Universiteit Utrecht

[Faculty of Science
Information and Computing Sciences]

A Survey of Associate Models used within Large Software Ecosystems

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Why would we research associate models?

- Little research has been carried out within this domain so far
- To gain insight into the structure of an associate model and the set of commitments it consists of
  - Useful for software ecosystem orchestrators when creating their own associate model
  - Useful for participant to gather insight in the model(s) they are active in

The perspective

- Software ecosystem orchestration around one particular software vendor, platform owner, open source association
- The software ecosystem consists of several subsystems (e.g. supplier ecosystem, partner ecosystem)
- Clusters: A number of closely related actors within (a subsystem of) the software ecosystem

Why associate models

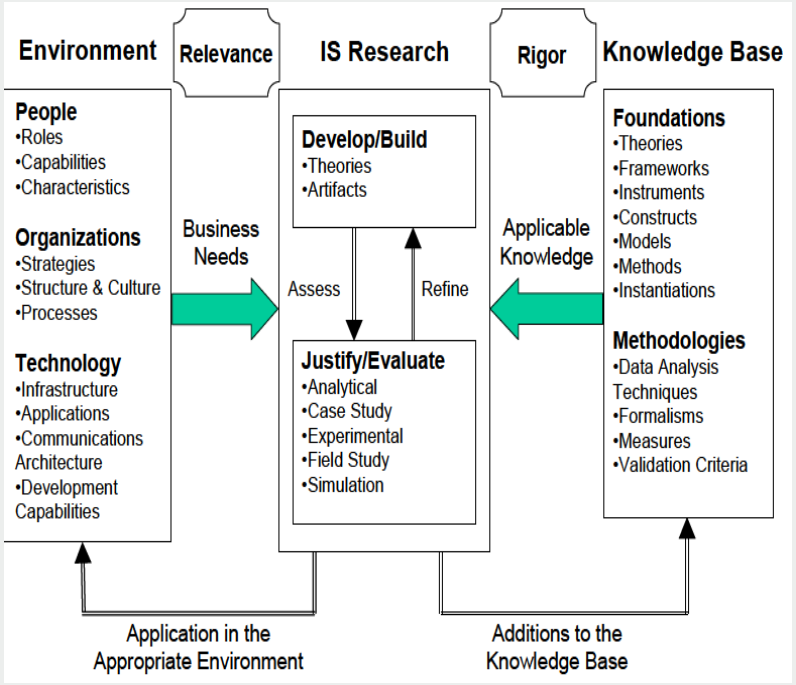
- Associate models are a powerful tool for large software ecosystem orchestrators to:
  - Manage clusters of participants within their ecosystems
  - Achieve all kind of ecosystem goals (e.g. financial, customer, product, network and/or market-related)
  - Gather information about their ecosystems

Research question

"What are the identifying characteristics of a commitment within an associate model?"

Research approach

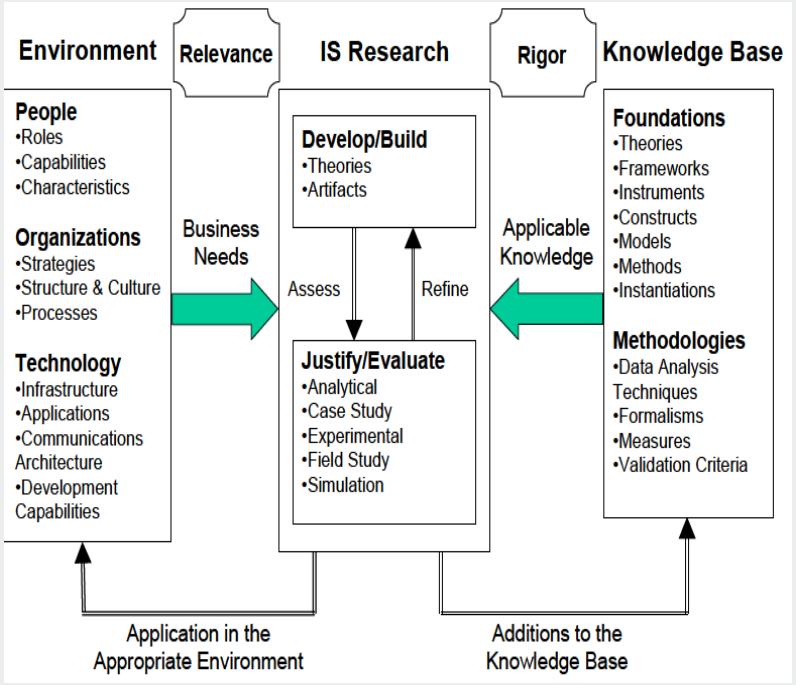
- Literature review
- Design science
- Case studies (SAP, Open Design Alliance, Eclipse Foundation)
  - By studying available documentation on the associate model (e.g. website, contracts)
  - By conducting a semi-structured interview with a representative



Hevner et al, 2004

Conceptual overview

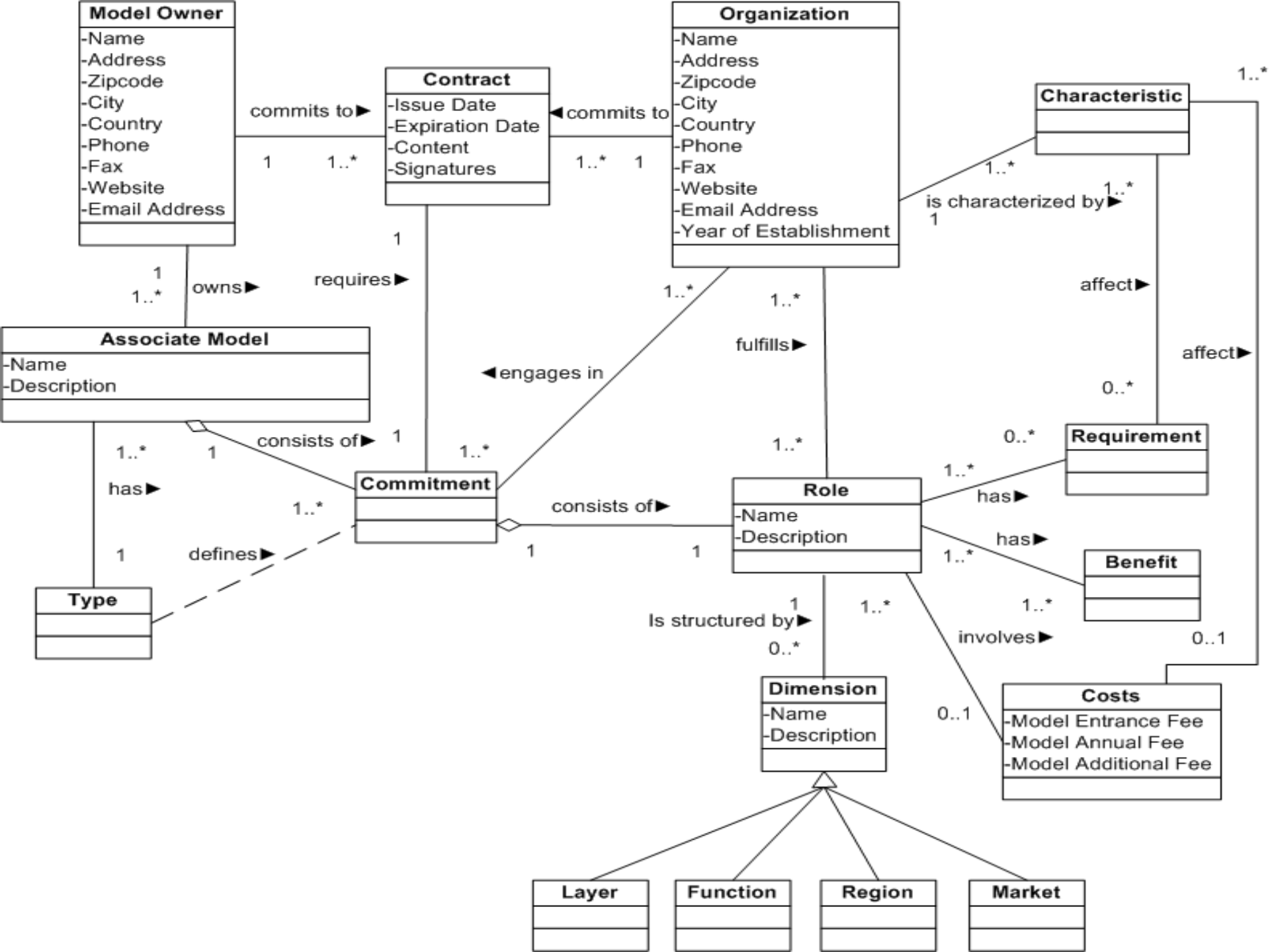
- Created by applying design science based on:
  - Literature review
  - Documentation software ecosystem orchestrators offer on their associate model (not limited to the three case studies)
  - Expert reviews
- Describes the structure of an associate model



Hevner et al, 2004

The structure of an associate model

- An associate model consists of a set of commitments between cluster owner and participant
- Each associate model has a certain type (e.g. partnership or membership model)
- Within the commitment the participant fulfills one or more roles that can have multiple dimensions that come with:
  - Benefits
  - Requirements
  - Costs


Model Owner
-Name
-Address
-Zipcode
-City
-Country
-Phone
-Fax
-Website
-Email Address
commits to
Contract
-Issue Date
-Expiration Date
-Content
-Signatures
commits to
Organization
-Name
-Address
-Zipcode
-City
-Country
-Phone
-Fax
-Website
-Email Address
-Year of Establishment
Characteristic
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-Model Additional Fee
Layer
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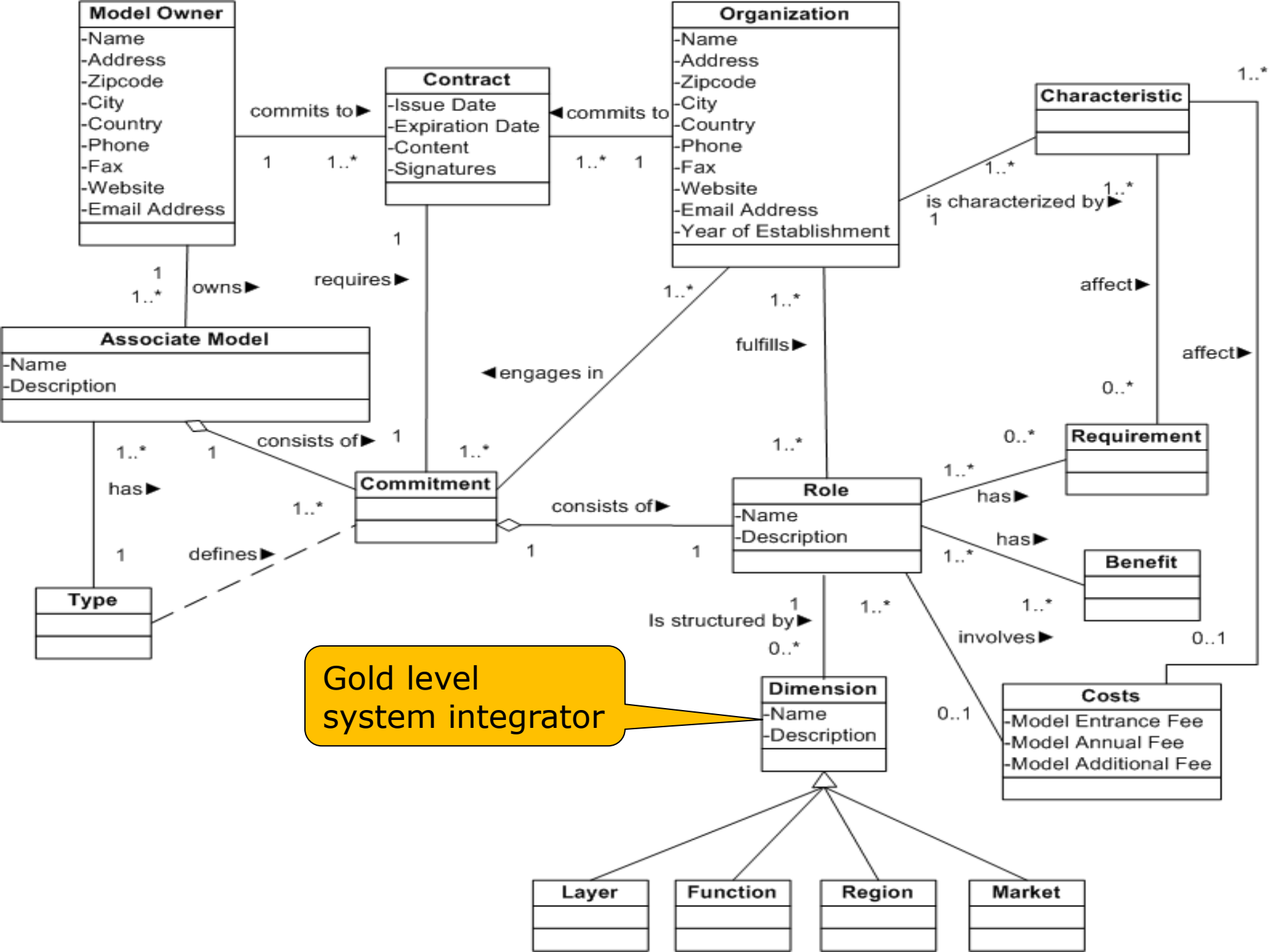
Region
Market


Model Owner
-Name
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commits to
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-Address
-Zipcode
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-Country
-Phone
-Fax
-Website
-Email Address
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Characteristic
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Associate Model
-Name
-Description
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Dimension
-Name
-Description
Costs
-Model Entrance Fee
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-Model Additional Fee
Layer
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Market

Case study and classification

- Case studies employed to:
  - Evaluate conceptual overview
  - Compare three different associate models through classification
- Classification table constructed by deriving associate model characteristics from:
  - The conceptual overview
  - The interview protocol
  - Ecosystem goals as defined by Popp, 2010

Category	Characteristic
Platform	Open/closed source
Structure	Layered primary structure
	Role-based primary structure
	Market-based primary structure
	Number of dimensions
	Total number of roles/levels
	More than one role/level can be fulfilled by the same organization
	Dependency between organizational characteristics and requirements
	Dependency between organizational characteristics and costs
Entry Barriers	Model has annual fees
	Model has one time only entrance fees
	Model has roles/levels free of charge
	Devoting resources is regarded as an entry barrier
Model Governance	Governance includes platform defence
	Roles/Levels are customizable upon request
Documentation	Model is documented on website
	Contracts are openly accessible
Goals	Utilized to achieve financial ecosystem goals
	Utilized to achieve customer related ecosystem goals
	Utilized to achieve product related ecosystem goals
	Utilized to achieve network related ecosystem goals
	Utilized to achieve market related ecosystem goals

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Case study 1: SAP

SAP:

For-profit organization

Headquarters located in Germany

Core business in enterprise applications

Multiple partnership models (global model is subject of case study)

Case study 1: SAP

Category	Characteristic	SAP
Platform	Open/closed source	Closed
Structure	Layered primary structure	N
	Role-based primary structure	Y
	Market-based primary structure	N
	Number of dimensions	1
	Total number of roles/levels	11
	More than one role/level can be fulfilled by the same organization	Y
	Dependency between organizational characteristics and requirements	N
	Dependency between organizational characteristics and costs	N
Entry Barriers	Model has annual fees	Y
	Model has one time only entrance fees	N
	Model has roles/levels free of charge	N
	Devoting resources is regarded as an entry barrier	Y
Model Governance	Governance includes platform defence	Y
	Roles/Levels are customizable upon request	Y
Documentation	Model is documented on website	Y
	Contracts are openly accessible	N
Goals	Utilized to achieve financial ecosystem goals	Y
	Utilized to achieve customer related ecosystem goals	Y
	Utilized to achieve product related ecosystem goals	Y
	Utilized to achieve network related ecosystem goals	Y
	Utilized to achieve market related ecosystem goals	Y

Structure:
Role-based, 10 roles (+1 general umbrella role)

Main benefits:
Targeted at business needs of Participant

Main Requirements:
Annual partnership model fee
Devoting resources to product or service certification
Locking

Main goals strived for:
Expansion of the SAP partner ecosystem
Strengthen SAP offerings
Monetizing on the partner ecosystem
Extension of market reach

Case study 2: Open Design Allaince

ODA:

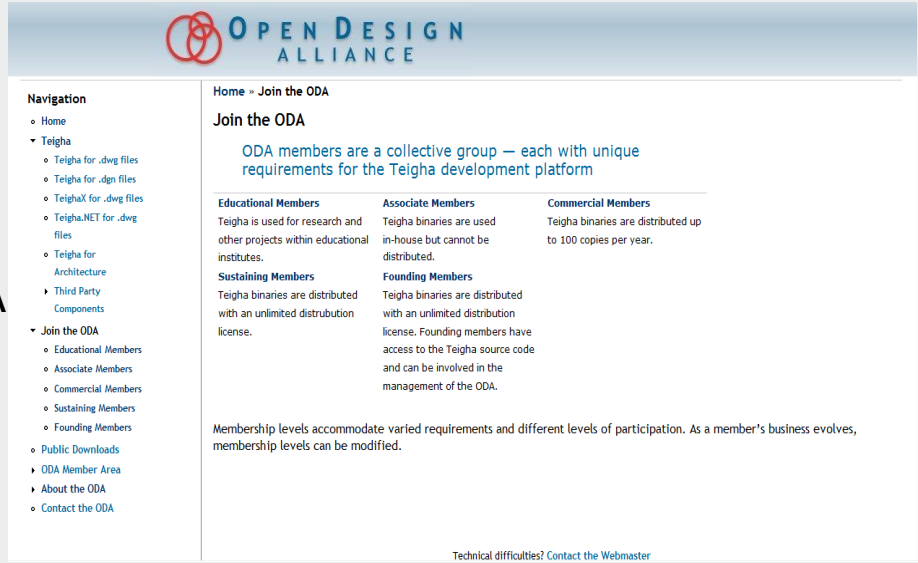
Non-profit association (member driven)

Headquarters located in the USA

Core business in engineering applications

Membership model is the core of the business

The Membership model consits of Over 1200 members



Case study 2: Open Design Alliance

Category	Characteristic	ODA
Platform	Open/closed source	Open
Structure	Layered primary structure	Y
	Role-based primary structure	N
	Market-based primary structure	N
	Number of dimensions	1
	Total number of roles/levels	5
	More than one role/level can be fulfilled by the same organization	N
	Dependency between organizational characteristics and requirements	N
	Dependency between organizational characteristics and costs	N
Entry Barriers	Model has annual fees	Y
	Model has one time only entrance fees	Y
	Model has roles/levels free of charge	Y
	Devoting resources is regarded as an entry barrier	Y
Model Governance	Governance includes platform defence	N
	Roles/Levels are customizable upon request	N
Documentation	Model is documented on website	Y
	Contracts are openly accessible	Y
Goals	Utilized to achieve financial ecosystem goals	Y
	Utilized to achieve customer related ecosystem goals	Y
	Utilized to achieve product related ecosystem goals	Y
	Utilized to achieve network related ecosystem goals	Y
	Utilized to achieve market related ecosystem goals	N

Structure:
Layered, 5 different levels, next level considered as superior to previous one

Main benefits:
Targeted at amount of access to the platform

Main Requirements:
Membership model fees (annual fee + one time only entrance fee)

Main goals strived for:
Product and platform development
Expansion of the ODA ecosystem

Case study 3: Eclipse Foundation

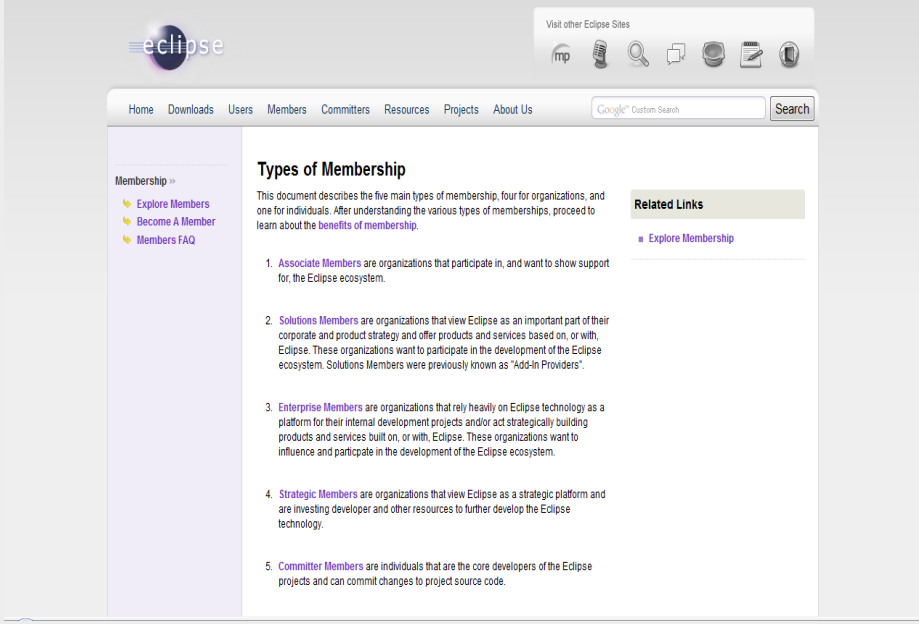
Eclipse Summary:

Non-profit association (member supported)

Headquarters located in Canada

Core business in software devlopment applications

Utilize a membership model



Case study 3: Eclipse Foundation

Category	Characteristic	Eclipse
Platform	Open/closed source	Open
Structure	Layered primary structure	Y
	Role-based primary structure	N
	Market-based primary structure	N
	Number of dimensions	1
	Total number of roles/levels	5
	More than one role/level can be fulfilled by the same organization	Y
	Dependency between organizational characteristics and requirements	N
	Dependency between organizational characteristics and costs	Y
Entry Barriers	Model has annual fees	Y
	Model has one time only entrance fees	N
	Model has roles/levels free of charge	Y
	Devoting resources is regarded as an entry barrier	Y
Model Governance	Governance includes platform defence	N
	Roles/Levels are customizable upon request	N
Documentation	Model is documented on website	Y
	Contracts are openly accessible	Y
Goals	Utilized to achieve financial ecosystem goals	Y
	Utilized to achieve customer related ecosystem goals	Y
	Utilized to achieve product related ecosystem goals	Y
	Utilized to achieve network related ecosystem goals	Y
	Utilized to achieve market related ecosystem goals	N

Structure:
Layered, 5 different levels, based on an open source maturity curve

Main benefits:
Co-innovating through industry-specific working groups
Influence in the governance of Eclipse Foundation

Main Requirements:
Contribution of resources to product and/or platform development

Main goals strived for:
Product and platform development
Expansion of the Eclipse Foundation ecosystem

Conclusions

- An associate model consists of a set of commitments between model owner and participants
- Within each commitment a participant fullfills a role, that can have multiple dimensions, with a set of benefits, requirements and costs
- The three studied associate models differ from each other in:
  - Primary structure
  - Entry barriers and model governance
  - Goals
- Identified differences are a result from organizations differing from each other in orrganizational characteristics, this influences the characteristics of the associate model and the commitments it consists of

Future research on associate models

- More cases are needed to verify and evaluate the conceptual overview
- Edged on the community of participants that is part of an associate model
- Out of a participants' perspective, (e.g. advantages, disadvantages, risks, expectations, goals, implications for business model)
- Software ecosystem governance

Questions

http://www.softwareecosystems.org/

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