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DEMO – workshop

DAY 2

Wim Ploegaerts – Jan De Winter

November 2009

Agenda – day 2

- **09h00 Rehearsing of the key-principles**
  - The theoretical background
  - The way of working with DEMO
- **09h30 PIF & Transaction Result Table**
  - 2 groups on IES & 1 group on DWT Selection
  - Included feedback on solutions
- **11h30 Construction & Process Model**
  - Same groups – same cases
- **14h00 Feedback on CM & PM**
- **15h00 State Model (Theory & Practice)**
- **16h00 The field of Enterprise Engineering.**

Rehearsing the key-principles

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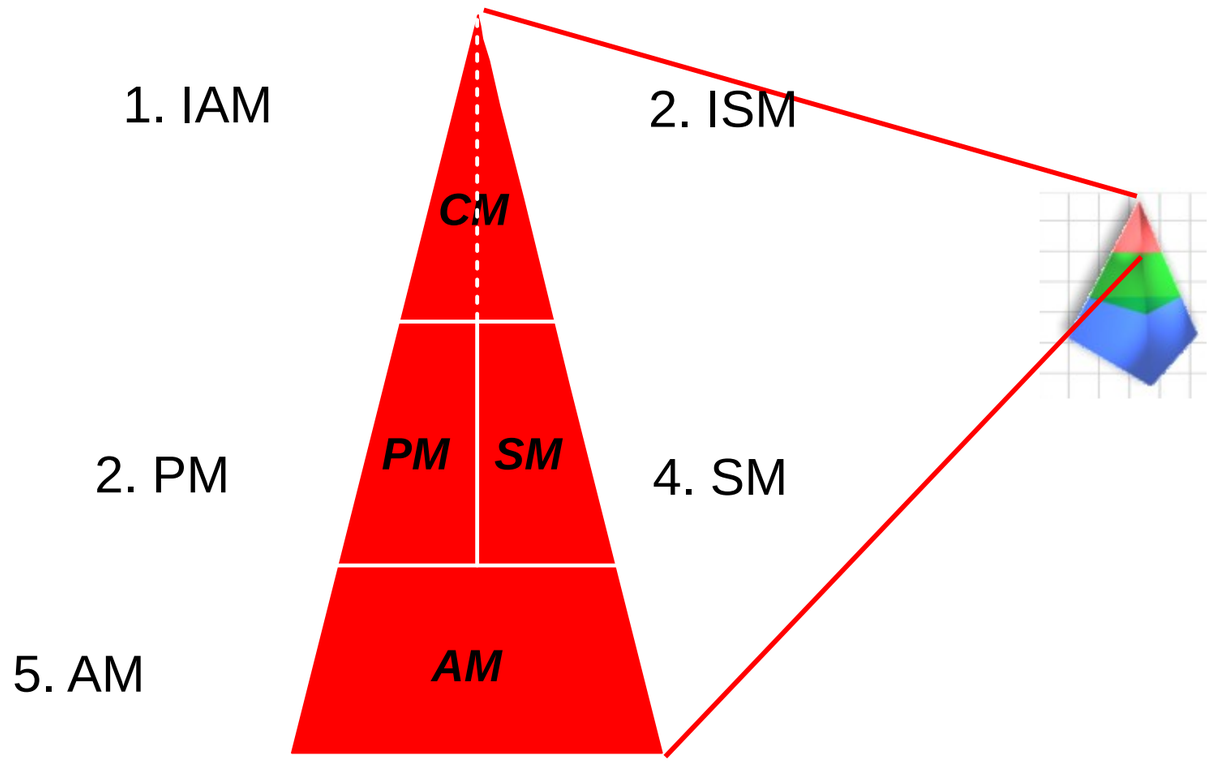
5 aspect models and their use

Distinction & 5 Aspect Models



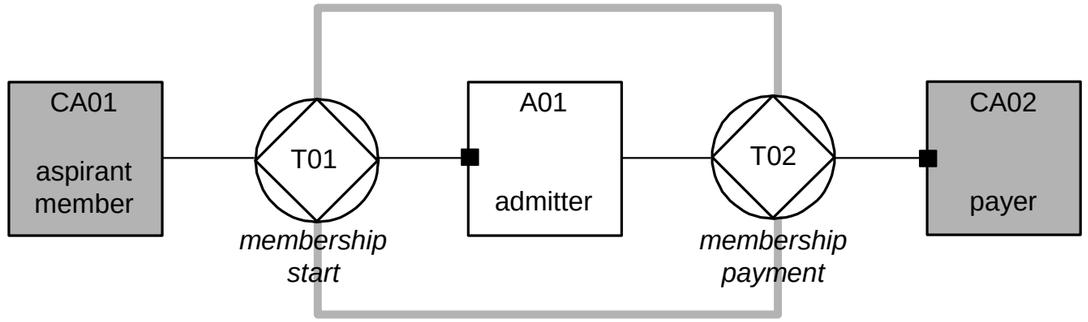
Construction Model

- **CM = InterAction Model + InterStriction Model**
- **Result = compact model of the organisation (the construction of the enterprise)**

- **Advantages**
  - Ideal start for strategic discussions on alignment
    - **Between business and organisation**
    - **Between business and IT**
  - Gives clear view on
    - **Essential transactions**
    - **Basic elements of responsability & competence**
    - **How information and knowledge needs to be distributed in the organisation**

Interaction Model = ATD + TRT

transaction		result	
T01	membership_start	R01	*membership M has been started*
T02	membership_payment	R02	*the first fee for membership M is paid*



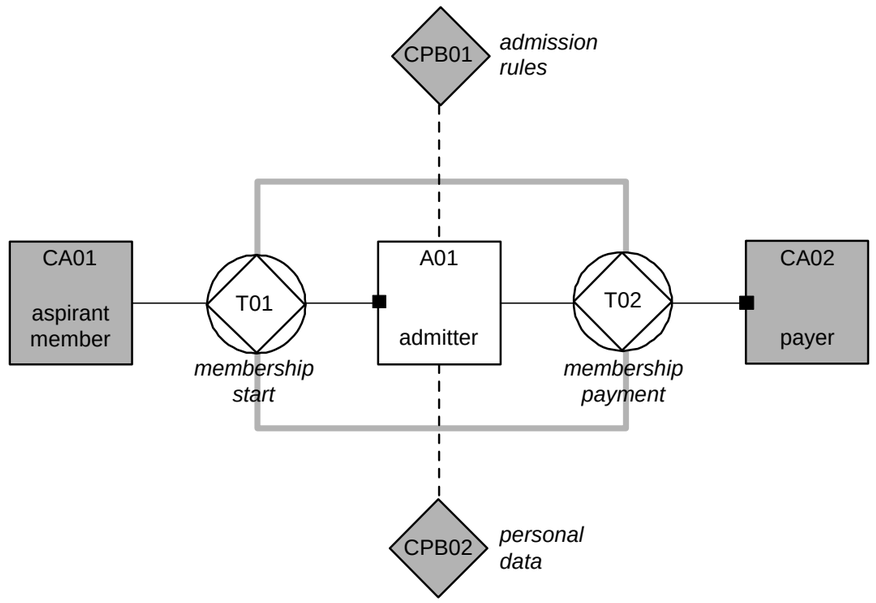
InterStriction Model

- **Describes all communicative- & production-banks**
  - Result of a communicative act = communicative fact
  - Result of transaction = production fact
  - Bank = ‘database’ with facts
- **Actors need to have access to certain results of other transactions in order to be capable to carry out their own transactions**
- **= Actor Bank Diagram + Bank Content Table**

ISM= Actor Bank Diagram + BCT

BANK CONTENT TABLE

Object classes, fact types, result types	**Bank**
Membership	CPB02
Person	CPB02
Annual fee	CPB01
...	



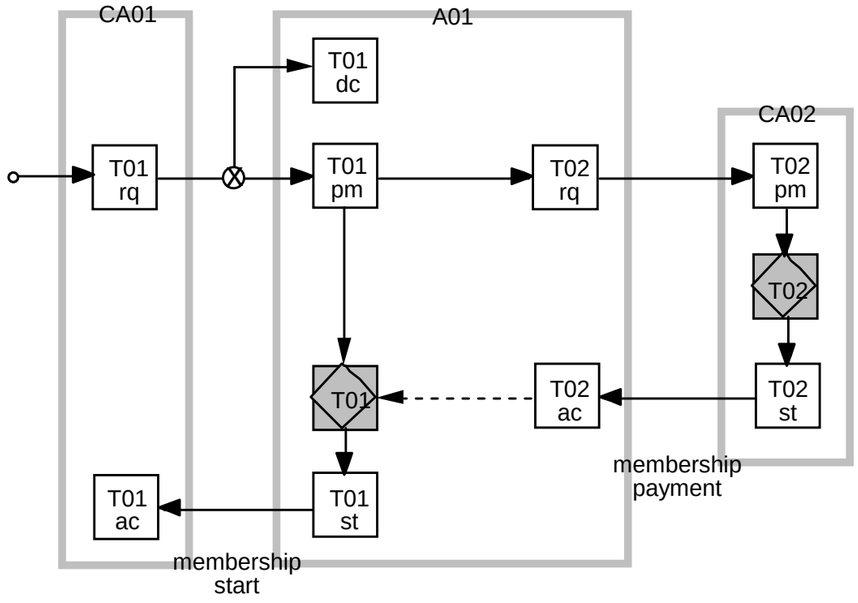
Process Model

- **Image of the businessproces independant of its implementation**
- **Insight in the causal and conditional relations between coordination and production activities**
- **Very usefull for**
  - Business Process Optimization
  - Programming of Workflow Management Systems
  - Clear distinction between
    - **Transactions**
    - **Search for information (existing facts)**
  - Start of the ‘requirements engineering’ for IT-systems

PM = Process Step Diagram + IUT

INFORMATION USE TABLE

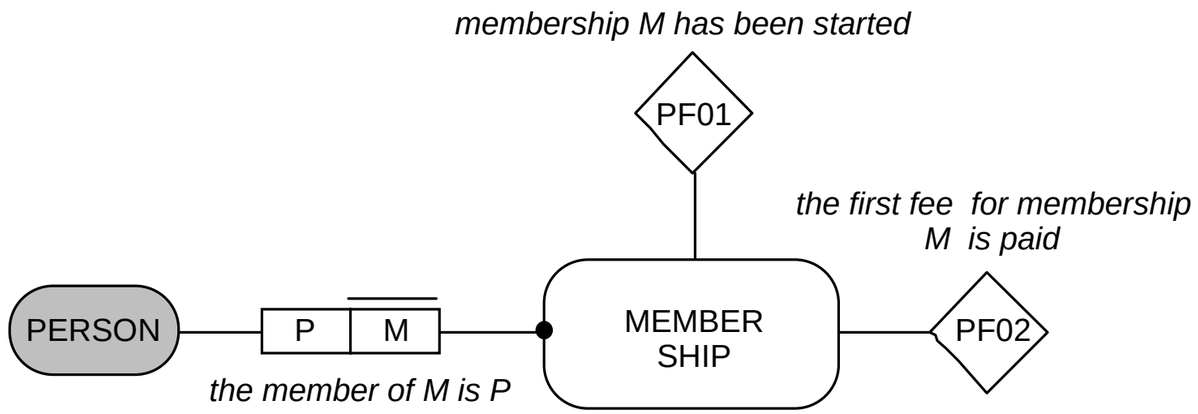
Object classes, fact types, result types	**process steps**
Maximum number	T01 dc; T01 pm
Number of memberships	T01 dc; T01 pm
Annual fee	T02 rq
...	



State Model

- **Gives insight in**
  - the essential data-concepts of the organisation
  - the production world of the organisation
- **Object Fact Diagram + Object Property List**
- **Advantage**
  - Starting point for the creation of a DATA-dictionary
  - Is structured in groups around the most important object-types (categories)
  - Helps in business-component based design of databases (based on result-types)
  - Gives insight in the ownership of data

State Model



property	domain	range
minimal_age	VOLLEY	NUMBER
annual_fee	VOLLEY	EURO
maximum_number	VOLLEY	NUMBER
number_of members (*)	VOLLEY	NUMBER
first_fee (*)	MEMBERSHIP	EURO
date_of_birth	PERSON	DATE
age (*)	PERSON	NUMBER

Action Model

- **Formalised set of specifications needed to create the ISM en SM**

- **Advantages**
  - Gives an overview of the essential operational decisions in an organisation
  - Gives a clear image of the ‘business rules’ of an enterprise, which is often a fuzzy term
  - They can be used as basic procedures (for people) or as rules to be implemented in an application

Action model

on requested T01(M) **with** member(new M) = P
if age(P) < minimal_age **or**
#members(Volley)=maximum_number(current_year) →
decline T01(M)
◊ age(P) ≥ minimal_age **and**
#members (Volley) < maximum_number(current_year) →
promise T01(M)
fi
no

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Transaction Pattern
&
Function versus Construction

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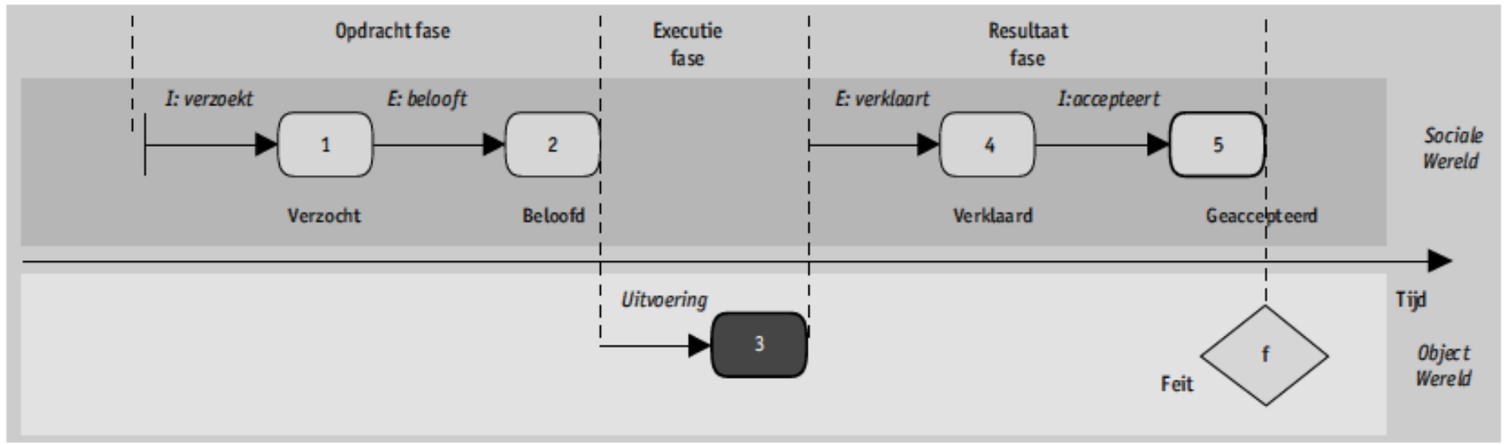
Axiom 2 Transaction pattern

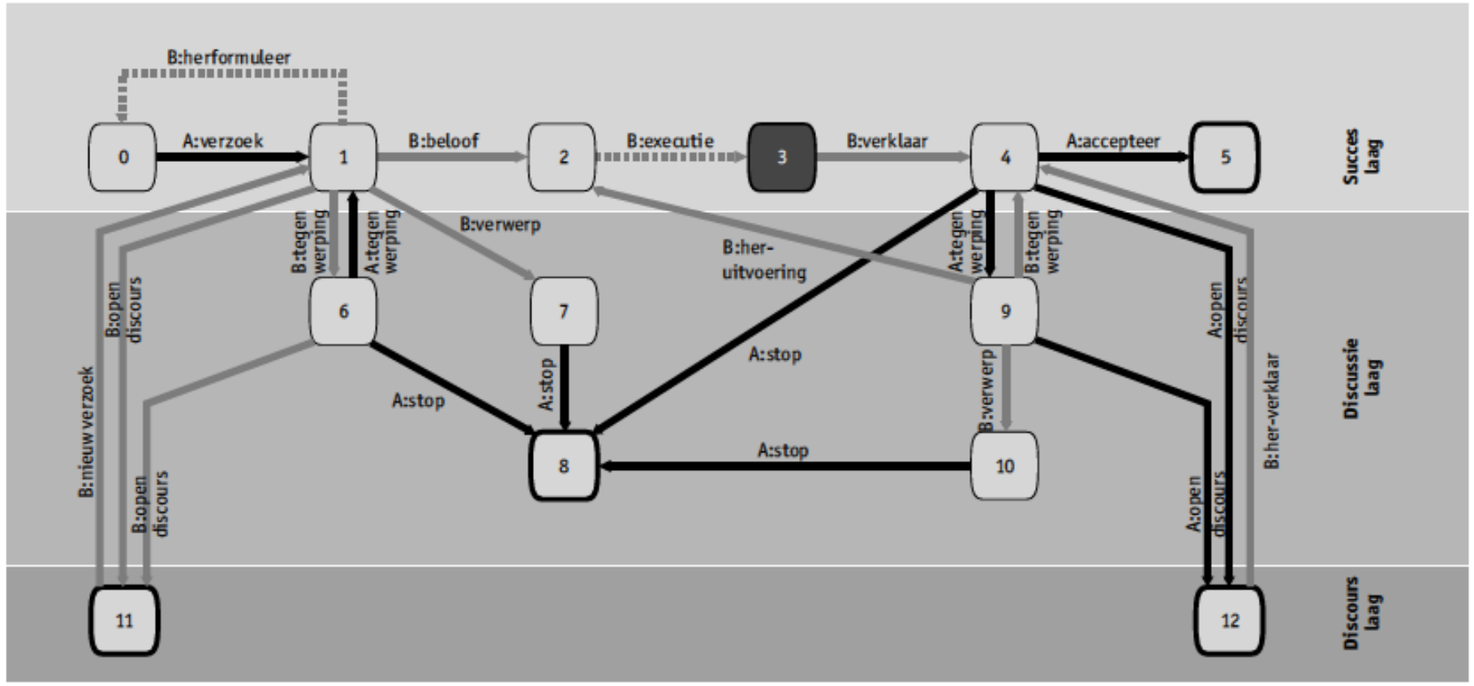


Figuur 1.9 Het bedrijfstransactieconcept van DEMO

- **2 types of actions**
  - Communicative actions (4 actions)
  - Execution and the result (1 action + 1 fact)

- **= the succes-layer of the transaction-pattern**

Discussion–discourslayer of a transaction



Figuur 1.10 Het transactieprocesmodel (Van Reijswoud, 1996)

- **Discussion vs discours**
- **23 possible exceptions on the succes layer**

Function & Construction of enterprises

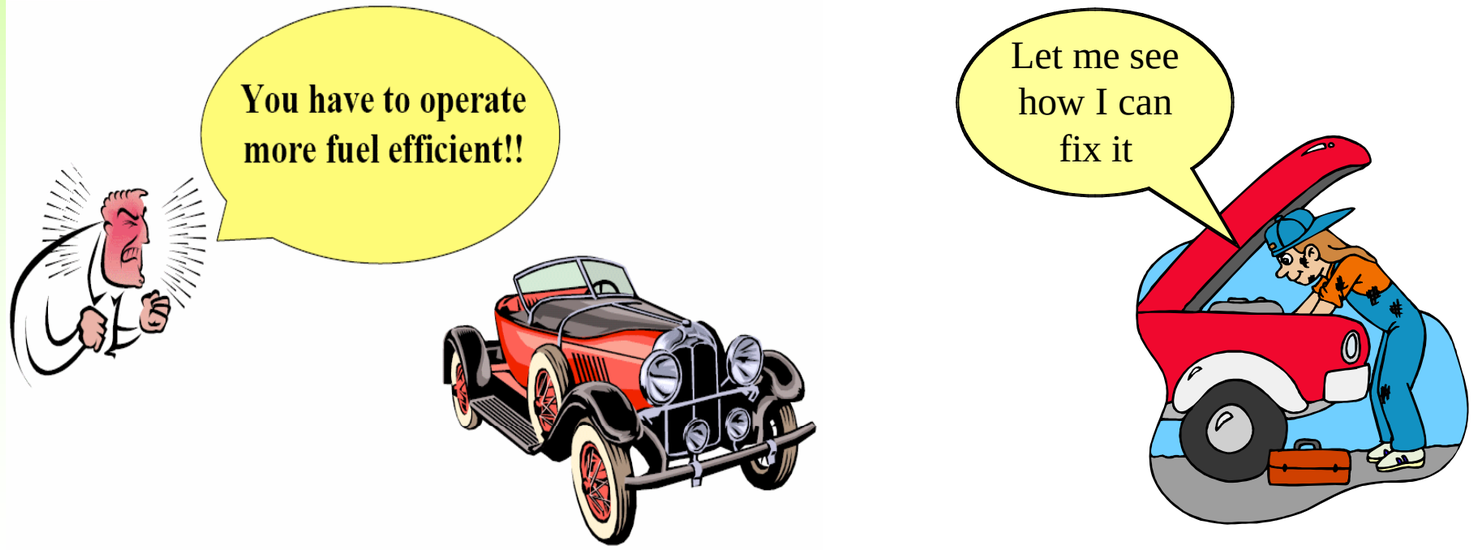
- **By the *Business* of an enterprise is understood the *function* perspective on the enterprise.**

  It is characterized by the products and services that are delivered to the environment.

- **By the *Organization* of an enterprise is understood the *construction* perspective on the enterprise.**

  It is characterized by the processes in which the products and services are brought about.

behavioral approach versus engineering approach



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Way of working

The Modeling Method (way of working)

1. The ***Performa-Informa-Forma*** **analysis**
2. The ***Coordination-Actors-Production*** **analysis**
3. The ***Transaction Pattern*** **synthesis**
4. The ***Result Structure*** **analysis**
5. The ***Construction*** **synthesis**
6. The ***Organization*** **synthesis**

The Performa-Informa-Forma Analysis

1. Mark all **Performa** things red; these include the *ontological* production acts and facts in the enterprise, as well all *performative* coordination acts.

2. Mark all **Informa** things green; these include the *infological* acts and facts in the enterprise, as well as all *informative* coordination acts.

3. Mark all **Forma** things blue; these include the *datalogical* acts and facts in the enterprise, as well as all *formative* coordination acts.

The Coordination-Actors-Production Analysis

1. Consider only the **Performa things.** Divide them into **production things** (thus **P-acts** and **P-facts**) and **coordination things** (thus **C-acts** and **C-facts**).

   Mark the production things with a ◇

   Mark the coordination things with a ◯

2. Mark all **actors** yellow: persons, organizational functions, and organizational units.

CAP Analysis of case Volley

One can become member of the tennis club Volley by sending a letter to the club by postal mail. In that letter one has to mention: the surname and first name, the birth date, the sex, the telephone number, and the postal address (street, house number, zip code, and residence). Charles, the administrator of Volley, empties daily the mailbox and checks whether the provided information is complete. If not, he makes a telephone call to the sender in order to complete the data. If a letter is completed, Charles adds an incoming mail number and the date, enters the letter in the letter book and archives it.

Every Wednesday evening Charles takes the collected letters to Miranda, the secretary of Volley. He also takes the member register with him then. If Miranda decides that an applicant will become member of Volley, she stamps "new member" on the letter and writes the date on it. This date counts as the commencement date of the membership. She then hands the letter to Charles in order to add the new member to the member register.

This is a book with numbered lines. Each new member is entered on a new line. The line number is the so-called member number, by which the new member is indicated in the administration.

Next, Miranda calculates the membership fee that the new member has to pay for the remaining part of the calendar year. She finds the annual fees, as settled by the general meeting, on a piece of paper in the drawer of her desk. Then, she asks Charles to write down the amount in the member register.

If Miranda does not allow an applicant to become member (e.g. because he or she is too young or because the maximum number of members has been reached), Charles will send a letter in which he explains why the applicant cannot (yet) become a member of Volley.

If all applications are processed, Charles takes the letters and the member register back home and prepares an invoice to all new members for the payment of the first fee. He sends these invoices by postal mail.

As soon as a payment is received, Charles prints a membership card on which are mentioned: the membership number, the commencement date, the name, the birth date and the postal address. The card is sent to the new member by postal mail.

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Excercise ONE

PIF-Analysis + Transaction Result Table

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2 cases

- **IMPORT EXPORT SERVICES**
  - Chain integration of different companies in the harbour
  - Zie PDF IES uitwerking

- **DWT Selection Services**
  - Recruitment and selection agency
  - Zie PDF DWT Selection

3 groups

- **IMPORT EXPORT SERVICES**
  - Group 1: Olivier + Wim + Ben
  - Group 2: Jo + Gunter + Christophe

- **DWT Selection Services**
  - Group 3: Jan + Jan + Nancy + Audrey

- **Timing 60 minutes**

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Excercise TWO

Actor Transaction Diagram + Process Step Diagram

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Excercise Three

State Model

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What can we achieve with DEMO?

An extended view on Enterprise Engineering

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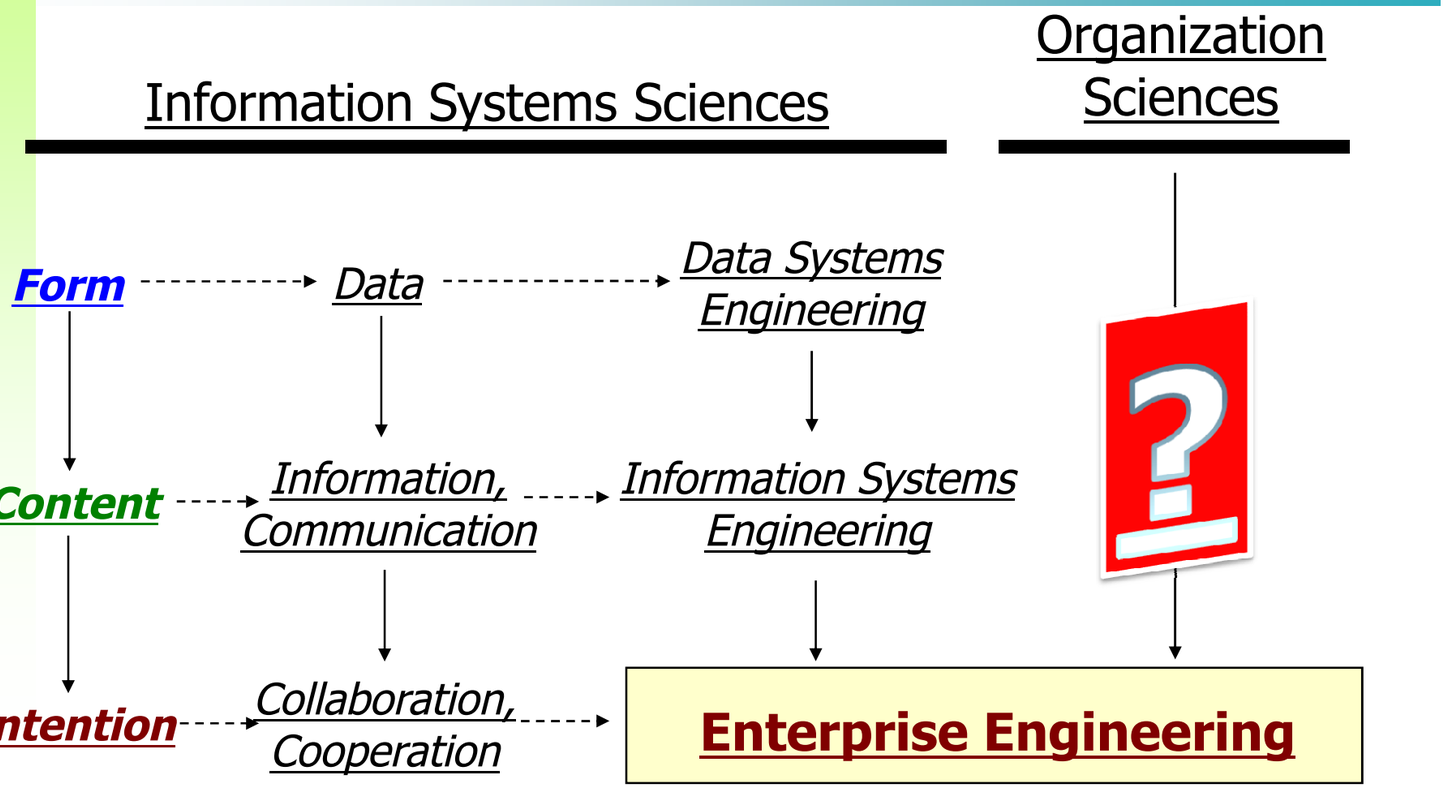
Enterprise Engineering

- **Domains where we use enterprise engineering**
  - Business of the enterprise
  - Organization of the enterprise
  - Information used by the enterprise
  - Technology of the enterprise
- **What are important activities in enterprise engineering?**

Modeling via DEMO has important advantages

- **Hugh reduction of complexity**
  - Distinction, transaction pattern & process models
- **Compact view on the quintessence**
  - Understandable for business owners
  - Decisions based on consensus of the model (ex. After merger integration or large re-engineering projects)
  - Ideal starting point for technology implementation
    - **Requirements analysis**
    - **Application selection**
    - **Scope management**
    - **Training**
  - Project follow-up and communication with non-technical managers

The emerging discipline of Enterprise Engineering



Types of organizational change

	Incremental	Transformational
Pro-active	**Tuning**	**Re-orientation**
Re-active	**Adaptation**	**Re-creation**

Change Management theories (1)

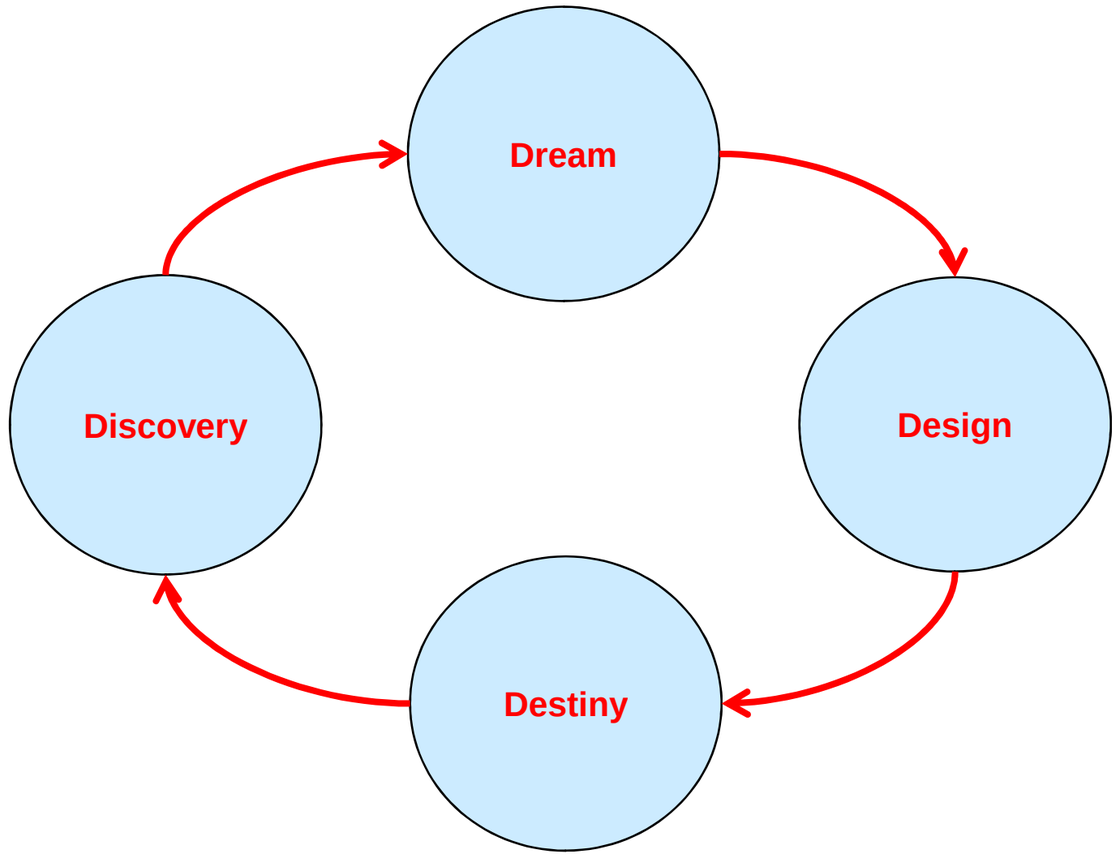
- **Deep structures of organizations (Gersick 1991) = the fundamental choices an organization makes which determine the basic activity patterns that maintain its existence**
  - Highly persistent
  - = trail of choices that reinforce a 'traditional' decision
  - = system within the system that gives stability

- **The basic explanation for inertia**
- **Change needs a way to 'UN-Freeze' this trail of choices**

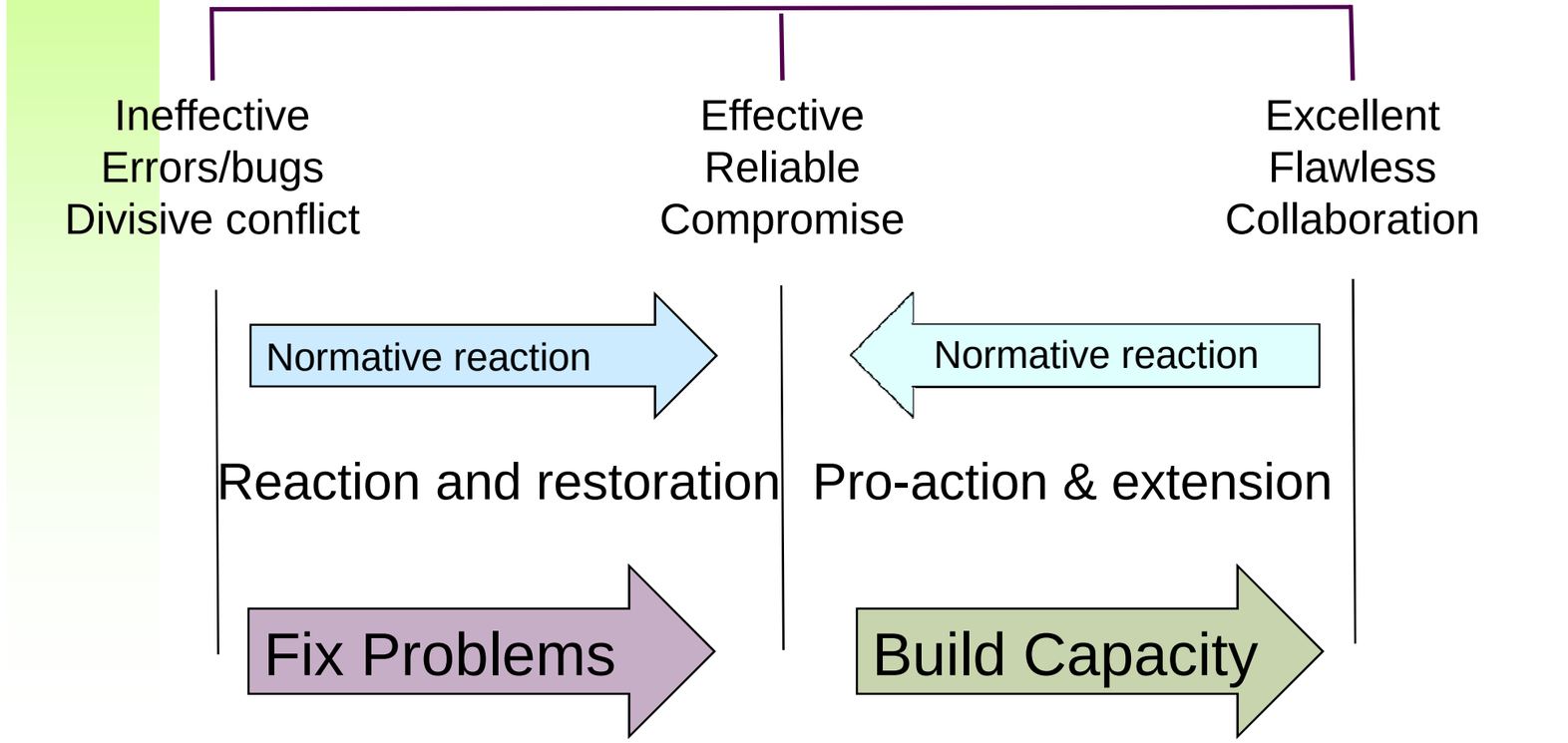
Change Management theories (2)

- **Transition during a change process has 3 phases (Bridges 1980, 1991)**
  - The ending phase
    - **Arrive at the possibility to let go**
  - Neutral Zone
    - **Disorientation, self-doubt & anxiety**
  - Beginning phase
    - **Reorientation to a new situation**
- **Change of the organisation**
  - Needs a system transition
  - Is also a series of individual transitions

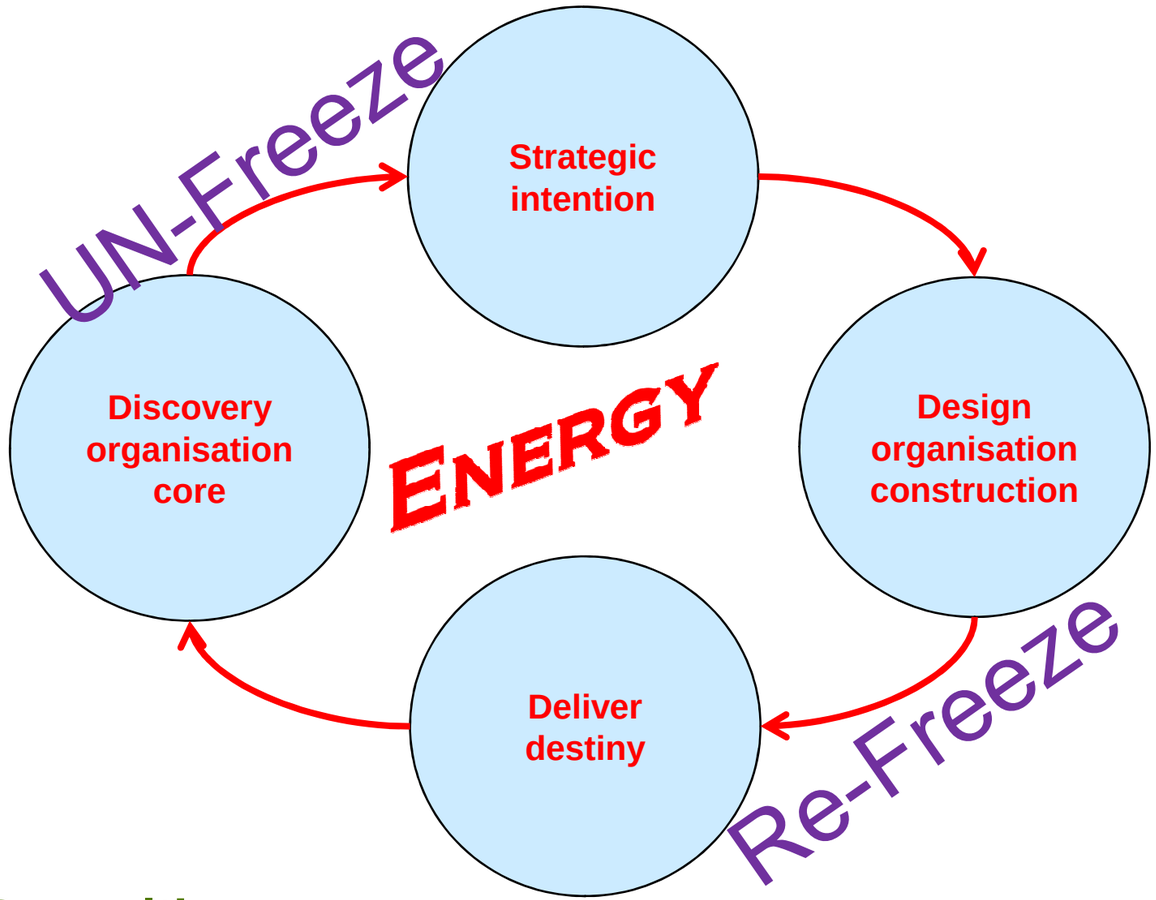
Appreciative Inquiry and individual change



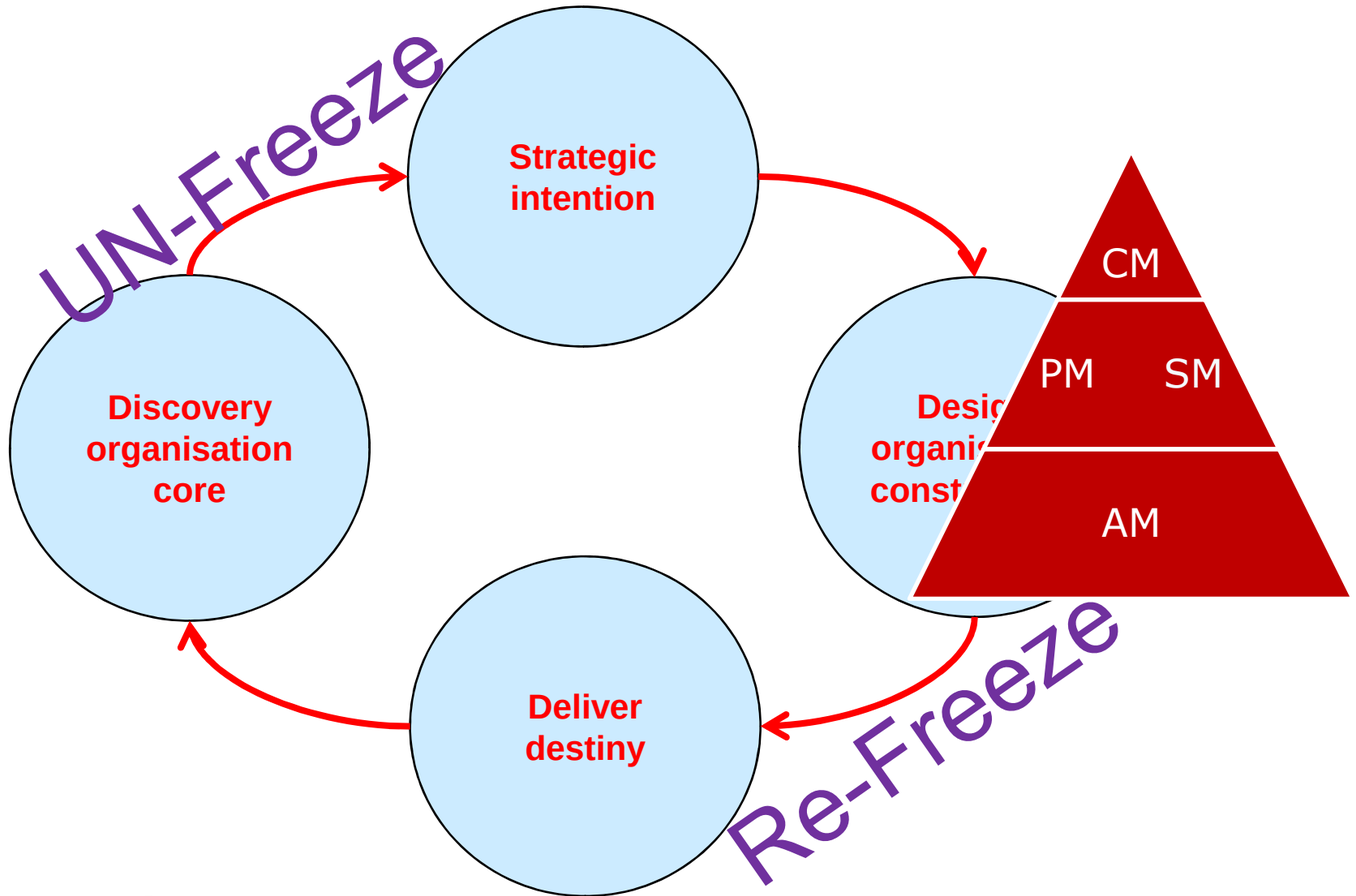
Don't fix problems, build capacity



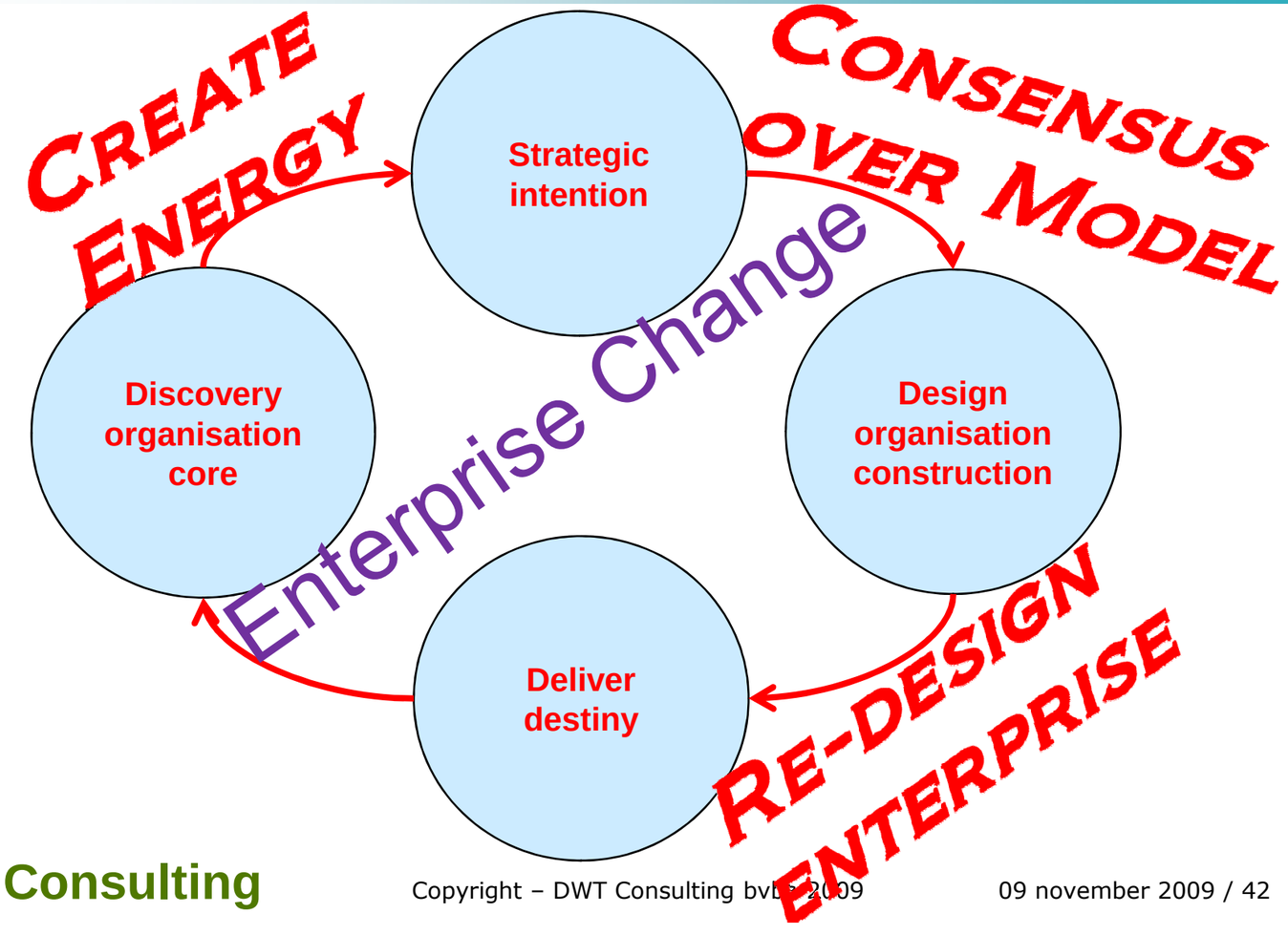
Appreciative Inquiry and organizational change



Appreciative Inquiry and organizational change



Appreciative Inquiry and organizational change



Closing remarks

- **Use the methodology in the domains where it is really good**
  - Understandable and compact view
  - Good to create consensus in multi-focused groups
    - **Post merger integration**
    - **Strategic IT choices**
    - **Business IT alignment**
  - Tool-independent view on requirements
- **Get other idea's to fill in the weaker parts**
  - Change component of Enterprise Engineering
  - Engineering part of Enterprise Change
  - State model based on Merode-principles

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We hope to hear from you again soon …