Modeling strategic partnerships using the e^3value ontology
A field study in the banking industry

Carol Kort
Vrije Universiteit Amsterdam, The Netherlands
Email: cdkort@cs.vu.nl

Jaap Gordijn
Vrije Universiteit Amsterdam, The Netherlands
Email: gordijn@cs.vu.nl

1   Introduction

Companies increasingly form networked value constellations to jointly satisfy a complex need. Well known examples include the networked business model of Cisco Systems [Tapscott, D., Ticoll, D., & Lowy, A., 2000] and the virtual integration of Dell Computers [Magretta, J.,1998]. In a value constellation, a series of enterprises and final customers co-produce things of economic value, using network technology such as the Internet to coordinate this process. By doing so, they exploit each other's core competencies to a maximum extent, and enterprises can concentrate on and develop their own core competencies themselves.

Obviously, forming a constellation requires coordination and communication mechanisms to be in place, to facilitate co-working between the various enterprises the constellation exists of. One of the problems in value constellations is that every enterprise speaks another language, thereby creating misunderstandings and barriers for proper communication. Such misunderstanding happens at all levels: information systems of various enterprise that are not very well interconnected, business processes that can not easily interoperate over enterprise borders, and even the constellation itself in terms of the participating enterprises and the services and products these enterprises transfer between each other is not always unambiguously understood.

One approach to address the misunderstanding is to use ontologies. According to [Gruber, T.R., 1993] ontology can be defined as: "… an explicit specification of a conceptualization" The term "ontology" is borrowed from philosophy, here an ontology is a systematic account of existence. In the realm of information systems and AI, ontology has a somewhat different interpretation: "an ontology is what a community of practice believes to exist". This is close to the opinion of [Quine, W.V.O., 1961] who says that an ontology specifies things that we must assume to exist in order for our theories to be true. What people believe to exist, we call a "conceptualization". It represents an abstract, simplified view on the world. Modern definitions of ontology (see e.g. [Borst, W.N., Akkermans, J.M. & Top, J.L., 1997]) emphasize that there must be an agreement on the conceptualization that is specified: "An ontology is a formal specification of a shared conceptualization". This notion of shared conceptualization is important to us, because we aim at a shared understanding of a constellation by enterprises involved.

Ontologies can be developed at various abstraction levels. For instance, recent web-standards such as OWL (see e.g. http://www.w3.org/2004/OWL/) or web-services such as BPEL4WS [Andrews,T., Curbera, F. et al., 2003] provide ontological foundations for the communication *between information systems* of individual enterprises. Approaches like ebXML (see http://www.ebxml.org) focus on ontologies to enhance *cross-organizational business process* integration. And finally ontologies such as BMO [Osterwalder, A., Pigneur, Y., & Tucci, C.L., 2005], REA [McCarthy, W.E., 1982] and e^3value [Gordijn, J., Akkermans, J.M., 2003] aim at the shared understanding of the *business value level*: what do enterprises offer each other of economic value.

In this book chapter, we focus on the use of these business *value* ontologies, and more specifically on the e^3value ontology. This ontology understands a value constellation as a set of enterprises that transfer things of economic value with each other. It features an ontology editor (see http://www.e3value.com/ for a free download) that allows for a graphical representation of a constellation, and supports various kinds of reasoning about the constellation.

One specific issue in business value constellation ontologies is how to represent partnerships. The e^3value ontology has a specific construct for doing so, but a question is whether this construct is

sufficient for representing advanced partnering issues. In this chapter, we use an industrial strength case study in the realm of banking to assess e^3value's capabilities with respect to the modeling of partnerships.

This chapter is organized as follows. In section 2 we briefly introduce the e^3value ontology. Then (section 3) we introduce "partnership" as conceptual artifact in business sciences and discuss (in section 4) whether the e^3value ontology can represent partnership. We explain this by using our case study in the banking industry; in section 5 we report on our experiences while using the e^3value ontology in this industry. In section 6, we present some final observations.

2 The e^3value ontology

The e^3value ontology provides modeling constructs for representing and analyzing a network of enterprises exchanging things of economic value with each other. The ontology itself has been expressed as UML class diagram, Prolog code, and RDF/S (see http://www.w3c.org/RDF). A graphical e^3value ontology editor as well as analysis tool is available for download (see http://www.e3value.com) [Gordijn, J., Akkermans, J.M., 2003].
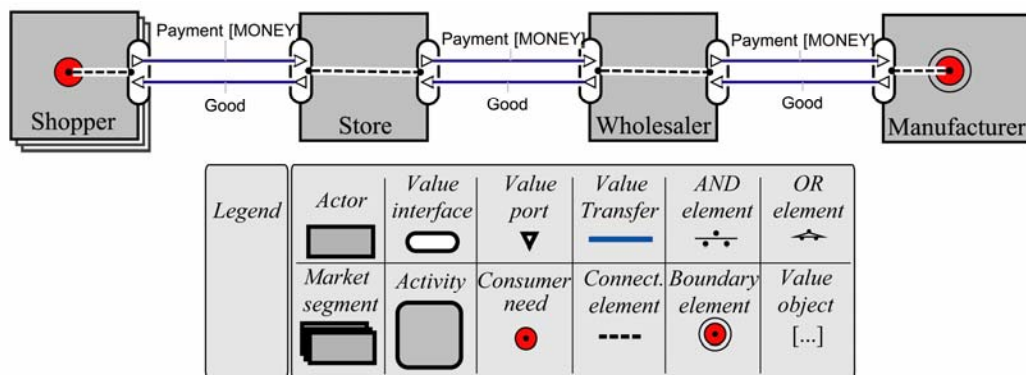

Figure 1: Educational e^3value example

To make this chapter self-contained, we briefly introduce the e^3value modeling concepts below, see for a more detailed explanation [Gordijn, J., Akkermans, J.M., 2003]. We use an educational example (see Figure 1) to explain the ontological constructs.

Actor: An actor is perceived by his/her environment as an economically independent entity. The Store, Wholesaler, and Manufacturer are all examples of actors.
Value Object: Actors exchange value objects (e.g. Money). A value object is a service, a good, money, or even an experience, which is of economic value for at least one of the actors.
Value Port: An actor uses a value port to provide or request value objects to or from other actors.
Value Interface: Actors have one or more value interfaces, grouping value ports, and showing economic reciprocity. Actors are only willing to offer objects to someone else, if they receive adequate compensation in return. Either all ports in a value interface each precisely exchange one value object, or none at all.
Value Transfer: A value transfer is used to connect two value ports with each other. It represents one or more potential trades of value objects. In the example, a transfer of a Good or a Payment are both examples of value transfers.
Value Transaction: A value transaction groups value transfers that all should happen, or none at all. In most cases, value transactions can be derived from how value transfers connect ports in interfaces.
Market Segment: A market segment breaks actors into segments of actors that assign economic value to objects equally. This construct is often used to model that there is a large group of end-consumers who value objects equally. The Shopper is a market segment, consisting of a number of individual shoppers.
Value Activity: A actor performs one or more value activities. These are assumed to yield a profit.
Dependency path: A dependency path is used to reason about the number of value exchanges in an e^3value model. A path consists of consumer needs, connections, dependency elements and dependency boundaries. A consumer need is satisfied by exchanging value objects (via one or more interfaces). A connection relates a consumer need to an interface, or relates various interfaces of a same actor. A path can take complex forms, using AND/OR dependency elements taken from UCM scenarios [Buhr, R. J.

A. ,1998]. A dependency boundary represents that we do not consider any more value exchanges on the path. In the example, by following the path we can see that to satisfy the need of the Shopper, the Manufacturer has to provide Goods.

Given an e^3value model, attributed with numbers (e.g. the number of consumer needs per timeframe and the valuation of objects exchanged), Net Value Sheets (NVF) can be generated (for a free software tool see http://www.e3value.com/). Such sheets show the net cash flow for each actor involved and are a first indication whether the model at hand can be commercially successful for each actor. Additionally, a series of e^3value models can be constructed, modeling how a value model evolves over time. Each value model represents then a snapshot at specific point in time (say on an yearly basis). For such a series, accepted calculations such as Discounted Net Present Cash flow (DNPC) [Horngren, C. T. & Foster, G., 1987] can be done to assess economic sustainability on a per actor basis.

3   Strategic partnerships

The aim of this chapter is to illustrate to what extent e^3value ontology is capable of representing strategic partnerships. According to Yoshino and Rangan [Yoshino, M.Y., & Rangan, U.S., 1995], a strategic partnership simultaneously possesses three characteristics that are both necessary and sufficient: (1) although the partnering companies jointly pursue certain agreed upon goals, they remain *independent*, (2) the partnering companies *share the benefits* of the agreement and *control* over the performance, (3) the agreement covers *one or more key strategic areas* of both partnering companies." This definition explicitly excludes mergers, acquisitions, and joint venture (JV) subsidiaries of multinational companies (MNCs), because there is no shared control in these constructions, and also they result in one company only. In the case of mergers and acquisitions, one of the organizations involved assumes control of the new entity or the other organization, respectively. In the case of a MNC JV subsidiary, the strategic control rests almost without exception with the MNC, the joint ownership structure being basically a necessity because of government pressures. Also, licensing, franchising, cross-licensing, and arm's-length contracts are excluded from this definition as these constructions also don't involve shared control, there is no long-term mutual dependence, nor are there any continuing contributions of technology or products.

Various classifications of strategic partnerships in literature, by [Yoshino, M.Y., & Rangan, U.S., 1995], [Todeva, E., & Knoke, D., 2005], [Porter, M.E., 1895], and [Porter, M.E., 1986], have been reviewed and four dimensions of strategic partnerships have been abstracted that can be used to construct a conceptual model of a strategic partnership. The four dimensions have been reviewed in order to investigate their influence on the value network of a partnership, and whether this influence can be captured in a value model using existing e^3value modeling constructs: actors, value activities assigned to those actors, and value transactions between the value activities.

The first partnership dimension is the *legal form* of a strategic partnership, which refers to the formal control mechanism used in order to secure the relationship between the partnering organizations.

A *contractual agreement* is used to formally document the operational activities covered by the partnership in terms of who does what, and how. As such, a contractual agreement influences the division of value activities amongst the partners, which can already be captured in an e^3value model using the existing modeling constructs.

Through an *equity investment* an organization acquires a share of the control over the total activities of its partner, giving the investing organization more leverage in the partnership. Equity investments directly influence the value network of the partnership because the organization also acquires the right to a share of the total profit the partner generates. However, this influence on the value network of a partnership is not on the level of the value activities covered in the partnership. Therefore, an equity investment cannot yet be modeled using existing e^3value modeling constructs.

A *joint venture* is a new legal entity, jointly established by the partnering organizations, that performs the activities covered by the partnership. As such, the activities of the partnership are legally separated from the existing activities of the partnering organizations. The partners each account for a share of the equity investment needed to establish the new organization, and this division influences both the measure of control each partner has over the partnership, as well as the share of the profits of the partnership each partner gets. Thus, a joint venture structure also influences the value network of the

partnership to the partners, but this influence cannot be captured in a value activity, and thus this influence cannot yet be modeled using existing modeling constructs.

The second partnership dimension is the *nature of the activities of a partnership*. The nature of the partnership activities can match one of the value chain activities as distinguished by [Porter, M.E., 1985] and can thus be considered either a *primary* activity or a *support* activity of the partnering organizations, in which case the nature of activities dimension influences the partnership on the level of value activities, which can be captured in an *e³value* model using the existing constructs. Two kinds of activities however cannot be mapped onto a value chain activity: *sourcing agreement* and *standards setting*.

A *sourcing agreement* covers the arrangement in which one company out-sources part of its operational activities to another organization that is better equipped to perform them efficiently. The charges connected to the outsourcing should be less than the operational expenses would be for the outsourcing company to perform the activities. From the perspective of the customer, the outsourcing company acts as a front office and the in-sourcing organization as a back office. As the outsourcing organization still offers the product/ service resulting from the outsourced activities to the client, it technically also performs a value activity for the client that results in the offering of the product/ service. For the outsourcing organization, the sourcing agreement influences the internal structure of the respective value activities: the front-office value activity is based on the reselling of a product/ service and thus has a relatively small margin compared to the actual (or back office) value activity related to the same product/service. This influence on *internal structure* of a value activity cannot yet be captured using existing *e³value* constructs.

'Standards setting' covers the arrangement whereby organizations in an industry join forces in order to develop a process or system and enforce this as a standard onto the entire industry.
An industry standard can also be commercially exploited by the organizations behind it, in which case the use of the standard is often put under a license and other organizations have to pay in order to obtain this license and implement the standard. The commercial exploitation of a standard therefore does influence the value network of the partnership to the partners involved, and it does so through a licensing structure. The *e³value* constructs that have been introduced in this chapter are not sufficient to capture this licensing structure, but constructs to do so have been developed by [Tan, Y.H., Thoen W., & Gordijn, J., 2004]. These constructs will therefore not be further elaborated on in this chapter.

The third partnership dimension is the *configuration of the activities* in the partnership, which depends on the way the partnering companies each contribute to the activities that are covered by the partnership.

The *activities* of the partnership can be *divided* amongst the partners; each activity is performed by one of the partners only, as each activity is the specialization of one of the partners only. This division of value activities amongst the partners can be captured using existing *e³value* constructs.

The partners can also *jointly perform* at least one of the activities. In this case, the partnering organizations' joint contributions improve the way the activities are performed, while they both retain (shared) control over the performance. As a value activity is a collection of operational activities, the partners will jointly contribute to any value activity that contains a jointly performed operational activity. Not all operational activities in a Y partnership have to be jointly performed, and therefore it is important to be able to capture this difference between value activities that contain jointly performed operational activities and those that do not. Using the current *e³value* constructs, it is not possible to attribute one value activity to two separate actors. It is possible to combine two actors into one virtual actor, but doing this abstracts away from the way the value activities that are not jointly performed are divided amongst the partners.

The fourth partnership dimension is the *supply chain relationship* between the partners, which depends on their respective positions in the industry supply chain. [Porter, M.E., 1985] introduced the concept 'supply chain', which provides a means to analyze the competitive position of an organization relative to the other organizations in its industry. A supply chain links an organization to its suppliers, channels and customers. An organization can be a peer, a supplier, a distributor (channel), or a customer to its partner. The configuration of the supply chain determines the profit margin that is available to each of the participants and the organizations in a partnership will try to optimize and consolidate these

margins. The power an organization has in the negotiations with its partners respect depends on the uniqueness and scarcity of the activities it performs and needs, and the transaction costs that are associated with these activities. As such, the influence of the supply chain relationships on the value network of a partnership depends on the characteristics of the value activities performed by the partners, and this influence can thus be captured using existing *e³value* constructs.

4 Bringing partnering-specific modeling constructs into *e³value*

Four partnering concepts can not be represented using existing *e³value* constructs: *equity investment*, *joint venture, jointly performed value activity* and *sourcing agreement*. In this paragraph for each of these concepts a construct is defined that can be added to the *e³value* construct set.

4.1 Representing equity investments

A modelling construct representing an *equity investment* should capture the value structure of an equity investment in a reciprocal value transaction. The proposed construct models the equity relationship as a value transaction consisting of two reciprocal value transfers between two *actors* (and not between value interfaces as is normally the case in *e³value*). The investing organization receives *dividend*, and in order ensure economic reciprocity it offers the holding of a *certain percentage of shares*. The modelling construct defined to capture the value structure of an equity investment is shown below and highlighted in red.
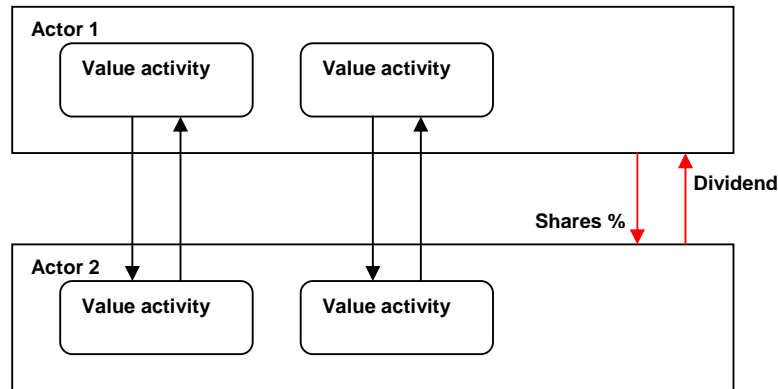

Figure 2: an equity investment by actor 1 in actor 2

4.2 Representing joint ventures

The modeling construct representing a *joint venture* should capture the *value structure* of a joint venture in a *reciprocal value transaction* consisting of four value transfers (two reciprocal transfers per enterprise in the joint venture). The proposed construct therefore reflects that the partners each account for a share of the equity investment needed to establish the new organization and that the total profits of the joint venture are divided amongst the partners according to this investment ratio. The joint venture construct thus contains the equity investment construct. Furthermore the construct reflects that all of the shares of the joint venture are accounted for by the partnering organizations, and that all activities covered by the partnership are attributed to the joint venture. The modeling construct defined to capture the value structure of a joint venture is shown below and highlighted in red.
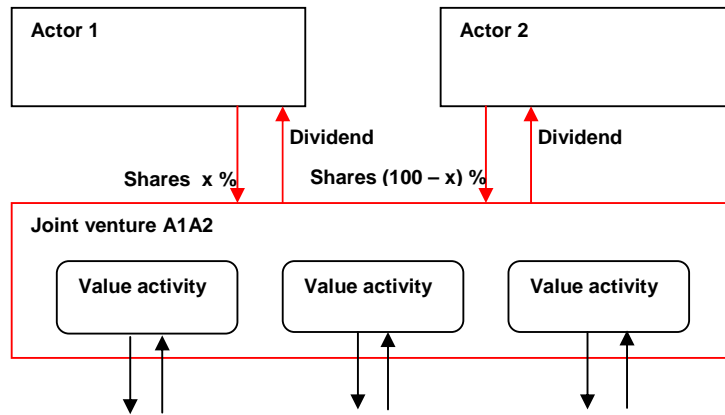
Figure 3: a joint venture by actor 1 and actor 2

A Y partnership is characterized by the fact that the partners jointly perform at least one of the value activities. The modelling construct should therefore reflect the assignment of one value activity to multiple actors. The modelling construct defined to capture a joint value activity is shown below and highlighted in red.
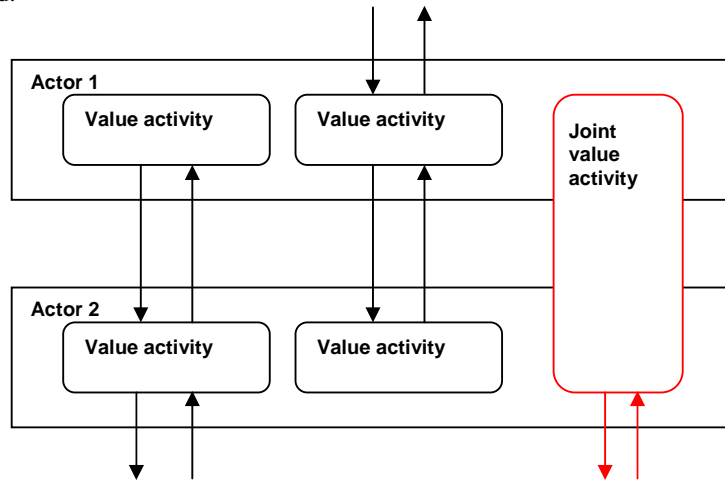

Figure 4: a Y partnership between actor 1 and actor 2 with one jointly performed value activity

The modelling construct for a sourcing agreement should reflect that for the outsourcing organization the value activity related to the product/ service is reduced to a front-office value activity, not based on the actual operational activities associated with the product/ service but on the reselling of the product/ service, with a resulting relatively small margin. The modelling construct defined to capture a front office value activity is chosen to be similar to the construct for a normal value activity, only drawn with dashed lines instead of solid lines in order to reflect the fact that the activity is not based on the actual operational activities producing the offered product/service, and the resulting small value margin. The construct is shown below and highlighted in red.
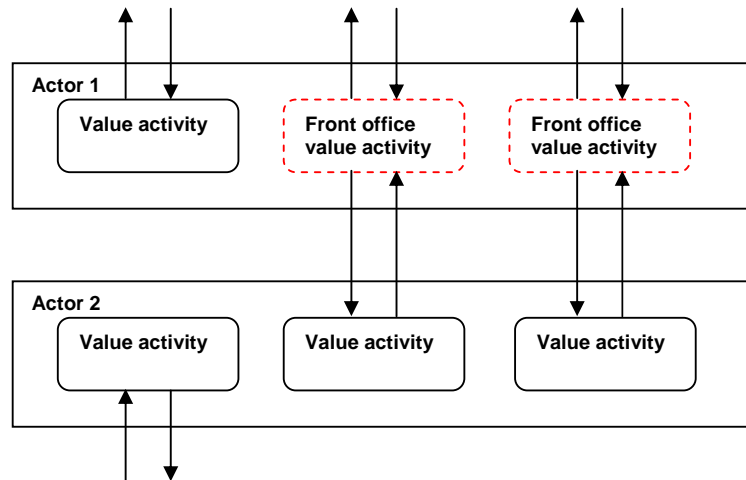
Figure 5: a sourcing arrangement between actor 1 (outsourcer) and actor 2 (insourcer)

5 Case study: Evaluating the partnership between Bank X and Bank Y

5.1 Context

In order to evaluate whether the extensions to the *e³value* ontology are of use for understanding strategic partnerships, a case study has been conducted at a bank, referred to as Bank X. One of the strengths of Bank X is its global network, as it has a local presence in many countries around the world. As a result, many multinational corporations turn to Bank X seeking regional or even global banking solutions that will cover their banking needs in all countries in which they conduct business. There are several countries in which Bank X does not have a direct presence, but which it does want to be able to include in its offering of regional and global solutions because there is a clear request for banking services in those countries by its corporate clients. In order to include these countries in its global network, Bank X has several strategic partnerships with other banks. A partner bank is usually one of the top three local banks in a country in which Bank X has no presence.

The *e³value* ontology, including the new partnering-specific constructs, has been applied to one of these network partnerships of Bank X; the partnership with Bank Y. For Bank X, establishing its own operations in the country would be highly inefficient as the costs would far outweigh the revenues. Through the partnership, Bank X obtains financial services in the country at a much smaller cost, even relative to the as a result also smaller revenues. For Bank Y, the partnership enables it to optimize the use of its scale of its operations: the extra client volume from Bank X reduces the unit costs resulting in a revenue increase. Also, Bank Y obtains the revenues from the activities it performs for Bank X.

5.2 Constructing an *e³value* model for the partnership between Bank X and Bank Y

The actors in the partnership are: *Bank X*, *Bank Y* and a *market segment* consisting of *corporate clients of Bank X*. In addition to these actors, the *money market* has to be included in the model, as an *environmental actor*, to be able to model how the banks actually make money; banks invest the balances of their clients in the money market and receive a percentage on top of the invested amounts in return (see Figure 6). The value activities of an environmental actor are not relevant to the value model.

The billing records of the partnership have been reviewed in order to determine which products are included in the partnership. Four main product groups were distinguished: payment products, cash management products, reporting, and balance management.

Also, the billing records were used to derive the value activities, the value transfers and the value objects transferred. The value activities of the corporate client market segment reflect the needs of the corporate client with respect to banking services. The value activities of Bank X reflect the products and services it *provides* for the corporate clients. The partnership specific construct that models a sourcing agreement should thus be included in the model in order to be able to show that the actual operational activities related to these services are performed by Bank Y, and the value activities at

Bank X are *front office value activities.* The value activities of Bank Y reflect the products and services it *produces* for Bank X.

The value objects and value transfers have been identified as a logical consequence of the value activities performed by the actors. The resulting value model can be seen in Figure 6.
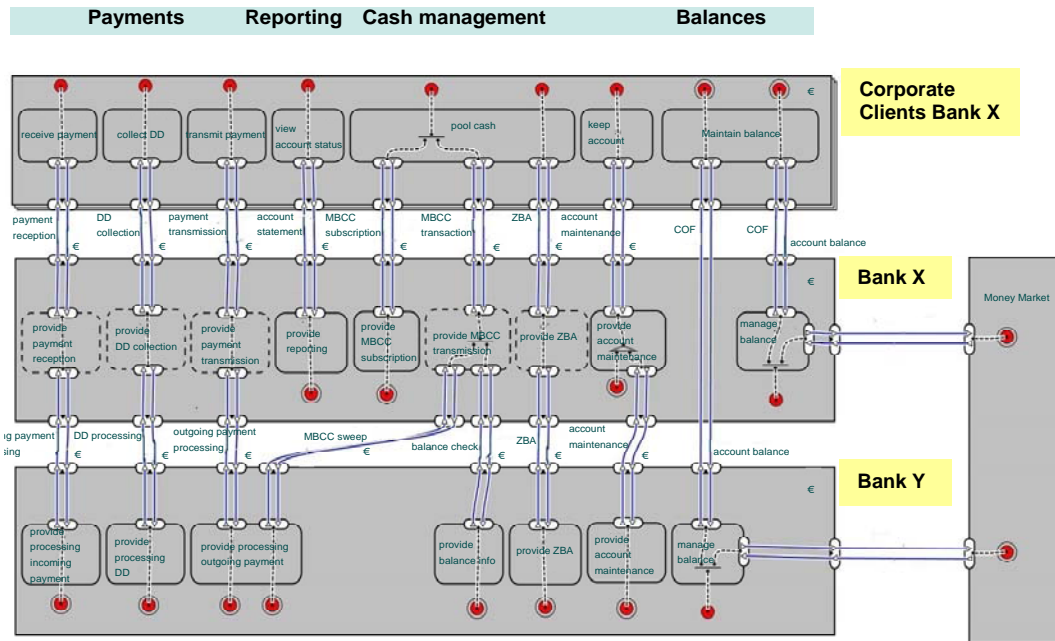

Figure 6: A first version of the value model of the XY partnership

The value models have been presented to the stakeholders at Bank X as a PowerPoint slide (figure 6). In order to make the contents of the model more insightful the *actors* are highlighted by placing colored textboxes displaying the actor name next to the actor construction. Furthermore, in order to make the various value activities that are identified in the model more insightful they are grouped in the four main product groups, which are highlighted above the value model in a colored text box.

In this first value model, the constructs have been conceptualized as prescribed in [Gordijn, 2003], and also all constructs that need to be part of a value model according to [Gordijn, 2003] have been included. In a number of feedback sessions the banking stakeholders could comment on the value model. Their comments were incorporated in next versions of the value model, ultimately leading to a final version. In The feedback on the first and consecutive versions of the value model, leading to the final value model, will be discussed here to illustrate the changes made to the *e³value* ontology in order to accommodate the banking stakeholders.

5.3   Feedback by bank X on the *e³value* model

Before the actual presentation of the *e³value* model to the executive decision makers of bank X, the first version of the model has been reviewed for its fit for purpose, namely taking a decision about participating in the partnership or not. The following feedback was obtained on the use of the *e³value* ontology:

Feedback 1. The models were considered very intricate and not easily understandable, because the many value activities made the model too complex. The advice was to reduce the number of value activities modeled, by logically grouping value activities, whereby each group should include value activities that are based upon the same type of operational activities, value activities that can thus be thought of as quite similar.

Feedback 2. With respect to the concepts included in the value model, the value objects themselves were considered irrelevant. Also the value interfaces, value ports, connect elements, AND elements, OR elements, and start and stop nodes in the model were considered distractions, as it was considered not particularly important how value exchanges are triggered and where the money flow starts.

Feedback 3. The value transactions as included in the model were considered distracting and unnecessary complex, rather the value model would only show the actual money flows.

Feedback 4. The most interesting part of the model was considered to be the net value of each value activity, which can be calculated by taking the ingoing money flow of a value activity and reducing this amount with the outgoing money flow of the value activity. The first version of the value model does not include these numbers, it only quantifies and labels the value flows themselves, reflecting revenues generated on a monthly basis. In fact, these labels of the value exchanges were also considered to be distracting, adding to the complexity of the model.

Feedback 5. The profitability of the actors was considered one of the most important insights of the value model, and should be more prominently included in the value model. In this first preliminary value model the profitability for each actor has been placed in the upper left corner on the actor constructs. The profitability sheets clearly state the profitability for each actor involved and also provide insight in the value structure behind these profitabilities, but the Bank X stakeholders did not want to review the profitability sheets as they were considered too cumbersome.

Feedback 6. The stakeholders requested to place even more emphasis on the value activities, relative to the actors. The actors, which are modeled as a solid rectangle, were now experienced as too much of a fixed partitioning of the value activities, while the value activities are only tied to the value model in this configuration of the partnership, and hence the partitioning of the value activities can be altered.

Feedback 7. The partnership has mainly qualitative value for Bank X: as mentioned in the paragraph on the value of the partnership, the partnership is mostly intended to retain business and to be able offer regional solutions to clients, not to generate revenue. The request therefore also was to incorporate these quantitative aspects in the value model in some way.

5.4 Modified e³*value* model of the partnership between Bank X and Bank Y

A modified version of the value model incorporates all changes that have been made as a result of the feedback obtained by the Bank X stakeholders. The changes made will consequently be explained, note that the number of the change made corresponds to the number of the feedback obtained.
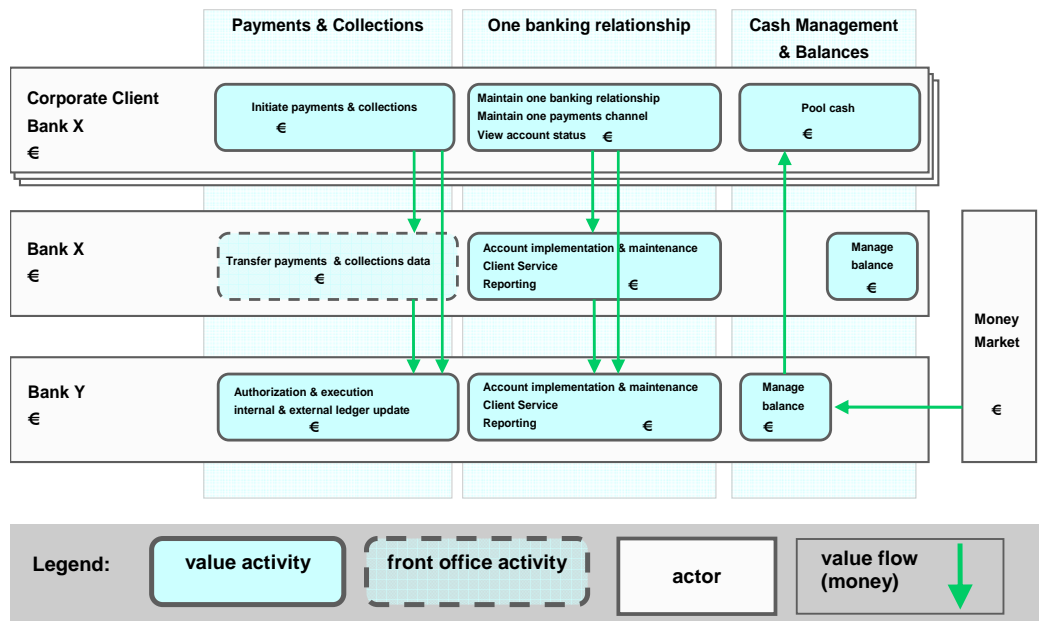

Figure 7: the final version of the value model of the XY partnership

Change 1. The number of value activities was drastically reduced. In the first model also, four main groups of value activities were distinguished. It turned out that, for all groups, the activities belonging to a group could be merged into one value activity. The final version of the value model shows only three groups, as the groups cash management and balances

were also merged. Furthermore, the group reporting was merged into the group one banking relationship, which will be fully introduced discussing change 7 below.

Change 2. Value objects, value transactions, value interfaces, value ports, connect elements, AND elements, OR elements, and start and stop nodes have all been left out of the value model.

Change 3. The value transactions were left out of the model, and the money flows between the actors were clearly indicated, represented by solid green arrows (green has been chosen for the arrows as this color is associated with money).

Change 4. The net values of the value activities are prominently included on the value activity constructs, indicated in the model by a euro sign. The money flows themselves are not labeled with the amounts being exchanged as this was considered irrelevant relative to the net values of the value activities.

Change 5. The profitability of the actors is prominently included on the actor constructs, indicated by a euro sign underneath the actor name.

Change 6. The value activities were considered one of the most interesting and relevant parts of the value model, and not necessarily permanently tied to an actor. In the final version of the value model therefore, the actor constructs are more transparent relative to the value constructs, and have a pale color. The value activities on the other hand, are highlighted using a bright color. In order emphasize the nature of the *front office value activity* construct, front office value activities have the same color as the normal value activities, but more transparent.

Change 7. The one banking partnership value activities incorporate some of the qualitative value of the partnership to the client; the fact that they have to maintain only one banking relationship, with Bank X, whilst still obtaining the activities from Bank Y. The clients actually pay an account maintenance fee to Bank X and this could be seen as the fee Bank X requests for its service of offering the partnership to its client. Also, the operational activities related to reporting, client service and the actual account maintenance are part of these value activities.

5.5 The financial analysis of the value model of the XY partnership

In order to evaluate the value proposition of the partnership for Bank X, a financial analysis of the value model of the partnership was conducted, using the billing records of the partnership as input. These billing records, covering two consecutive months worth of data, were obtained in the form of two large excel files. For each of the months covered by the billing records, the respective value flows from the corporate client to Bank X and from Bank X to Bank Y with respect to *payments & collections* and *one banking relationship* were calculated using excel pivot tables in which all sub-products were systematically selected and the *sums* of the related revenues were totaled. Next, the related average yearly value flows from the corporate client to Bank X and from Bank X to Bank Y could be derived. Net Value sheets for each actor were created in Excel (figure 8) in order to total the incoming and outgoing money flows and obtain the resulting profitability of the partnership for each of the actors involved. One of the reasoning capabilities of the *e³value* ontology is to derive such sheets automatically.

value activities	incoming money flow	outgoing money flow	net value
transfer payments & collections data			
account implementation & maintenance, client service, reporting			
manage balance			
			Total

Figure 8: example Net Value sheet for the actor Bank X

The result of the financial analysis has been placed in a diagram (figure 9), in order to offset the profitability of Bank X and Bank Y against one another.
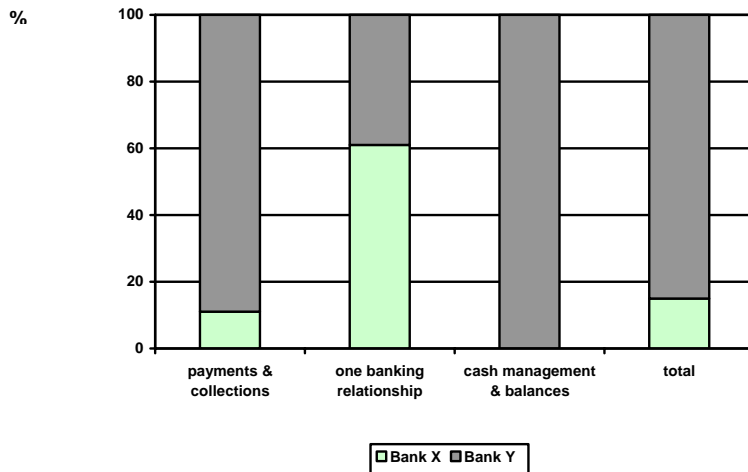
Figure 9: the value division of the partnership between Bank X and Bank Y

With respect to *payments and collections*, the relatively small share of value captured by Bank X is partly the logical consequence of the *front office value activity* at Bank X with respect to *payments & collections*. This construction is a direct result of the nature of the partnership and can therefore not be changed: would Bank X be able to maintain a normal value activity with respect to *payments & collections*, there would be no need for a partnership with Bank Y in the first place. However, Bank X still captures some value with respect to payments and collections, because it offers partnership clients the use of centralized billing. Through centralized billing, the Bank Y bills Bank X for the performed financial services and Bank X in its turn bills the respective clients. The benefit for the partnership client is that, for all its banking services, its only contact is with Bank X. Corporate clients do prefer to keep their banking relationships to a minimum, as this allows them to conduct their finances more efficiently and as a result to save costs. Centralized billing thus allows Bank X to capture revenue through the application of a surcharge on the services performed by Bank Y, charging a little more for certain financial services to its clients than it has to pay to Bank Y, in exchange for the added service. The relatively small share of value captured by Bank X with respect to payments & collections is also the result of the fact that only 23% of the partnership clients uses centralized billing. This can be seen in Figure 6 also; one money flow goes from the corporate client, through Bank X, to Bank Y, and one goes directly from the corporate client to Bank Y. The direct money flow constitutes 77% of the value.

The qualitative value of the partnership to the client was incorporated in the model through the *one banking relationship* value activities, because the Bank X stakeholders considered these partnership aspects to be the added value of the partnership to the corporate client. However this fact is not reflected in the related value captured by Bank X, which represents only 10% of total partnership value.

With respect to *cash management & balances*, Bank Y captures 100% of the value, which constitutes 37% of the total partnership value. Bank Y thus captures a relatively large share of partnership value because of the balances of the Bank X corporate clients it has in its books. None of the corporate clients that make use of the partnership are subscribed to the automatic balance transfer service Bank X has, while this service would allow for an automatic periodical transfer of balances from a client's Bank Y account to its Bank X account in order to optimize balances at Bank X.

After performing the financial analysis of the value model and evaluating the revenue configuration of the partnership, it could be concluded that the value proposition of the partnership for Bank X can be significantly improved, given that the following recommendations are put into action:
- Bank X should promote and stimulate the use of centralized billing amongst the corporate clients (increasing payment and collection revenues up to 77%).
- Bank X should investigate the corporate clients' willingness to pay with respect to the one banking relationship and increase account maintenance fees accordingly (currently only 10% of partnership value)

- Bank X should promote and stimulate the use of automated balance transfer amongst the corporate clients (increasing partnership revenue up to 37%)

6 Final observations

We conclude this chapter with some final observations made while applying the *e³value* ontology in a banking setting to discuss strategic partnerships.

The *e³value* ontology and its models should first be seen as an analysis tool.
Because of the small quantitative value generated by Bank X relative to the value generated by Bank Y, the concern was that the value model did not support the bank X stakeholders in the 'selling' of the partnership to Bank X upper management: they feared the small quantitative value might distract away from the fact that the partnership has a substantial qualitative value for Bank X. However, the value model itself should not be considered as a marketing tool that can be used to sell the partnership. Rather, it should be considered as an *analysis tool* that provides insight in the partnership, and has allowed us one to perceive which changes can be made that increase the quantitative profitability of the partnership for Bank X. As a result of studying the value model, a better understanding of the quantitative aspects of the partnership might enable the Bank X stakeholders to 'sell' the partnership more convincingly, but not necessarily by showing the model to upper management.

The *e³value* ontology and its models should focuses on cash flow.
Bank X pointed out that the value shows an incomplete picture of the partnership, as it does not include those aspects of the partnership that might not be related to actual money transactions, but are still of (qualitative) *value* to Bank X. However, one should not expect a value model to offer a complete picture of all facets of the partnership, including all kinds of value. The value model only captures the value that is influenced by the *money*-based transactions amongst the actors in the partnership. This is a purposefully limited perspective on a partnership, as qualitative factors still should (ultimately) result in cash flow. In other words: the *e³value* ontology assumes that ultimately only sustainable net cash flow matters.

No inclusion of operational costs in the *e³value* ontology.
The fact that the operational costs are not included in the model was also difficult to accept by the Bank X stakeholders, in the sense that it seemed unclear how much of the value identified could realistically be considered value. However, especially in the context of banking, this feature of the value model seems to be particularly appropriate: typically for banking products the costs are not easily relatable to the activities performed. Activity based costing, a popular accounting method that does exactly that is therefore very difficult to apply on the revenues and expenses of a bank. Also it was explained that in a value model the operational costs are not included yet, but that one should actually view the value model as a first step of a thorough analysis. In order to completely analyze the partnership according to the *e³value* ontology, a process model of the partnership would have to be constructed as a next step in which operational expenses are reviewed.

The front office value activity extension is useful.
The *front office value activity construct* proved to have a significant added value to the value model as it sets the respective 'front office' value activity clearly apart from the other value activities. As mentioned above, one of the biggest concerns of the Bank X stakeholders was the relatively small value captured by Bank X in the partnership compared to the value captured by Bank Y, as they feared that this might negatively influence the image of the partnership. The *front office value activity construct* helped to emphasize the fact that the difference in values captured by Bank X and Bank Y respectively is a logical consequence of the partnership nature. The construct supports the model in conveying the fact that an actor that performs a front office value activity will logically capture less value than the actor that performs the related normal value activity. The way the *front office value activity construct* is modeled, dashed lines instead of the solid lines used for normal value activities, and a more transparent shade of the color used for normal value activities, also reflects the thin nature of a front office value activity with respect to revenues captured. Therefore, in addition to explaining the revenue structure when discussing the model, this structure could also be clearly identified in the model, significantly increasing the expressive power of the model. Presenting the final value model to other Bank X stakeholders that had not been involved in the research process, the front office value activity really helped the people in visualizing the revenue structure of the partnership, and therefore they were able to understand the results of the financial analysis behind the value model and accept the related conclusions.

7   References

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