

Definition of supplier relationships in software ecosystems as a basis for future research

Abstract. Available research about software ecosystems [1,2] mostly focuses on the supply chain from a software vendor to the customer of the software vendor. Simple research with a search engine shows there are thousands of OEM type supplier relationships in place. This paper sheds some light on supplier relationships of software vendors. Different types of suppliers and supplier relationships are defined, which can serve as a basis for future research.

1 Definitions

1.1 Definition of economic ecosystems

An economic **ecosystem** is a set of companies that exchange products or services to serve a common goal or to achieve higher levels of individual goals. A **software ecosystem** is an economic ecosystem that forms around one specific software vendor.

How do the players in the software ecosystem generate value? They do so by exchanging software products and services. A supplier might license software to the software vendor, who pays a the license fee to the supplier. The software vendor licenses software to the customers. The customers compensate for the license grant with a license fee payment. This leads to a spider web of products, assets, services and payments exchanged between the players of the ecosystem, shown in Figure 1.

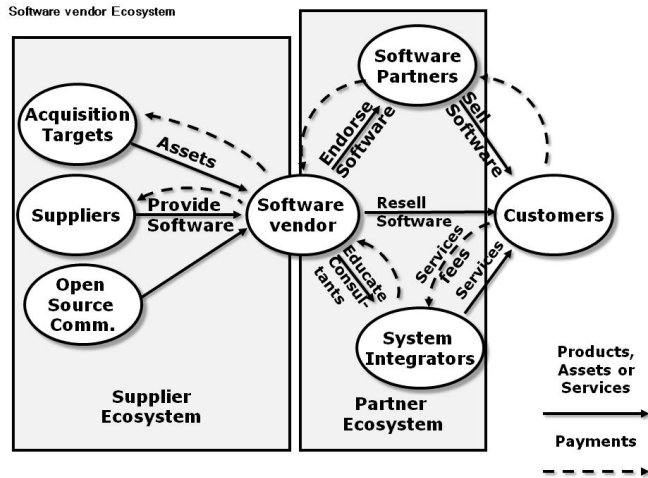


Figure 1: Exchange of products and services in the ecosystem

1.2 Roles of software companies in an ecosystem

Software companies can take different roles in the software ecosystem depending on the goals they have. Using an interaction model from the SOM methodology [3], Figure 1 shows examples, which roles a software company can take and what the interactions between the different roles could be.

Example: For the software ecosystem of software vendor SAP AG, examples for the different types of players are Oracle (supplier of database software), Maxware (acquisition target), IBM Global Services (System integrator), Siemens (customer and partner).

1.3 Types of Software Ecosystems

Usually the software vendor applies different strategies and tactics for different parts of the software ecosystem. These strategies and tactics must be aligned with the business model of the software vendor.

Figure 1 shows the different types of ecosystems that are typically addressed separately by a software vendor. First and foremost, there is the **customer ecosystem**. It contains existing and potential customers of the software vendor.

Then there is the **partner ecosystem**, which contains software partners, which are other software vendors and system integrators, which provide implementation services for the software vendor's solutions. An often neglected, but important ecosystem is the **supplier ecosystem**, which is the focus of this paper.

2 Supplier Relationships in Software Ecosystems

2.1 Definition of Suppliers and Supplier Ecosystems

Suppliers are companies or communities that interact with the software vendor in one the following ways:

- they **license software to the software vendor**, by providing
 - the right to redistribute or resell the software to customers or
 - the right to include the software in one of the software vendor's offerings (open source or commercial license).
- They **provide intellectual property** to the software vendor that the software vendor will own. That means they are potential **candidates for acquisition** or IP purchase by the software vendor.

For simplification, the right to use software for internal use is excluded in this paper. A **supplier ecosystem** is a subset of a software ecosystem that contains the software vendor and all suppliers.

2.2 Types of Supplier Relationships

Looking deeper into the possible models for supplying software to a software vendor reveals the following models: OEM, Open Source, Resell and Freeware [4].

2.3 OEM relationship

OEM means that a supplier licenses software to the software vendor and the software vendor ships its software including the software licensed from the supplier. On the software vendor's price list, only the software containing the OEM software has a pricetag. The OEM software itself is not included on that price list.

The supplier delivers the OEM software to the software vendor, which pays a compensation (e.g. license fee and maintenance fee) to the software vendor. The license fee might be a share of the revenue of the product containing the OEM software. Or it might be a constant fee that applies per copy of the OEM software shipped by the software vendor.

Supplier Role: OEM and Open Source

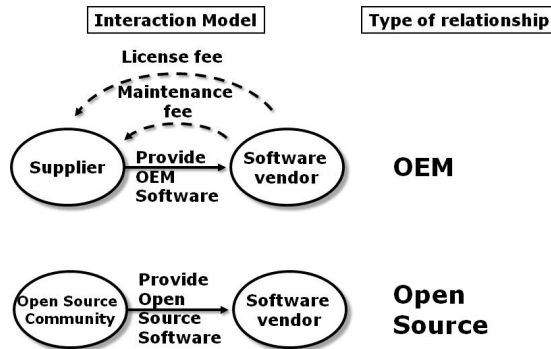


Figure 2: Supplier Roles OEM and Open Source

2.4 Open Source Supplier Relationship

An open source supplier relationship is created as soon as a software vendor ships open source software as part of its product offerings. Since open source software usually has no attached license fees, this leads to cost advantages for the software vendor relating to the cost of development. But to realise these cost advantages, the software vendor has to

make sure he complies with the license terms of the open source software.

If the software vendor ships the open source software, the software vendor is responsible for support and maintenance of the software shipped, which includes the open source software. So the software vendor has to make sure he is able to support it.

Supplier Role: Resell and Freeware

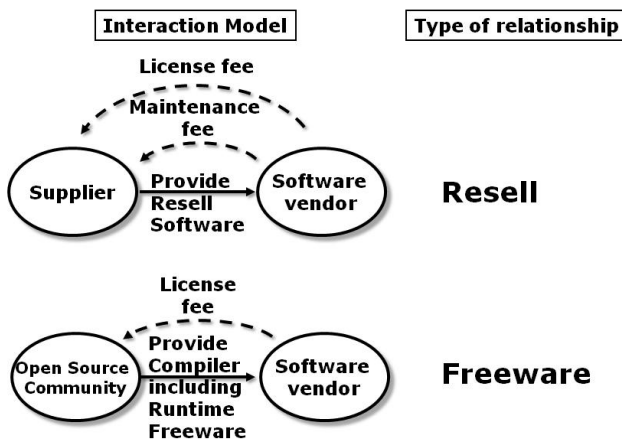


Figure 3: Supplier Roles Resell and Freeware

Resell relationship

A resell relationship between a supplier and a software vendor exists if a supplier provides rights to the software vendor that allow the software vendor to resell the supplier's software. The software vendor ships the supplier's software to customers. On the software vendor's price list, the supplier's software has a pricetag. The software vendor usually compensates the resell rights with payment of a license fee.

Freeware

If OEM software is provided free of charge, it is called **freeware**. Freeware carries the same attributes as OEM software and often comes as part of supplied software like database management software or compilers.

Example: A software vendor licenses and uses a compiler to create products. Often libraries, that will be included in the product as a result of the compile process, will be shipped as part of the software vendor's products. Usually the software vendor pays a license fee for the compiler, but no license fee for the right to distribute the libraries as part of the products. This is why the libraries are freeware.

3 Results

By using definitions and interaction models, this paper has provided a definition of supplier relationships in the software industry. This work can be used as a basis for further research, like modeling and analysis of business processes for setting up and executing supplier relationships or the structure and behavior properties of the supply chains created by supplier relationships [4]. Other important topics of research are the legal implication of license terms along the supply chains in the software industry and management of supply chains of software.

References

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