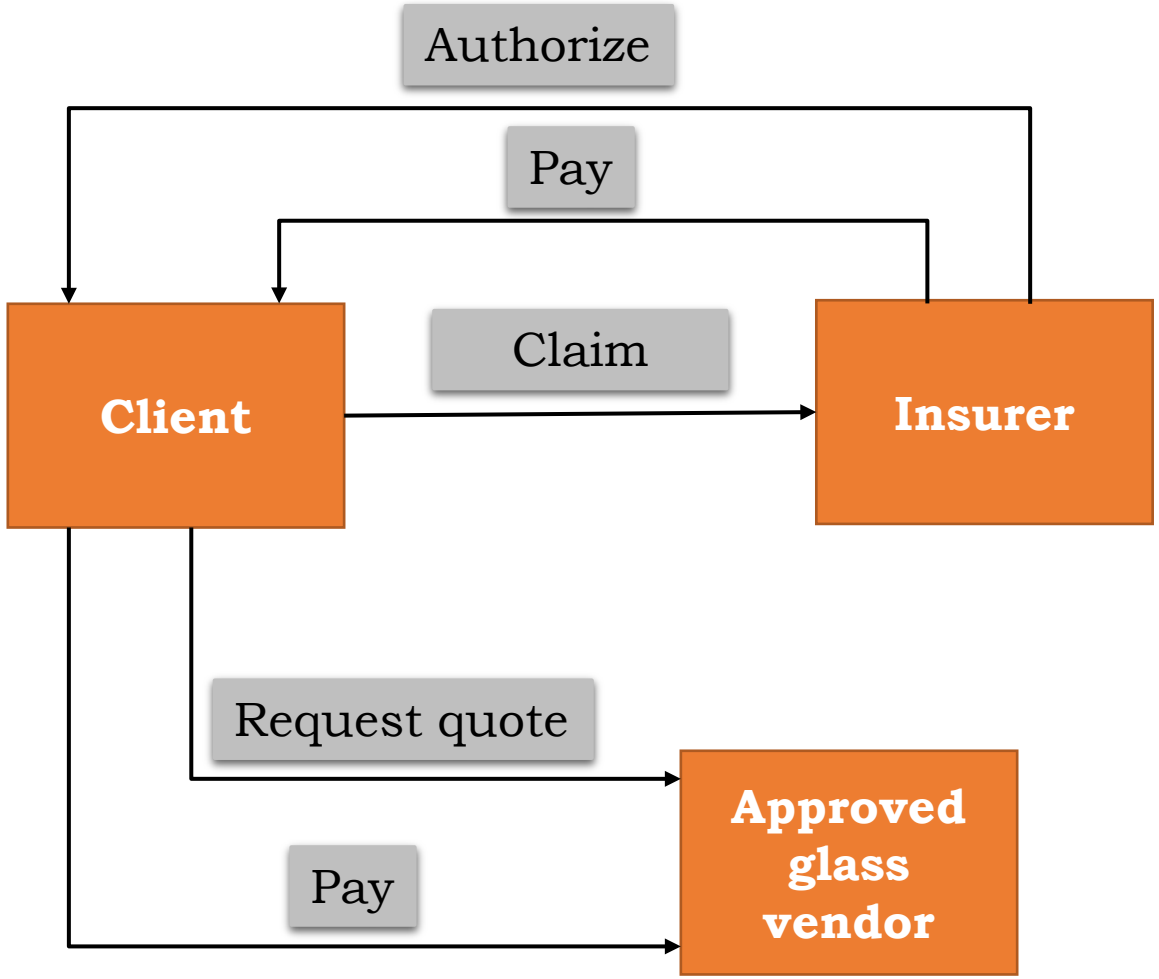


Principle 3

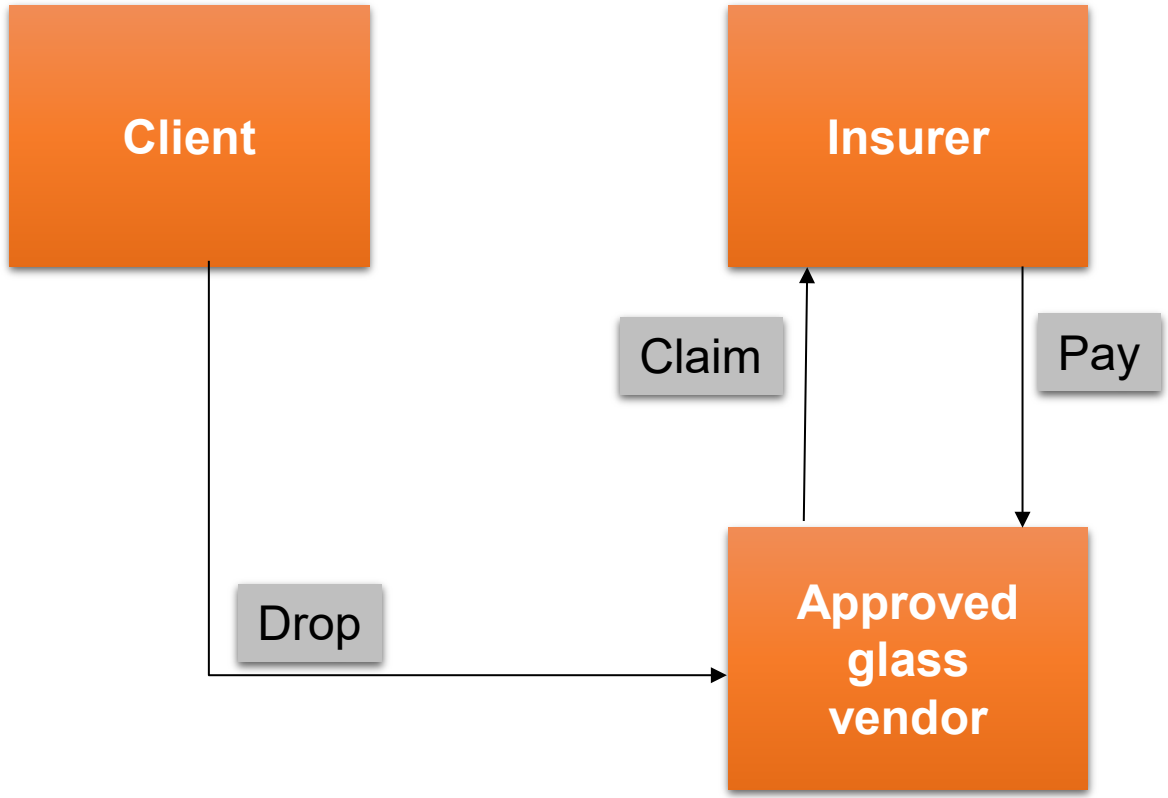
Have those who use the output of the process drive the process

- Vendor-managed inventory
- Scan-based trading
- Push work to the actor that has the incentive to do it

Example: problematic claims process



Redesigned claims process

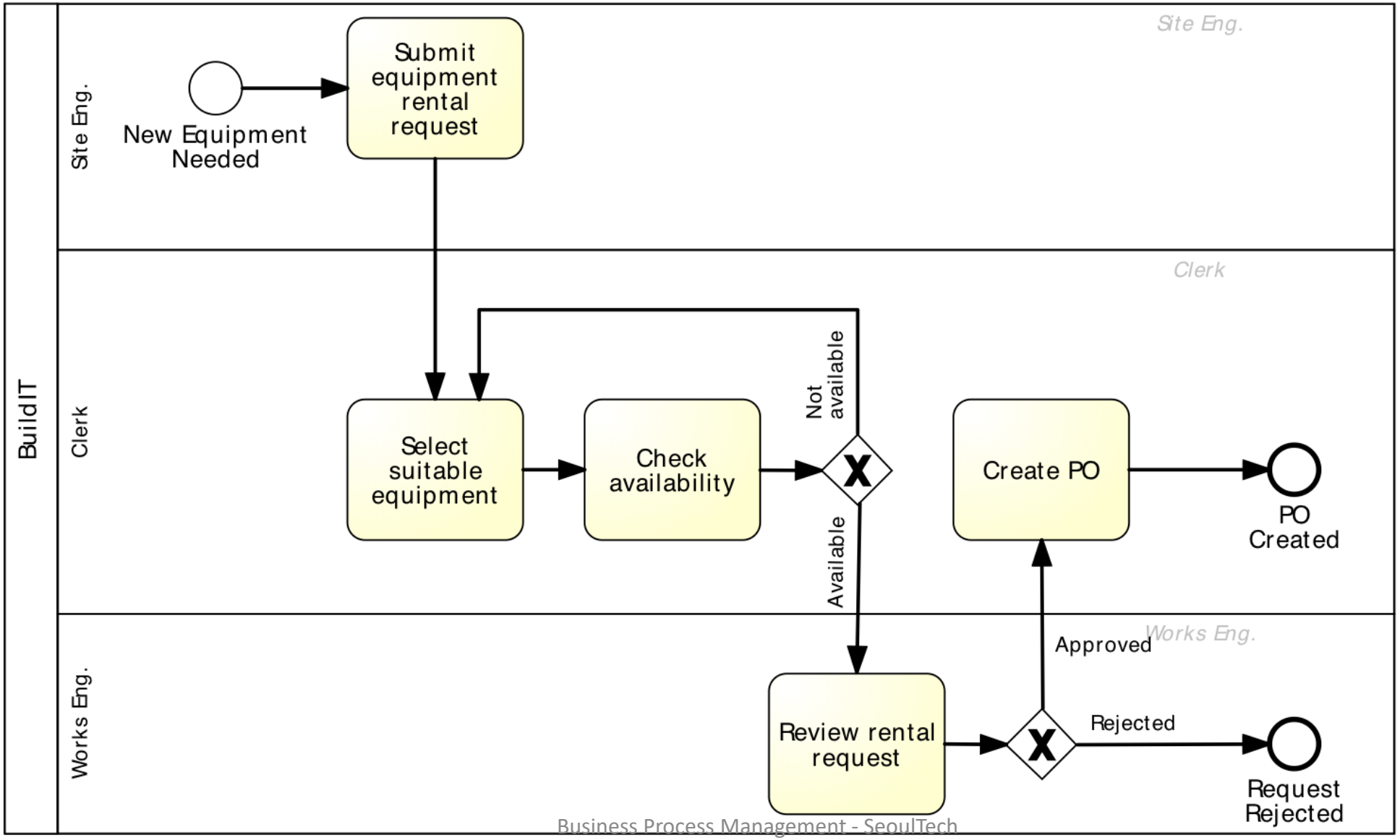


Principle 4

Put the decision point where the work is performed, empower workers to decide, 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

Equipment rental process



Self-service-based redesign

Principles 1 & 2

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

Principle 3

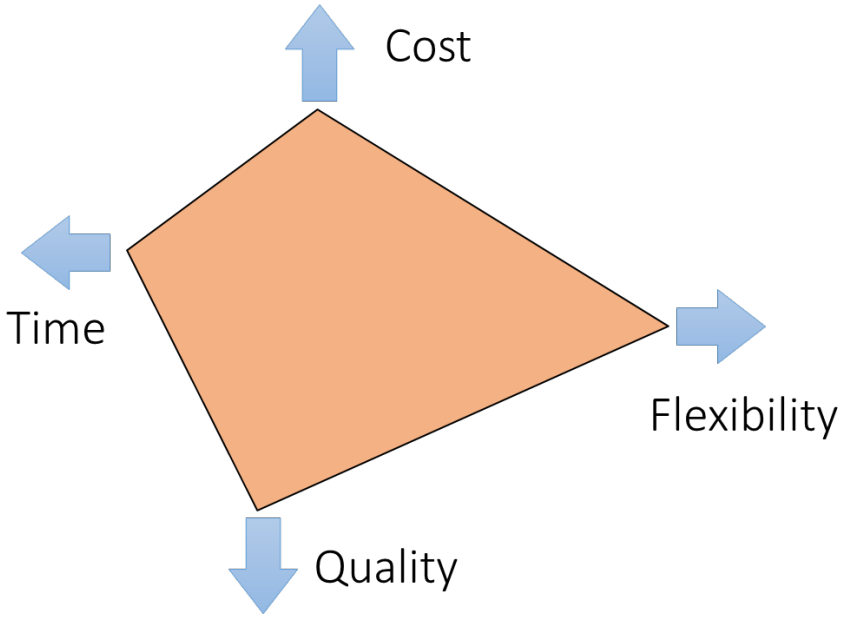
- Supplier stocks frequently used equipment at construction site, site engineers scan to put them into use

Principle 4

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

Next Week

Heuristic process redesign



Acknowledgements

- The content notes for this lecture feature content borrowed with or without modification from the following sources:
  - "Source: M. Dumas, M. La Rosa, J. Mendling and H. Reijers, *Fundamentals of Business Process Management*, 2nd edition, Springer, 2018".
  - Chapter 8