

MTAT.03.231

Business Process Management (BPM)

Lecture 1: Introduction

Marlon Dumas

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About This Course

Objective:

- To introduce the principles and methods of Business Process Management

The course relates to:

- Enterprise System Integration
 - Integrating applications to automate or support business processes
- Data mining
 - Mining business process execution logs
- Software Economics
 - Business case analysis: Benefit assessment of IT projects

Introduction to Business Process Management

Marlon Dumas

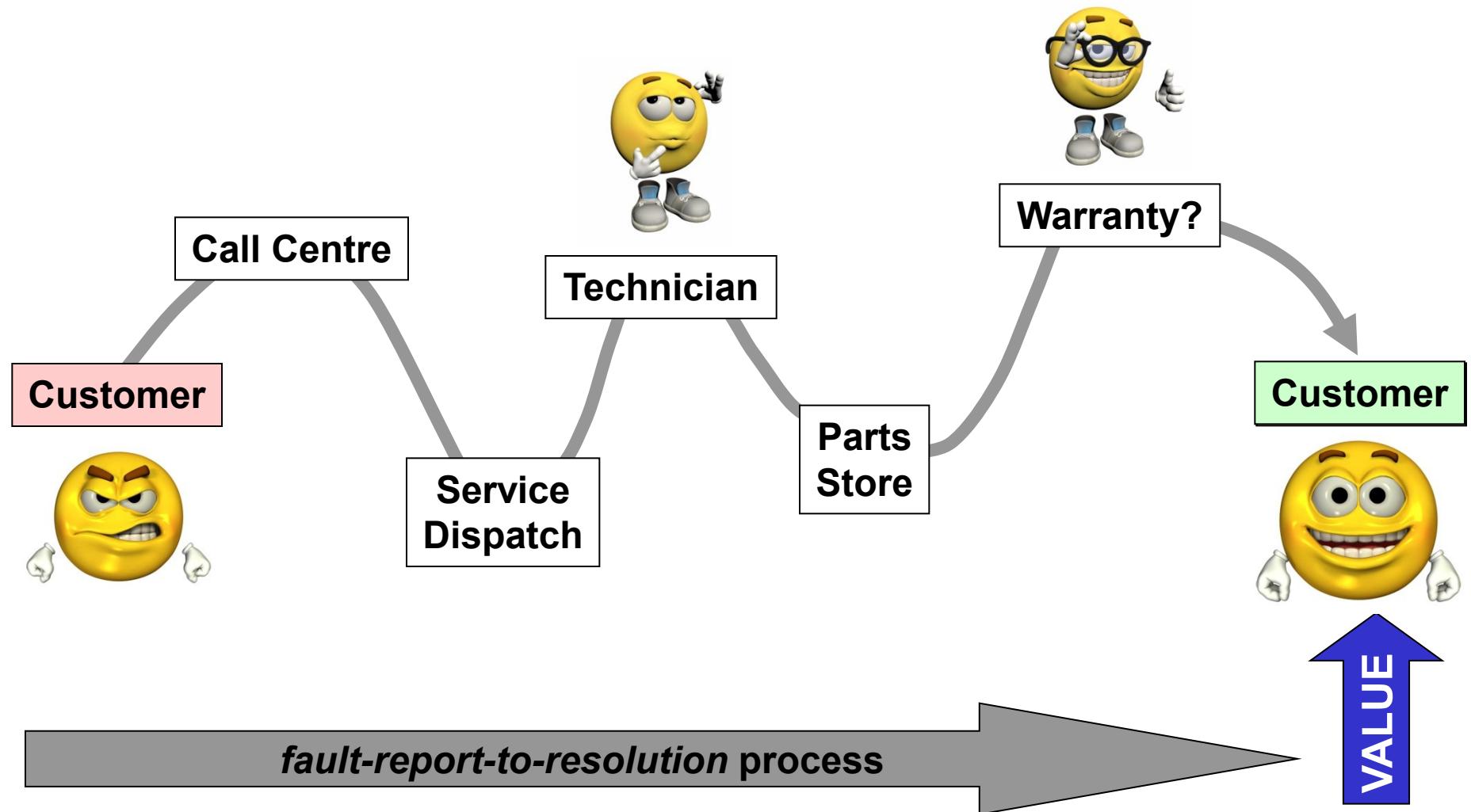
What is a (Business) Process?

Kumpulan peristiwa, aktivitas, dan keputusan terkait, yang melibatkan beberapa pelaku dan sumber daya, dan yang secara kolektif mengarah pada hasil yang bernilai bagi organisasi atau pelanggannya.

Examples:

- Order-to-Cash
- Procure-to-Pay
- Application-to-Approval
- Claim-to-Settlement
- Fault-to-Resolution (Issue-to-Resolution)

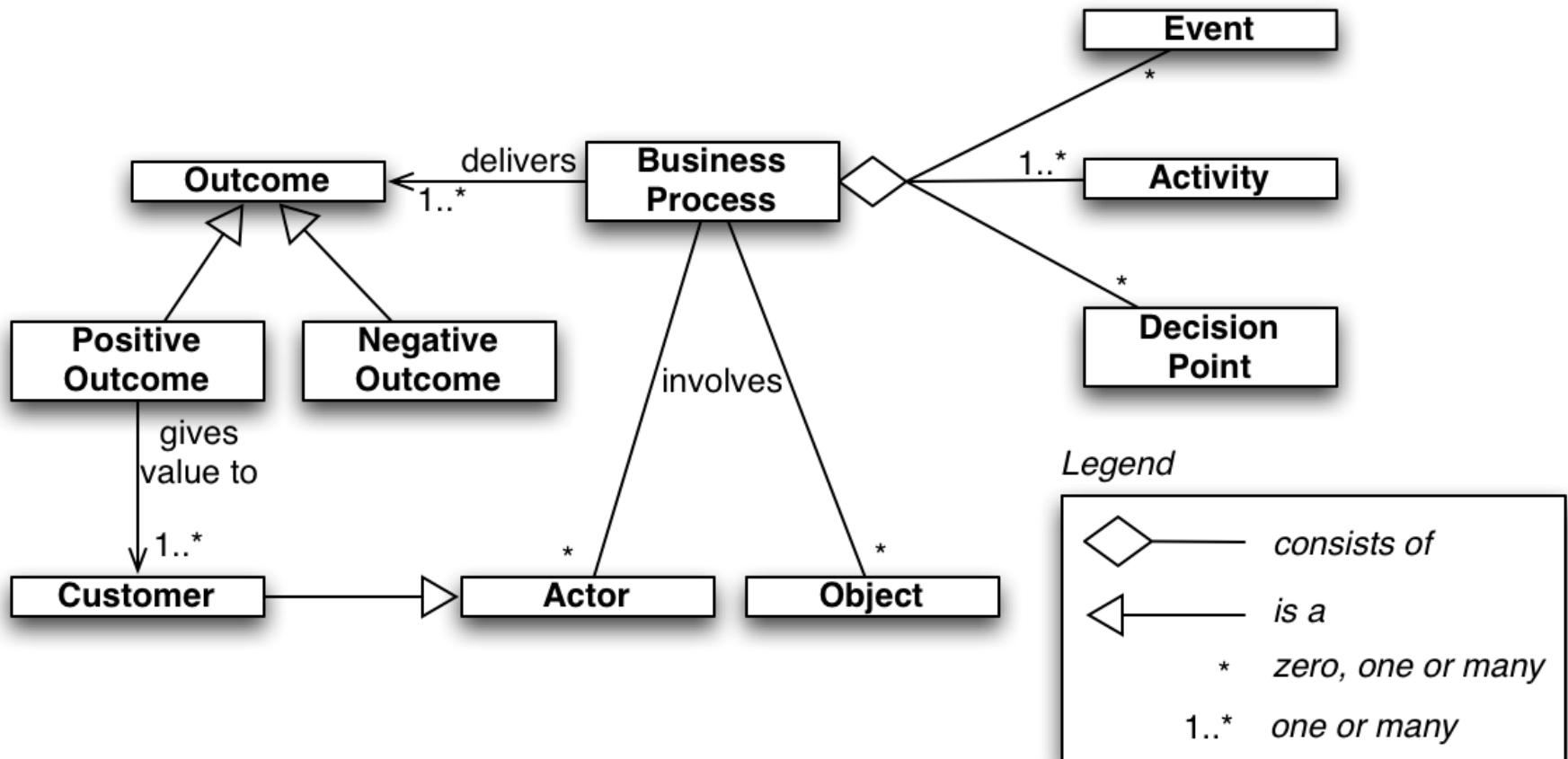
“Mesin Cuci Saya Rusak!”



Processes and Outcomes

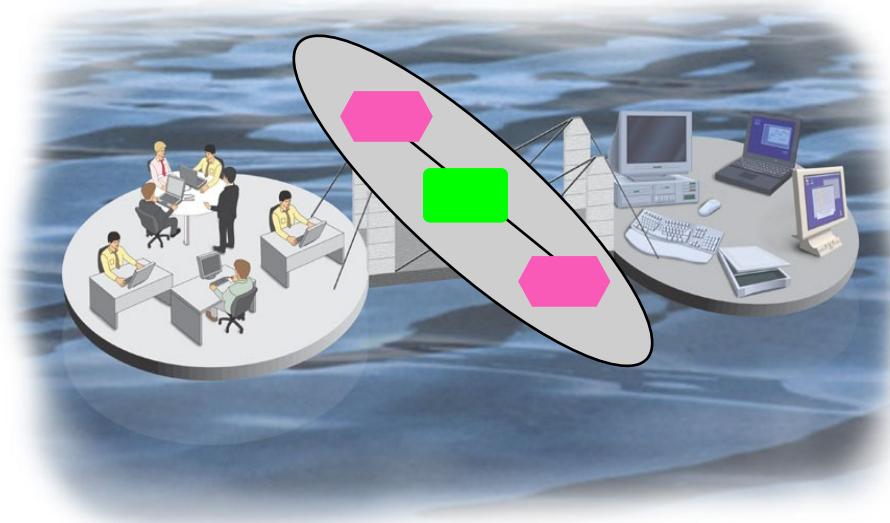
- Setiap proses mengarah pada satu atau beberapa hasil, positif atau negatif
 - Hasil positif memberikan nilai
 - Hasil negatif mengurangi nilai
- Proses penyelesaian kesalahan
 - Kesalahan diperbaiki tanpa campur tangan teknisi
 - Kesalahan diperbaiki dengan intervensi teknisi kecil
 - Kesalahan diperbaiki dan sepenuhnya ditanggung oleh garansi
 - Kesalahan diperbaiki dan sebagian ditanggung oleh garansi
 - Kerusakan diperbaiki tetapi tidak tercakup dalam garansi
 - Kesalahan tidak diperbaiki (pelanggan menarik permintaan)

What is a Business Process: Recap



BPM: What is it?

Kumpulan prinsip, metode, dan alat untuk merancang, menganalisis, melaksanakan, dan memantau proses bisnis. Dalam materi ini, kita akan fokus pada BPM berdasarkan model proses.

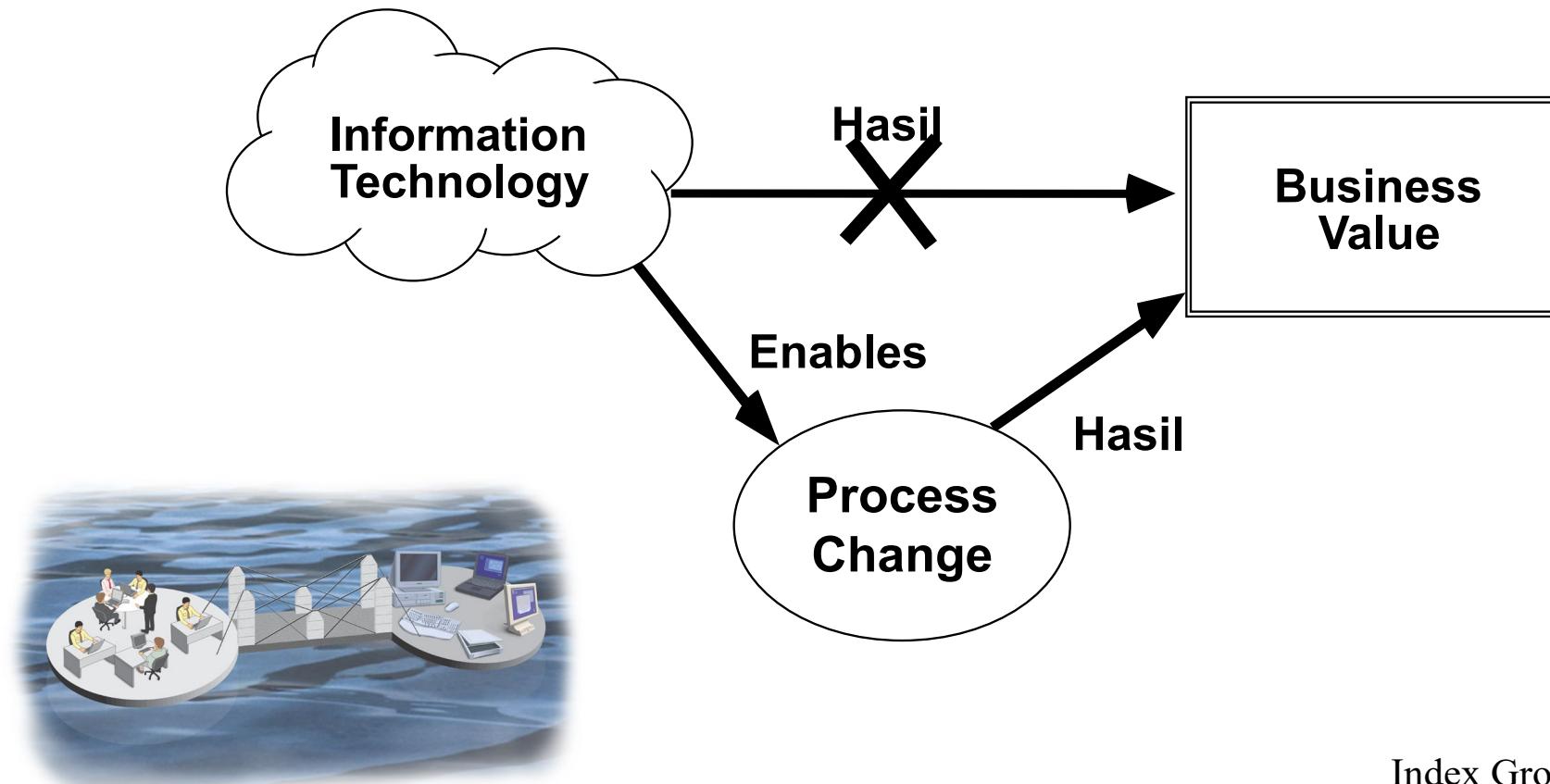


Why BPM?

“Aturan pertama dari setiap teknologi yang digunakan dalam bisnis adalah otomatisasi yang diterapkan pada operasi yang efisien akan meningkatkan efisiensi. Yang kedua adalah otomatisasi yang diterapkan pada operasi yang tidak efisien akan memperbesar inefisiensi.”



Why BPM?



Index Group (1982)

Bagaimana terlibat dalam BPM?

Continuous Process Improvement (CPI)

- Tidak mempersoalkan struktur proses saat ini.
- Berusaha untuk mengidentifikasi masalah dan menyelesaiakannya secara bertahap, selangkah demi selangkah dan memperbaiki satu demi satu

Business Process Re-Engineering (BPR)

- Mempertanyakan asumsi dan prinsip dasar dari struktur proses yang ada.
- Bertujuan untuk mencapai terobosan, misalnya dengan menghilangkan tugas-tugas mahal yang tidak secara langsung menambah nilai.

The Ford Case Study (Hammer 1990)

Ford perlu meninjau proses pengadaannya untuk:

- Lakukan lebih murah (potong biaya)
- Lakukan lebih cepat (kurangi waktu penyelesaian)
- Lakukan dengan lebih baik (kurangi tingkat kesalahan)

Accounts payable in North America sendiri mempekerjakan > 500 orang dan waktu penyelesaian untuk memproses PO dan faktur dalam urutan minggu

The Ford Case Study

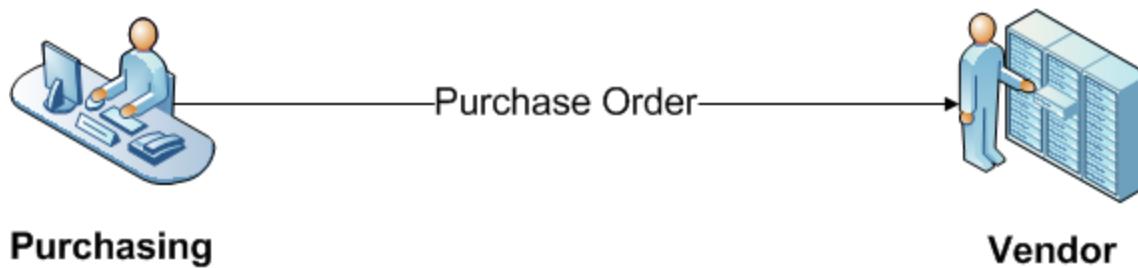
- Otomasi akan membawa beberapa peningkatan (peningkatan 20%)
- Tapi Ford memutuskan untuk tidak melakukannya... Kenapa?
 1. Karena pada saat itu teknologi yang dibutuhkan untuk mengotomatisasi proses belum tersedia.
 2. Karena tak seorang pun di Ford tahu bagaimana mengembangkan teknologi yang diperlukan untuk mengotomatiskan proses tersebut.
 3. Karena tidak ada cukup komputer dan karyawan yang melek komputer di Ford.
 4. Bukan dari salah satu di atas

Jawaban yang benar adalah ...

Departemen Hutang Dagang Mazda



Bagaimana prosesnya bekerja? (“as is”)

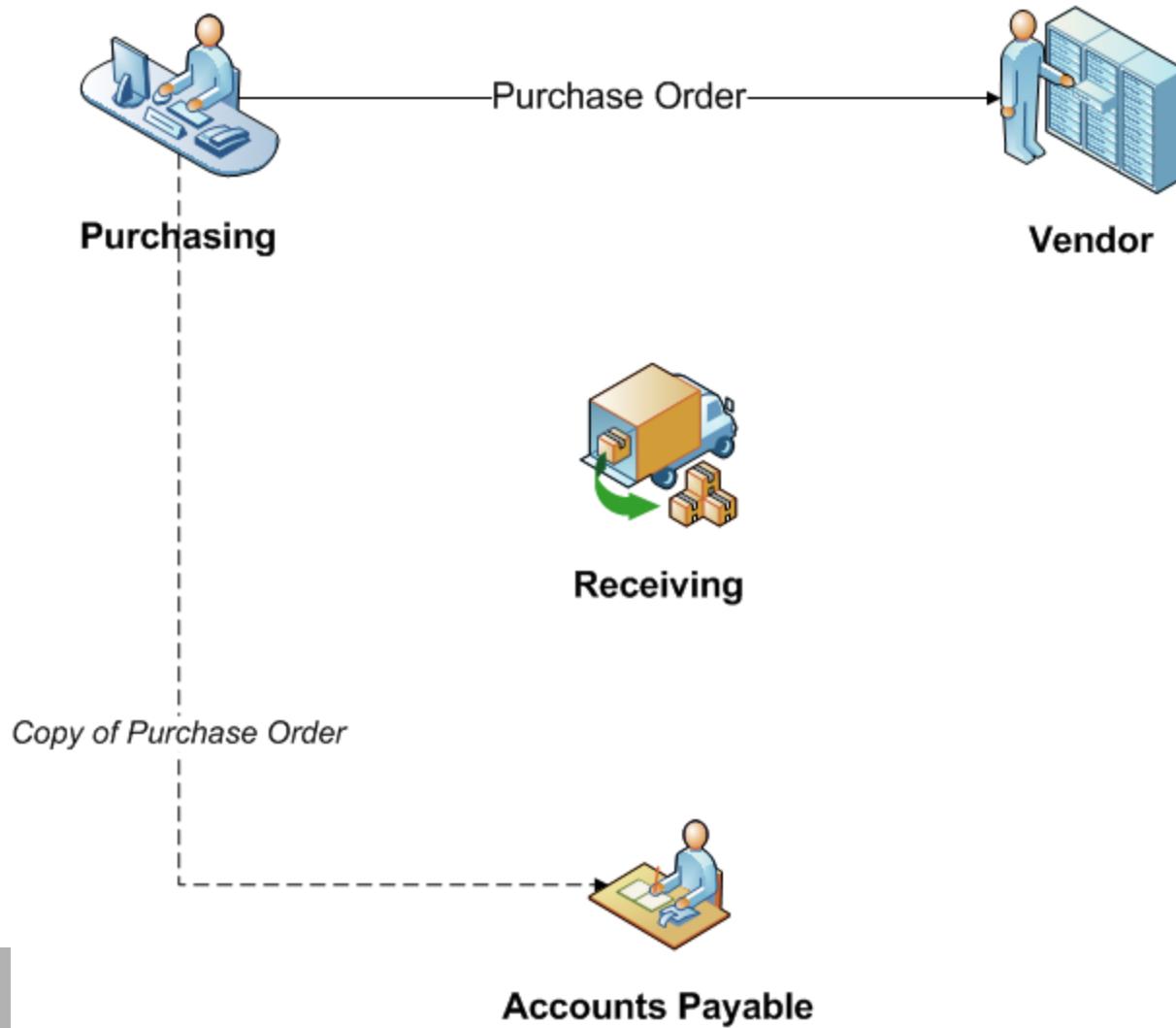


Receiving

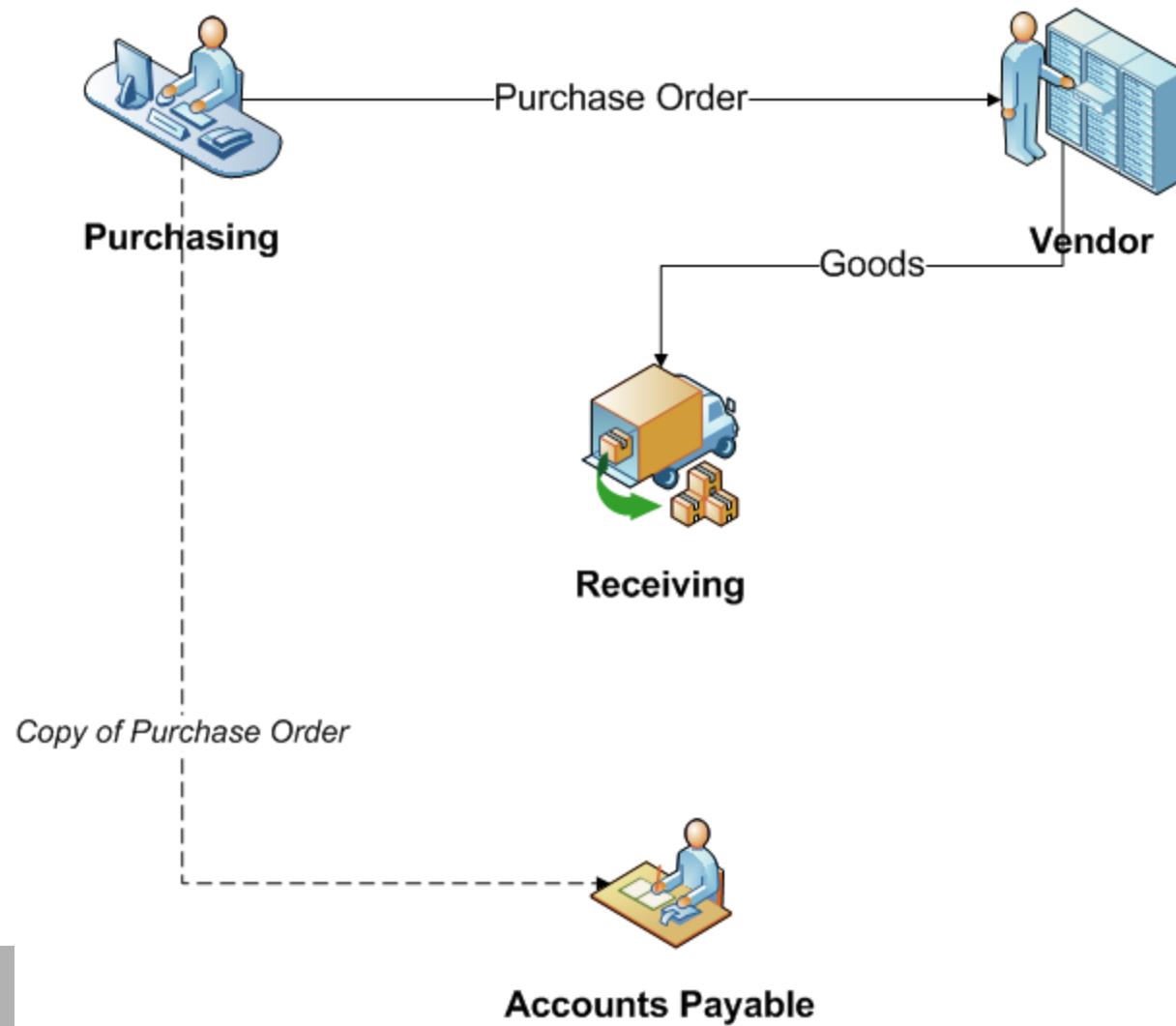


Accounts Payable

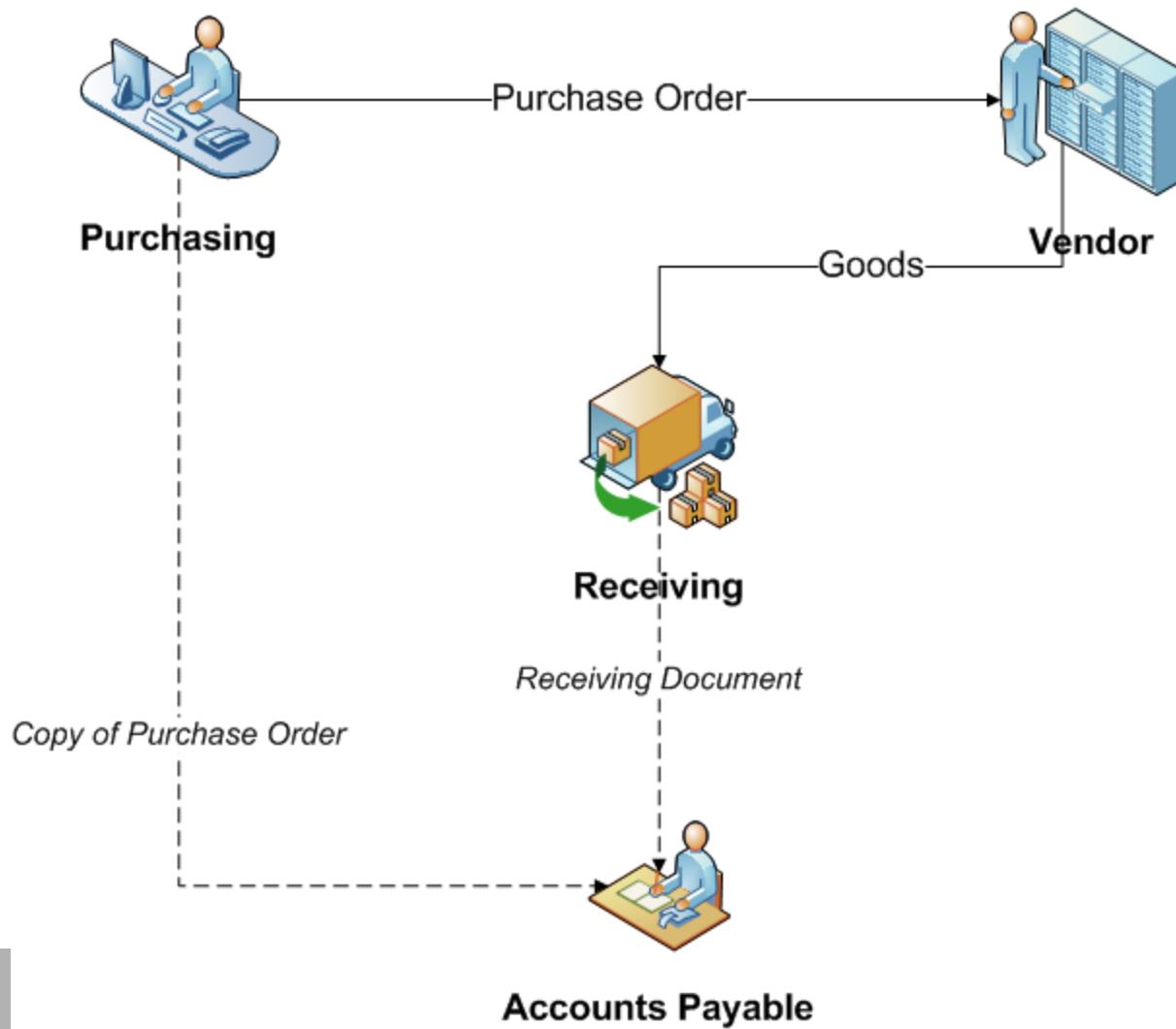
How the process worked? (“as is”)



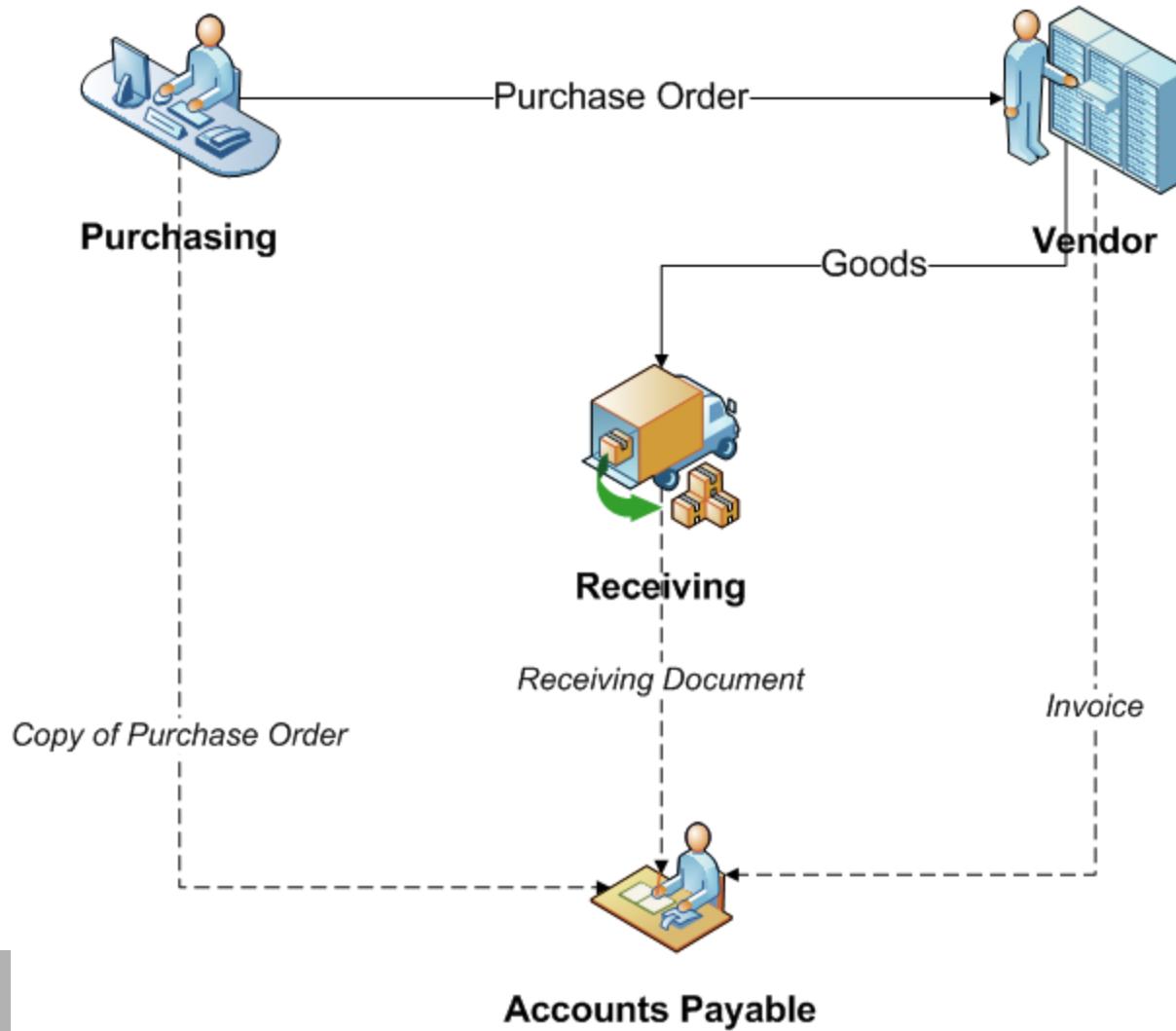
How the process worked? (“as is”)



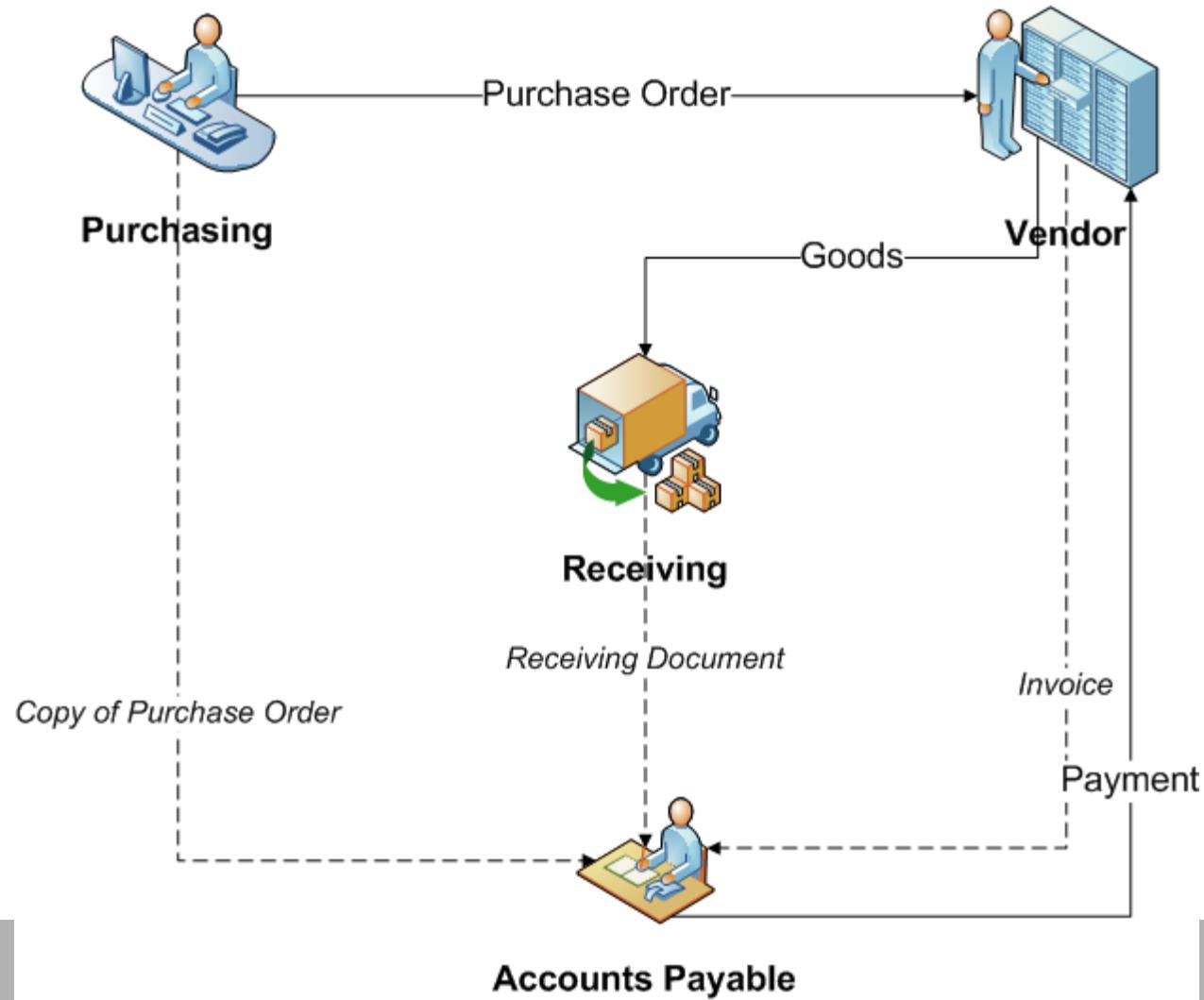
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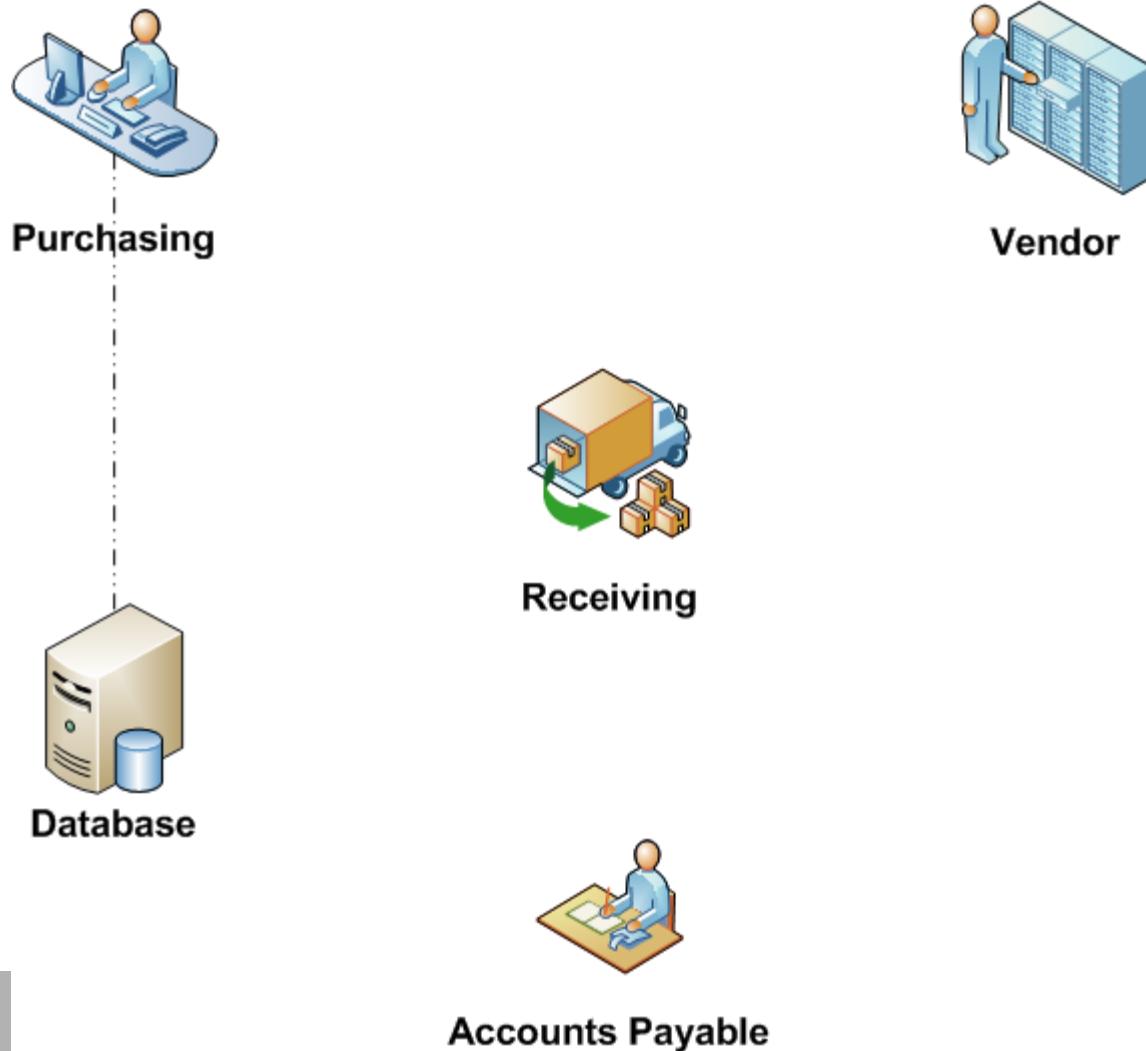
How the process worked? (“as is”)



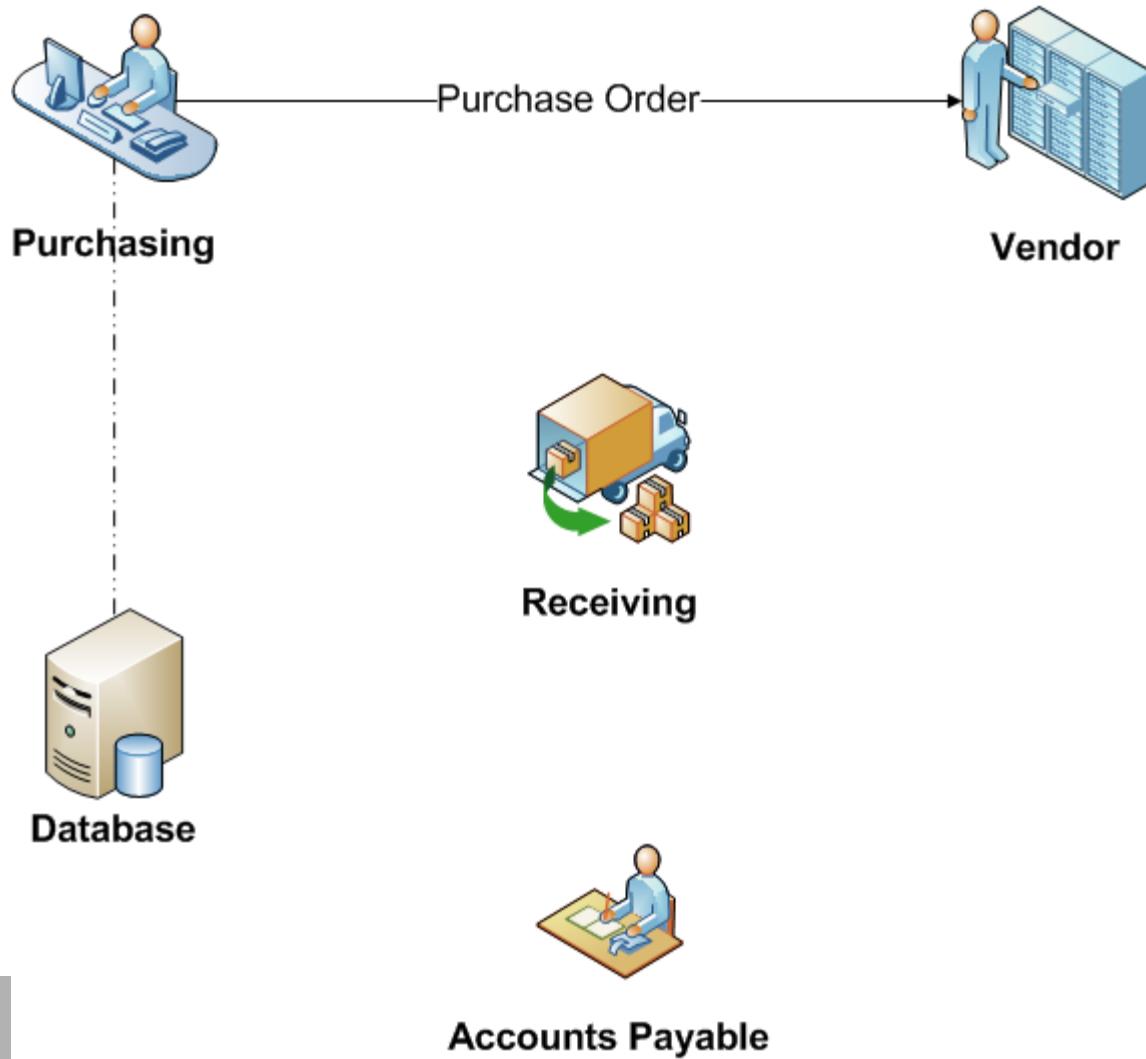
How the process worked? (“as is”)



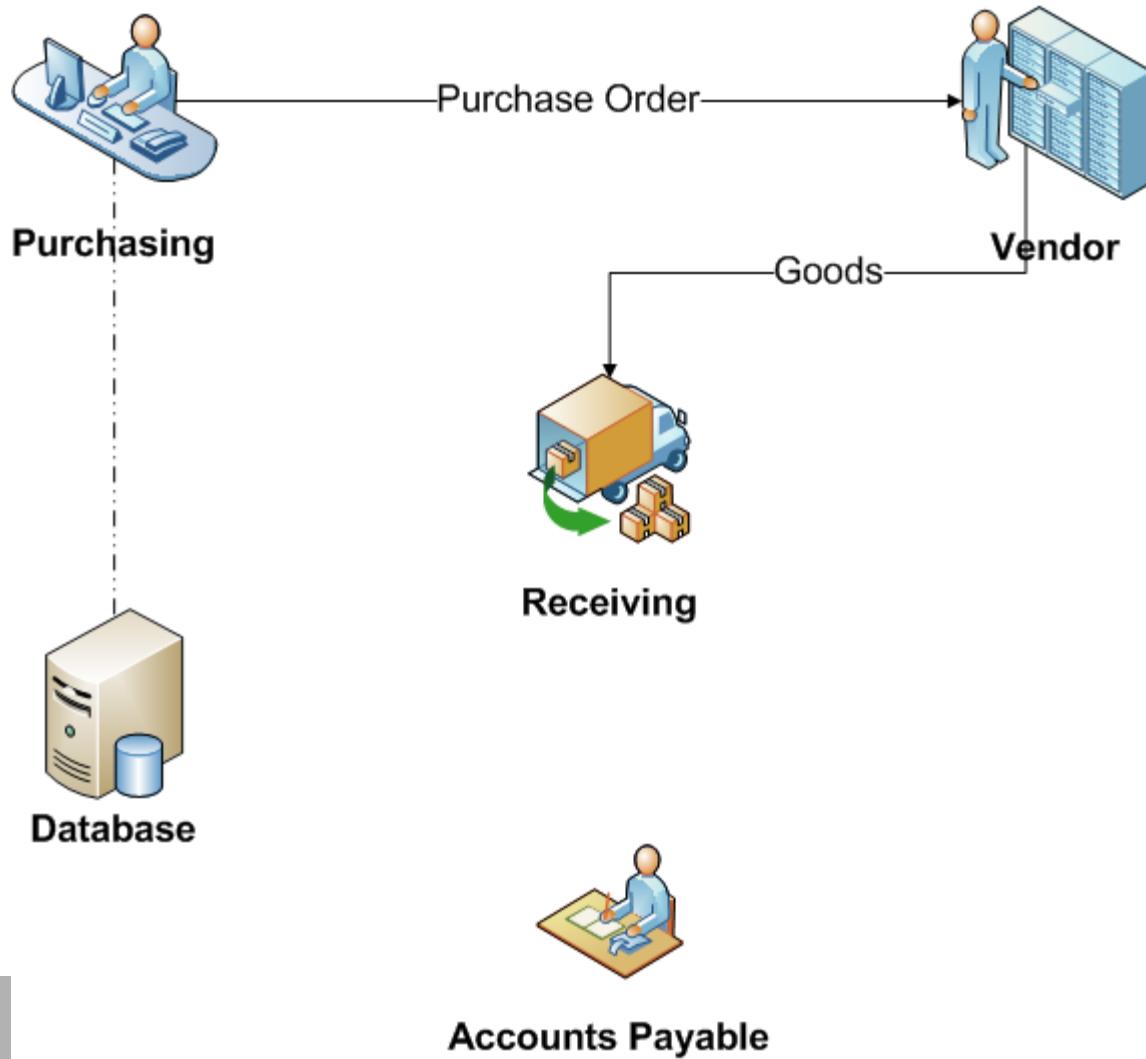
Reengineering Process (“to be”)



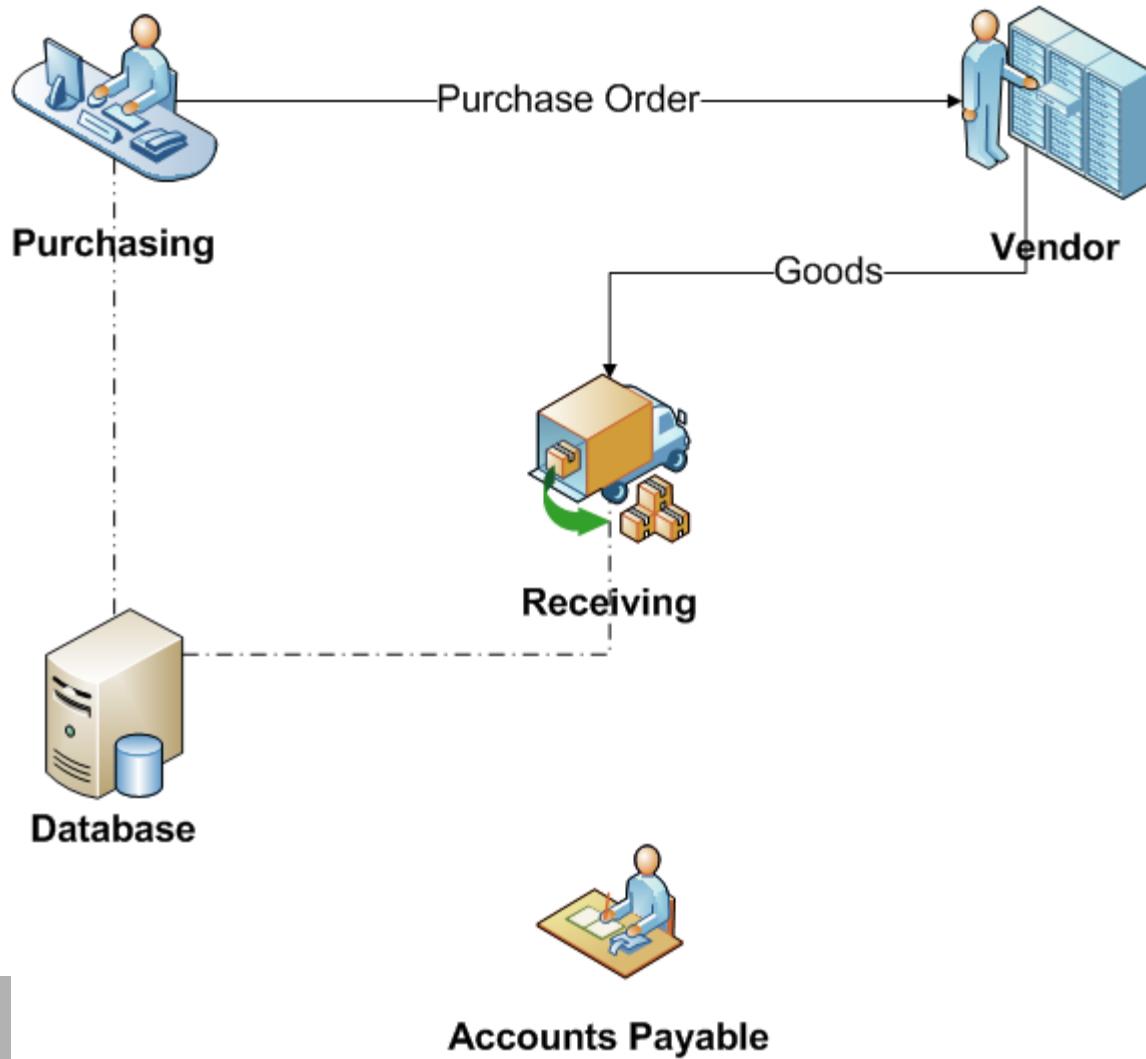
Reengineering Process (“to be”)



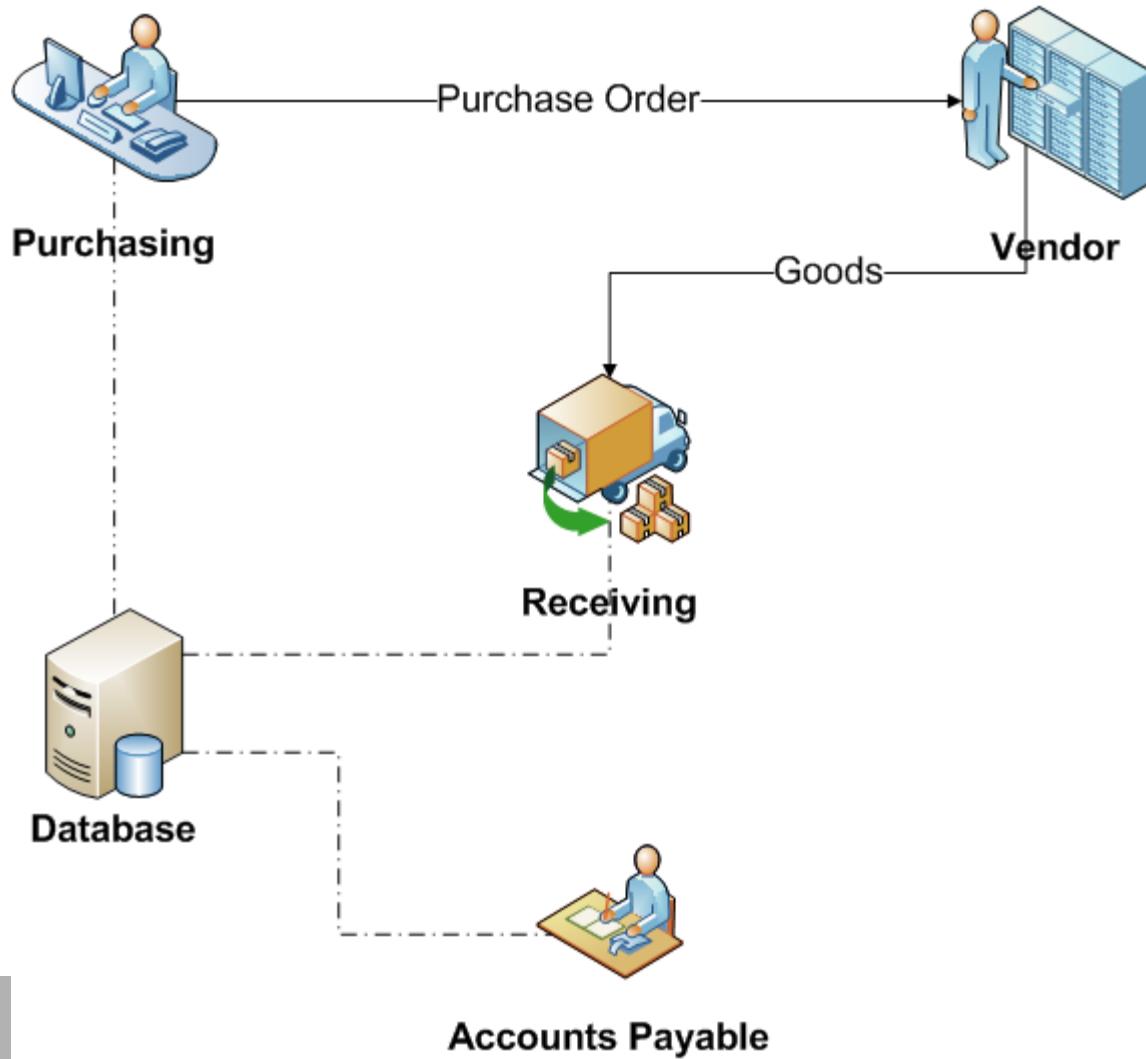
Reengineering Process (“to be”)



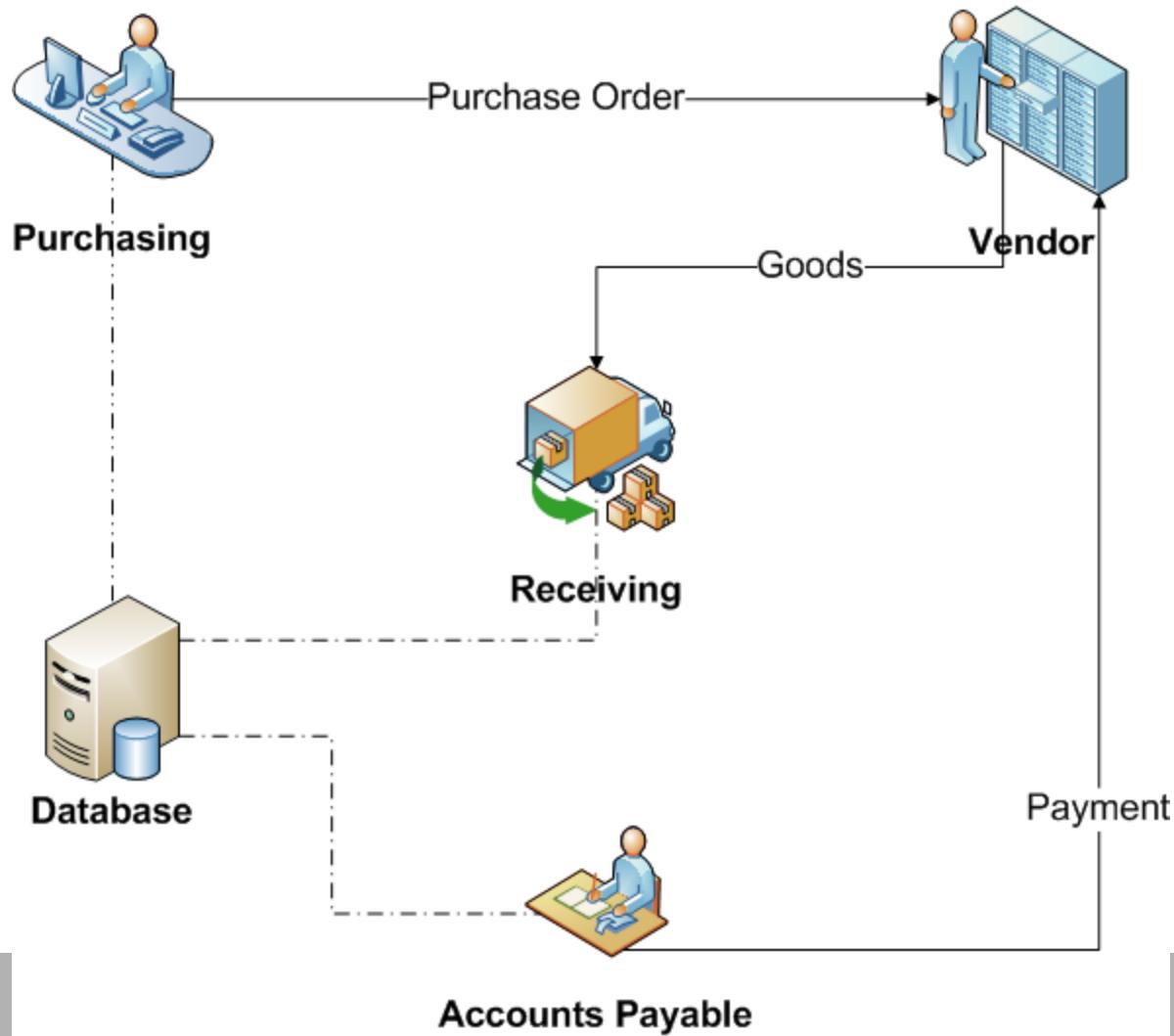
Reengineering Process (“to be”)



Reengineering Process (“to be”)



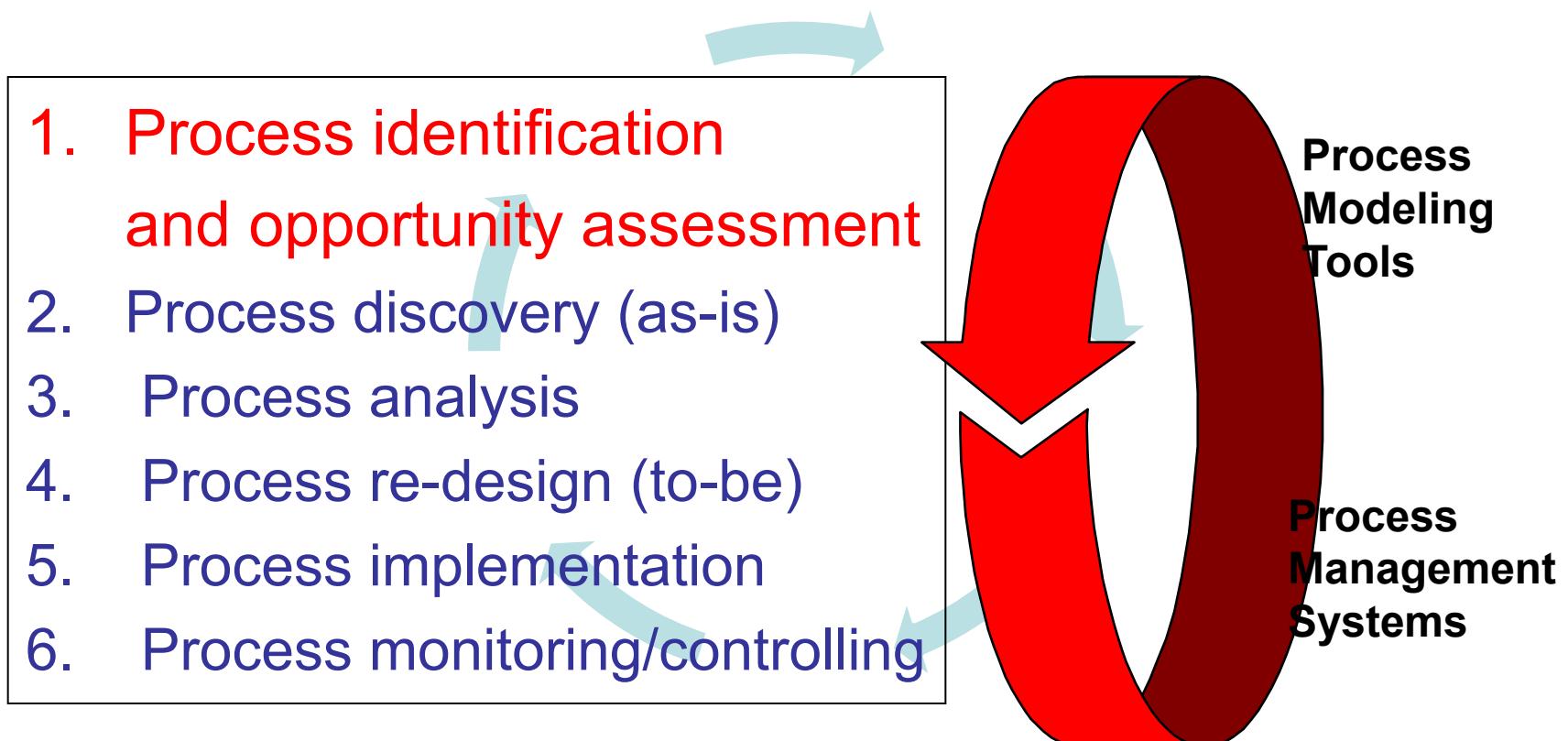
Reengineering Process (“to be”)



The result...

- Pengurangan 75% dalam operasional
 - Kontrol material lebih sederhana dan informasi keuangan lebih akurat
 - Permintaan pembelian lebih cepat
 - Pembayaran yang terlambat lebih sedikit
- ➔ Mengapa mengotomatiskan sesuatu yang tidak perlu kita lakukan?
- ➔ Mengotomatiskan hal-hal yang perlu dilakukan.

How to engage in BPM?

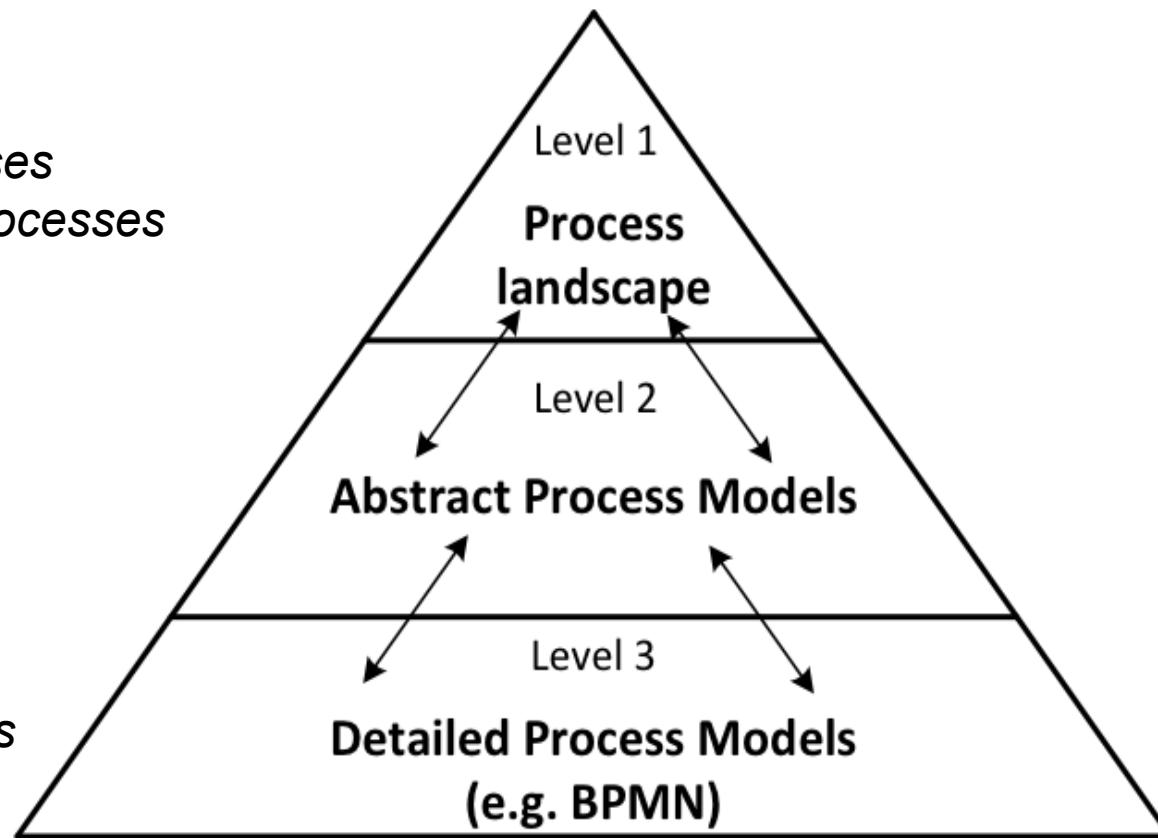


Process Identification

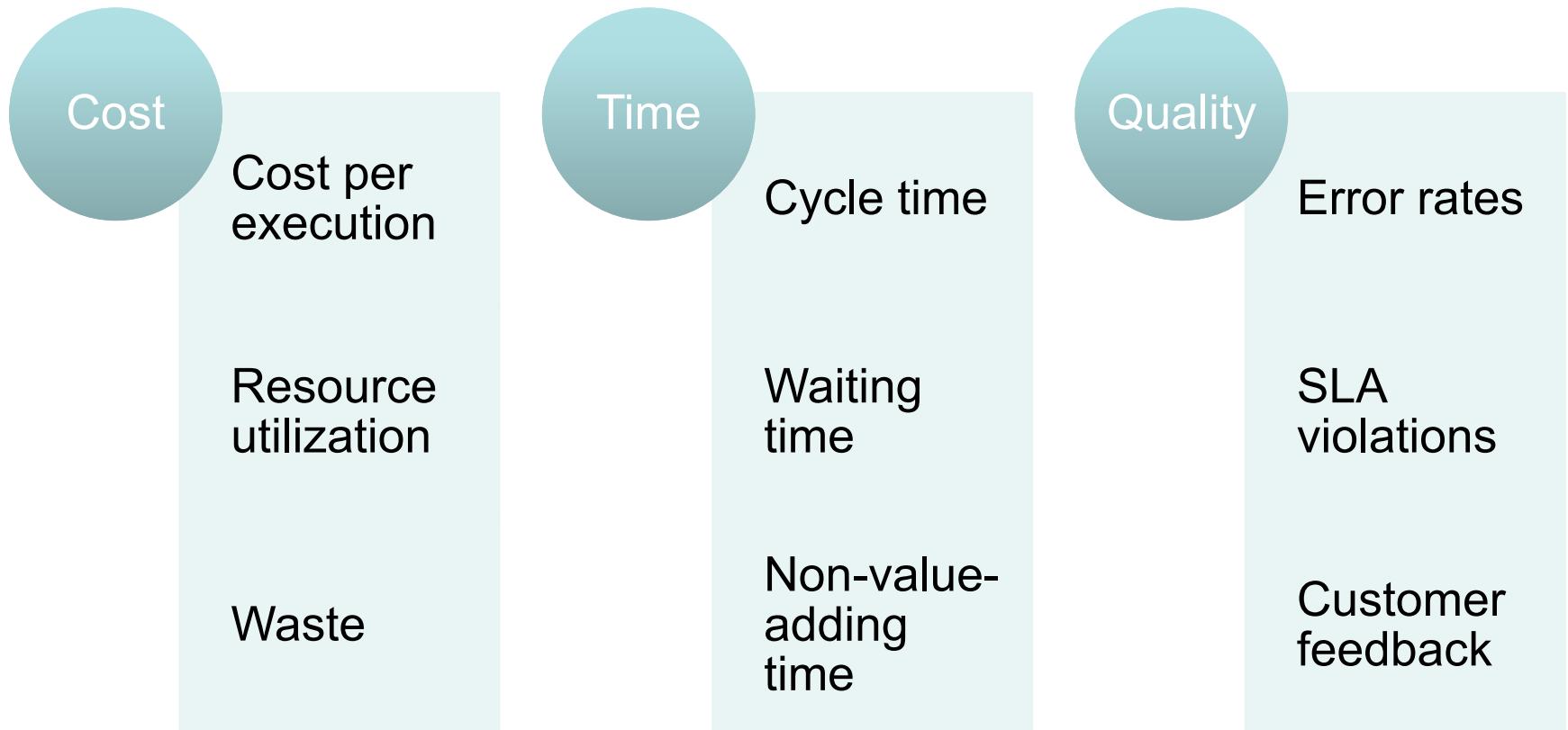
*Core processes
Support processes
Management processes*

*Quote handling
Product delivery
Invoice handling*

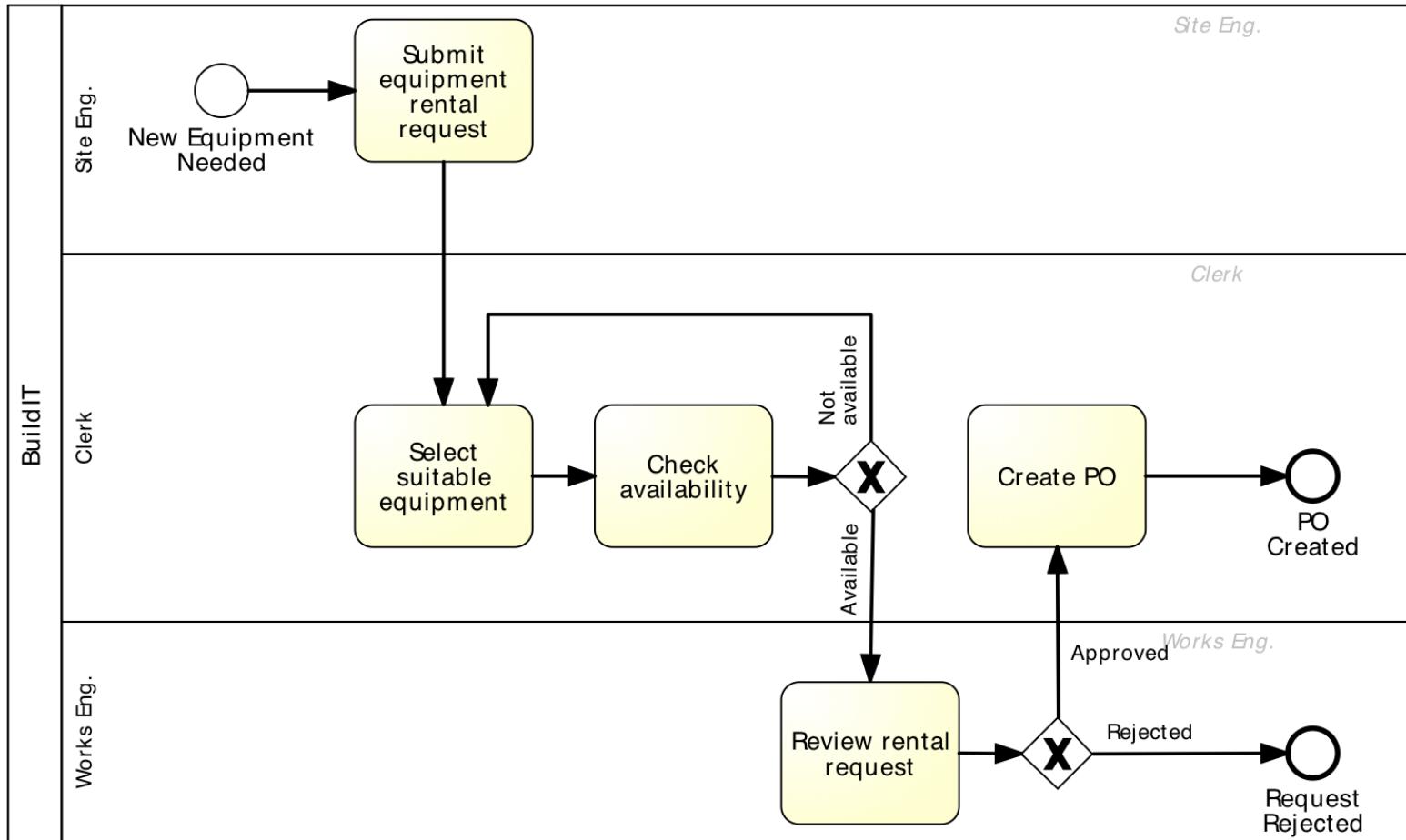
*Detailed quote
handling process*



Phase 1: Performance Measure Identification and Selection



Phase 2: Process Discovery



Phase 3: Analysis

Qualitative analysis

- Root-cause analysis
- PICK charts
- Issue register

Quantitative Analysis

- Flow analysis
- Queuing analysis
- Process simulation

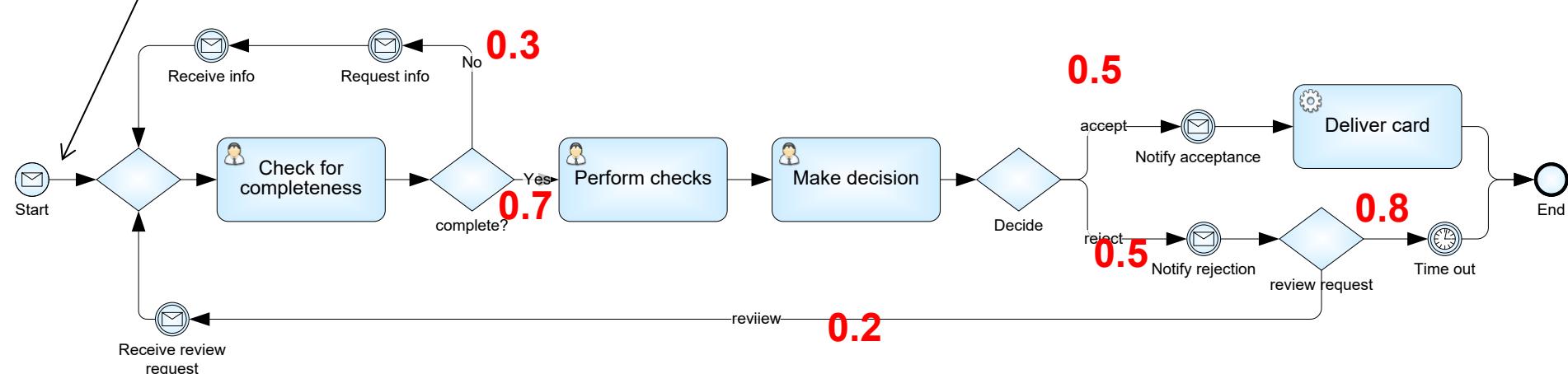
Issue Register

Issue No.	Short Description	Issue Explanation	Broad Consequence	Assumptions	Impact
2	Information regarding units does not match	Units in Relocation system do not match information provided by ...	Wrongly calculated entitlements cause manual calculation...	5% of cases go to the wrong queue, 5 minutes to sort queue and redirect. 5% recalculating on average 10 minutes per calculation.	28,000x0.05x1 5 = 21,000 minutes 350 hours/7.5 47 hrs 9.5 working days
5	Protected/Mandatory data entry fields	Not all fields in data entry forms are relevant but mandatory. So "fuzzy" information is entered	Resource intensive, incorrect data. Cases in Clarify need to physically be closed.	5% of cases taking 2 minutes to locate and close. 5% of relocations requiring entry that is not needed taking 30 minutes each.	28,000x0.05x3 2 = 44,800 minutes 477 hours/7.5 99.5 hrs 20 working days
11	Information on posting orders	Time consuming to sort through posting orders to identify relocations....	MBR does not get Info pack therefore cannot process move. More information could be provided which could be used later in process ...	Only 1/3 rd of postings and CIPC's are entitled to relocation. 28000 relocations then sorting through 84000 postings. 3 to 4 minutes on average to sort through each.	84,000x3.5 = 294,000 min/60/7.5 = 653 days /250 working days in year. 2.61 FTE

Simulation / What-If Analysis

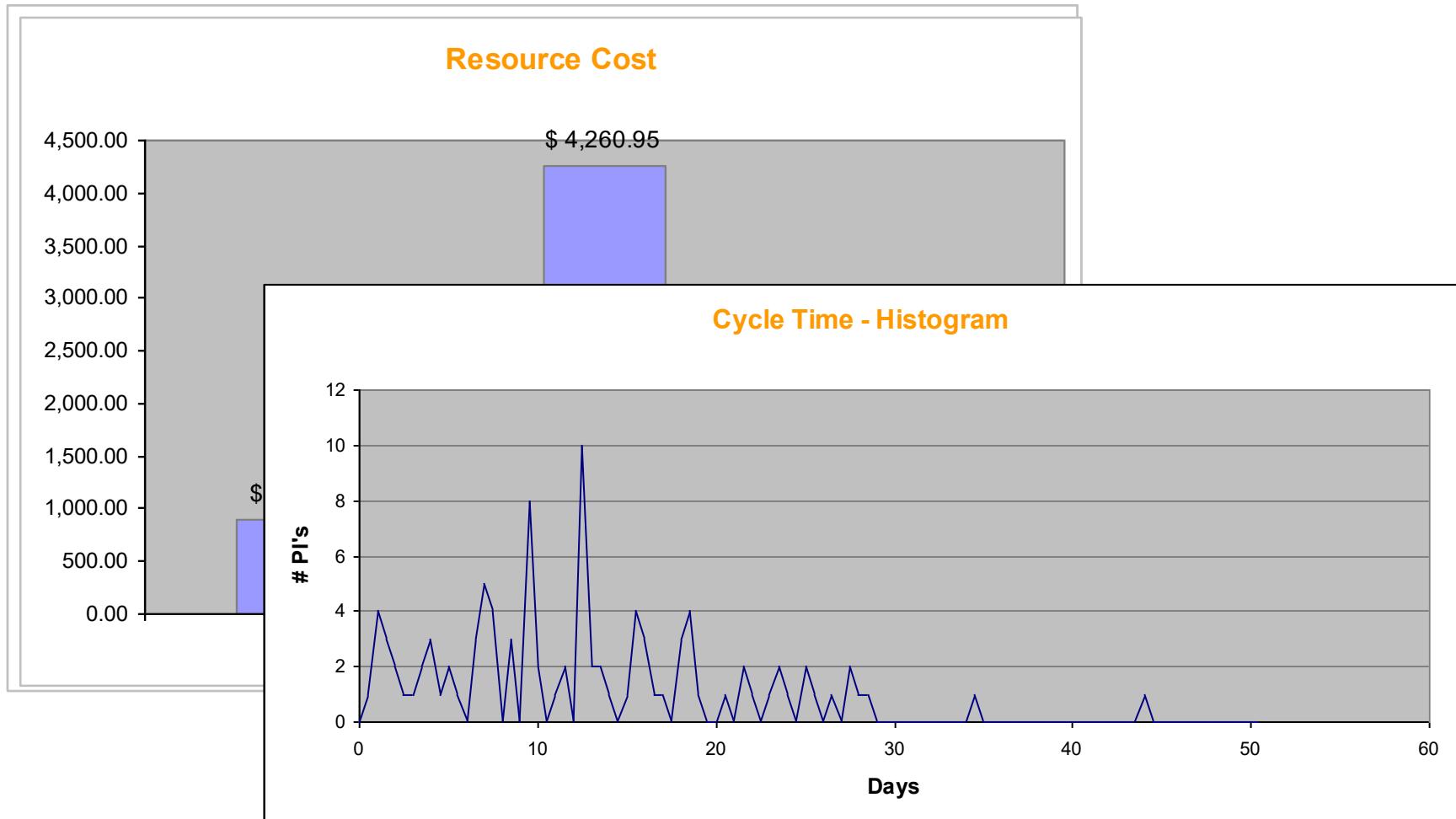
10 applications per hour

Poisson arrival process (negative exponential)

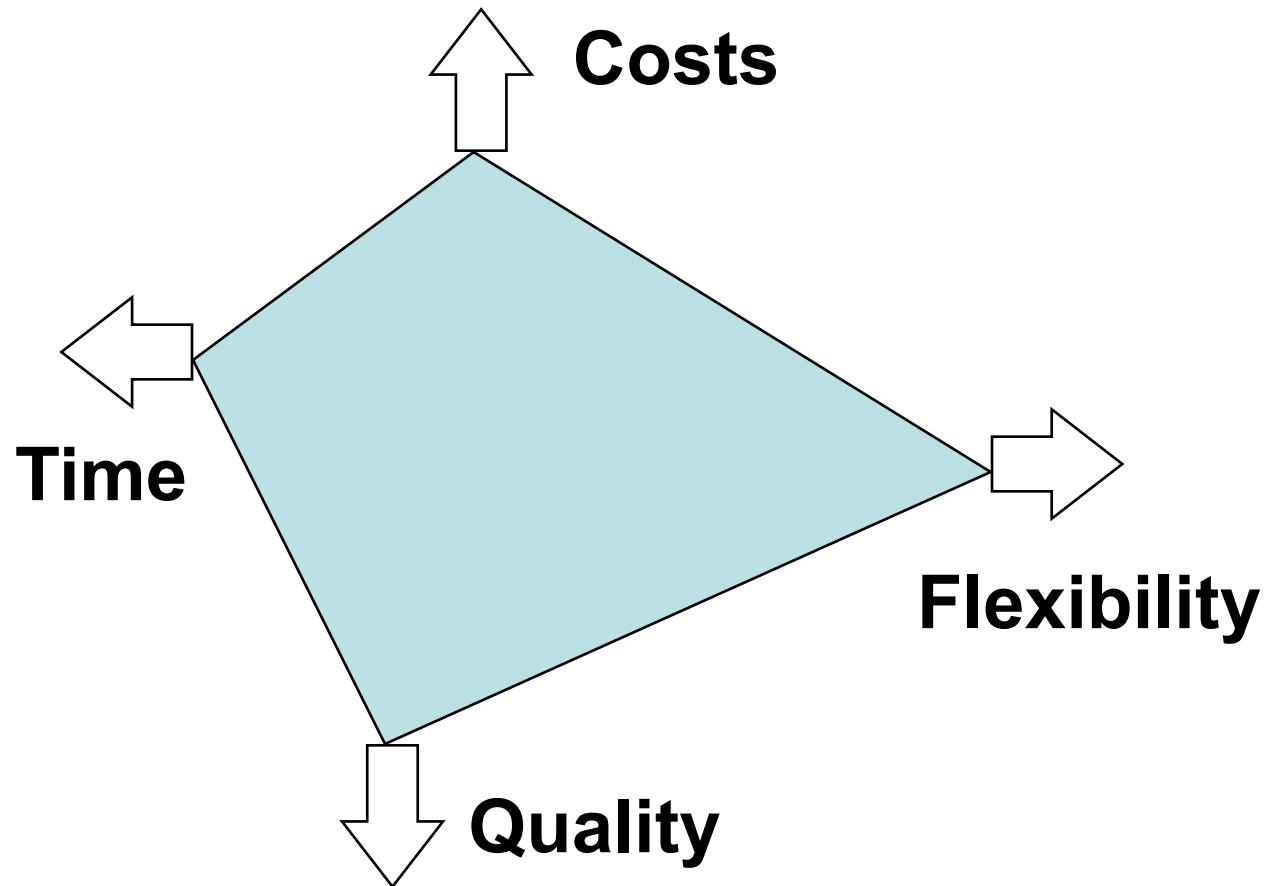


Task	Role	Execution Time (mean, dev.)	
Receive application	system	0	0
Check completeness	Clerk	30 mins	10 mins
Perform checks	Clerk	2 hours	1 hour
Request info	system	1 min	0
...

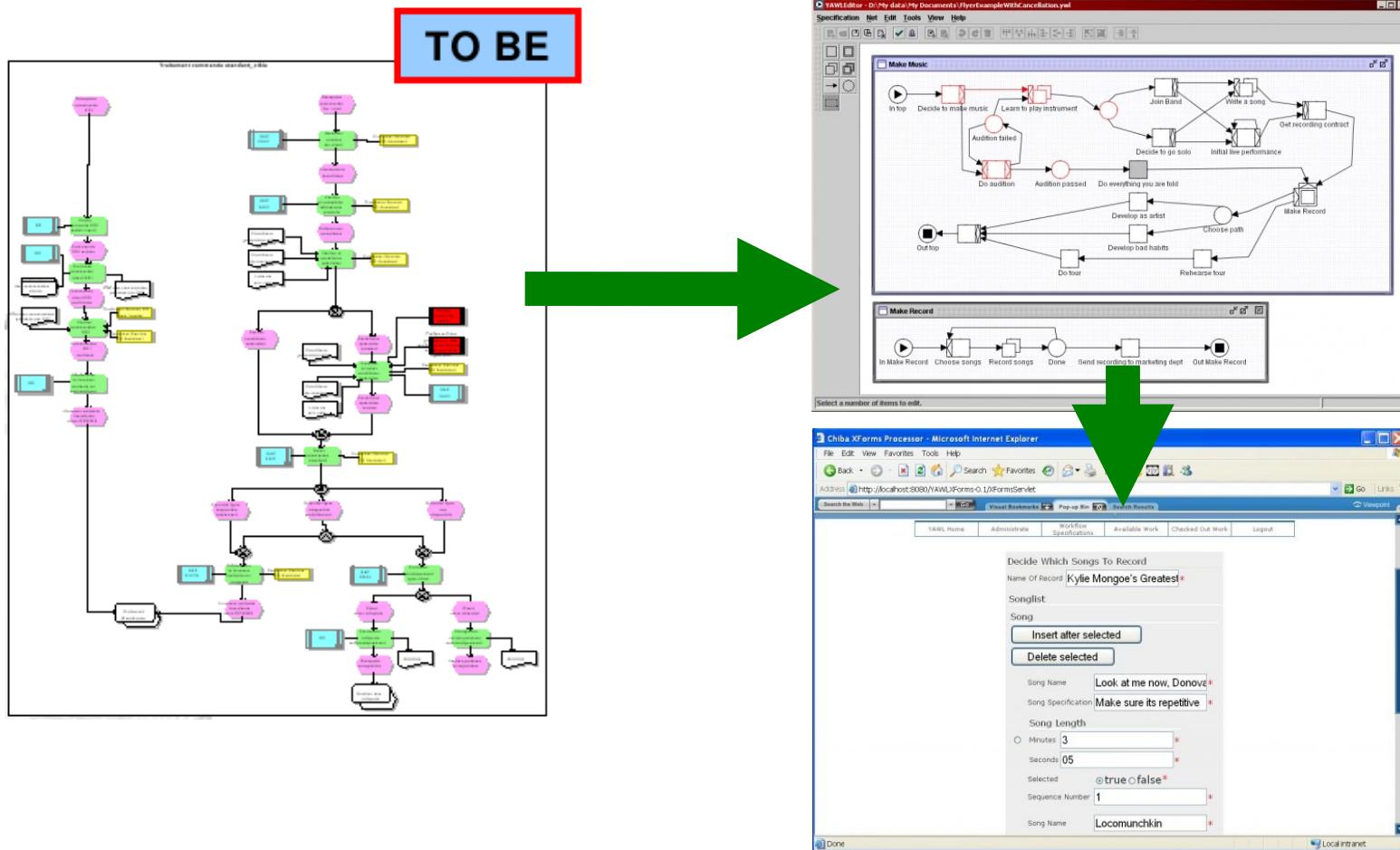
Simulation output: KPIs



Phase 4: Process Re-Design



Phases 5-6. When technology Kicks in..



Process Execution Engines

- BPMN-based
 - BizAgi
 - Activiti
 - Progress Savvion
- BPEL-based
 - Oracle SOA Suite
 - ActiveVOS BPM
- IBM BPM
- Microsoft
- BizTalk
- Windows Workflow Foundation

Next Week

Introduction to Process Modeling

