

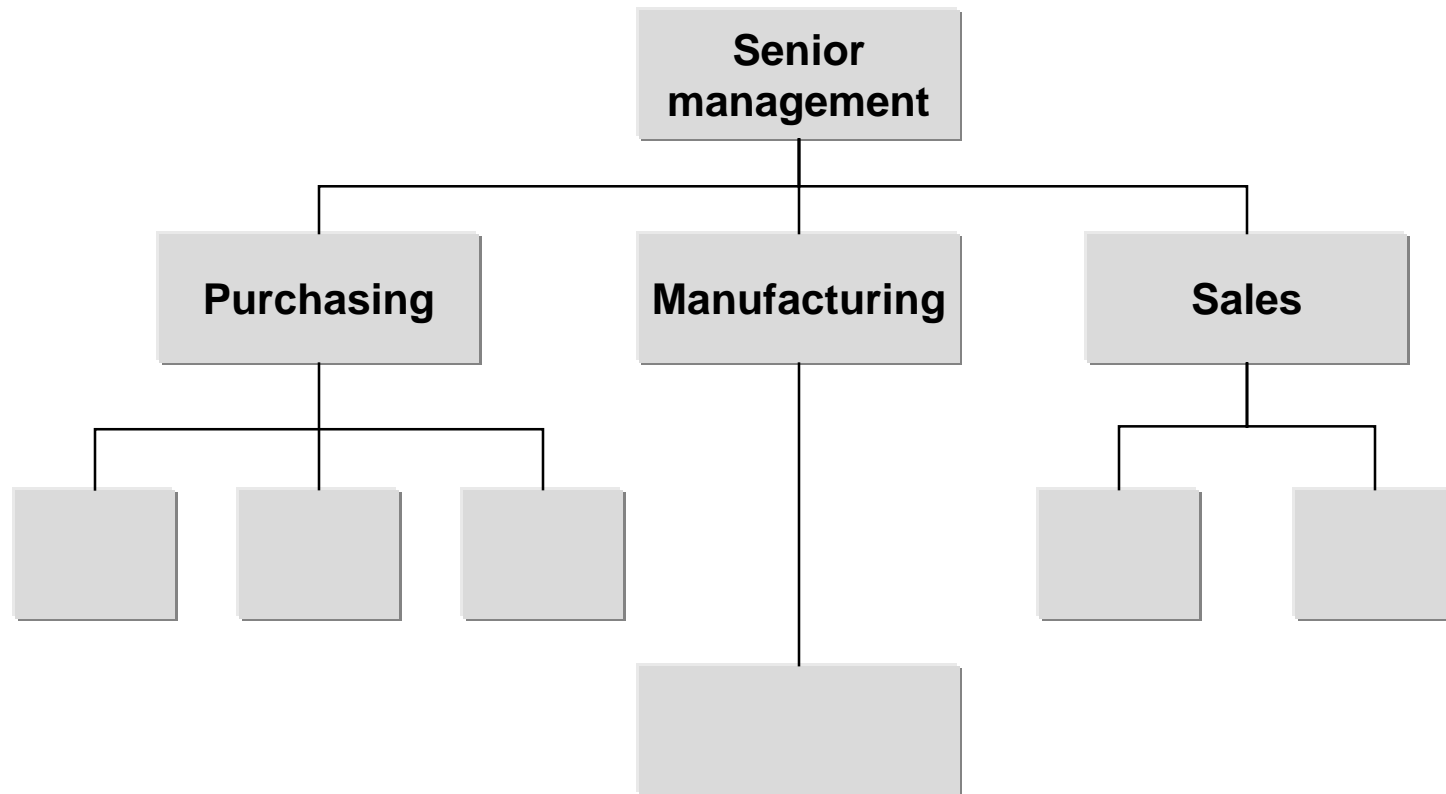


# Agenda

- Business Process Reengineering
  - The emerging process organization
  - Introduction to BPR
  - Methods and techniques
  - Examples



# Hierarchical organization





# Ford's assembly line, 1904





## Distribution of work

**“One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head: to make the head requires two or three distinct operations: to put it on is a particular business, to whiten the pins is another ... and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which in some manufactories are all performed by distinct hands, though in others the same man will sometime perform two or three of them.”**

**Adam Smith, The Wealth of Nations, 1776**



# Theoretical aspects

- Adam Smith's pins
  - The wealth of nations, 1776
- Frederick Taylor
  - Scientific management, 1911
- Oliver Sheldon
  - The philosophy of management, 1926
- Henry Fayol
  - General & Industrial Administration, 1930
- Gulick & Urwick
  - Papers on the science of administration, 1937

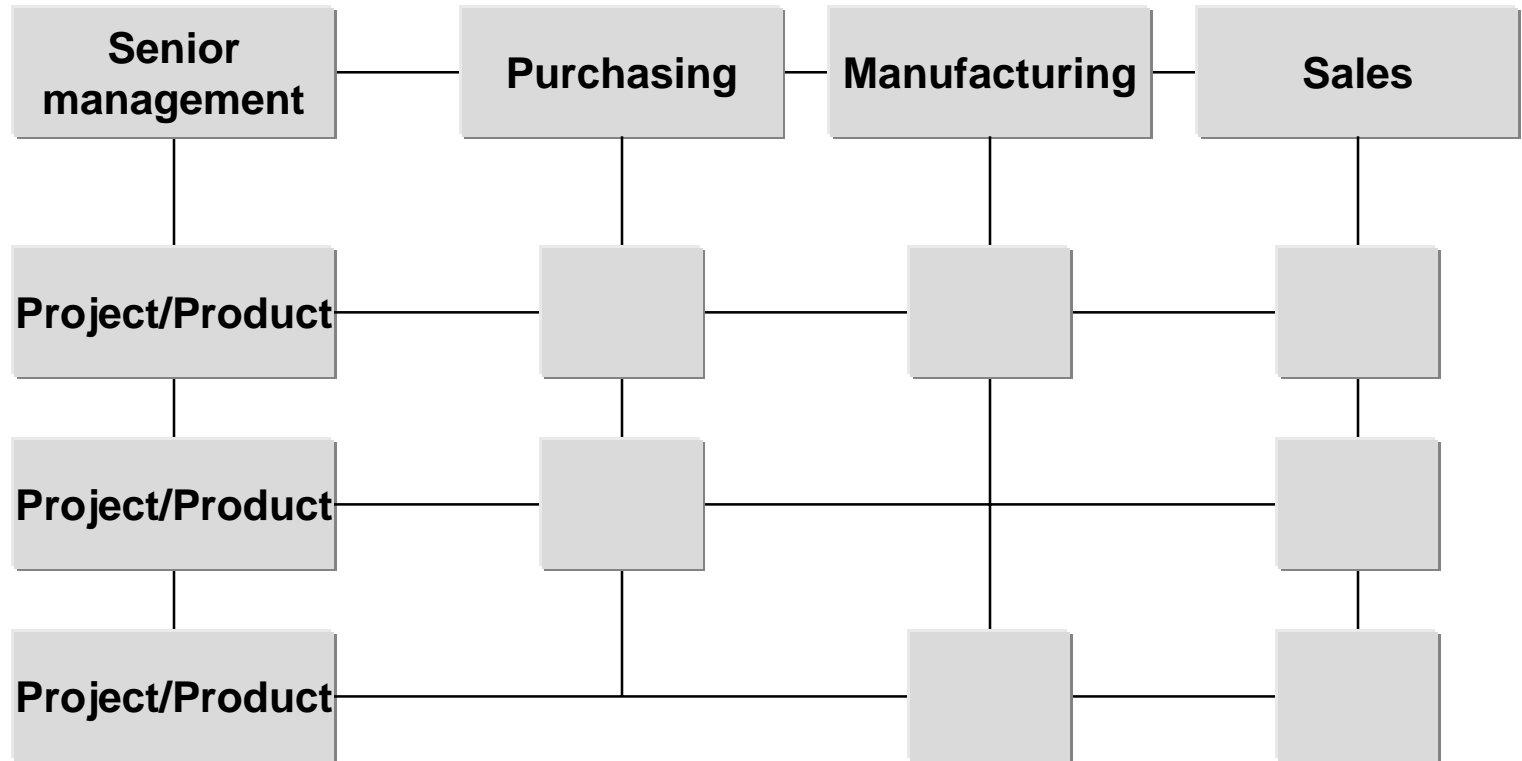


# Hierarchical pathologies

- Separation of planning and doing
- No answer for entire processes
- Vertical flow of process information
- Difficult to adapt to changing environments
- Difficult to implement quality
- Economy of scale as limitation, instead of advantage



# Matrix organizations



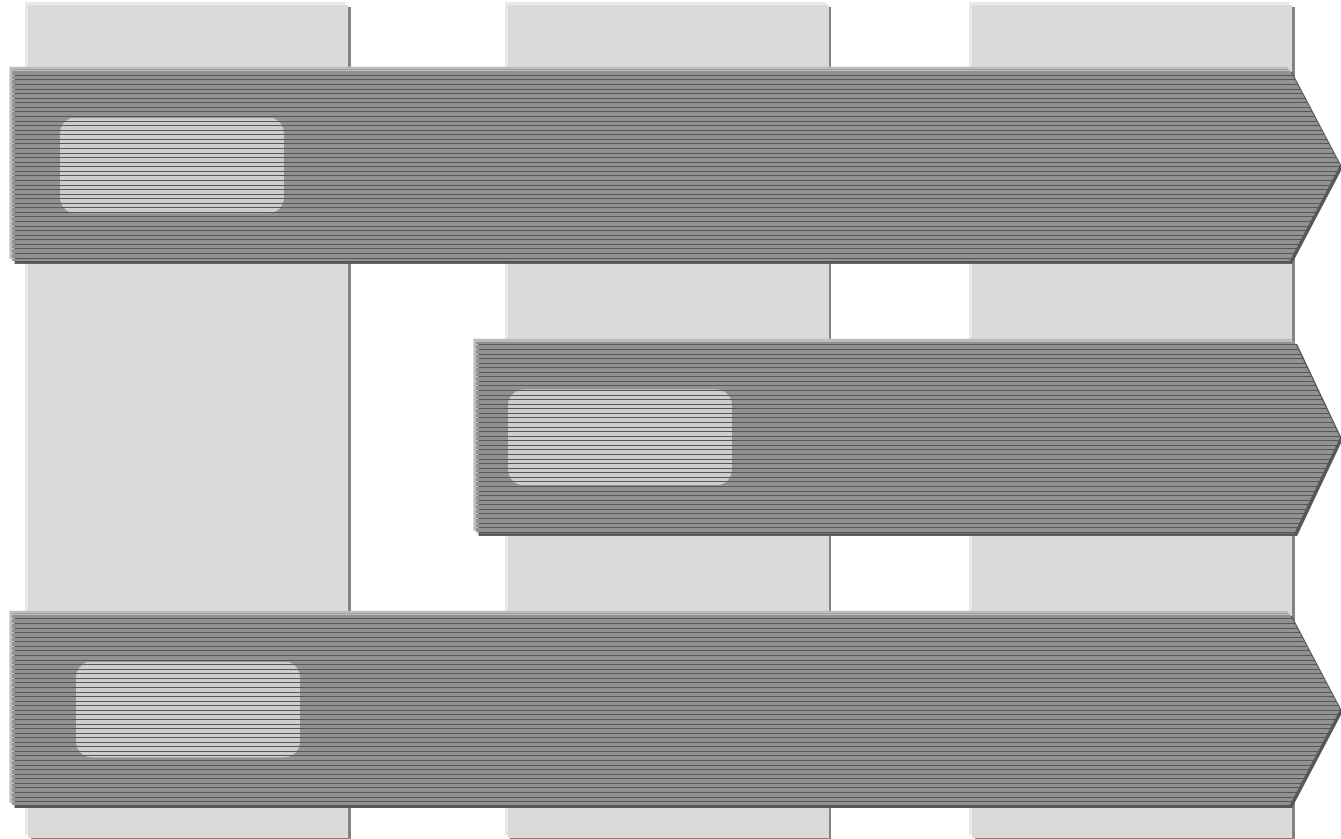


# Problems in matrix organizations

- Conflicts between line and projects
- No customer focus
- Increased complexity
- Coordination of functions, no overall cooperation



# Process organization



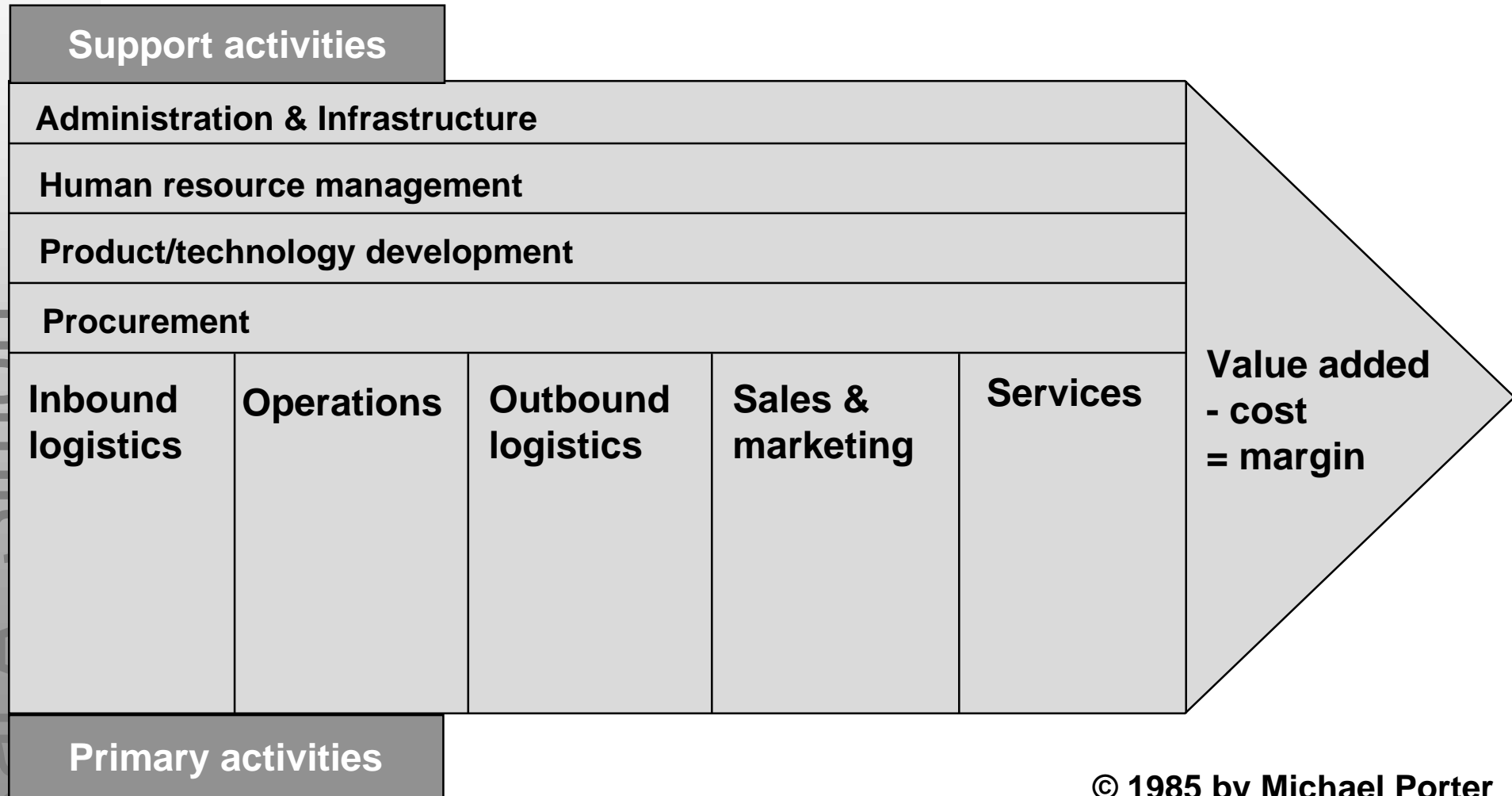


# Why process organizations?

- Determined by customer needs
- Flexibility
- Focus on the process as a whole
- Team-based organizational units
- High level of self-management
- General knowledge and functional competencies

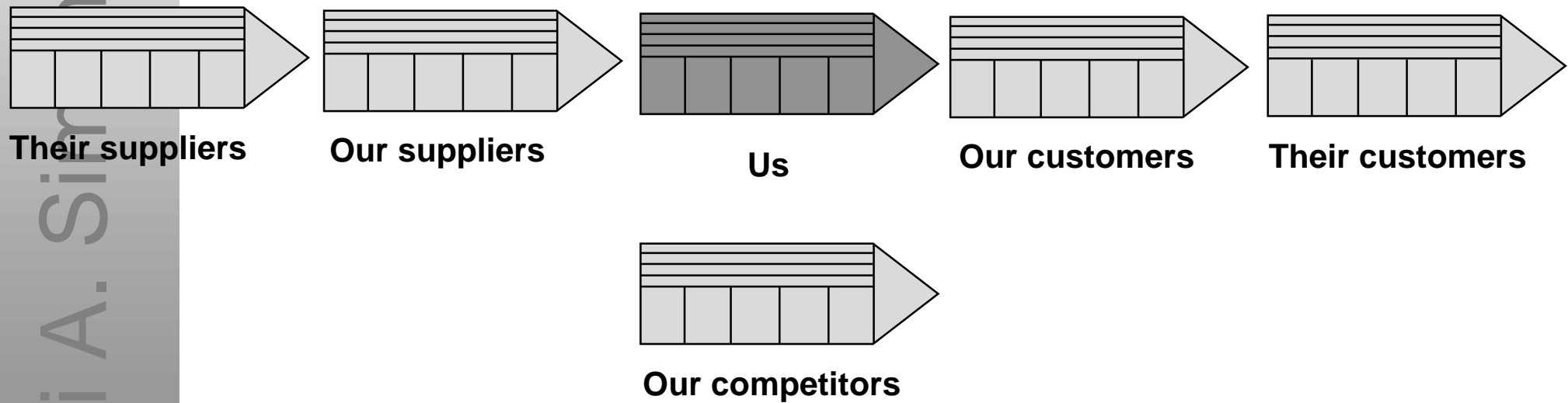


# The value added chain





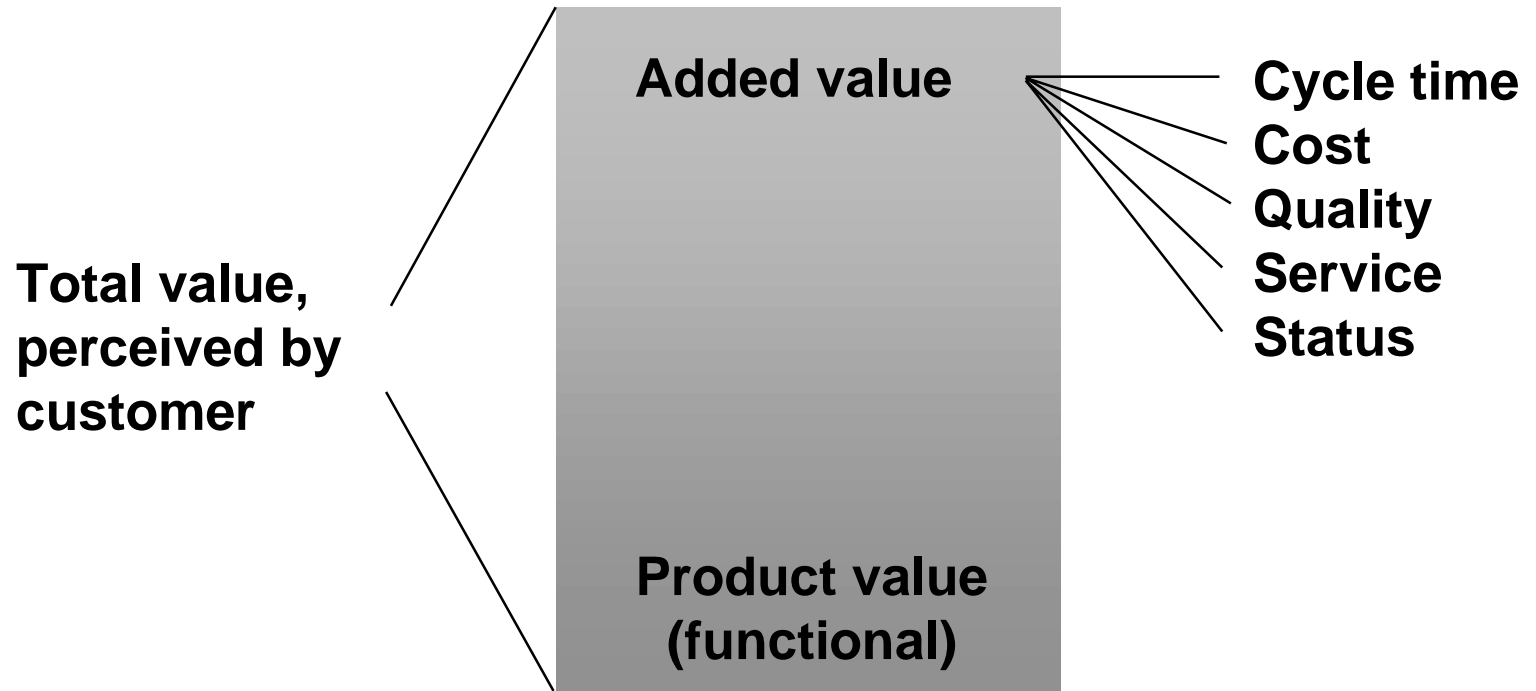
# Industry value systems



Kai A. Sim



# The concept of value





# What is a business process?

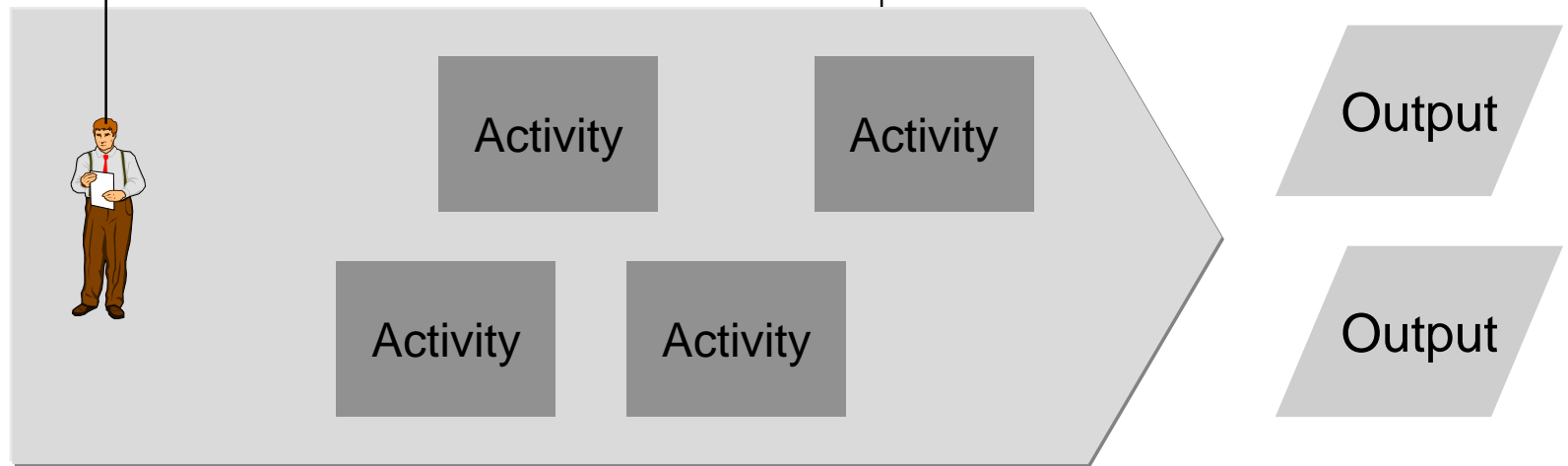
- **Davenport:** *“A process is a specific ordering of work activities across time and place, with a beginning, an end, and clearly defined inputs and outputs: a structure for action.”*
- **Hammer & Champy:** *“A business process is a collection of activities that takes one or more kinds of input and creates an output that is of value to the customer.”*



# Business process concept

**Process owner**

**Process boundary**



**Value added**



## What is BPR ?

- **Davenport:** *“Process innovation combines a structure for doing work with an orientation to visible and dramatic results. It involves stepping back from a process to inquire into its overall business objective, and then effecting creative and radical change to realize order-of-magnitude improvements in the way that objective is accomplished.”*



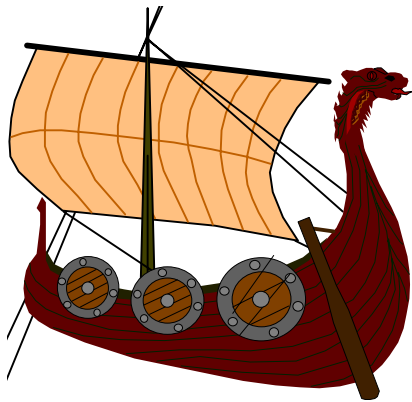
# What is BPR ?

- **Hammer & Champy:** *“The fundamental analysis and radical redesign of business processes to achieve dramatic improvements in critical measures of performance.”*
- **Stadler:** *“An integrated process to realign the operations of a business characterized by a quantum increase in the value it delivers ...”*



# To put it simple ...

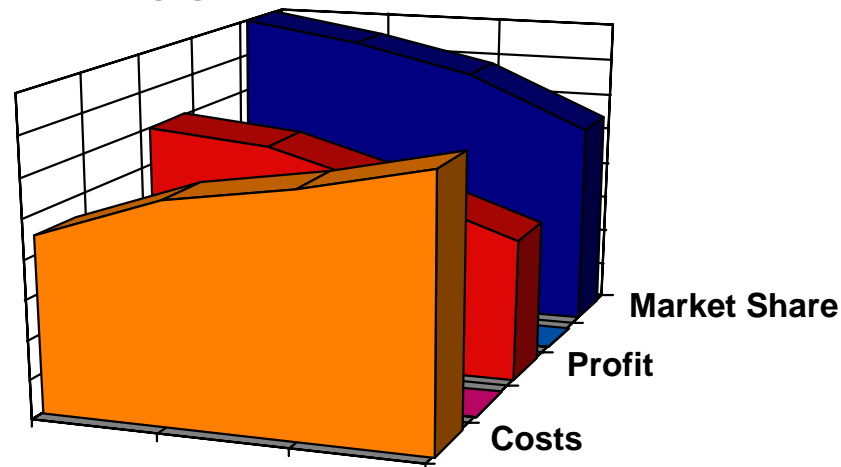
- If I had **today's knowlegde and technology**, how would the firm look like, if I would build it from scratch?





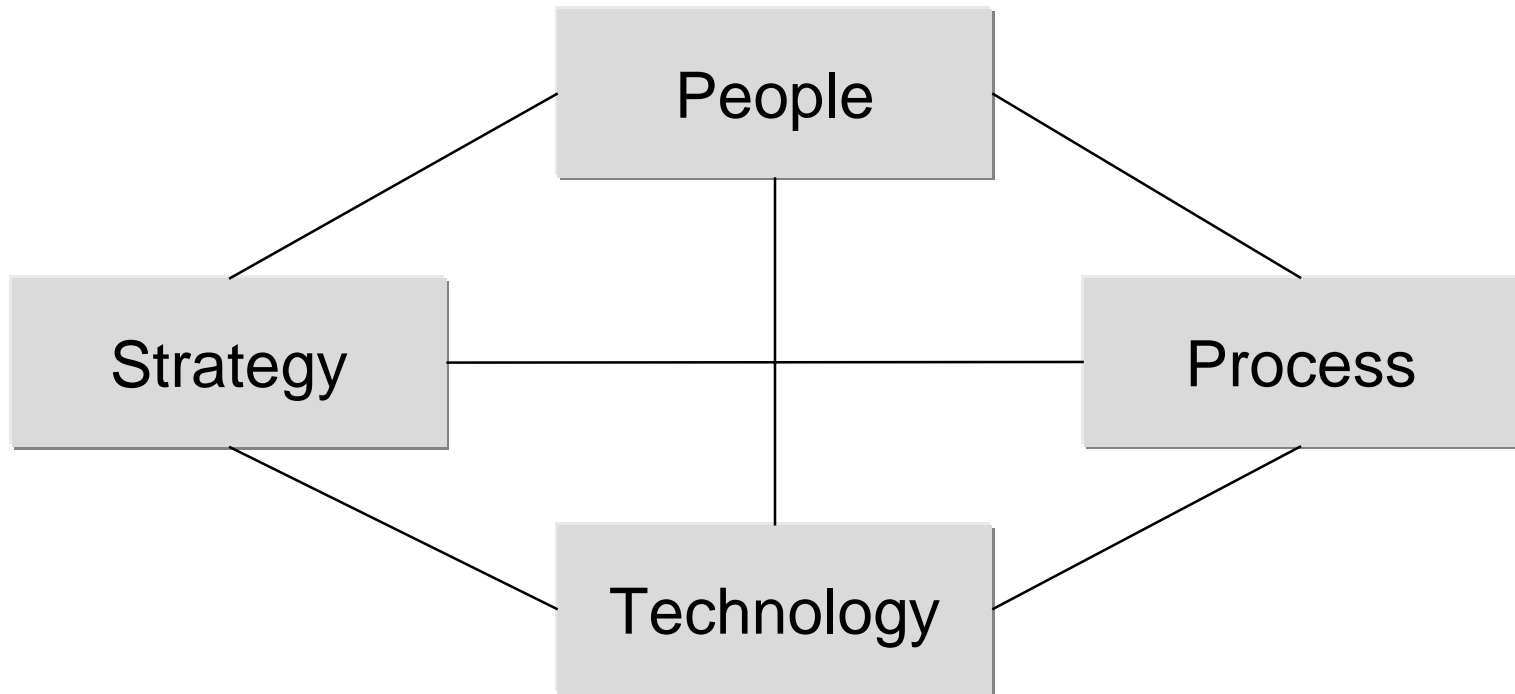
# Why BPR ? (Why change at all?)

- Survive on global markets
- Increase competitive power
- Changing customer demands
- Cost reduction
- Reduced cycle times





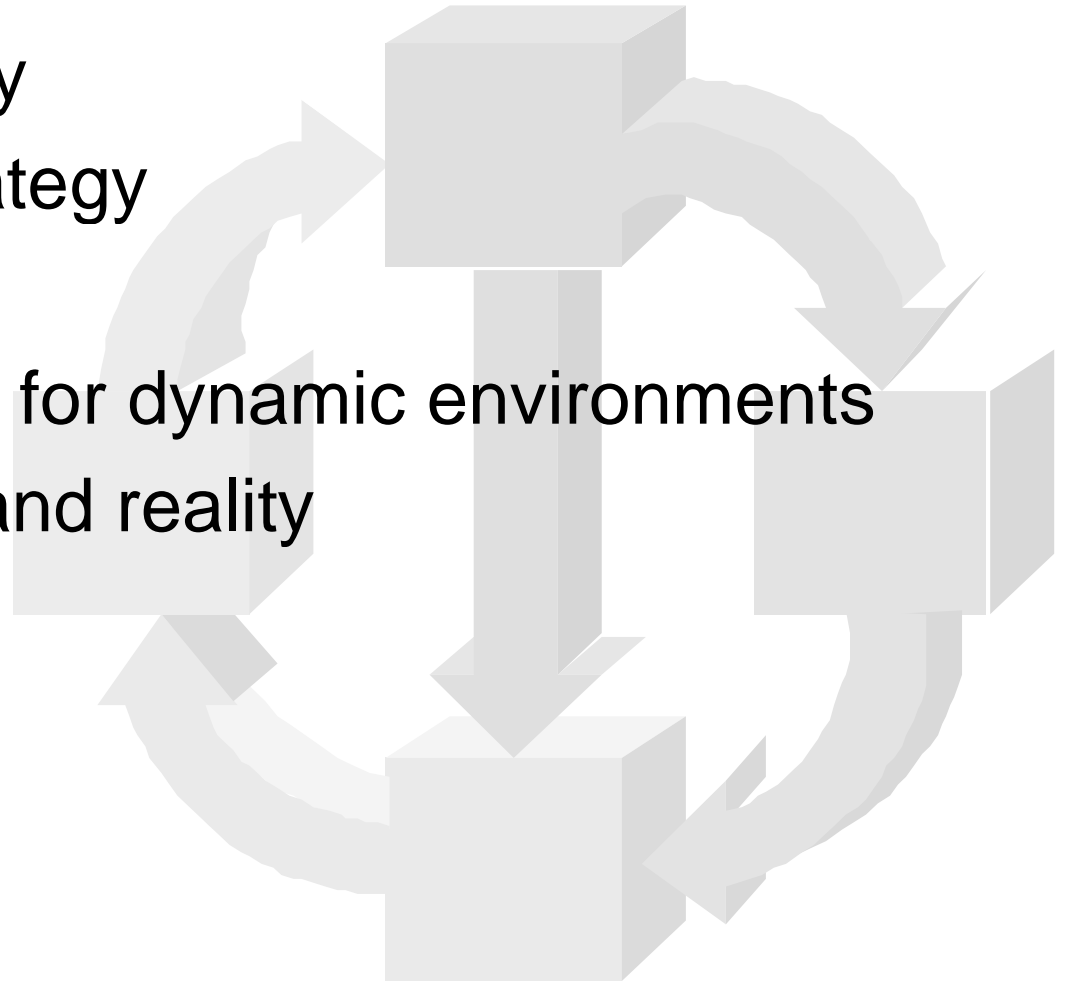
# BPR dimensions





# Strategy

- Business strategy
- Organization strategy
- IT-strategy
- Develop strategy for dynamic environments
- Relate to vision and reality
- Motivating





# Processes

- Core processes
- Potential for value creation
- From customer to customer
- From vertical to horizontal structure
- Holistic perspective



# Technology

- New technologies
  - Client/server
  - Mobile communication
  - Objekt orientation
- Technology not only supports, it enables
- Technology changes
- Where do you want to go today?  
*or*  
Where do you want to be tomorrow?



# People

- The most crucial factor
- Correspondence of people and strategy
- Cultural context
- Management by “seduction”
- Empowerment





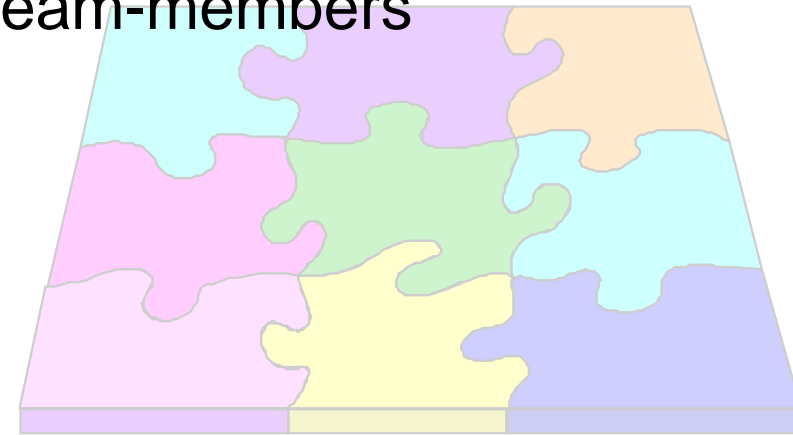
# Methods and techniques

- Many companies have their own methods
  - Value driven reengineering (Andersen)
  - BreakPoint BPR (Coopers and Lybrand)
  - Core process redesign (McKinsey)
  - Value added control (Frontec)
- ... but a lot is still craftsmanship
- Methods provide infrastructure for change



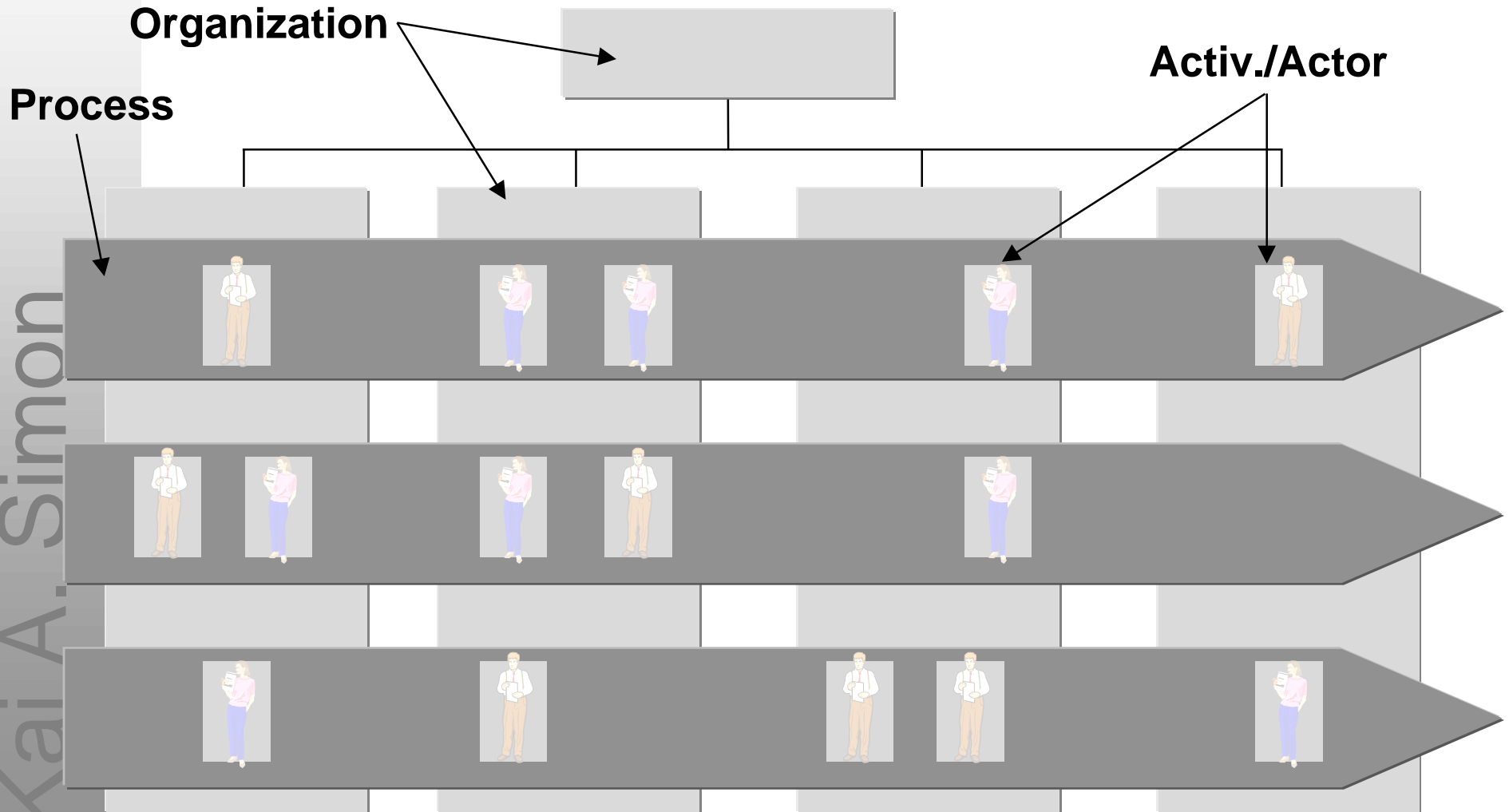
# Rummler & Brache

- Identify critical business areas
- Choose critical processes
- Choose process manager and team-members
- Educate team
- Develop as-is map
- Identify performance gaps
- Analyze performance gaps
- Development of future state map
- Establish performance measures and metrics
- Develop road-map for change
- Implement change



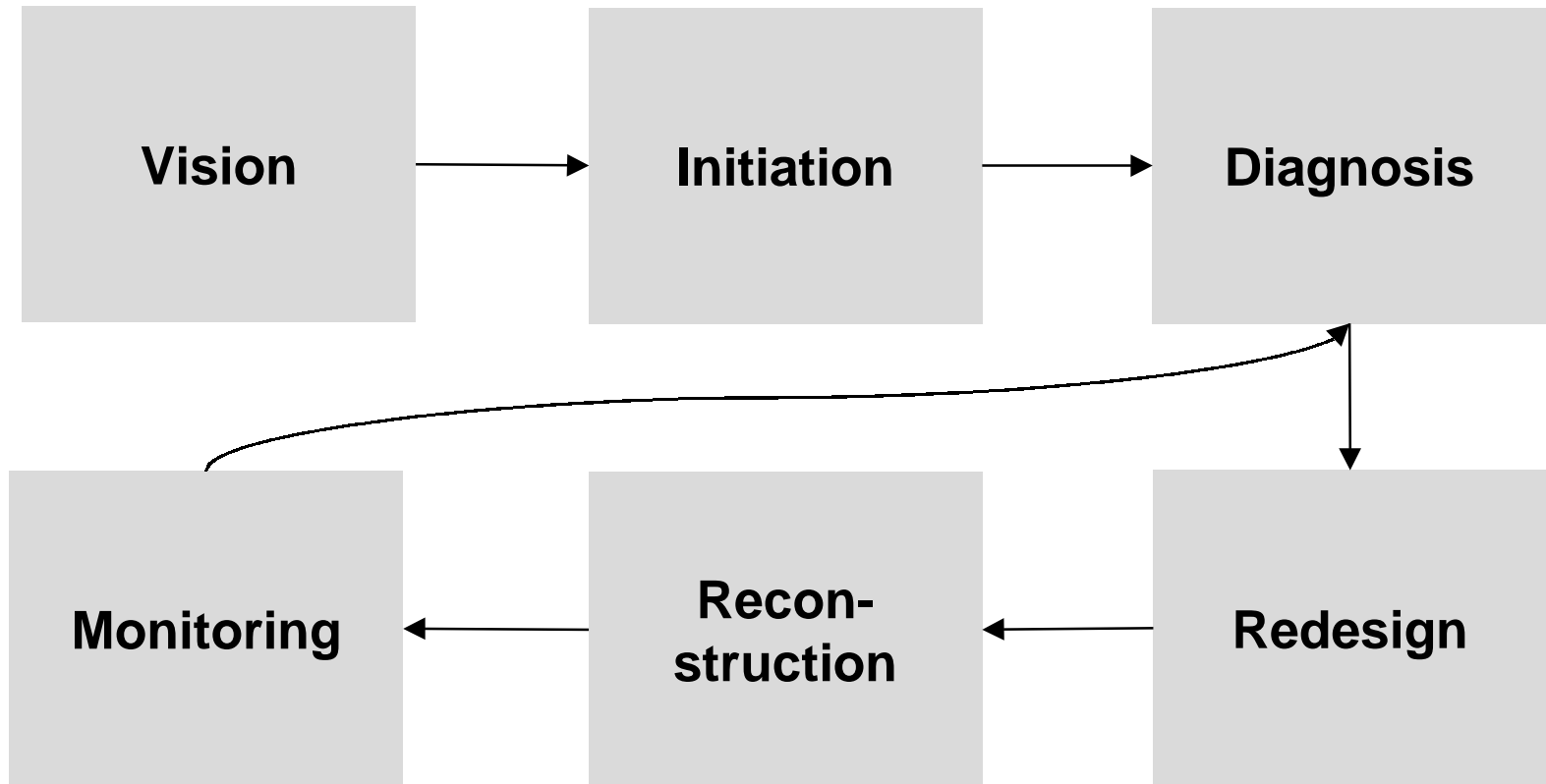


# R&B - 3 levels



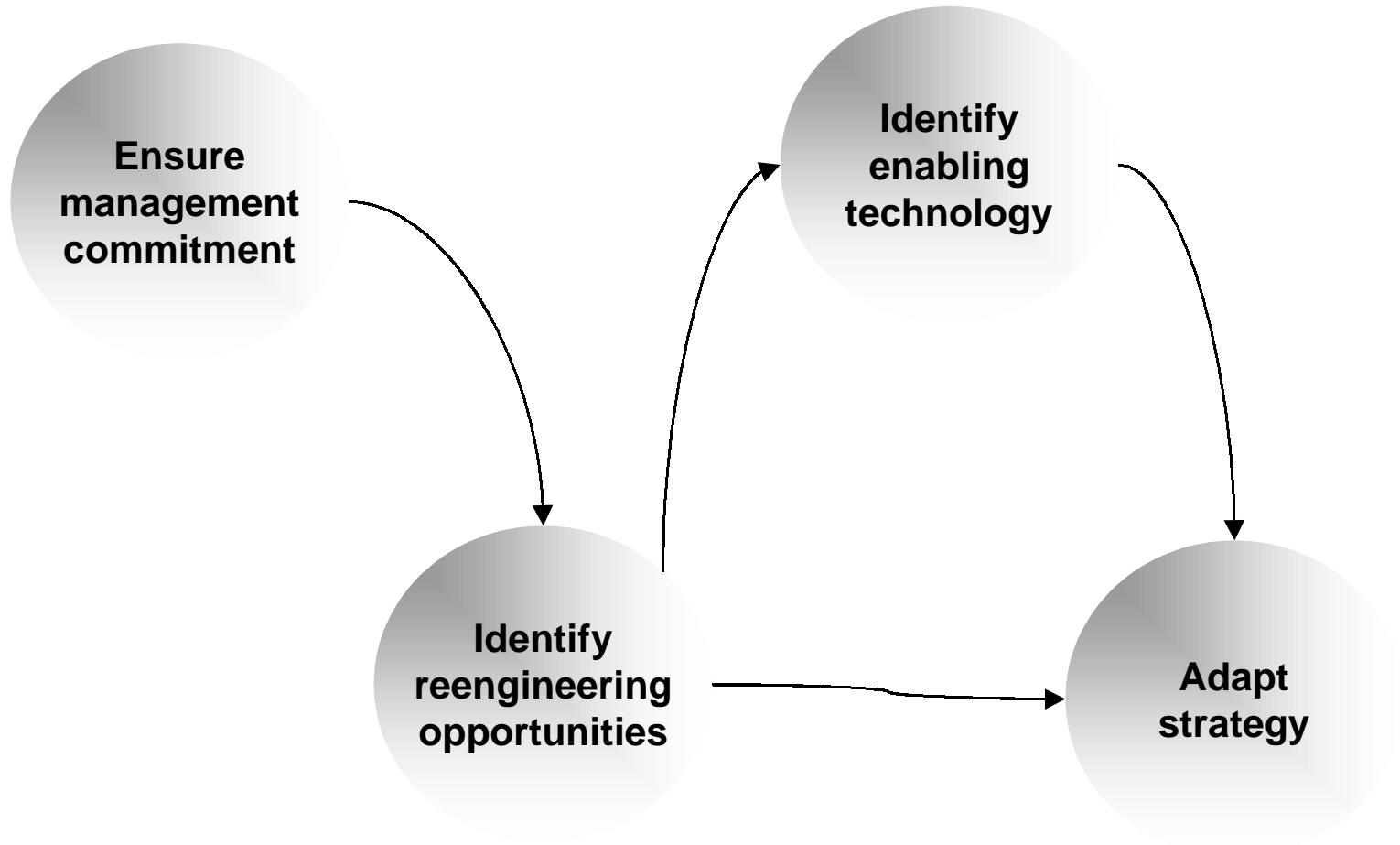


# Reengineering life-cycle





# Vision



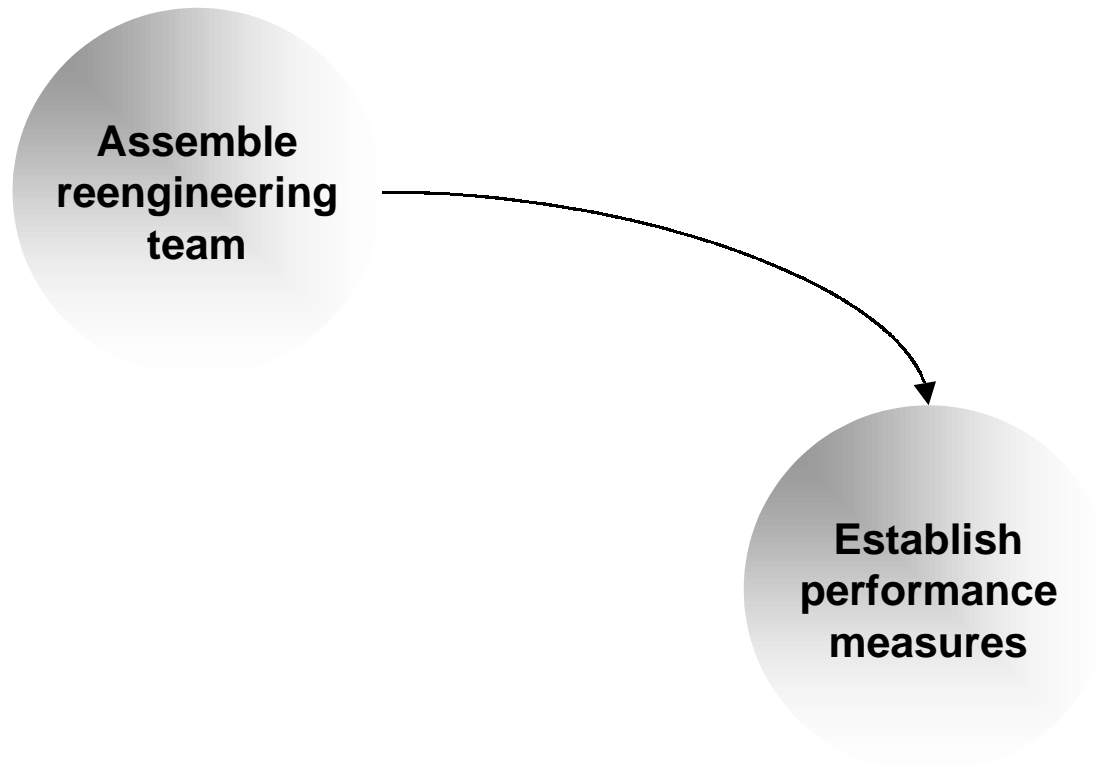


# Vision

- Management commitment must be ensured before initiating the change process
- Reengineering opportunities are identified on multiple levels
- Technology (OO, C/S, Workflow, CSCW)
- Review strategy
  - Adapt BPR effort to strategy
  - Redefine strategy



# Initiation



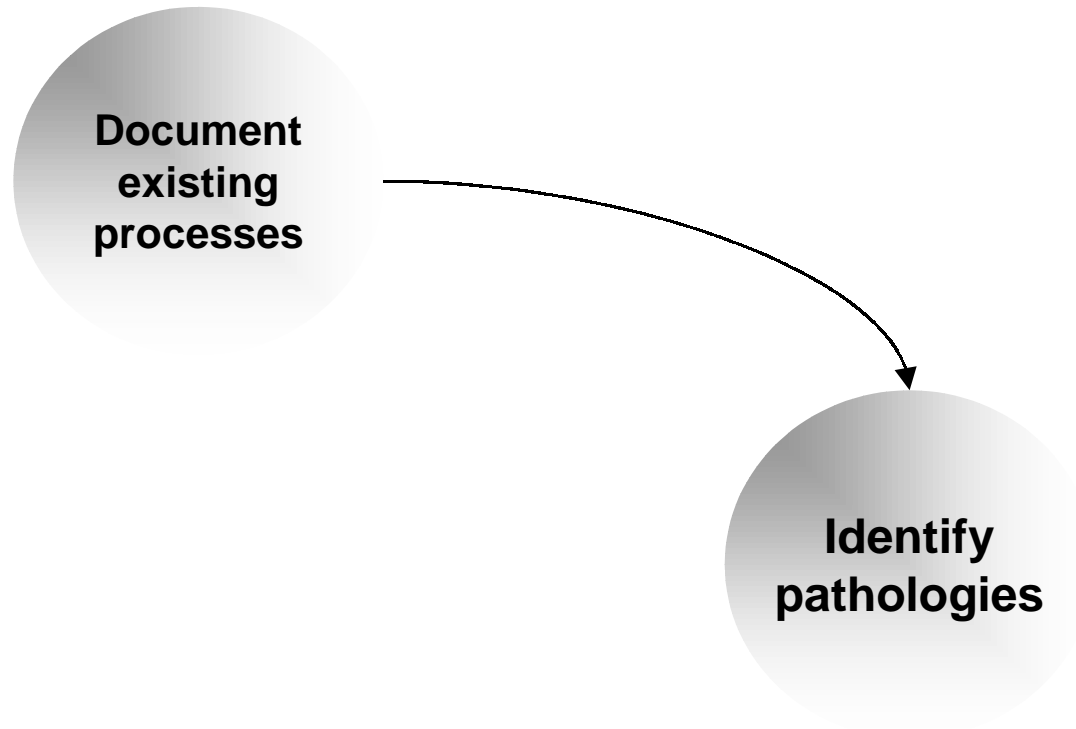


# Initiation

- Who is concerned and affected?
- Multiple competence areas
- Roles within the team
- Set visionary goals, but make them ...
  - relevant
  - achievable
  - easy to understand
- People must accept objectives



# Diagnosis



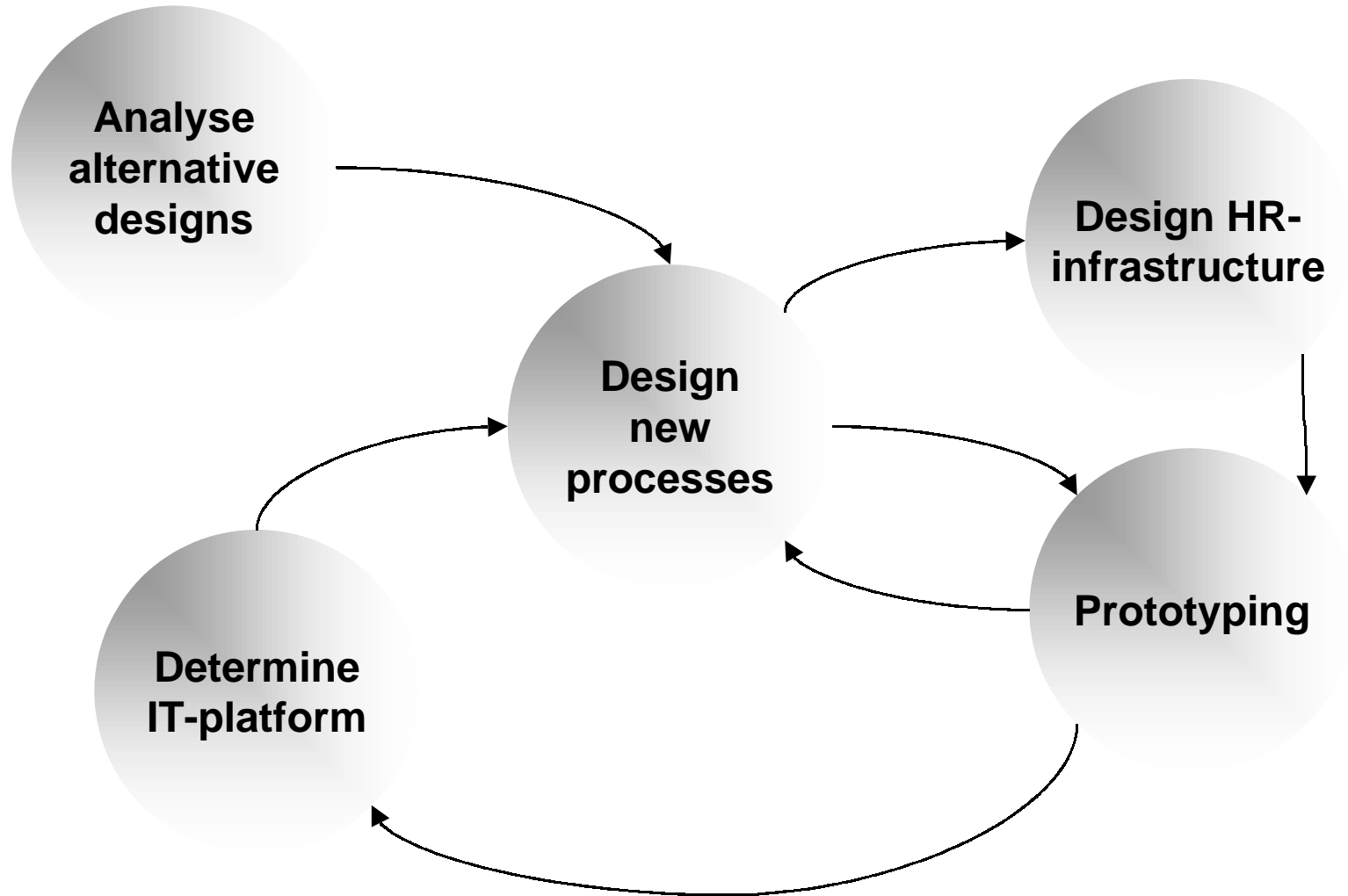


# Diagnosis

- Document processes
- Identify owners
- Identify resource requirements
- In-/Output
- Value-adding potential
- Reality and requirements



# Redesign



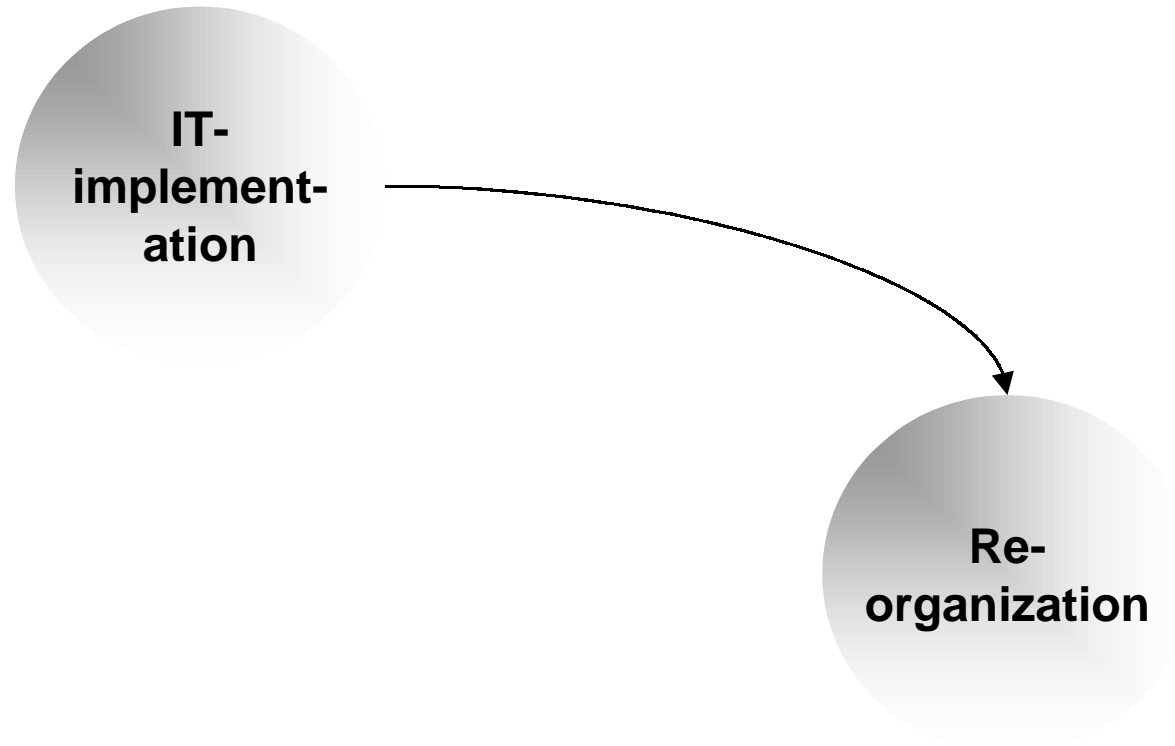


# Redesign

- Iterative design process
- Identify competence gaps, training needs
- Cycle time, frequency, volume
- Resource allocation
- Objectives, results
- Improvement potentials
- Relate to IT-use



# Reconstruction



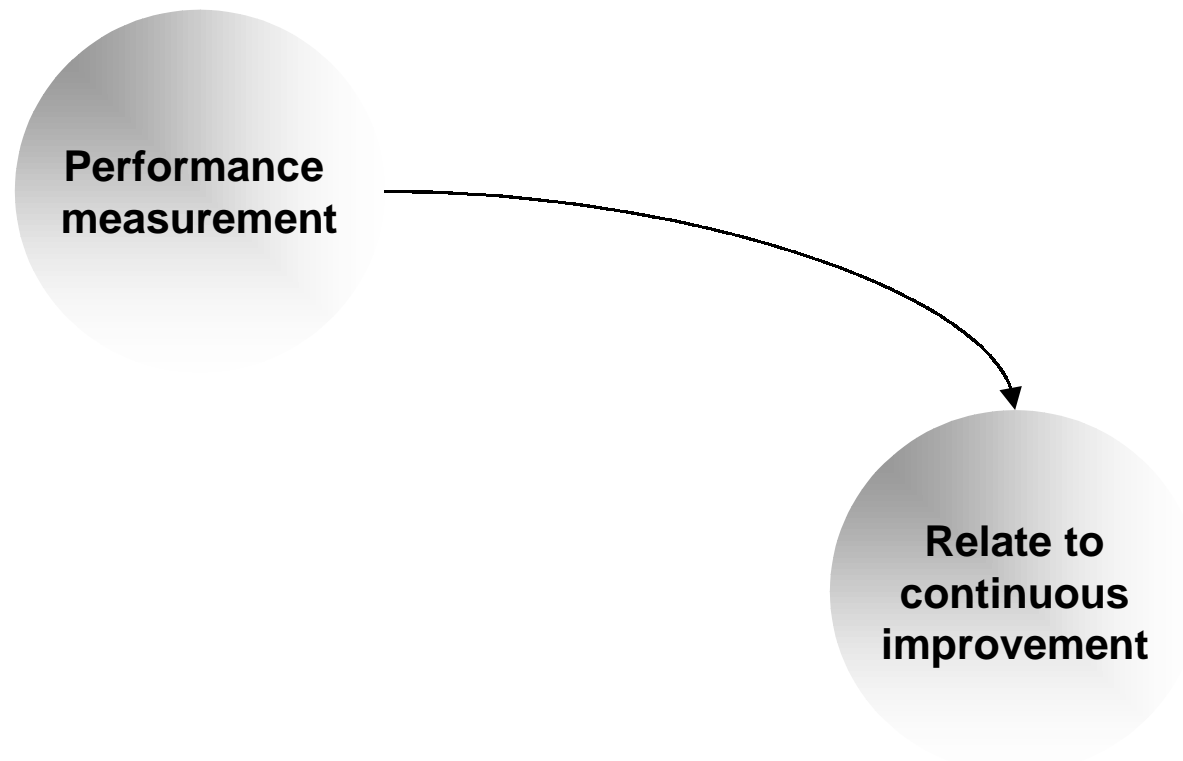


# Reconstruction

- Successive IT-replacement
- From tailor-made to adaptable standard
- Hard-/software
- Re-use
- Organizational change
- Start training and education



# Monitoring





# Monitoring

- Financial measures
  - Cost, result, EVA
- Non-financial aspects
  - Productivity
  - Effectiveness/efficiency
- Relate to further improvement
  - TQM, CPI, etc.



## Methods - common features

- Eliminate non value-adding activities
- Remove support activities from primary flow
- Integrate activities into processes
- From sequency to concurrency
- Reduction of transaction times and costs



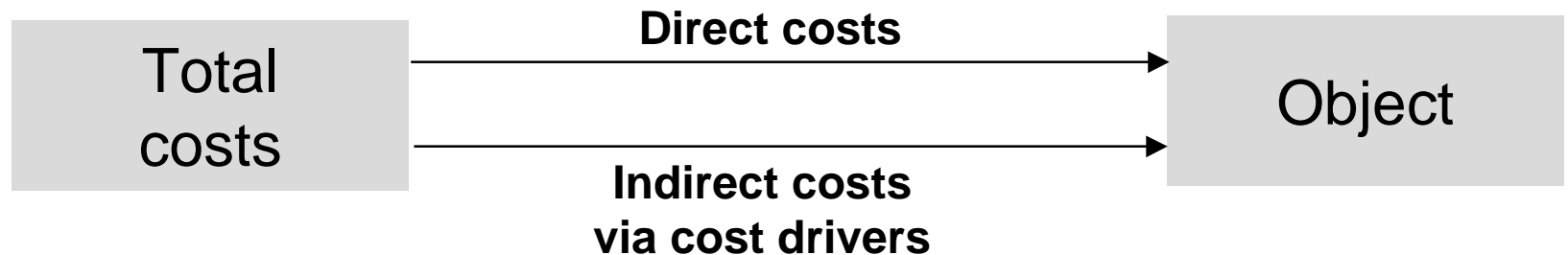
# Underlying methods

- Performance measures
  - ABC - Activity Based Costing
  - Benchmarking
  - Transaction Cost Analysis



# ABC

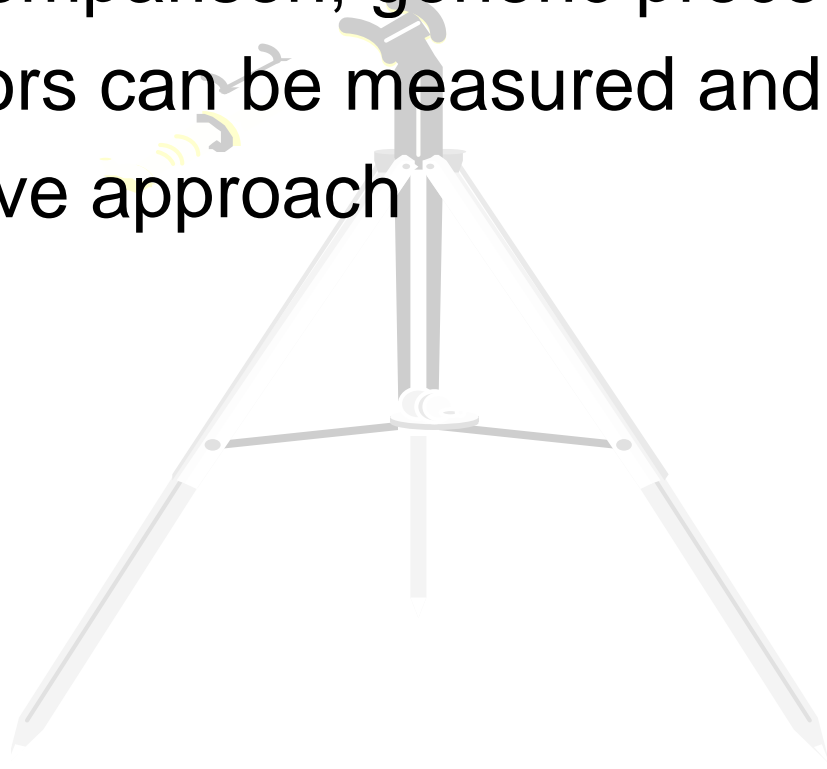
- Symptom: Reduction of direct costs, increased indirect costs
- Identification of cost drivers
- Direct and indirect costs are allocated to the object





# Benchmarking

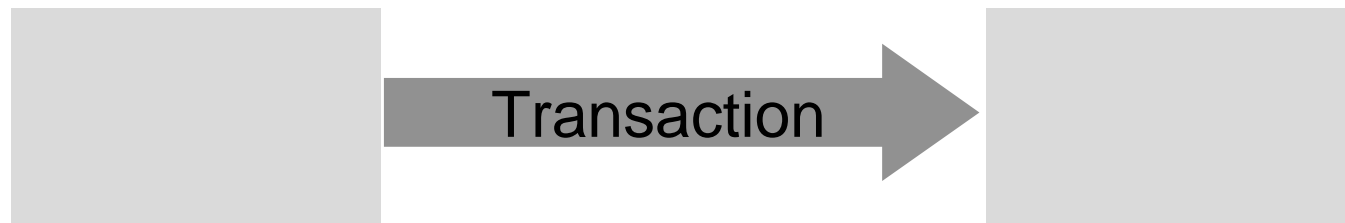
- Learn from the best
- Benchmarking partners, competitors, ...
- Internal comparison, generic processes
- Most factors can be measured and compared
- Quantitative approach





# Transaction cost analysis

- Function and transaction costs
- Transactions as resource consumers
- Transactions as bottlenecks





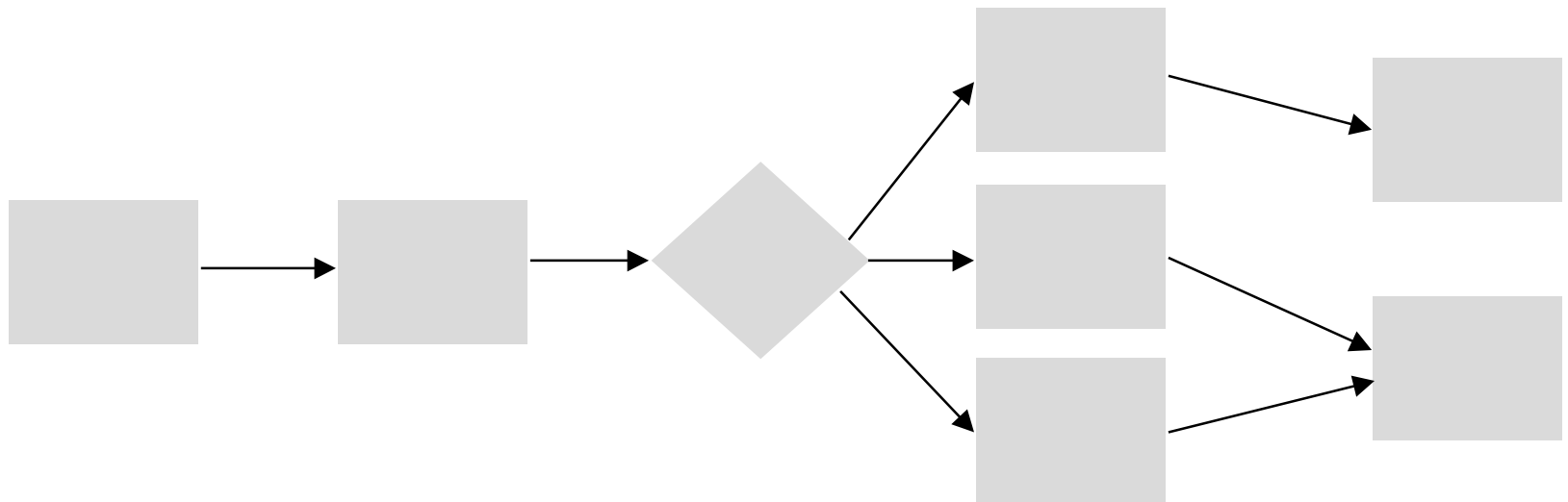
# Underlying techniques

- Modeling
  - DFD - Data Flow Diagrams
  - IDEFx
  - RAD - Role Activity Diagrams
  - Action Workflow



# Data Flow Diagrams

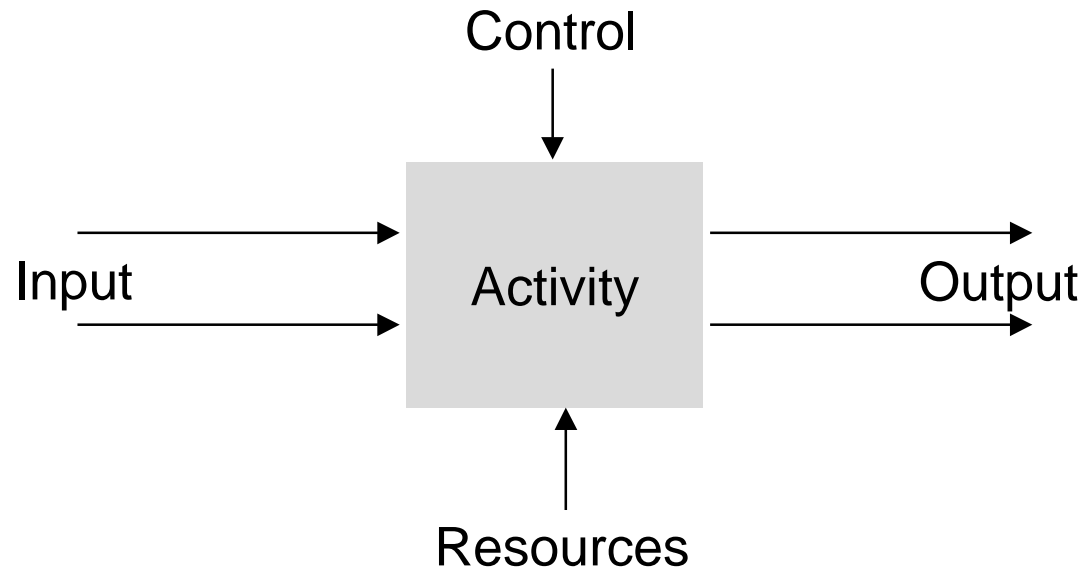
- Can be of significant size
- Often linked to “role-icons” (Who does what?)
- You can proof almost everything
- Pedagogy is built-in, if used properly





# IDEF<sub>x</sub>

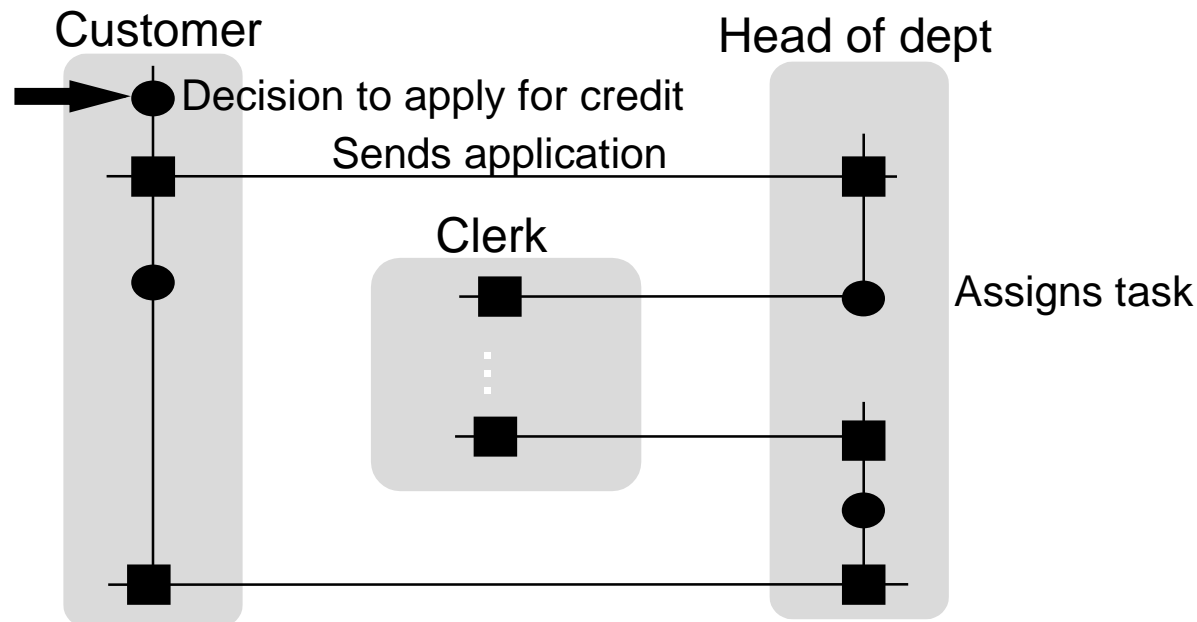
- Developed by US-defense
- Rather rigid structure
- No intuitive use, requires training
- Often used by consultants





# Role Activity Diagrams

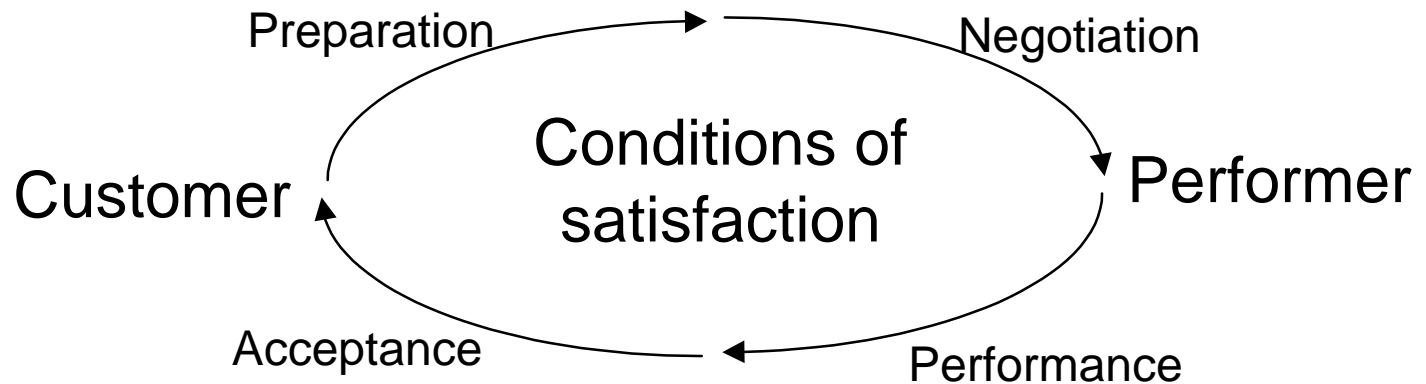
- “Roles” perform activities and take decisions based upon rules
- Sequency and concurrency
- Multiple levels of abstraction





# Action Workflow

- Roles and interactions
- Network of commitments
- Linguistic approach - speech acts
- Terry Winograd and Fernando Flores





# BPR relatives

**Value chains, Value Systems,  
Time compression management,  
Activity Based Costing**

**CPI, TQM, etc.**

**Enterprise Modelling, Workflow,  
IE, Strategic IT Planning**

**BP Reengineering,  
BP Innovation,  
BP Redesign**



# Failure

- Lack of commitment
  - Management level
  - Low acceptance in organizations
- Lack of radical thinking
- The method will get it right
- “Quick-fix”
- No understanding of implications





## A warning!

To persist with slash-and-burn downsizing, along with the sort of neutron-bomb re-engineering that leaves only the buildings standing, is tantamount to management malpractice.

