Position paper panel "Business Models & the Mobile Industry: Concepts, Metrics, Visualization & Cases"

Why visualization of e-business models matters

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Multiple e-business actors and multiple stakeholders interpret things differently

E-business models often suppose that a *consortium* of enterprises *jointly* deliver a service to end-customers, in contrast to traditional business models where a *single* supplier offers a product to a *single* customer. This is especially true in the mobile industry: Telecommunication providers try to bundle their basic connectivity services with other services such as news, entertainment products (music), traffic information and so on, to offer one package to customers.

Such multi-enterprise offerings require that all participating parties have a common understanding of the offering to be supplied. We have been involved in a series of business development tracks, and many of such multi-enterprise offerings result in unclear, and sometimes even inconsistent offerings. A main cause is mis-interpretation of the e-business idea underlying the offering.

In addition, even in a single enterprise mis-interpretations of an e-business idea occur, because different stakeholders are involved while developing such an idea. We encountered stakeholders on the CxO level, but also parties responsible for design and execution of business processes (many e-business projects still fail because a good idea is not translated into consequences for operations), and ICT stakeholders (e-business relies on the enabling role of ICT). So, development of an e-business idea often leads to mis-interpretation of such an idea due to involvement of many enterprises, and a broad range of stakeholders representing these enterprises.

Conceptualization and visualization to enhance common understanding

How can we contribute to avoid this mis-understanding? For this purpose, our e^3value methodology [Gordijn 2002] provides an *ontology* to conceptualize and to visualize an e-business idea. An ontology provides concepts, relations between these, and rules which are interpreted the *same way* by stakeholders, to conceptualize a specific domain. 'Conceptualization' means: describing rather formally a Universe of Discourse (UoD) (e.g. a business idea) to allow for understanding of, and reasoning about such a UoD. To create the required common understanding, our ontology borrows accepted terminology from the realm of business sciences, more specifically terminology on dynamic value constellations, marketing and axiology. For instance, e^3value concepts are: *actor*, *value exchange*, *value activity*, and *value object*. Using these notions, we model networked constellations of enterprises and end-consumers, who create, distribute and consume things of economic value.

For conceptualization many description languages can be used. These languages differ in the statements they make about a UoD, in their level of formality, and also in their intended users.

Since our audience consists of CxO's and business analysts, we have chosen for a *graphical* language. Most of these people do not have the time or the skills to read textually represented formal documents. To put it differently: A picture says more than 1000 words. The realm of computer science has invented many (semi)formal graphical languages to be able to easily communicate complicated aspects of computer software. As such our *e³value* approach utilizes terminology from business science, but borrows representation and visualization methodology from computer science.

A non trivial case: Online news provisioning based on call termination

Amongst others, our *e³value* graphical business modeling language has been used to develop an online news service by a Dutch newspaper and telecommunication companies. Figure 1 shows a visualization of the business model at hand, a more detailed version of this model can be found in [Gordijn 2002].
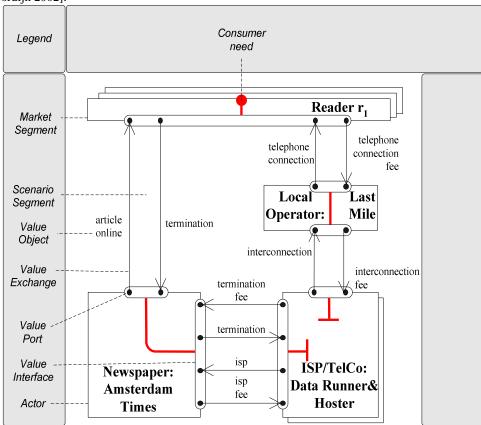

Figure 1: A graphical representation of an e-business model for online news provisioning based on call termination

From a financial perspective, the e-business idea here is to use a *termination fee* to finance the online news service. Termination means that if someone tries to set up a telephone connection by dialing a telephone number, another actor must pick up the phone, that is, *terminate* the connection. If someone is willing to cause termination of a large quantity of telephone calls, most telecommunication operators are willing to pay such an actor for that (the termination fee). Because the newspaper has a large subscriber base, s/he is capable of generating a large number of terminations for an online article service.

If we consider Figure 1, start at the consumer need, and follow the lines, we can see that a reader must obtain two things, which are offered by different enterprises: (1) an online article, and (2) a telephone connection, for which we have to pay a fee. If we read further, we can see how termination really works: first a local loop operator called *Last Mile* has to interconnect with a long distance telecommunication operator, which in turn pays the newspaper for call termination.

This model was used during a business development project to explain the mechanism of call termination to stakeholders involved; the telecommunication partners themselves were not able to explain this using verbal or written text only.

Besides the complex issue of call termination, the graphical representation of the news provisioning business model also shows that a consumer need (to read an article online) can only satisfied by doing business with at least two actors: a newspaper and a telecommunication consortium.

In sum

In this short position paper we have argued why it is important to visualize e-business models. These models tend to involve more than one enterprise and in addition, these enterprises are represented by various types of stakeholders. Consequently, there is a lack of common understanding the business model at hand.

One of solutions often proposed by the realm of computer science is then to develop an ontology, representing a shared understanding of the UoD (here: the business idea) at hand. However, given the nature of the stakeholders involved (CxO's, business analysts), such an ontology should be represented by an easily accessible graphical form, rather than a difficult to understand formal, mathematical oriented description language.

References

Gordijn, J., *Value-based Requirements Engineering - Exploring Innovative e-Commerce Ideas*, PhD. Thesis, Vrije Universiteit, Amsterdam, NL, 2002, Also available from http://www.cs.vu.nl/~gordijn/