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 kinds of ecosystem-related 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
Gold level system integrator
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
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

<table>
<thead>
<tr>
<th>Category</th>
<th>Characteristic</th>
<th>SAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platform</td>
<td>Open/closed source</td>
<td>Closed</td>
</tr>
<tr>
<td>Structure</td>
<td>Layered primary structure</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Role-based primary structure</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>Market-based primary structure</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Number of dimensions</td>
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<tr>
<td></td>
<td>Total number of roles/levels</td>
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<tr>
<td></td>
<td>More than one role/level can be fulfilled by the same organization</td>
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<tr>
<td></td>
<td>Dependency between organizational characteristics and requirements</td>
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<tr>
<td></td>
<td>Dependency between organizational characteristics and costs</td>
<td>N</td>
</tr>
<tr>
<td>Entry Barriers</td>
<td>Model has annual fees</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>Model has one time only entrance fees</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Model has roles/levels free of charge</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Devoting resources is regarded as an entry barrier</td>
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</tr>
<tr>
<td>Model Governance</td>
<td>Governance includes platform defence</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>Roles/Levels are customizable upon request</td>
<td>Y</td>
</tr>
<tr>
<td>Documentation</td>
<td>Model is documented on website</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>Contracts are openly accessible</td>
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<tr>
<td>Goals</td>
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**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 Alliance

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 consists of Over 1200 members
Case study 2: Open Design Alliance

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

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Case study 3: Eclipse Foundation

Eclipse Summary:
Non-profit association (member supported)

Headquarters located in Canada

Core business in software development applications

Utilize a membership model
Case study 3: Eclipse Foundation

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 fulfills 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 organizational 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

Full Article
http://sunsite.informatik.rwth-aachen.de/Publications/CEUR-WS/Vol-746/IWSECO2011-3-AngerenEtAl.pdf

Blog on Software Ecosystems
http://www.softwareecosystems.org/