

## **Three realms**

### **DYNAMIC LINKS BETWEEN THREE REALMS OF TRANSACTIONAL RELATIONSHIPS**

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### *Abstract*

*In this paper, an attempt is made to enhance understanding of interfirm transactional relationships. The assumption is made that the development of an interfirm transactional relationship can only be understood thoroughly by studying the various aspects of such a relationship in mutual dependency. Three realms will be introduced, namely the contractual, the relational and the operational realm. These realms are assumed to be closely interconnected and the connections are assumed to be of a dynamic nature. In order to substantiate this multidimensional viewpoint, a case study will be presented and analyzed using a natural experiment methodology.*

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### Introduction

The area of interfirm relationships has received much attention from several scholars in different scientific disciplines. Early discussions particularly focused on the governance of interfirm relationships from an economic perspective. Institutional arrangements in the form of contracts were viewed as the dominant means to govern party's behavior. Such arrangements are formal means to make mutual interests clear and to provide legal grounds to maximize commitment from all parties involved (e.g. Williamson 1985, 1996, 1999).

Of course, such a contractual perspective has its limitations. It easily downplays the social embeddedness (Granovetter 1985) of a transactional relationship. Furthermore, it ignores the operational aspects of a relationship. In recent years, the control of interfirm transactional relationships has gained attention in the management control and accounting discipline, following calls from Otley (1994) and Hopwood (1996). Van der Meer-Kooistra and Vosselman (2004), although predominantly taking an economic perspective, emphasize the social embeddedness of the control in transactional relationships by explicitly analyzing a trust-based control pattern (Van der Meer-Kooistra and Vosselman 2000). Dekker (2003 a and b) integrates an economics perspective with a perspective from organizational theory, thus also emphasizing the relationship between control and trust. The evolutionary nature of an interfirm transactional relationship is emphasized by Vosselman and Van der Meer-Kooistra (2004). They view interfirm relationships essentially as processes of rational interaction, in which transactions are coordinated and in which commitment and trust are built over time. This evolution is flanked by institutional arrangements (contracts) that serve to align interests between parties and to create conditions for trust building.

It seems to go without saying that an interfirm relationship requires coordination at the operational level. There have to be created interfaces between the workflows of the individual organizations. Such coordination could require a high level of attention or a lower level depending on the way in which the interfirm relationship is formed and designed in contracts and informal agreements.

This paper aims to explore a three-dimensional perspective on the evolution of interfirm transactional relationships. We propose that the soundness of interfirm relationships can be better described and understood if these relationships are studied from a contractual, a relational and an operational dimension or realm as a function of time. We propose that the contractual, the relational and the operational realm do not work independently, but are linked at certain moments.

In the following sections we will present a discussion of these three realms in support of our propositions culminating in a basic framework. We will use this framework in an actual case situation in the energy sector to illustrate and refine our views, and to explore future areas of research. In the case situation a number of 'events' will be highlighted that

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triggered chains of cause and effect. In the context of this paper, we define dynamics as the responsiveness of a cooperation to adjust to exogenous shocks. We argue that the urge for adjustment may originate in each individual realm, i.e. certain events happen in one realm, sometimes bubbling up to a different realm. By describing these cause and effect chains dynamic links between the three realms will be assessed. In addition, the mechanisms through which the dynamic links act will be traced. We will study an alliance that started with a common objective for the partners. During the course of its development the robustness of the partnership in the face of threatening events was determined by the trust of the individual firms in the alliance being able to still reach its initial objective.

At this point we wish to emphasize that we use “a” transactional relationship as the basic entity in our discussion, whereas in reality organizations are confronted with multiple transactional relationships at the same time. At this stage of our research we will not address the multi-transactional implications, but recognize that these must be taken into account at a later stage in our research.

### 1 A descriptive model of interfirm transactional relationships

Basically, we submit that control in interfirm transactional relationships takes place in three realms in the relationship: the contractual realm, the relational realm and the operational realm. In the contractual realm contracts are concluded and adjusted. Once they have been concluded they form a legitimate power base for exercising control in the relationship. Furthermore, contracts point to the economic and strategic rationale of interfirm transactional relationships. In the relational realm control is relational of nature and takes the form of trust building. In emerging processes of rational interaction trust is built as a consequence of signaling trustworthy behavior. In the operational realm processes and transactions are identified, planned and coordinated. In the operational realm the actual processes or working methods, are depicted. It is very likely that, if two or more parties decide to work together, the original processes within the individual companies will need to be evaluated for revision. In the following section we will elaborate on each of these realms. In particular, we will argue that, although each realm is very much related to a different disciplinary body of knowledge, much interrelation exists.

#### 1.1 The contractual realm

To analyze the contractual relationship component, transaction cost economics (=TCE) offers a rich set of constructs and provides explanations for formal as well as informal contracts (Williamson 1985, 1996, 1999, 2000, Speklé 2000 a and b). According to TCE contracts are institutional arrangements containing solutions to potential problems of coordination and of opportunism. Rational actors are assumed to make purposive choices on the design of a governance or control structure. Because their rationality is ‘less than perfect’ (Lindenberg 2000) contracts will always be incomplete; it is impossible to design a perfect governance structure or control structure. Nevertheless, according to TCE these incomplete contracts will be efficient in the sense that they minimize transaction costs

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(the costs of governing the relationship). Indeed, the transaction cost economics approach essentially is a theory of optimization. Although transaction costs are to a great extent considered to be unobservable, the theory still is founded on the idea that transaction costs are minimized and that therefore, the resulting (implicit) contract can be considered efficient.

Of course, a minimization always presupposes conditions under which the minimization takes place. For instance, suppose the objective is to find the most efficient terms of governance of an interfirm transactional relationship with respect to oil transport. For that objective, it is of great importance to know whether the institutional environment of the interfirm transactional relationship (for instance legislation concerning the environment) can be considered static. If so, it is perhaps possible to design an efficient contract for all parties involved. On the other hand, if the period of optimization is long, environmental legislation may be considered to be variable and, perhaps, may be even part of the terms of the contract, leading to other contractual arrangements. Therefore, although the restrictions within which an optimal contract is set are not included in the optimization they are of great influence on the resulting contractual arrangement.

Furthermore, being a theory of optimization, TCE theory will lead to a static theoretical understanding and at most to comparative evaluation. The processes that lead from one optimization to another cannot be understood on the basis of TCE alone. Simply put, TCE can provide a global understanding of the choice of the governance structure in specific transactions, but not of the change processes in governance and control. In general, the New-Institutional Economics, in which TCE spawned, shows static characteristics. The Old-Institutional economics is more dynamic and evolutionary of nature and incorporates the formation of the relational and institutional surroundings as corner stones in its analyses (Duindam and Versteegen 2000, Scapens 1994, Granlund, 2001)

Dynamics in the contractual realm can occur in a number of ways. Firstly, as has been presented in the example of oil transport, outside factors may generate a change in the conditions within which the contract operates. In this case, exogenous factors are at work. For instance, connecting a national electricity grid to foreign grids may increase the stability of future power delivery, which in turn, decreases cost of backup facilities having an impact on the terms of power delivery contracts. Secondly, the outcome of a minimization within the TCE may influence the bounds within which a next minimization will take place. A transaction between two parties, for instance an outsourcer and an energy provider, may result in an increase of information about each other. The outsourcer may have improved his estimation skills on potential power failures on account of the energy provider. This can easily result in a change of the contract conditions both parties have been operating with, and consequently, in a change of the contract itself. It goes without saying, that such a contractual development will limit the chances of a successful entry of a different contractor who is deprived of such knowledge and may be forced to take large risks in order to be competitive with the original contractor. Thirdly, it is possible that the outcome of a transaction will exert an influence on outside factors, which in its turn, as some sort of feedback, will influence the terms of

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a new contract. A transaction between two parties may result in an increase of information about each other of such a nature, that trust between the parties is built (Tomkins 2001). For instance, when an outsourcer and an energy supplier discover similarities in organizational culture, or in the way in which they manage risk, this may increase mutual trust. Nooteboom, Chiles and McMackin (Nooteboom 1999, 2000 a and b, Chiles and McMackin 1996), amongst others, argue that the existence of trust may economize on the information needed for monitoring a transactional relationship and that less formal contractual safeguards are required. In this case, the information that the parties have about each other can be seen as a dynamic link in transaction cost economics, operating through trust as an outside factor, which functions as a catalyst. As a consequence, if we were to ignore concepts that are not to be understood within the TCE then we would miss perhaps important dynamic links between transactions.

### 1.2 The relational realm

In the relational realm parties continue to align their *commitments* to the relationship. Commitment regards the value a partner attaches to the relationship. For various reasons, in the course of the relationship the value a certain party attaches to the relationship may more and more come to deviate from the value the other party attaches to the relationship. This divergence of commitments coincides with differences in the degree to which parties are driven by the search for *short-term* self-interests. For instance, if a party attaches high (economic) value to a golden opportunity that emerges outside the relationship, in order to be able to also take this golden opportunity he could be inclined to not performing to the best of his competences in the ongoing relationship, thus behaving opportunistically in the short term. Such behavior signals a decline of commitment to the relationship.

The relational realm is linked to the contractual realm. Once the reasonable fears for foreseeable opportunism are compensated for in contractual arrangements, i.e. interests are aligned by contractual arrangements, in the course of the relationship we submit that due to incompleteness of contracts, parties will feel the need to *show* their continuing commitment to the relationship. As long as they value the relationship they would want to continue it and, therefore, they would want to continue to invest in the relationship. But, of course, in order to avoid waste of investments, each party would like to make sure that the other party also continues valuing the relationship. Therefore, in the course of the relationship parties take an interest in showing each other that they keep the intention to act cooperatively, i.e. that they stay committed to the relationship. In this way, ‘goodwill trust’ between the parties is built, ‘goodwill trust’ being the expectation that the other party will continue to behave cooperatively (Lindenberg 2000) and, consequently, will *not* act opportunistically.

Parties could show their commitments to each other by giving *relational signals*. Important opportunities for such relational signals arise from *exogenous shocks*. For instance, if a contractor in an outsourcing relationship is confronted with unexpected benefits, he might signal that he is prepared to share these benefits with the outsourcer.

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Or when the contractor makes unexpected mistakes, he might signal these mistakes and their economic consequences to the outsourcer, thus showing his commitment to the relationship. Yet another example, if a golden opportunity emerges to the outsourcer outside the relationship, he might signal to the other party that he is willing to not take this opportunity but to perform to the best of his competences in the relationship.

Relational signaling not only has inside effects, but could also have outside effects. Firms that enter a transactional relationship with other firms also interact with a number of other firms, thus being part of an *organizational network*. Such a network is rather social of nature and enhances *reputation effects*, as the members of the network are well informed about the members' past and present behavior and whether it is in accordance with the norms of co-operation and social customs defined in the network. This makes the identification of potential suitable partners easier, and thus works as a selection mechanism (Chaserant 2003). Viewed in this way the organizational networks are viewed as a source of 'goodwill trust' in a cognitive sense, i.e. as a source of the expectation that a party will (continue to) behave cooperatively.

The relational realm is also linked up with the operational level of interfirm relationships. By coordinating activities, parties are able to show their competences for the work at hand as well as their intentions to act cooperatively. Therefore, coordinating activities is closely connected to processes of building trust, competence trust as well as goodwill trust.

### 1.3 The operational realm

In this section we will discuss the operational realm of an interfirm transactional relationship. In this realm all explicit agreements from the contractual realm and the implicit expectations and commitments from the relational realm have to be realized in some way. The operational realm encompasses all development, planning, coordination, execution and monitoring activities needed to construct and sustain the actual workflows that produce the desired products or services in an interfirm relationship.

The responsiveness and the way in which operational processes will develop in time depend on various factors. In the context of this paper we will make a distinction in factors which limit and factors that may enhance dynamics in the sense of flexibility in response to exogenous shocks.

#### *Factors limiting operational dynamics*

If two or more organizations decide to co-operate, this may have certain consequences on the existing operational structure of the workflows in each individual organization. The degree to which workflows and processes need to be restructured depends largely on the agreement the individual organizations have in the contractual realm and, perhaps more implicitly, on the expectations raised in the relational realm. We will denote the impact of cooperation in the operational realm as the level of redesign that is required to make the cooperation operational, as compared with the situation without any cooperation. To

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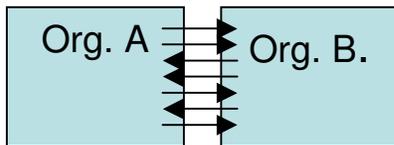
describe changes in the operational realm we will use of business process modeling (=BPM) terminology (v. d. Aalst , Davenport 1990).

Typically, in BPM operations are modeled as a series of interconnected activities. The transfer of work between activities requires some communication and possibly some coordination and control between the activities. In short, some sort of interface must be established between activities.

According to Dietz (2006) an interface is an agreement in which products are provided to a client activity in one direction. All required cooperation between two activities requires at least four communication signals. To put it simply, in case two or more organizations decide to cooperate, then it is very likely that at the operational level the logic in which several different activities need to be bridged, at least some decisions must be made, not only on the general structure of the workflow, but also, which organization will be responsible for what activities. Depending on how the activities will be allocated to actual organizational units, this decision process will vary in the degree of formal attention and arbitration required between the parties involved. Also, in many situations, transfer of work may happen several times for one job between cooperating organizations requiring some synchronization to coordinate the workflow. The complexity and hence the effort required establishing a, for all parties acceptable, workflow structure very much depends on at least the following factors:

1. the number and type of cross-organizational interfaces required;
2. the number of work-transfer interfaces requiring synchronization and the transferability of work;
3. the number and the novelty of the activities that are required to realize the contracted services.

Situations with a large number of “handing over work” interfaces requiring extensive inter-organizational synchronization can be categorized as relatively difficult to change (figure 1), creating some sort of “operational” lock-in (Williamson 1985, 1996, 1999). Interfaces must be identified and agreed upon. Existing workflows must be altered to accommodate these new interfaces. All of this may require changes in responsibility and may create a need for training of personnel and the development or modification of information systems. Sometimes, these changes constitute a considerable investment. In addition, if little goodwill trust exists between the co-operating organizations, it is likely that for many interfaces explicit and formal monitoring facilities will be installed (see Tomkins [44]), further adding to the cost of co-operation.

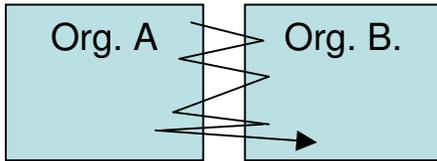


**Figure 1. the number of inter-organizational interfaces is symbolized by the arrows, representing workflow directions.**

A workflow, i.e. a series of interconnected activities, may cross the formal boundary of organizations more than once, introducing the need for cross-organizational synchronization (see figure 2). It goes without saying that the complexity of controlling

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such a workflow operationally increases dramatically compared with a single work transfer operation as shown in figure 1.



**Figure 2.** A schema symbolizing a workflow across two organizations requiring substantial inter-organizational synchronization.

In case the cooperation of organizations entails new activities for which little experience is available, the uncertainty of the way in which new workflows can be developed increases. A certain risk is introduced when investments must be made to develop “subject-matter” knowledge and knowledge to construct effective and efficient workflows in order to satisfy the contractual requirements.

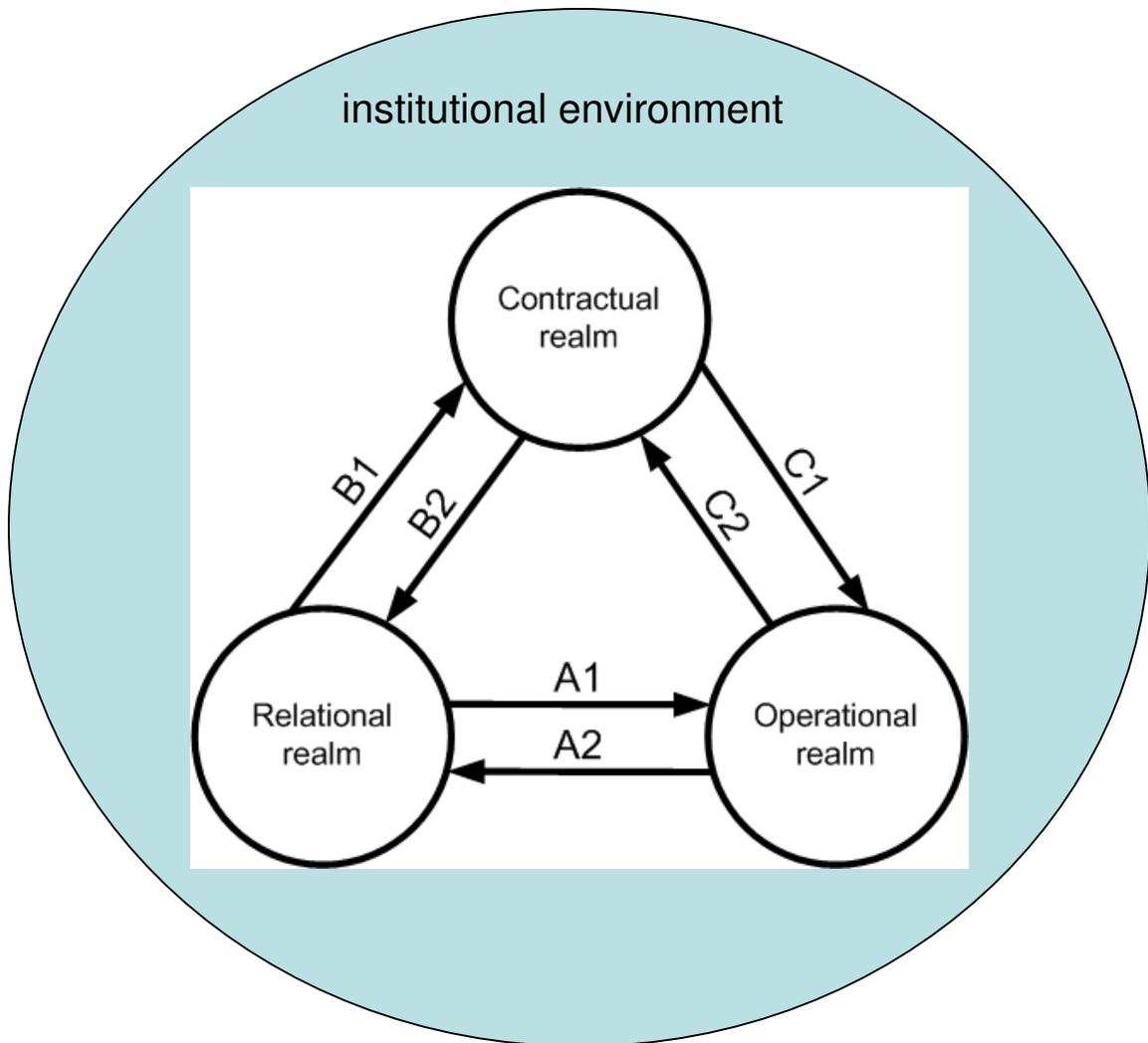
### *Improving operational dynamics*

Arguably, improving flexibility and reducing the risk of failure, the negative effects presented in the previous section must be reduced. Because the operational realm implements the objectives originating from the contractual realm, much of the complexities in the operational realm will be already introduced in the contractual realm. If, for instance, a contractor is approached to operate as a functional specialist, it is not unlikely that this contractor will have to link with several different existing workflows. In that situation synchronization issues need to be addressed. In general, managerial foresight with respect to the consequences in the operational realm will be beneficial. In particular, in novel co-operations, in which little experience can be drawn from previous strategic co-operations, uncertainty in the operational realm may be increased. In such situations trust, in particular goodwill trust, originating from the reputation of the individual partners may compensate for the risks identified here. Basically, goodwill trust is a vital ingredient for innovation in co-operations. After all, for any experience there was a first time.

### **1.4 Dynamic links between the contractual, relational and operational realms**

Following the previous discussion, we conjecture that neither realm in its own right can comprise a long-term relationship. Instead, the three realms are interconnected. Events may occur in either realm and bubble through to an adjacent realm. Influences across the boundaries of the realms operate via links, represented as arrows A1 to C2 in figure 3.

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**Figure 3 The three-realms model**

Much of the current literature concentrates on the contractual and the relational realm and up to some extent, to both. Our descriptive model also includes the third, the operational, realm, which potentially provides a larger scope to explain the dynamics of an interfirm relationship. An example may illustrate this claim. We may point to the observed short-lividness of many joint ventures (Kamminga and Van der Meer-Kooistra, forthcoming). By nature, joint ventures exist in relative isolation from their founding organizations. Basically, they operate relatively independent, have their own management responsibilities and can develop their own internal workflows in relative independence. Initially, a joint venture may operate successfully. Risks identified in the contractual realm are well contained and made explicit by the investments made by the founders. Also, the operational realm is simplified because much complexity in the workflows can be constrained within the legal boundaries of the joint venture organization. The number of cross-organizational workflow interfaces is diminished. On the long term, however,

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this co operative structure may be severely challenged because any competence based trust in the relational realm is accumulated within the joint venture and cannot be easily transferred to the founding organizations. The founding organizations are increasingly lagging behind in any positive development such as trust building, in the relational realm. In the end, the relational realm may lose its vitality when challenged by certain threatening events.

Although, joint ventures may fail due to a wide spectrum of reasons, our framework provides an interesting option to explain certain developments in any type of interfirm transactional relationship. To explore the qualities of our framework further, an actual case situation will be introduced in the following section. The developments or events which occurred over time in this case together with our framework will be used to explain the actions that followed.

## **2 The Case study**

### **2.1 Introduction**

An interfirm transactional relationship in the Dutch utility sector, that has been going on between two organizations for several years now, was selected as case study object. The purpose of this case study is to gain insight into the existence and nature of the links (A1 to C2 in figure 3) between the three realms of interfirm transactional relationships.

Section 2.2 will contain the setup of our research. Section 2.3 will describe the energy market and the institutional background for the emergence of the alliance. In sections 2.4, 2.5 and 2.6 the parties involved in the specific case as well as the initial objective for the alliance will be discussed. After that, in the sections 2.7, 2.8 and 2.9, the three realms will be described as they came forward in the case. Section 2.10 will go into the events we traced and cause and effect chains. Section 2.11 will discuss the results, after which we will draw some conclusions in section 2.12.

### **2.2 Set up**

Figure 3 shows all possible connections between the three realms. As it was set out in the introduction we will investigate which links were recognized in a real case situation and we will try to trace the mechanisms through which these links act. Which methodology should we choose? If figure 3 represented a physical framework consisting of three items connected by links that were the object of research, we could try experiments. In the experiments we could try to manipulate one of the three items in controlled circumstances, for instance by hitting it, and look for the effects on the other items. If we were to choose the hits in such a way that all the possible links could be observed if existent, for instance hitting every item at least once and waiting for the effects of previous hits to disappear before hitting an item again, we could after the experiment draw conclusions on the presence and nature of the links. For instance, whether some links work one-way and other links two-ways, whether some links are missing, whether the intensity of the hitting matters, perhaps whether chains of cause and effect can be

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observed and so on. By definition the links that would be observed would be dynamic links as there would necessarily be a passage of time as the effects materialize.

Of course figure 3 does not represent a physical framework and obviously it was impossible to experiment with a real-life alliance. However, in the case research a parallel line of reasoning was followed, trying to trace events that influence the realms and look for the effects. More in particular events were sought that were unconnected to previous developments in the alliance, that were exogenous as far as the case is concerned. Furthermore, a combination of events was looked for that influenced every realm at least once and that had a potential for triggering all six links involved. Following every event the cause and effect chains that appeared were monitored and the dynamic link was described. In this way the presence or absence of the links could be assessed and the nature of the links present could be determined. By definition this study can only generate a description of a development path and dynamic links as the effects of an event will take time to materialize. In that way the case description could be used as a means for developing the framework further. Therefore, we can call this an exploratory case study using a natural experiment methodology. On the one hand it was attempts to follow the set up of an experiment, trying to discern events in a controlled way and trying to monitor cause and effect chains. On the other hand, it only can generate a quasi certainty, as there was no control of experimental conditions. However, when studying an alliance there can only be attempts to get as close to an experiment as possible. All the shortcomings of a quasi experiment are present of course.

Llewelyn (2003) discerns five levels of theorizing in which case research can play a part, generating five levels of theory: Metaphor theories, Differentiation theories, Concepts theories, Theorizing settings and Grand theories (Llewelyn 2003, p. 687). In terms of Llewelyn (2003) our case will function as a means for gradually deriving a *concept theory* “explicating practice” and creating “meaning and significance”(Llewelyn 2003, p. 674) Our case could generate an improved understanding of the meaning of the three realms through linking them to each other, in the setting of a specific case..

Several in depth interviews were conducted with persons from both companies, who were, and still are actively involved in this relationship. The interviews helped to reconstruct the events that have shaped the relationship from its early beginning, in 2001, up to the present day. The interviews were semi-structured as described by Yin (1994). The case research consists of interviews conducted with the persons maintaining the transactional relationship and their hierarchical managers. Every interview was recorded and transcribed and forwarded to the interviewee for comments and approval. New subjects or developments within transactional relationships were acquired by asking open questions about differences between the previous situation and the current situation, having the interviewee expand on their perception of important events and to elaborate on the positive and negative effects. In a follow-up round the persons originally interviewed is asked: whether the events recorded involved only one realm initially, whether the interpretations of the research team with respect of the nature of the links between the three realms per event were accurate and whether confidence in the initial alliance

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objective was the source of the robustness of the alliance when the unexpected events occurred.

In addition to the interviews the contract and the service level agreements were studied.

### 2.3 Institutional environment

In 1996 the European Union signed an act on the liberalization of energy markets. This directive (1996) states:

“The Directive establishes common rules for the production, transmission and distribution of electricity. It lays down the rules relating to the Organization and functioning of the electricity sector, access to the market, the criteria and procedures applicable to calls for tender and the granting of authorizations, and the operation of systems. The internal market in electricity will initially be subject to a gradual market opening so that the electricity sector can adapt to its new environment. Member States may impose upon undertakings operating in the electricity sector public service obligations which may relate to security, including security of supply, regularity, quality and price of supplies, and to environmental protection.”

Most likely, this directive represents a motivation for organizations using or supplying substantial amounts of energy to invest in strategic transactional relationships, the foundation of national energy markets (Amsterdam Power Exchange, APX, the UK Power Exchange, UKPX, Nordic Power Exchange, Nord Pool) and the European energy market (the European Energy Exchange, EEX). It was expected that new power generation technologies such as solar energy, cogeneration heat plants (CHP's) and wind energy would lead to more efficient and environment friendly energy production. A shift in the investment climate was expected to occur in which environment friendly production is clearly favored. In 1996 the Dutch government started to implement the European directive, which is now known as the new Dutch electricity law. From 1999 until 2004 the electricity markets were gradually opened, starting with the category of high-energy consumers (mostly firms in the chemical and heavy industry sector) and ending with the low-energy consumers (i.e. the category of individual households). Another fundamental change was the abandonment of a national, central energy provisioning policy in favor of a more decentralized model in which private initiatives are encouraged. This liberalization of the energy market urges the traditional energy boards to actively compete with newcomers on the energy market.

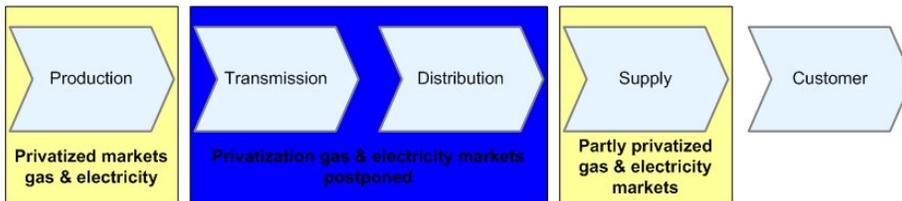
In figures 4 and 5 the situation before and after the implementation of the new Dutch electricity law has been visualized. In the period before the new law was introduced, large energy consumers had to provide the central regulation authorities with energy demand forecasts. These forecasts were then used to setup and tune the large power plants and to buy electricity from other (institutional) energy boards for the purpose of guaranteeing delivery. In this system, energy consumers benefit from overestimating their demand, because overestimation was generally accepted, whilst underestimation was penalized. This resulted in a general overcapacity of power plants owned and financed by the government. From a technical point of few, new small-scale power generation options

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provided only a limited alternative to the standard centralized provisioning regime. E.g., large energy consumers could utilize so called co-generation power plants to provide for their own needs. However, since this type of technology produces electricity and heated steam, a demand for both products in fixed relative volumes would be needed to make this option economically feasible. Possibilities for energy trading, in order to sell excess capacity, were virtually non-existent. The net result of this regime was that the application of alternative energy generation on a local scale was effectively limited to a few of the largest energy consumers with a steady energy demand.



**Figure 4 Electricity production & distribution chain before 1996**



**Figure 5 Electricity production & distribution chain after 1996**

In the period after the introduction of the new electricity law, the situation changed drastically. A national regulator controls the national grid and local transformer stations. All other governmental power regulation and generation bodies have been privatized. Now, energy consumers can buy energy on an open market. Energy provisioning contracts may vary in length and may involve other services. This new freedom of choice makes energy cost a manageable commodity for energy consumers and new market challenges are presented to energy provisioning companies. However, this freedom comes at a price. To control this new commodity a thorough understanding of energy consumption patterns, energy generation options and energy prices on the market on the short, middle and long term are needed to optimize costs. Many energy consumers lack this knowledge whilst energy providers don't have this understanding from a consumers' perspective either, but are eager to learn. Energy consumers are beginning to realize that they may not be able to justify the development of sufficient expertise on their own. Although almost any company is extremely dependent on reliable energy provisioning, it is not considered to be a part of the core business in many companies and outsourcing is nowadays high on the management agenda.

Given the novelty of this market and the relative inexperience of most participants, this market represents a unique opportunity to research strategic interfirm relationships from the stage of infancy to full maturity

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### 2.4 The parties involved

#### *Organization P*

Organization P is a hospital treating 20.000 patients a year and 250.000 patients on a polyclinic basis. The hospital has around 600 beds and a floor space of 95.000 square meters. P employs about 30 specialties and 2700 employees, of which 115 are medical specialists. Altogether P has 42 functional groups divided in three main categories: the medical group, the medical-sustaining group and general sustaining group. The medical and medical-sustaining groups have separate supervisors, who constitute the management team. The management team is based on equivalence and is the link between the board of directors and the general sustaining group. This functional group contains functions such as administration, human resources, purchase, PR and hotel & technical department and is hierarchically organized. The spokesman (energy coordinator) of the hotel & technical department and his hierarchical manager of Technical Services (TS) were interviewed.

#### *Organization Q*

Organization Q can be characterized as a contractor, which was originally a subsidiary of a public energy board. Q is now a relatively independent business unit, specializing in total utility asset management, covering maintenance, assets and commodity costs services, founded in November 2001. A particular area of specialization is the operation, maintenance and modification of secondary utilities such as heat (steam or hot water), cold (cold water, air cooling) electricity and water treatment. Basically, Q offers two types of contracts; a unit rate pricing and performance related pricing scheme. The parent company of Q has 9.638 employees and generated an EBIT-profit of 536 million euros and revenue of 5 billion euros in 2003. The spokesman (exploitation manager outsourcing) of the contractor and his hierarchical manager were interviewed.

### 2.5 The initial objective

The urge for organization P to co-operate with an organization Q specialized in energy provisioning and related services, is rooted in three strategic considerations. Organization P decided to invest in two cogeneration heat plants (CHP) to provide the hospital with heat and electricity (1995). The total capacity of these installations is 5,6 MWe (Mega Watt electric power). The electric capacity of the cogeneration installations (two) is twice as much as the hospital would require, creating an opportunity to sell excess energy on the energy market. However, due to a gradual price drop in electric energy in combination with a steady price increase of natural gas, this scenario proved to be unprofitable. The management of P believed that a suitable partnership could alleviate the problem by increasing the scale of operation. Another motive for organization P to seek cooperation was that the two maintenance engineers running and maintaining the cogeneration installations were approaching retirement age. Recruitment of two new engineers would be difficult, because of the limited career opportunities within organization P for persons with this type of specialization and the high demand for this type of technical specialization on the market. Finally, the management of organization P concluded that energy generation and marketing it is not their core business. Although a hospital is very dependent on a reliable energy supply, this doesn't necessarily mean that energy provisioning is an in-house activity.

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The initial transaction objective concerned the supply and maintenance of the cogeneration plants, the boiler room, the absorption cooling and the back up power supply. Organization P had some specific requirements concerning a transactional relationship. Firstly and most importantly, organization P wished to minimize any operational involvement with the services mentioned, i.e. the utilities were regarded as black boxes from P's perspective. Organization P was predominantly interested in maximizing the trade-off between availability of the utilities against running cost. Secondly, organization P wished to delegate the aforementioned services preferably to a single partner to reduce management involvement with communication and arbitration. The partner was allowed to subcontract other parties, but would be entirely responsible for their actions at all times. Other perceived conditions for cooperation were:

- The partner was free to choose the technology needed to provide the services, and therefore should be technologically competent and expected to make sound managerial decisions concerning investment and operation policies.
- The partner was required to have a good reputation in the utility services market, and preferably should have some experience with the utility requirements of hospitals.
- The partner should be ready to provide the required services by the end of 2001
- Since electrical power is critical in a hospital environment, special guarantees were required concerning uninterrupted power supply, in particular during workdays.

### 2.6 Partner selection

Organization P wrote a tender outlining their interests in a long-term partnership and sent it to several energy boards and other energy service suppliers. This tender contained general information about requirements and desires of organization P. Five offers were received, one of which was sent from organization Q. All five were invited to give a presentation at organization P. Based on this presentation and the credentials of each potential partner, the selection was narrowed to just two offerings. Organization P hired an outside consultant knowledgeable in the utility sector to assist in the final decision making process.

One of the two organizations selected had to withdraw because of a disagreement with a large company it cooperated with in a merger, which delayed the selection process for about half a year. After this period, a second invitation was sent to all organizations again, giving them the chance to update their offer. Organization Q, operating with a subcontractor, was finally selected, because their offer was the cheapest. A letter of intent was signed between organizations P and Q, which practically cut off all contacts with the other four bidding companies and paved the way for operationalizing the relationship. Organization Q was given clearance to access detailed historical information on the utilities organization P was using. A project team was established, consisting of an energy technician, a project manager, an exploitation manager and an account manager, all from organization Q. Their task was to identify in detail the potential of their cooperation, and each member was assigned to examine particular aspects of the contractual relationship, for instance the amount of energy needed during peaks and lows in energy demand and the future requirements and needed capacities. The additional information gathered by operating the utilities under due diligence was discounted in the

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final offer. This process took seven months. Finally, the contract was signed by both parties at the end of 2001.

During the initial stages of the relationship between P and Q, much of the development took place on the contractual and relational level. The operational level was beginning to function not before the period of due diligence.

### 2.7 Contractual realm

Basically, the formal contract contained the following agreements:

- Organization Q was responsible for the provisioning of energy (defined as a service level agreement).
- Organization Q would buy two CHP's and corresponding technical installations, formerly owned by organization P, which were to be used for providing the energy (electricity, steam, heat, natural gas and cooling).
- Organization Q would provide all kinds of services (maintenance, upgrading the CHP's) and ideas to improve energy efficiency.
- Organization P would compensate organization Q for energy supply and the use of other services via an indexed pricing scheme. For every type of service, a separate pricing scheme was agreed upon. The indexes were based on a mutually agreed expectation of how prices of oil and gas will develop. In addition, unforeseen developments such as changes in legislation that have major cost consequences would be shared on a fifty-fifty basis.
- Organization Q would share its profit in energy efficiency improvements that resulted from their cooperation with organization P.

The whole contract was about 28 pages long and contained only few safeguards against opportunism of the other party. One interviewee stated that one reason for this was, that the management of P has only very little experience with outside partnerships of this magnitude. Another reason was that already in the beginning, both organizations shared a high level of trust in each other and were confident that they would be able to settle any disagreements in due course.

Furthermore, the contract only specified a quantitative approach of volumes of different products, maximum quantities, specific deliver points, prices and their indexing formulas, including taxes and issues of measurement. Some products like hot water can be returned into the generating process and therefore have to satisfy specific technical values. These values were also included in the contract. The service level agreement was about 9 pages long and contained additional information for the co-ordination of the interfirm transactional relationship.

Initially, both parties were engaged with this transactional relationship for 10 years. Premature cancellation of the contract was possible after 60 months with an extension of 12 months. In that case, organization P could reacquire the CHP's from organization Q for a preset transfer price. If organization Q would go bankrupt, organization P had the first option to reacquire the CHP's as well.

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So, the contract mainly existed of a general description of the transaction and a limited amount of information about preventing co-ordination problems at the operational level.

### 2.8 Relational realm

Organization P interacted with a number of other firms, among which other hospitals and suppliers of products and services used within the hospital. Its maintenance contractor was a firm that was also reviewed as a possible partner in this particular interfirm transactional relationship. The maintenance contractor operated a specialized department in energy contracts. This department asked organization P whether they could participate in the second invitation to gain the contract. Being related to the current maintenance contractor this specialized department had a positive reputation. In fact the specialized department even got into the second round to compete with the current partner. In the end their offer was financially the lesser.

During the first invitation an energy contractor in cooperation with a maintenance contractor also issued their first offer. Organization P had no knowledge of the maintenance contractor, so it started using its network to find some references about this maintenance contractor. They found another hospital that provided a negative reference.

Most incumbent energy contractors had to deal with a negative image of being bureaucratic. The transformation towards a market driven sector was a problem for most of them as they had little knowledge of customer relationship management. In fact there was an institutionalized distrust of former energy contractors. To the exception of this, organization Q had managed to create a trust based relationship. The relational aspect played a major role between the limited number of persons who were involved during the actual contracting phase. In particular, one person at organization Q was very convincing with organization P and perhaps it was to his credit that the contract was relatively simple and concise. In addition, both organizations took their time to clarify their interests openly. "Potential opportunism is always present and cannot be fully excluded" as an interviewee said. Therefore, the joint discussions were aimed at discovering each other's interests instead of safeguarding each other's potentially opportunistic behavior. So commitment in the interfirm transactional relationship was sought.

During the due diligence phase of the interfirm transactional relationship some problems occurred. These problems were often solved by bargaining about possible solutions. The solutions were mostly found in tolerant behavior from one of the parties. In this case both parties had their own problems. By discussing the problems with the other party a kind of leniency between the parties came into existence. This kind of leniency may be related to the trust building process, through relational signaling. For instance by discussing the problem openly, the other party is being signaled a problem solving and cooperative attitude. By discussing problems both parties experienced that expectations about each other were met.

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### 2.9 Operational realm

The overall process of generating utilities was transferred to organization Q as well as the technical installations to provide the utilities. Both transfers had unavoidable consequences for the operational realm. Some of them even had consequences for the relational realm and the contractual realm. The asset specificity in this case is not as high as in a situation of complete business process redesign. Although, organization Q is the new owner of the installations and the processes, organization P is responsible for first-in-line maintenance. The results of any first-in-line maintenance activity is reported to Organization Q. Basically, this shared responsibility suggests that up to a certain extent business process redesign has taken place.

The operators of organization P were used to certain workflows and processes in the technical department. The interfirm transactional relationship generated changes in these workflows and processes. For instance, operators were not allowed to adjust any operational parameters anymore as stated in the contract. During the due diligence period organization Q found out that the operators of organization P were highly competent in running the utilities and had more tacit knowledge than expected by organization Q. As a result organization Q allowed these operators to change operational parameters on the condition that changes were reported. So, during the due diligence the amount of trust between both parties increased. Expectations of the other party were met, leading to more trust between both parties.

Operators of organization P were not responsible for maintaining the utility installations, however they still performed first-in-line maintenance if asked by the maintenance contractor. In practice this first-in-line maintenance is performed by operators of organization P.

As organization P continued to perform a lot of first-in-line maintenance on the installations, few interfaces were needed within the operational realm. Other maintenance was planned and executed by organization Q in accordance with organization P. Most important was the synchronization of different maintenance planning items (of organization Q) and work transfer of executed maintenance by organization P. During the first years weekly consultations between members of the both organizations ensured the synchronization of work items clear. After some years this consultation became bi-weekly. As the engineers of organization Q found many maintenance activities more difficult than expected and as there were many replacements of maintenance engineers, organization Q needed much time to acquire the competences needed.

The low degree of specification in the contract led to flexibility in the operational realm. The absence of work instructions, work items and process descriptions kept the interfirm relationship very flexible towards unexpected events. However, the absence of structure can also have an opposite effect. The engineers of both parties gradually built a joint perspective on how to perform activities most efficiently, enhancing the formation of accurate expectations about each other.

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### 2.10 Events and their dynamic links

As it was explained in section 2.2 a natural experiment methodology was followed for the purpose of tracking cause and effect chains in the three realm constellation of figure 3. The events selected were all thought to represent exogenous shocks. Besides, the combination of events was selected such that all links could potentially be triggered; therefore no link was excluded in advance. The consequences of every event for other realms were traced as far as possible, although it certainly cannot be guaranteed that some relevant effects were not recorded or that long-term effects were still to materialize after the observation period. Besides, there will be a chance of effects being the consequence of other causes than the ones recorded or effects being a consequence of multiple causes. This is why we can only speak about a natural experiment and why the presence of a phenomenon is more important than the absence. In particular, the events and consequence observed would tell us that a link did appear, whereas the inability to observe a link does not mean that it did not exist. Nevertheless, the events and their consequences do give as an opportunity to substantiate our framework.

Event 1: An employee of a subcontractor of organization Q fell short in familiarizing himself with the equipment.

Basically, this meant that a contractual requirement for organization Q, i.e. to achieve a minimum level of asset specific knowledge, was not met. Although the employee was only a member of a subcontractor, the relationship was harmed as well. In the short term, the operational relationship was faced with insufficient capacity to keep the equipment running and in good condition. An employee of organization P, who was responsible for the training of this particular employee, was asked to stay until a new employee could be assigned. This event is an example of link A2. A shortcoming in the operational relationship also stressed the relational realm and the existence of trust.

Event 2: A subcontractor of organization P failed to install a new cooling system in time. Before the contract with organization Q became effective, organization P was agreed to have the new cooling system installed first. To sustain the relationship the partners agreed to adapt the contract (before signing it) to include the old and new cooling system. This contractual failure has reduced trust within organization Q. The cooling system was installed by this subcontractor eventually, and organization Q was now responsible for all maintenance of the cooling system. This event affected the links A2, B1 and C1, again involving trust.

Event 3: The contract between organizations P and Q was signed, regardless of the previous events encountered by both organizations.

Operational activities started with the help of an employee of organization P who provided the necessary specific knowledge. The leniency of both parties in the previous events provided enhanced trust in further developing this interfirm transactional relationship. This event triggered the link B1.

Event 4: The installation of a sophisticated energy supply measurement system was postponed.

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In the contract this system played an essential role in measuring the energy efficiency and these measurements were an integral part of the contract. The specific knowledge was not acquired in time to pinpoint the exact measuring points within the processes. Both organizations had the choice between postponing the whole cooperation or starting the operations without a specific means of measuring performance. Both organizations came to the agreement to share the financial consequences of using less than accurate measurements. Organization P also expressed a loss of trust in the subcontractor of organization Q. This event is an example link B2. The consequences of this event on the operational level are considered insignificant.

Event 5: A key person left organization Q.

About six months after the contract was established a highly skilled and informed maintenance engineer left, taking with him all tacit knowledge about the equipment and the personal trust-based relationship with other employees of organizations P and Q. Pressure was put on the management of organization Q to make sure he would be replaced by an equally skilled person. A change on the operational level of the relationship has caused problems on the relational level of the relationship, i.e. links A1 and A2 were involved. Finally, organization Q was able to replace this key person, with even better skills.

Event 6: Organization Q wanted to overhaul a motor management system.

In the contract several parts of the motor system are allocated to either Organization P or Q. However, to guarantee an optimal overhaul process, the entire motor system has to be overhauled. Organization P has to agree with this and share in the overhaul cost. This event originates on the operational level and caused issues at the contractual and relational level. Again the links A2 and B1 are involved. At the time of this writing, this issue is pending. However, both organizations expect to find a solution.

### 2.11 Discussion

Initial motives still play an important role in the transactional relationship. Since both partners remained separate organizations with their own dynamic business goals, a future misalignment posed a potential threat to the interfirm transactional relationship. Even in the beginning, the relationship resulted from a number of important decisions both organizations had to make. On the one hand, Organization P accepted the loss of in-house technical expertise on power generation and servicing, becoming completely dependent on the competence and integrity of organization Q. On the other hand, organization Q was prepared to invest heavily in new equipment with a long pay back time. The risk was acceptable for organization Q for the sake of a profitable long-term relationship.

From the start of the transactional relationship many process ownership problems occurred. Event 2 is an example of problems resulting from unclear or ineffective allocation of ownership of technical systems. Mostly, both parties managed to solve the issues as they went. Arguably, an important source of the ownership problems was the lack of involvement of engineers in the phase of contract design.

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As organization Q employed other contractors, which were not explicitly involved in the original contract, it assumed responsibility for their performance. In particular, event 1 demonstrates that even though an outside contractor could be blamed solely for bad performance, organization Q took the “punishment” on the relational level and operational level. Apparently, organization Q took the blame unequivocally for problems caused by subcontractors as it improved its trustworthiness as a party in the alliance.

It appeared that every event triggered a cause and effect chain that involved trust in some way or another. Even though the events described above were mostly negative, it hasn't led to a decrease in trust. On the contrary, all interviewees agreed that nowadays trust is larger than in the beginning of the relationship. Also, the interviewees agreed that no one was blamed for not being able to prevent the negative events in the first place, but instead, mutual respect and trust were built by solving these issues informally, quickly and successfully. So far, this transactional relationship has proven to be quite robust and to respond flexible to problems. Of course, the contract was established in the end of the year 2001, with many more years to come. However, many problems have been dealt with and solved appropriately. The solution was always created in the relational and operational realms. It is conjectured that eventually the various forms of trust that were encountered after the events were rooted in a strong trust in the initial objectives of the transactional relationship. It seems that the initial cooperation is still seen as sound and sensible. This generates the mutual trust required for keeping the relationship going on solving problems and vouching for each other to signal this commitment.

#### *Issues of reliability and validity*

Being a one-case study the external validity of the results of the study cannot be high. However, the set up of the study was such that reliability and internal validity were enhanced. Reliability is sought by

- having the persons interviewed comment on interview transcriptions and seek approval;
- taking interviews in both organizations that comment on both sides of the links discerned;
- reading the written contract and the service level agreements for purposes of triangulation;
- choosing events that are thought exogenous of nature;
- choosing the collection of events such that all realms could be initiated at least once.

Validity is sought by asking the persons interviewed whether

- the interpretations of the research team with respect of the nature of the links between the three realms per event were accurate, in particular focusing on the role of trust;
- whether confidence in the initial alliance objective was the source of the robustness of the alliance when unexpected problems recorded occurred.

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### 2.12 Conclusions

The case study clearly shows that the case could be understood in terms of the three realms introduced in this paper as well as the links between the realms. Furthermore, almost all theoretical links, except for C2, were initiated at least once during the initial two-year life span of the contract. Therefore, the three realms were connected and, as C2 was not observed, the relational realm took a more central place in the schema than the two other realms. This observation raises the question whether it is possible at all to observe paths that exclude the relational relationship. In all events the existence of trust or trust building processes were involved. In this case trusting each other in trying to attain the original goals of the cooperation remains a vital working mechanism behind the dynamic links. This corroborates the notion of the relational realm having a central role in the relationship.

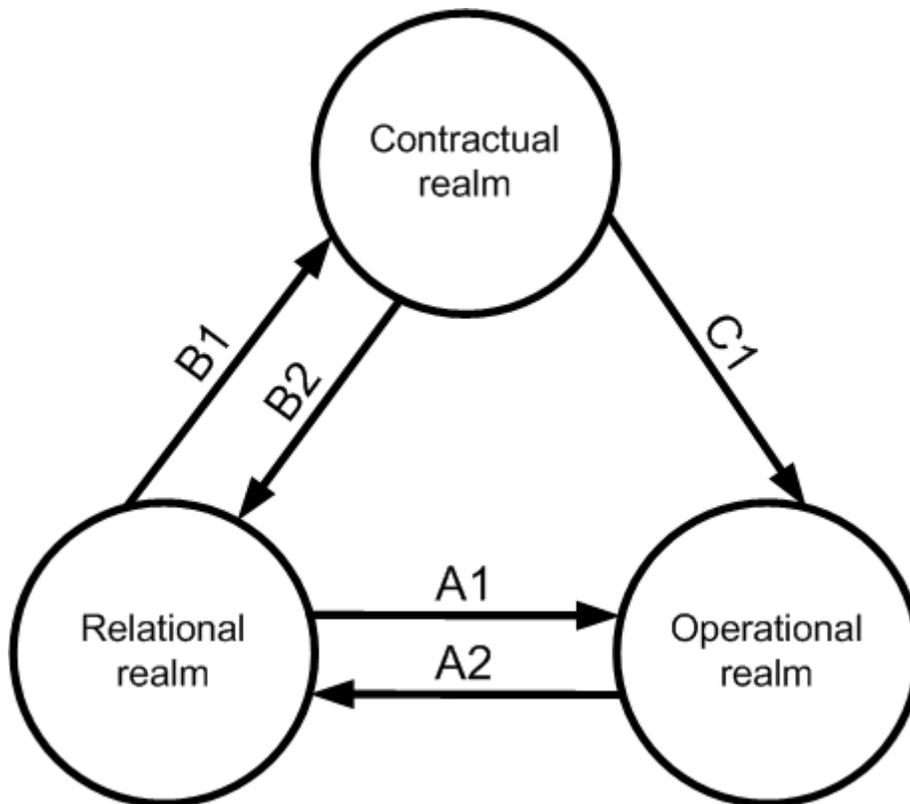


Figure 4 Dynamic links in the three-realm model adapted to case experience

Of course the conclusions with respect to the framework are provisional as they are based on one case. However, when describing the case on the basis of the framework it proved possible to understand a number of events in terms of the dynamics that resulted from these events and in terms of the links between the three realms. The results proved to be reliable and valid within the context of the one-case study.

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Future research could substantiate the framework further. The various forms of trust or of trust building working in the various dynamic links could be specified. One might expect to find other forms of trust to be embodied in the links A1 and A2 involving the operational realm, than are embodied in the links B1 and B2 involving the contractual realm. Our case suggests that confidence remaining in the original purpose of the cooperation is pivotal in this respect.

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