Business Modeling with the UML
Module 1: Introduction to Business Modeling

Course Objectives

- ◆ **To provide an understanding of:**
  - ▪ What Business Modeling with the UML is
  - ▪ The benefits Business Modeling provides
  - ▪ How Business Modeling fits into the software development process

- ◆ **To enable the practitioner to:**
  - ▪ Undertake Business Modeling
  - ▪ Appreciate when to use Business Modeling
  - ▪ Use Business Modeling to drive the software development process

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Agenda

- ◆ An Introduction to Business Modeling
- ◆ Using the Unified Modeling Language
- ◆ A Process for Doing Business Modeling
- ◆ From Business Models to System Models
- ◆ Summary
- ◆ Optional Sections
  - ▪ Business Modeling Usage Patterns
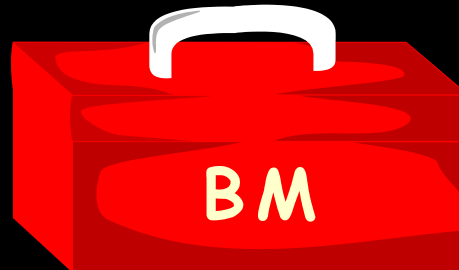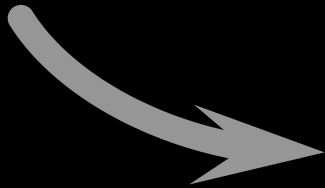 - ▪ Project Examples
  - ▪ Rules of Thumb

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An Introduction to Business Modeling

- ◆ **What Is Business Modeling?**
    - ▪ Provides a consistent definition of the business
    - ▪ Supports analysis of the business
    - ▪ Enables users to undertake business process re-engineering / improvement
    - ▪ Bridges the gap between the real world and the computer system world
        - • Allows validation of systems early in the lifecycle
        - • Supports the roll out and documentation of the business system

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Drivers For Business Modeling

Technical

Perspective

Business

Perspective

BM

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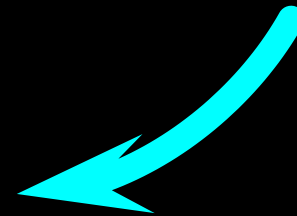
From a Technical Perspective

- ◆ Role of software applications is changing:
  - ▪ Emphasis is on added value, not what features they have
  - ▪ Used as everyday tools at work and at home

- ◆ Software applications are no longer "gizmos" built by "programming wizards" to be used by "computer hobbyists" who appreciate "technically elegant features"

- ◆ Users are maturing:
  - ▪ Do not accept badly designed applications
  - ▪ Require real value in the application

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From a Business Perspective

- ◆ Provide proof of added value:
  - Identify what type of computer support is needed
  - Delimit the scope of computer support
  - Understand how computer support can increase customer perceived added value
- ◆ Aid in understanding the organization:
  - Visualize the organization and its processes
  - Find ways of making the organization more efficient
- ◆ Supports finding the right business:
  - Re-engineer the organization

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Business Processes?

Branch office	Credit department	Loan committee

New loan: from Loan application to Loan disbursement

"a collection of activities that takes in one or more kind of input and creates an output that is of value to the customer."

Hammer and Champy – "Reengineering the corporation – a manifesto for business revolution" 1993

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The Fundamental Modeling Goal?

Stakeholders' Interests

The CEO and executives
Comprehensive overview of processes
- Architecture
- Business usability process by process

Customer & partner:
- Business usability - "results"
- External view of processes

The re-engineers:
- Identify problems
- Try process scenarios
- Try process design
- Describe deliverable vs. processes
- Adapt ideal results to reality
- Present to everyone

A share holder:
- Financial model
- Process overview

The IT organization:
- Understands users, processes and working results
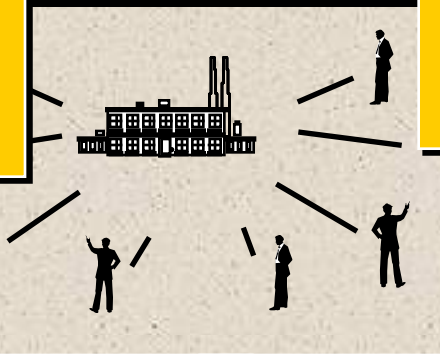
A process member:
- Understands his own role in new organization
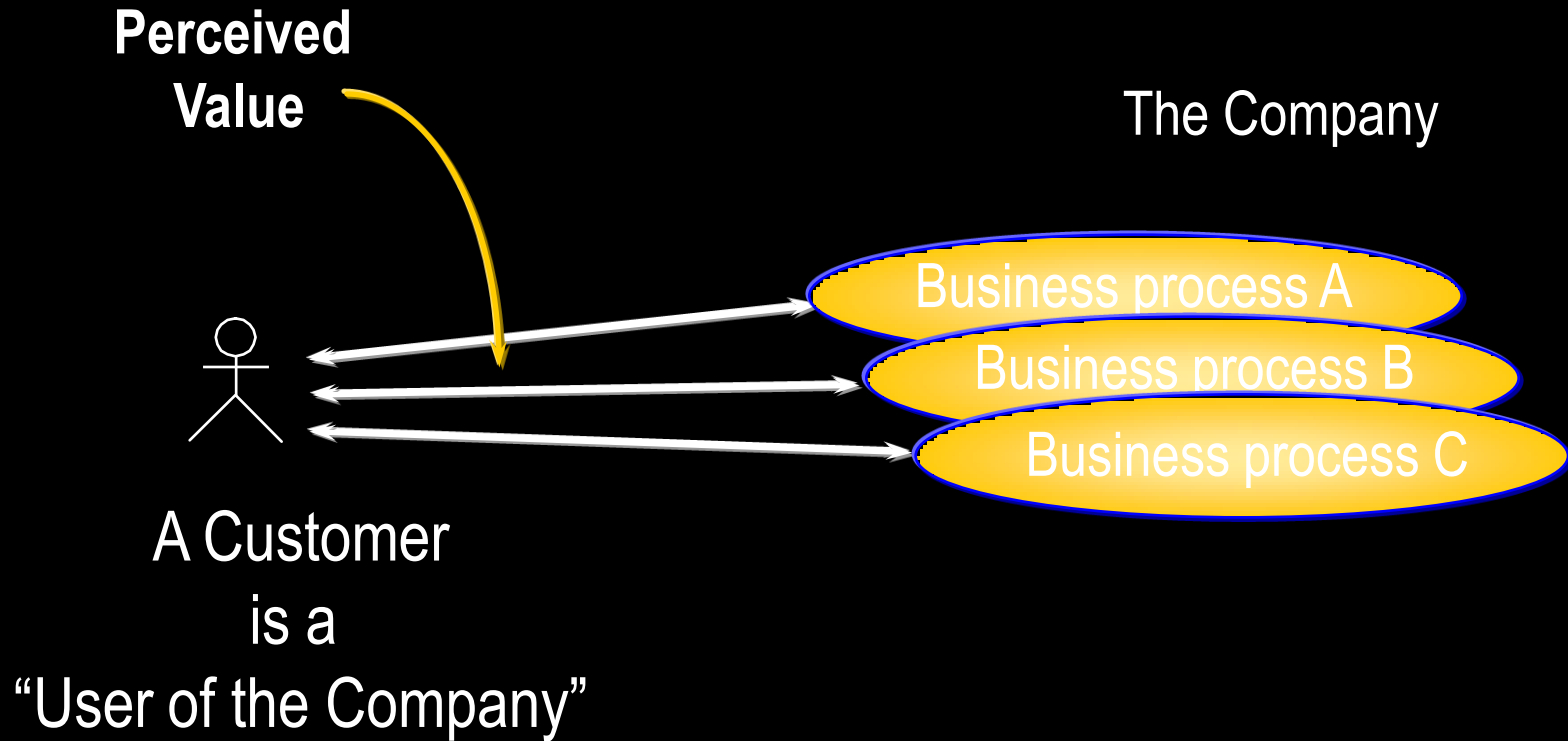- Influences new organization

A resource owner:
- Understands human resource needs in different processes

A process owner:
- Designs and continuously improves usable and profitable process
- Controls process
- Informs about / teach process
- Has good integral IT support

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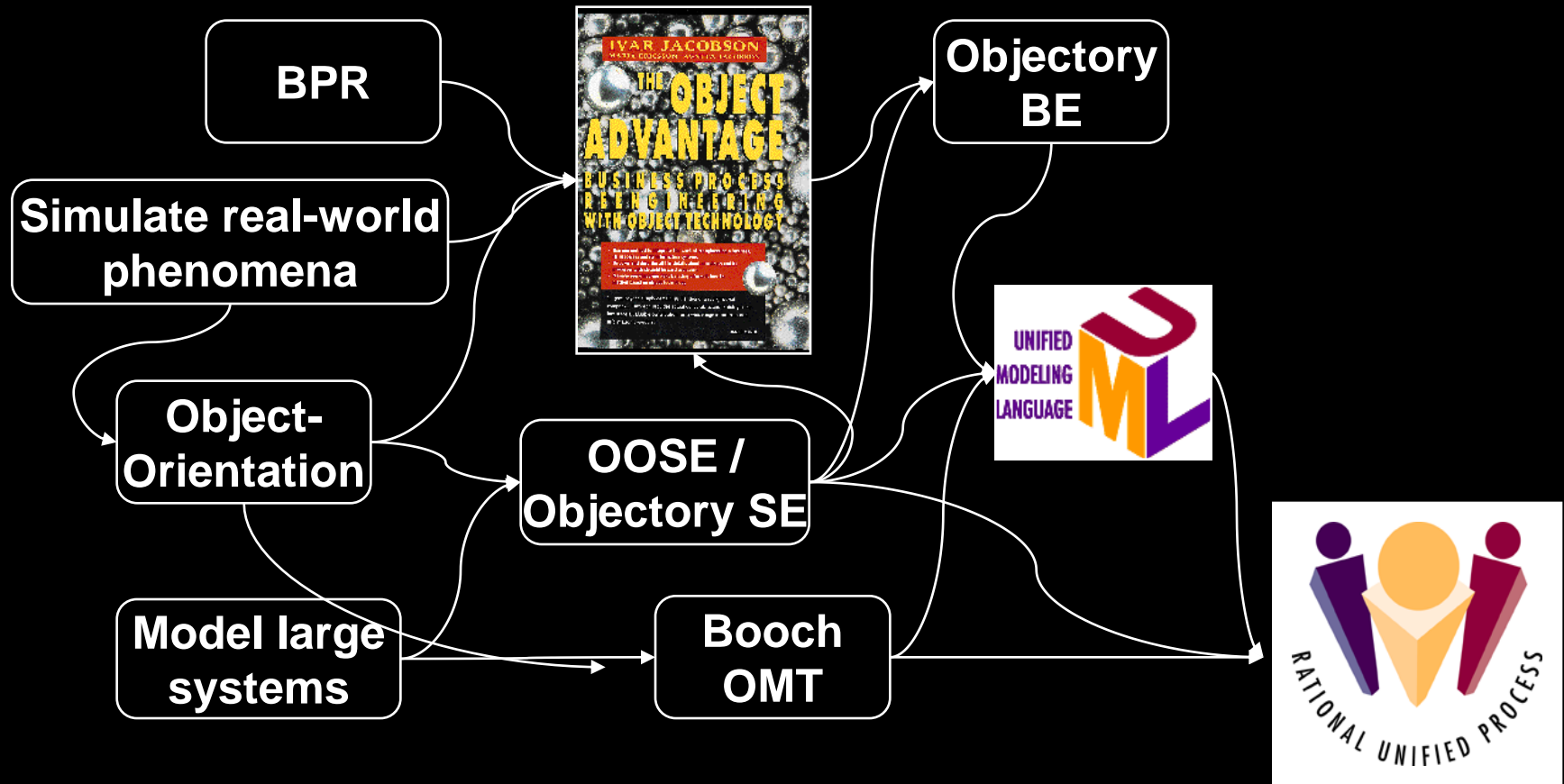
The Fundamental Business Goal?

Perceived Value

The Company

Business process A

Business process B

Business process C

A Customer
is a
"User of the Company"

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The Structure Of The Business

- ◆ Departments
- ◆ Systems
- ◆ Artifacts
- ◆ Roles and Responsibilities
- ◆ Resources

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Resources to Support the Business Processes

- What resources support the business processes?

- What is the sequence?

- What are the responsibilities of those resources?

- How long does that responsibility take?

- What does that responsibility cost?

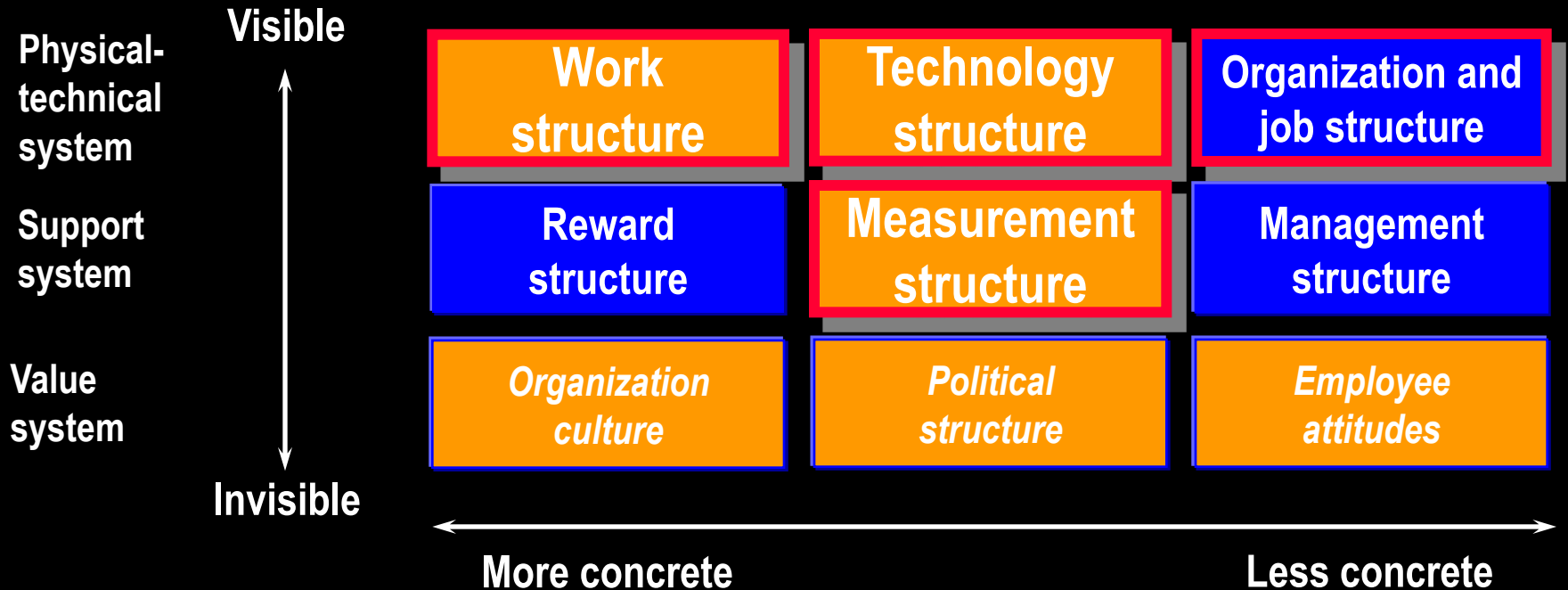- Are there different solutions for realizing the business processes?

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Origins

BPR

Simulate real-world phenomena

Object-Orientation

Model large systems

OOSE / Objectory SE

Booch OMT

Objectory BE

What is Different Compared with Traditional BM?

- ◆ Business Modeling in the RUP does not primarily focus on functional decomposition or workflow breakdown.

- ◆ Consistent terminology and approach to computer systems development using the RUP

- ◆ Uses the Unified Modeling Language

- ◆ Supports an iterative and incremental lifecycle

Focus Areas

	Visible ↑	More concrete ← → Less concrete	
Physical-technical system	**Work structure**	**Technology structure**	**Organization and job structure**
Support system	**Reward structure**	**Measurement structure**	**Management structure**
Value system	*Organization culture*	*Political structure*	*Employee attitudes*
	Invisible ↓	**More concrete** ← → **Less concrete**	

Source: Andrews & Stalick (1992)

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Business Modeling and RUP

In Context of the Rational Unified Process
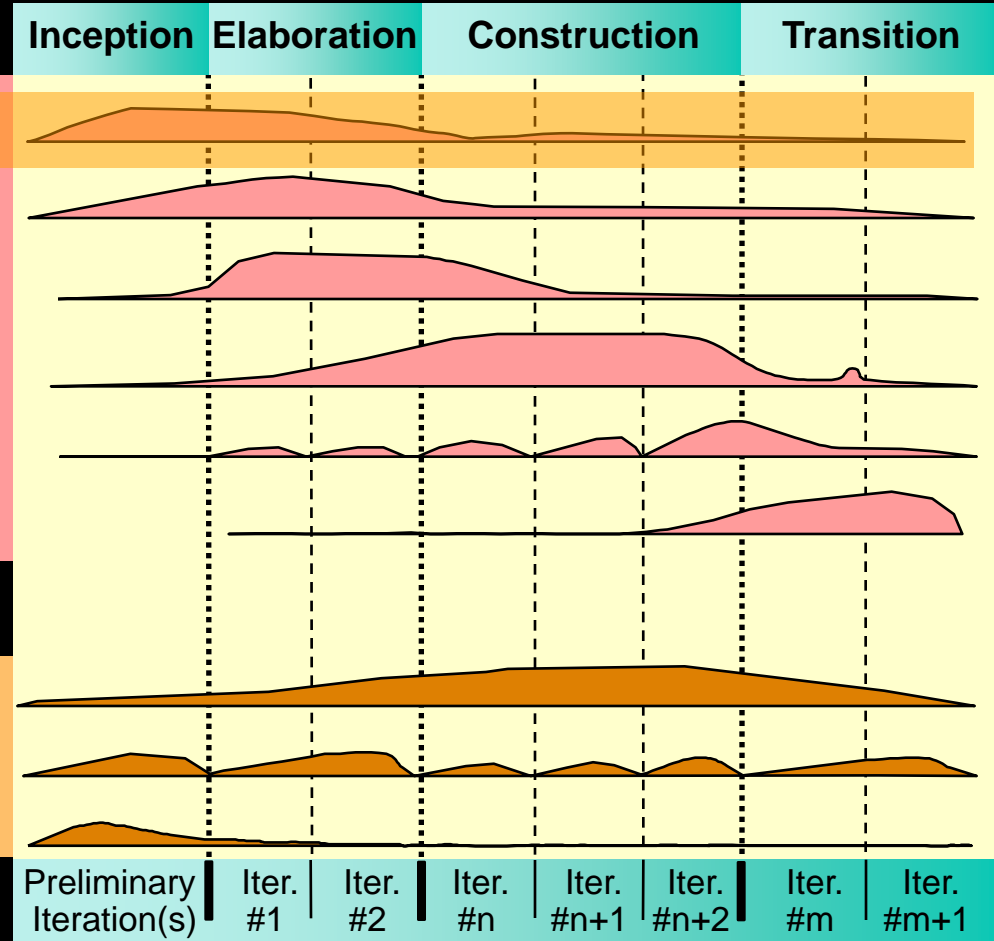
Summary

- ◆ Business Modeling needed to ensure effective systems

- ◆ There are many stakeholders to a Business Modeling effort – each with slightly different goals

- ◆ Business Modeling based on the UML

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