

Integral Design of E-commerce Systems: Aligning the Business with Software Architecture through Scenarios

Jaap Gordijn

Deloitte & Touche Bakkenist Management Consultants
Vrije Universiteit Amsterdam/Faculty of Sciences

Hans de Bruin

Vrije Universiteit /Faculty of Sciences

Hans Akkermans

Vrije Universiteit /Faculty of Sciences

AKMC Knowledge Management

© Deloitte & Touche Bakkenist Management Consultants/Vrije Universiteit

E-commerce



• Observations:

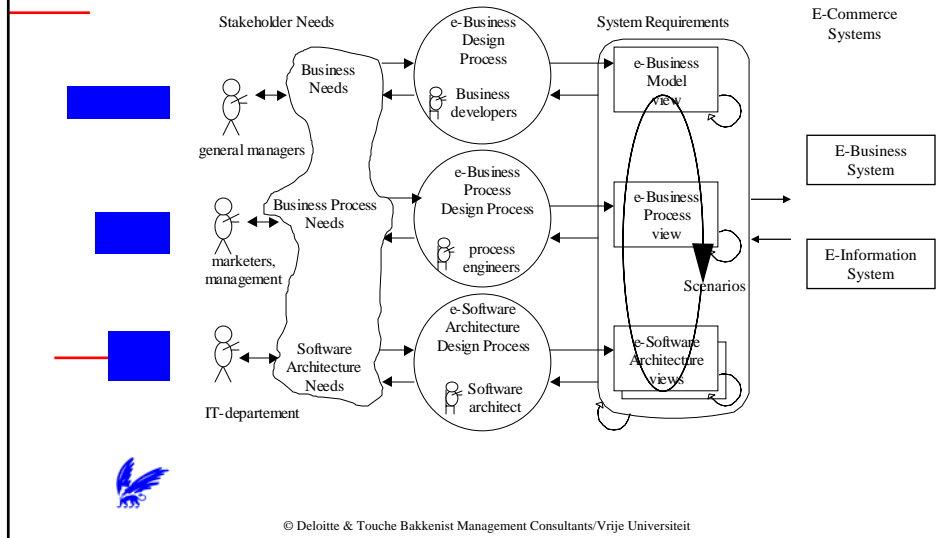
- E-information systems *constitute* e-commerce process models rather than *support* them;
- E-business models and E-information systems are *both* subject of design;
- *Different* kinds of *stakeholders* are involved;

• Consequences:

- E-business models and E-information systems should be *designed in an integrated way*, respecting needs of *different* kinds of *stakeholders*;
- Design should initially be on a global level to allow for *early* assessment and communication with stakeholders.

© Deloitte & Touche Bakkenist Management Consultants/Vrije Universiteit

Approach: different stakeholder views and integrating scenarios



Representing stakeholder views

- **E-business model view:**
 - Assignment of *value* production and consumption activities to stakeholders
- **E-business process view:**
 - E.g. UML diagrams (activity/sequence/collaboration), Role based modelling (Ould), High Level Petri Nets;
- **E-software architecture view:**
 - Multiple views (e.g. Views of Kruchten: logical, process, physical, development);
- **E-* scenarios: value scenarios, business process scenarios and SA-specific scenarios, e.g. to evaluate costs of a scenario;**
 - Use Case Maps (Buhr) as a generic vehicle;



Case study experiences

- **After one initial design-cycle:**

- **Business model scenarios, process model scenarios and software architecture scenarios discussed with stakeholders;**

- **Views revealed important design trade-offs, for instance:**

- **Centralised vs. Decentralised architecture:**

- Centralised architecture cheaper than decentralised architecture (based on predication of number of scenarios);
- Centralised architecture shifts power to one actor; Decentralised architecture distributes power over all actors.

