IT Governance in Organizations Experiencing Decentralization

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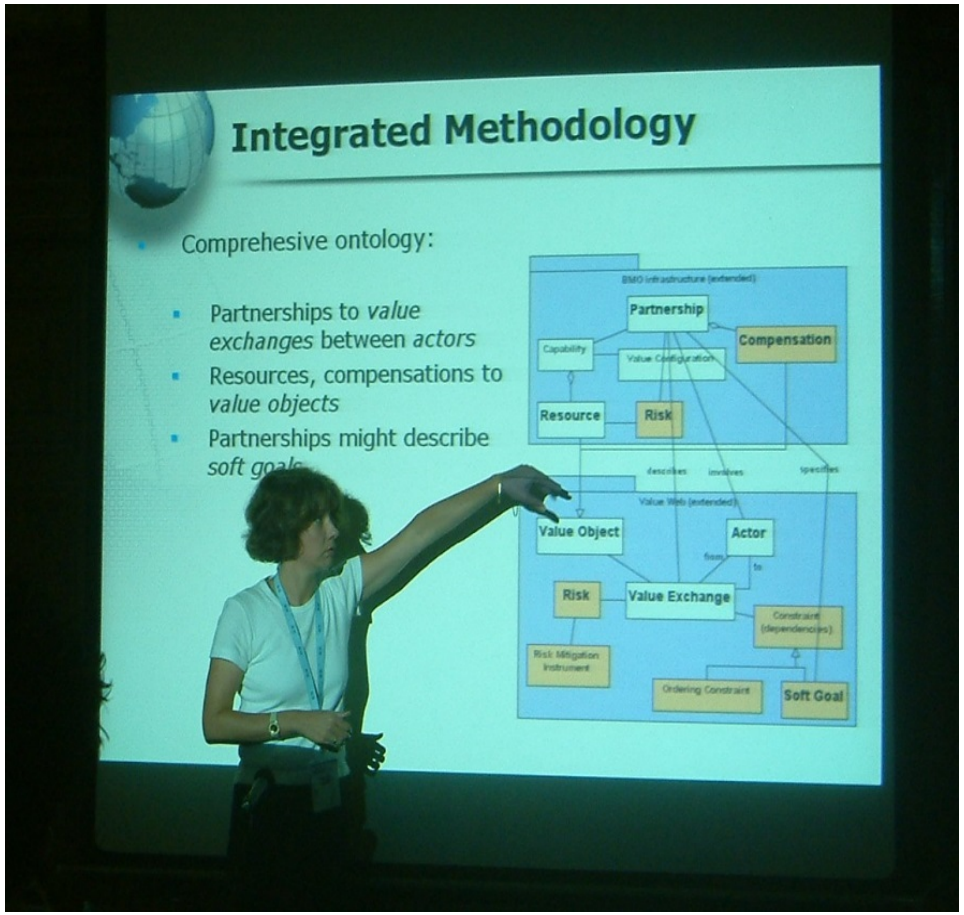
About the Speaker



Sorbonne, RE 2005

Title: Associate Professor, Head of the IS unit at DSV/SU

Accomplishments: Research and industrial experience in information systems engineering

Research focus: Business/IT alignment, Enterprise Modeling, Requirements Engineering,

Outline

- Background
- Challenge
- Concepts for reasoning about decentralization
- Current EA frameworks/EM techniques
- Guidelines for IT Governance
- From Guidelines to Patterns
- Conclusions and future work

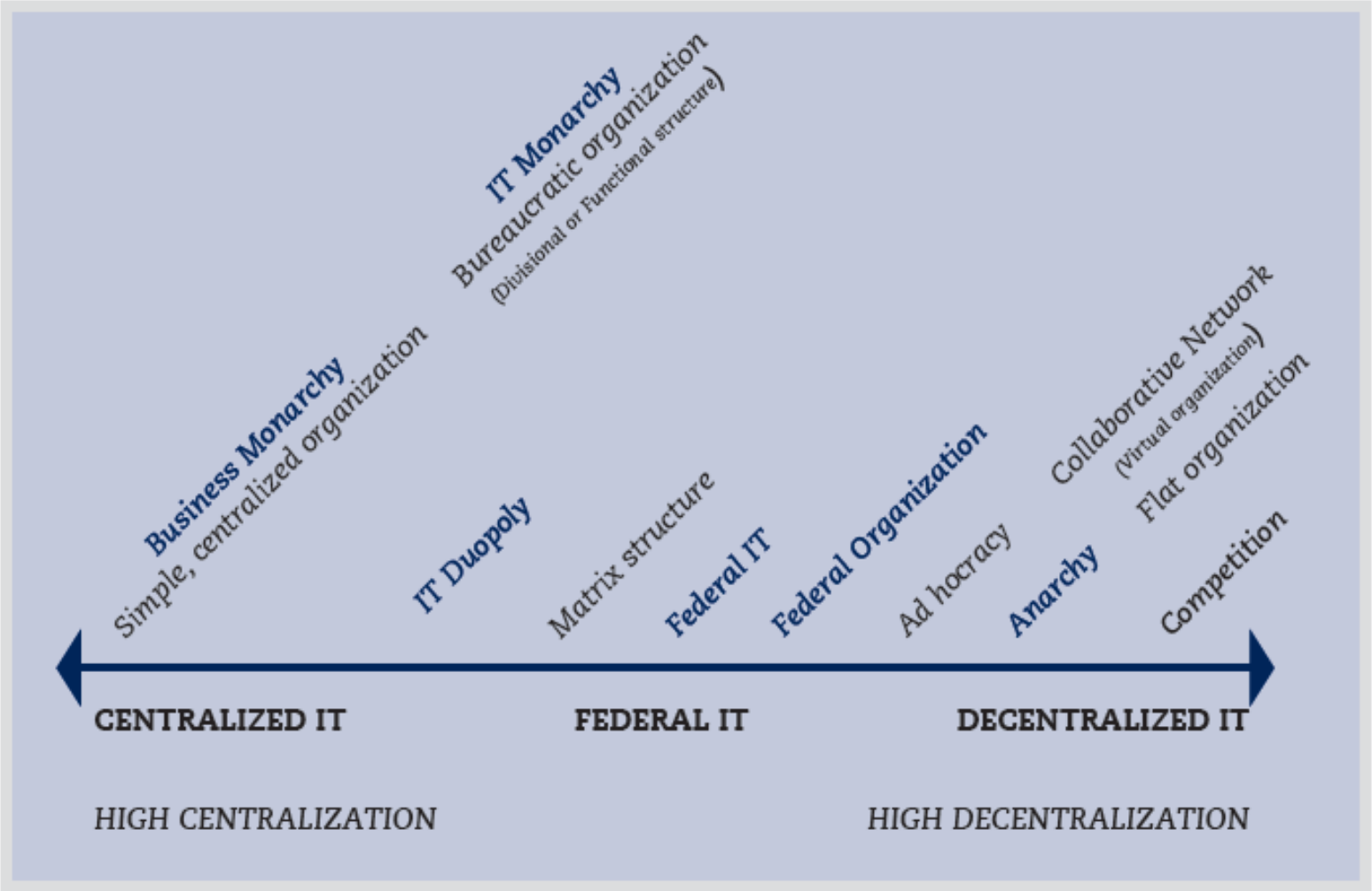
Background

- Enterprises have traditionally implemented formal, centralized forms of organizational structure, such as hierarchical.
- This allows for management to have a high degree of control as well to enforce compliance with standards, procedures and policies which results in a highly stable enterprise. However, this comes at the expense of agility - is difficult for these organizations to quickly adapt to a changing environment.
- The objective of EA frameworks created in early 1990s was to align IT capabilities with business needs via IT centralization. The main price to pay was the loss of flexibility and the inertia in decision making for IT. By that time, this was much less critical than to make the IT "disciplined" and to justify the investments in IT.

Background

- Common aspects of modern business environments include
  - changing business activities and agile processes,
  - transparent boundaries, loose business entities,
  - cooperation with different organizations, and
  - rapidly changing competitive landscapes.
- Flexibility in IT becomes more and more strategic, and it is impossible to centralize it.
- On the other hand, it is still important to maintain a "disciplined" approach in IT evolution using appropriate IT governance principles so that organizational entities not only remain independent but could also efficiently work together as a whole.

Background

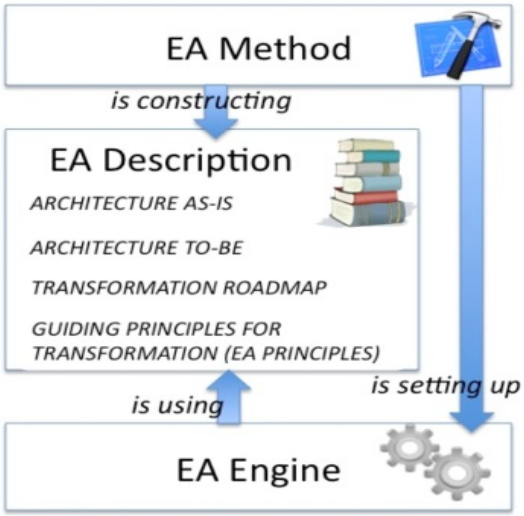

IT Monarchy
Bureaucratic organization
(Divisional or Functional structure)
Business Monarchy
Simple, centralized organization
IT Duopoly
Matrix structure
Federal IT
Federal Organization
Ad hocracy
Anarchy
Collaborative Network
(Virtual organization)
Flat organization
Competition
CENTRALIZED IT
FEDERAL IT
DECENTRALIZED IT
HIGH CENTRALIZATION
HIGH DECENTRALIZATION

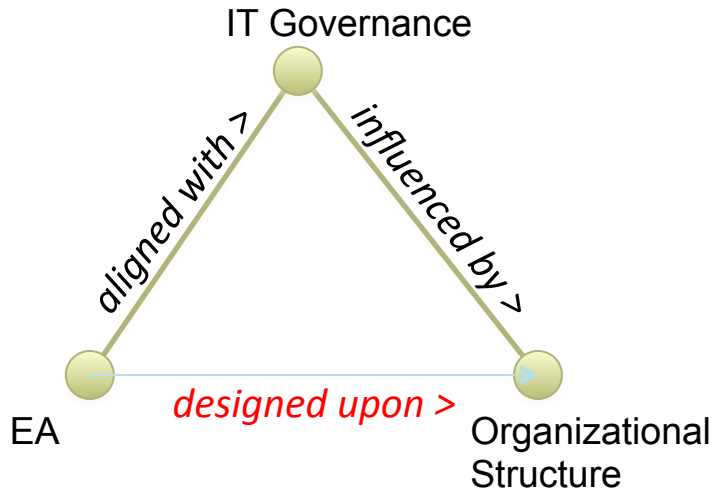
(De)centralized Organizations

Property	Centralized	Decentralized
Geographical dispersion	Single location	Geographically distributed with a reliance on IS to work together
Coordination: authority, decision rights, and regulations	Vertical coordination: decision rights are strictly defined and act down from the top; strict governance and control by the upper management; rigid structuring of accounta-bility, roles and responsibilities; standardized methods and proce-dures; homogeneous goals set by high-level authorities	Lateral coordination: authority and decision making rights are pushed down to the level of business units, groups, or even individuals who can define their own roles and responsibilities; heterogeneous goals; these entities in the organization are collab-oratively working towards some common or complementing goals
Communication patterns	Communication patterns follow the hierarchy; direct interactions and communica-tions are not practiced	Lateral communication lines, flexible, constantly changing; project-oriented teams.

Challenge

- IT Governance is a subset discipline of corporate governance that ensure that the organization's IT sustains and extends the organization's business (strategy) and objectives.
- The role of EA is to provide the organizations with a roadmap for creation and evolution of their information systems.



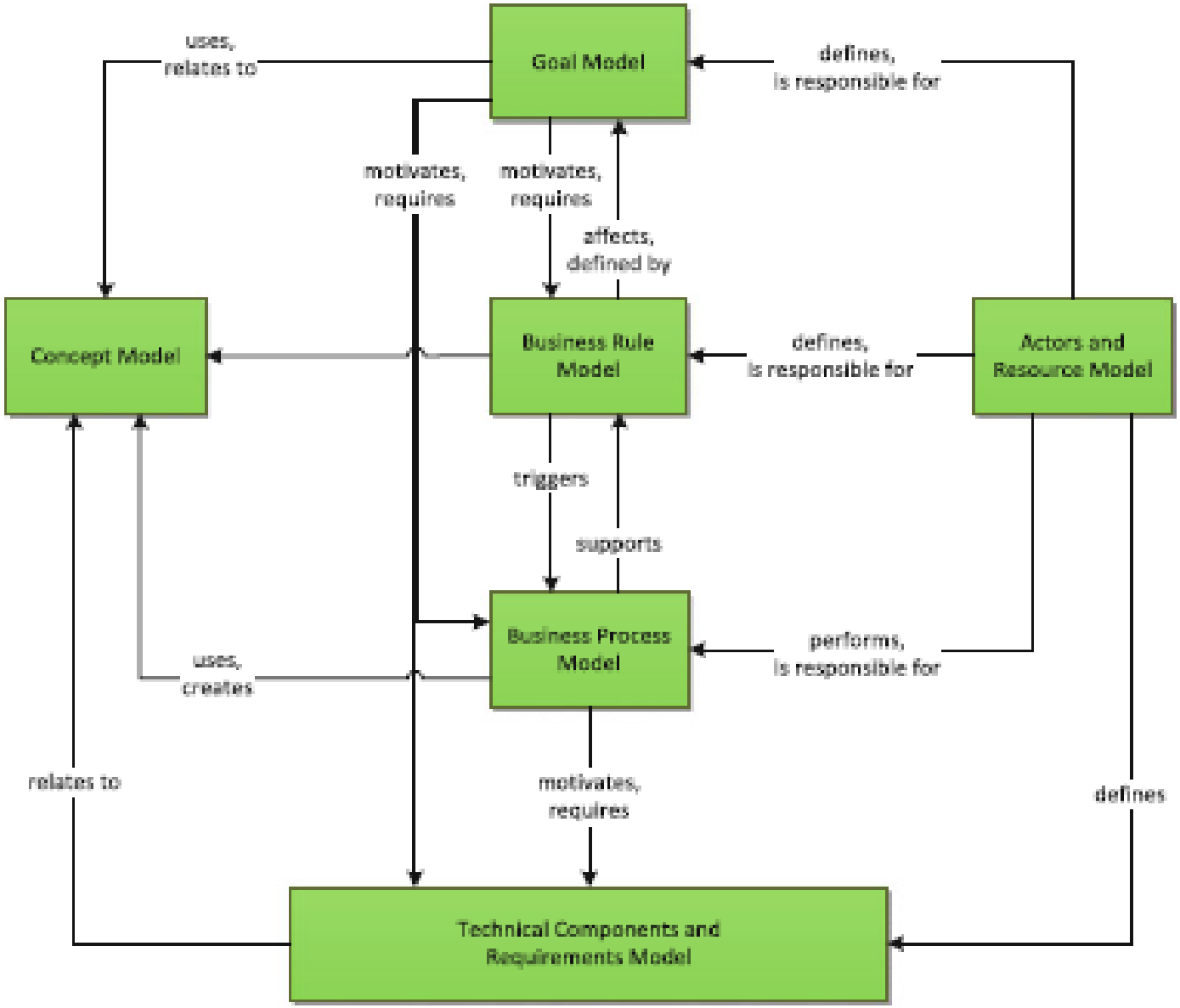


- The three concepts in focus interrelate - *EA should be compliant with IT governance by including its principles or correlating with them, and designed to reflect a given Organizational Structure.*

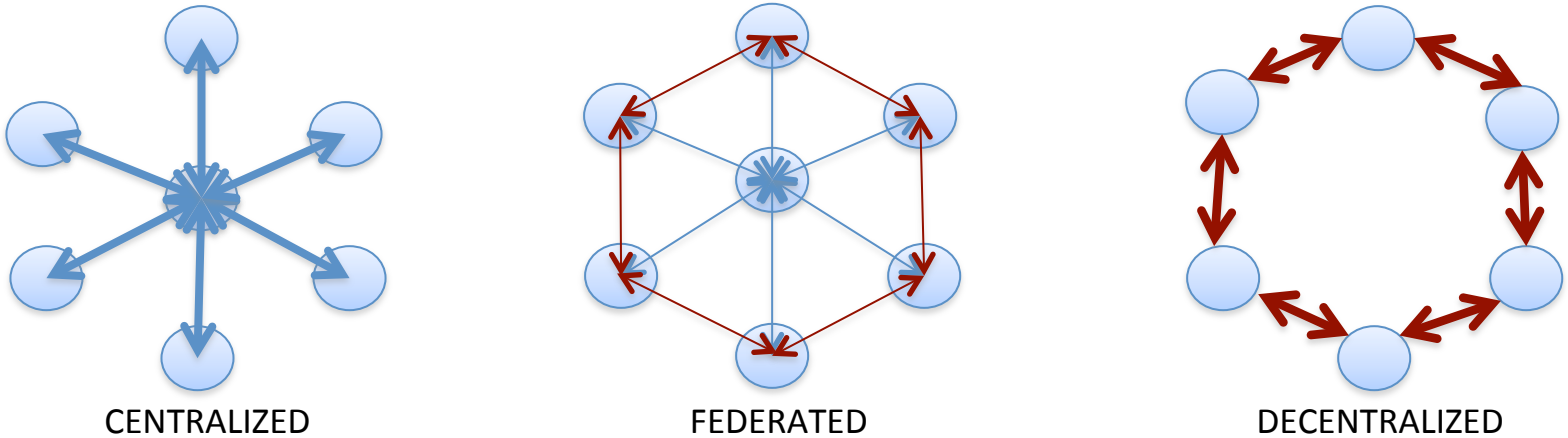
Current EA

Component	Existing support for centralized organizations	Existing support for decentralized organizations
EA Method	Approval process is based on hierarchy; architecture development is coordinated, supervised and evaluated by well-defined roles in a company; EA teams coordinate work and communicate results; results are controlled and evaluated centrally.	Federated architectures; possibility to adapt ADM for specific organizations; architecture development process involves multiple stakeholders.
EA Description	Hierarchy of architecture principles; a common set of reference models; hierarchical organization of EA artifacts with explicitly defined roles and domains.	Architecture partitions; architecture reference models; segment architecture; the concept of “shared vision”.
EA Engine	Architecture board; formal governance framework; common principles for entire organization (global commitment is taken for granted); centrally managed architecture repository.	Integration of various (segment) architectures is assured by (centralized) management and governance.

Current EM


Goal Model
uses,
relates to
defines,
is responsible for
motivates,
requires
motivates,
requires
affects,
defined by
Concept Model
Business Rule
Model
defines,
is responsible for
Actors and
Resource Model
triggers
supports
Business Process
Model
uses,
creates
performs,
is responsible for
relates to
motivates,
requires
defines
Technical Components and
Requirements Model

Coordination and communication



Problem 1: IT initiatives are inefficient when a federated/ decentralized organization uses EA/EM principles relying on centralized coordination and communication.

Problem 2: IT initiatives are inefficient when a decentralized organization uses EA/EM principles relying on federated/ centralized coordination and communication.

Peer-to-Peer Principles

Organizations are seen as composed of peers - a peer is an organization entity at any level

- Peer Production:
  - production of artefacts that is self-selected and decentralized, rather than hierarchically assigned. Peers act according to their own will rather than being directed by a central figure, and willingly coordinating with other peers by expressing their own views while understanding the views of others.
  - Instead of a central board responsible for making decisions, a model based on the principle of peer production for relevance/accreditation could be used instead. This would better support decentralization as decision making would then be distributed amongst the peers that make the organization.
- Peer Trust Management:
  - As peers are able to operate in a completely independent manner, there exists the problem of knowing whether a contribution is trustworthy or not.
  - Instead of an approval process in the presence of a centralized authority, whether some content proposed by a peer is of a sufficient quality to be included in the overall architecture, is evaluated by other peers (reviewing)

Guidelines for IT Governance for Decentralized Organizations

- Based on IT governance principles defined by Weill and Ross -

- **Actively design governance**
- **Know when to redesign**
- **Make choices**
- **Provide the right incentives**
- **Design governance at multiple organizational levels**
- **Provide transparency and education**

Actively Design Governance

Involving senior corporate executives taking the lead and allocating resources, attention, and support to the process.

Due to management decentralization senior executives do not play the leading role in the design process.

R1	With a lack of centralized coordination, this activity has to be grounded on the principles such as distributed content (peer) production, and group decision-making by peer reviewing/ranking.
R2	Mechanisms supporting lateral communication patterns (informal social exchange, semi-formal discussions, peer-reviewing) have to be encouraged replacing vertical (hierarchy-based) communication patterns.

IT governance should encourage collaborative design, where each unit can easily benefit from, and contribute to a common organizational knowledge, by for instance adoption of IT-based knowledge management and social tools.

FO/R	IT governance needs to support the synergy of units at the corporate level, and units' autonomy at the unit level, by combining hierarchical as well as lateral communication and coordination patterns.

Know When to Redesign

Rethinking the whole governance structure requires that individuals learn new roles and relationships. Learning takes time. Thus, governance redesign should be infrequent.

Entities in decentralized organizations can redesign the IT governance locally. Thus, on the smaller scale, the organizational learning takes less time and changes can be made more frequently.

R1	IT governance needs to encourage shorter cycles of organizational learning for more flexibility and agility.
R2	Systematic sharing of practice and lessons learned has to be an integrated part of any governance redesign - communities of practice, social networks, and document libraries are the examples of tools facilitating knowledge sharing.

FO/R	IT governance needs to support short cycles of organizational learning at the unit level and long cycles at the corporate level.

Make Choices

Governance can and should highlight conflicting goals for debate. As the number of tradeoffs increases, governance becomes more complex. Top-performing enterprises handle goal conflicts with a few clear business principles.

Having autonomy, units can have different (and conflicting) goals. Peer mechanisms should be adopted for communicating and coordinating conflict-solving and decision-making.

R1	IT governance needs to support local entities' goals supporting group decision making. Peer trust management through peer's history, peer reviewing, peer ranking are the mechanisms that can support "democratic choice" in decentralized organizations.

FO/R	IT governance needs to support both centralized and decentralized mechanisms for decision making: "democratic choice" on the unit level, and compliance with few high level business principles.

Provide the Right Incentives

To be effective, IT governance should be designed in the alignment with the organizational incentives and awards.

In decentralized organizations' units can produce collectively by synergy, or individually. The challenge is to encourage units' synergy at the organization level to reach typically higher benefits .

R1	IT governance should encourage peer-production based on collaboration among business units who cooperate without relying on either market pricing or managerial hierarchies, but rather on non-market incentives such as innovation, organization's reputation, etc..

FO/R	Encourage units' synergy at the corporate level and units' autonomy - locally. To do so, the organization has to promote the culture of collaboration rather than competition.

Design Governance at Different Levels

In large organizations, it is necessary to consider IT governance at several levels. The starting point is enterprise-wide IT governance driven by a small number of enterprise-wide strategies and goals.

Governance arrangements for decentralized organizations can vary from a set of autonomous "silos" to a single, distributed IT governance resulted from collaborative efforts of individual entities.

R1	Distributed IT governance can be encouraged in the organizations with cooperative culture. IT governance "in silos" can be supported in highly competitive environments. In both cases, only one governance level exists.

FO	IT governance needs to be defined at (at least) two levels: corporate and unit.

Provide Transparency and Education

The more transparency&education of governance processes, the more confidence in the governance. The less transparent the governance processes are, the less people follow them. Communicating and supporting IT governance is the single most important IT role of senior leaders.

Communicating and coordinating IT governance is the role of organizations' entities.

R1	IT governance needs to ensure employees' involvement into the IT governance design process. Distributed content production and management, using social software.
R2	To foster the education and organizational learning, IT governance needs to extensively use lateral communication patterns.

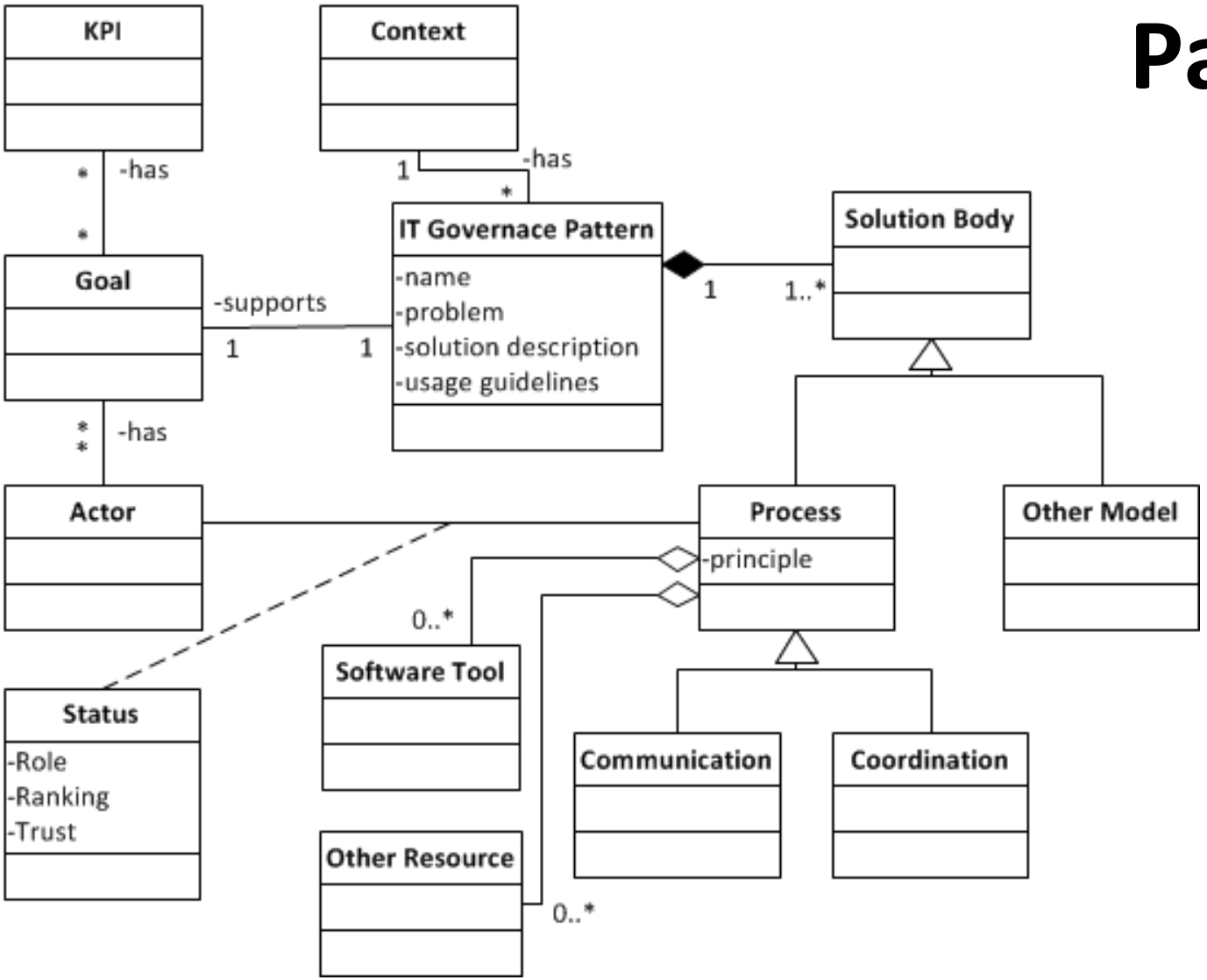
FO	The role of senior leaders is to setup learning objectives, to supervise the education process, and to evaluate its outcomes.

Guidelines for IT Governance for Decentralized Organizations

- The COBIT framework -

- Manage Third-party Services
- Manage Performance and Capacity
- Ensure Continuous Service
- Ensure Systems Security
- Identify and Allocate Costs
- Educate and Train Users
- Manage Service Desk and Incidents
- Manage the Configuration
- Manage Problems
- Manage Data
- etc.

Patterns



- For example, ”Transparency and Education for Federated Organization” (W&R), or ”Manage Data in Decentralized Organization” (COBIT)
- Why patterns? For packaging non-trivial solutions, for sharing best-practices, for automation through models, etc.

Conclusions&Future Work

- EA&EM principles have to be designed upon an evolving organizational structure by acknowledging novel modes of coordination and communication.
- EA&EM has to be aligned with established IT governance principles and processes; in particular, it has to adequately support decentralization and to ensure efficient coordination and communication between organizational center and its sub-entities.

- Applicability and further elaboration of patterns.

Merci / Thank you

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