

# Exploring interorganizational conflict in complex projects.

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This article focuses on how the phenomenon of conflict between buyer-seller in complex projects can be approached from a theoretical and a methodological angle. Two paradigms for approaching conflict are discussed: Conflict as a problem to be removed and conflict as a resource and tool for improvement. Constructs to be used include friction events that indicate traces of conflict. In understanding conflict it is argued that the events should be related to two fundamental different governance mechanisms in order to understand the importance of formal governance such as the formal contract or network governance implying social interaction.

## **1. The context is complex projects**

In this chapter features and characteristics by the complex project will be discussed in relation to the phenomenon of conflict in relationships between buyer and seller. The project can be characterized by the existence of own goals, low frequency and predetermined time- and resource limitations. The core of the project can thus be described as a *one shot approach*, to scan, bid and negotiate (Cova and Salle 1992). The acknowledgement of the project as a part of an innovation can also be added (Kolltveit and Reve 1998). They end up with definition of a project as "a task consisting of a distinctive goal, low frequency, predetermined time- and resource limitations, and as a part of an innovation process, usually connected to a financial transaction" (Kolltveit and Reve 1998 p.12).

The project construct will be narrowed to capital intensive, innovative projects thus introducing the notion "complex projects". Fabrication projects from the oil industry will be applied as a frame of illustration. Very high technological and financial risk characterizing the "upstream" part (bringing up hydrocarbons from the reservoirs) of this industry further enhances the generic project challenges. Heavy activity interdependencies with many actors cause managerial complexity. This complexity is further enhanced by adding third parties to the dyadic relation recognizing their causative role and effected role.

## **2. What is an interorganizational conflict in a complex project?**

Rex (1981) claims that the core issue of conflict is the situation of which A fully understands what is expected from him, but rejects the line of conduct that B requires. Furthermore A is prepared to pursue both his own goals and the line of action by which he proposes to achieve them. A shorter definition is suggested by Deutsch (1973 p.10): "A conflict exists whenever incompatible activities occur".

Pondy (1967) further adds three attributes in understanding interorganizational conflict. First that each conflict relationship is made up of a sequence of interlocking conflict episodes, second that conflict is intimately tied up with the stability of organization, and third that conflict may both be functional and dysfunctional. We concur that these initial statements about conflict is an adequate starting point.

These episodes can be thought of as a gradual escalation to a state of disorder consisting of five stages: Latent-, perceived-, felt-, manifest conflict, and conflict aftermath (Pondy 1967). Each of these will be discussed in relation to the complex project.

#### The latent conflict:

The conditions or underlying sources to conflict are found here. The latent conflict can be based upon (1) competition for scarce resources, illustrated by the project team competing for unanticipated docking capacity interfering with other ongoing projects. (2) It can be based upon drives for autonomy where the project team seeks to insulate itself from being controlled by the base organization. Finally (3) a divergence of goals can emerge through manpower rotation between supplier and the project team.

#### The perceived conflict

This conflict may, or may not, stem from a latent conflict. If not, the conflict results from misunderstanding of each other's true position. By involving suppliers in the project core team and interorganizational rotation of manpower one seeks to improve communications. Sometimes a suppression mechanism blocks latent conflict to develop illustrated through the project having too many episodes of conflict at the same time to handle, thus trying to reduce the number. The majority of contracts in oil industry even have contractual provisions forcing the parties to temporarily suppress conflict to safeguard project progress.

#### The felt conflict

This is characterized by the personalization of conflict, which sometimes occurs in business to business relations. Managers may be representatives for large organizations involved in contractual battles challenging the value of their companies. This may cause a tremendous pressure on the individuals increasing the risk of personalizing the conflict fueled by mass media. Project stories are full of high profiled individuals being accused for enhancing conflict.

#### The manifest conflict

The most useful definition seems to be that behavior which, in the mind of the actor, frustrates the goals of at least some of the other participants (Pondy 1967). Various administrative and legal resolution processes are applied here. In a complex project the manifested conflict may follow a path towards negotiations, voluntary mediation with third party assistance, arbitration tribunal or finally ending up as a court decision. Conflict in complex projects is well represented in all those stages of conflict escalation.

#### Conflict aftermath

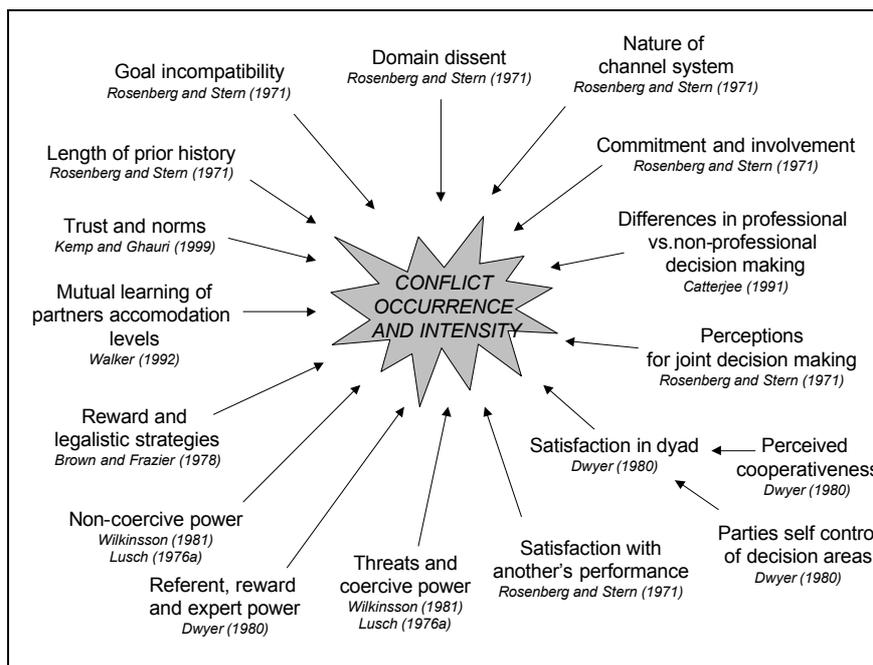
Development of each conflict episode is determined by a complex combination of the effects of preceding episodes and the environmental milieu (Pondy 1967). This implies that a conflict between one project and a specific supplier may have an effect later in the same project, or in succeeding projects. To what extent conflict experience in one project dyad is

carried on into other project dyads is to a large extent dependent upon the extent of organizational learning.

### 3. Studies of conflict and relevance to complex projects

Studies of interorganizational conflict reveal a variety of aspects of the phenomenon. Two aspects are of particular interest. First, what are the main sources to conflict occurrence and intensity in a marketing channel? Second, how does third parties play a role? The following figure illustrates some of the empirical findings related to conflict occurrence and intensity.

Figure 1. Conflict occurrence and intensity



In the following the relevance of the findings for understanding complex project will be discussed. This discussion is important not at least because none of the studies are based on empirical findings from hybrids.

#### Importance of the nature of channel system

On macro level certain issues in a dyad generates more conflict than other (Rosenberg and Stern 1971). Within a complex project context there are different macro variables characterizing point of origins to conflict. One macro variable is the degree of market instability with respect to supply and demand for capacity. Supply/demand in oil related projects are subject to fluctuations in oil prices, discovery of profitable oil reservoirs and number of exploration licenses granted by the government. Other projects, such as airports and public infrastructure projects are characterized by other conflict variables related to such as political- and socioeconomic consideration. Hence the nature of channel system suggested by Rosenberg and Stern (1971) is of interest.

#### Domain dissent

One area of disagreement causing conflict is related to the dividing line of task and responsibilities between the parties (Rosenberg and Stern 1971). A lack of understanding

about the domain of the parties may in turn lead to lack of understanding of the purpose of the hybrid (Borys and Jemison 1989). On the other hand the purpose of combining resources from the parties may create a new domain. The challenge in creating proper dividing lines (with increased risk of increasing conflict level) is further enhanced with increasing activity- and resource interdependencies. This is further enhanced through technological innovation carried out in close cooperation between project and supplier. Who owns and control the innovation? Who has the right to change crucial activity patterns and standards, the focal project management or the seller of a large system delivery package? In complex projects the roles of buyer and seller might be far more ambiguous than the parties marketing household durable goods lying behind Rosenberg and Stern (1971) study. The problem of dividing lines between parties in a project context is addressed by Stinchcombe and Heimer (1985) claiming the importance of the "decoupling principle". This principle states that "if two activities are highly interdependent, they should be carried out by the same organization, under the same authority" (Stinchcombe and Heimer 1985 p.70). The problem is, however, that that this principle is often violated through splitting of interdependent activities thus causing interface problems, and uncertainties of whom to decide domain.

Domain problems can also be addressed in a wider perspective, as a hybrid. ".harmony and conflict resolution is difficult to achieve because partners often do not share a common environment or domain and, thus, lack a foundation for generating a set of common understandings about the purpose of the hybrid and the process by which that purpose can be achieved" (Borys and Jemison 1989 p.237).

#### Goal incompatibility, commitment and involvement

Goal incompatibility, commitment and involvement are three factors explaining sources to conflict (Rosenberg and Stern 1971). Can a project include important actors with contradictory goals? In economic exchange both parties interact in order to make money. This is encouraged by establishment of economical incentives in order to secure project progress. These incentives can play an important role in a complex project. Willingness and ability to cooperate, commitment and involvement are thus connected to economical win-win for both parties. One might thus argue that the risk for having contradicting goals is less explicit because the consequences of having those goals are punished in terms of losing bonus. On the other hand not all projects are supported by incentives supporting common goal orientation, commitment and involvement. And if the incentives do exist, a great number of partial decision makers have to be able to connect single decisions to the totality and envision its consequences in order to have an effect. Normally these three elements are hardly a predominant element in explaining project-supplier conflict unless absence or existence of a faulty incentive system.

Commitment from both parties is another critical issue. Lack of expectations of future transactions (due to competitive bidding) assumes leads to reliance on formal and hierarchic mechanisms (e.g. contracts). Contracts are, however, difficult to specify under conditions of uncertainty and where partner obligations are designed to change over time (Borys and Jemison 1989) and in environment and situations of high complexity (Stinchcombe and Heimer 1985). The actors can thus enter a vacuum where they are unable to bridge the gap between requirement for commitment and inadequacy of formal governance mechanisms.

#### Decision making

Rosenberg and Stern (1971) suggest that parties having different perceptions of how to make decisions in the dyad can cause conflict. Joint decision making is crucial in a complex project

context of at least two reasons. First, activity structure and links between activities can not be altered without interfering with other activities performed by other actors. Second, a great number of such decisions require mutual perceptions. Hence one can easily argue that different perceptions of how do deal with interdependent activities may increase the risk of conflict, as suggested by Rosenberg and Stern (1971).

The sensitivity of this issue is also illustrated through the problem of violating "matching hierarchies" addressed by Dahlgren and Söderlund (1999). An expert group from supplier (on low hierarchic level) addresses problems or solutions directly to project core team manager (on high hierarchic level), or a dissatisfied (buying) project manager bypasses adjacent supplier project manager and goes directly to top management in a large supplier organization. Unclear perceptions of decision patterns may thus create conflict.

A second issue is raised by Borys and Jemison (1989) addressing a generic problem among hybrids: The lack of reciprocal understanding of the other's operations, and following resistance from unexpected sources. This understanding is crucial in a project characterized by interdependent resources and activities, but at the same time a source to managerial conflict.

One case study by Chatterjee (1991) of a non-profit organization suggests that interaction between professional groups and non-professional groups as a source to conflict. A complex project is multidiscipline in the sense that extensive crossfunctional and cross-organizational interaction is crucial (Hetland 1998). This implies that different professional groups are interacting with managerial and support staff holding weaker professional ties. Following Chatterjee (1991), professional staff in project core team interacting with supplier managerial staff may create structural conflict. On the other hand, the focus on project progress and project profitability is paramount with both buyer and seller leaving the relevance of this specific reason for conflict mainly to non-profit organizations.

#### Prior history, trust, norms and mutual learning

Rosenberg and Stern (1971) claim a relationship between the interaction history and conflict based upon the assumption that mutual experience reduces the risk of sanctions for bringing up conflict issues. On the other hand Walker (1972) claims that mutual learning reduce conflict because they are better bargainers knowing the others sides priorities and accommodation levels. The last complies with findings by Kemp and Ghauri (1999) suggest that trust and norms, which is a result of long term development, reduce the potential for conflict. A complex project is a time limited organization, or a discontinuing value chain. This implies that the history between buyer and seller may be short with limitations for developing norms and trust. Whereas conventional organizations achieve stability through rules, procedures, and roles that create expectations of stability and dependability, the hybrids often cannot capitalize on authority and trust because their members lack a common history (Borys and Jemison 1989). This can be illustrated through bidders competing for a limited number of contracts where some loses, others wins. How can trust, and mutual learning be developed if the time perspective for the interaction is limited to one, two or three years? One can therefore argue that the real potential of future transactions is tied up to cooperation (Axelrod 1984). Future transaction is based upon winning uncertain future contracts.

On the other hand, a recent study of interorganizational learning in project claims the very existence of mutual learning between buying and selling parties (Hustad 1996). Why do the parties invest in mutual learning if the focal project is only a "one night stand"? Only further

investigation of complex projects may reveal the relevance of prior history, trust, norms and mutual learning as possible ingredient in understanding conflict. Another argument supporting this view is that even if the projects per se are limited in time, the industrial actors can have a long history of business relationship (Håkansson and Snehota 1995), hence having the stability necessary for trust and stability to grow. Nevertheless this area possess a wide range of interesting areas of conflict.

#### Reward and legalistic strategies

Brown and Frazier (1978) study of manufacturing-dealer relationships suggests reward and legalistic strategies as causes to conflict. Reward may be expected, but not awarded, and legal action might be executed in areas where the other party expect "softer" decision patterns. It is not difficult to envision that choice of reward and legalistic strategies may be one element in understanding project-supplier conflict. The parties may have strong relational expectations in the first phases of a project to be changed into legal battles with the formal contract in focus later. A supplier may for instance share technical proprietary information to the project team or project base organization as a relational investment. In the next turn the project team use the same information freely in other project-supplier dyads claiming contractual rights to do so. Choices of reward and legalistic strategies are accordingly a relevant element for project conflict understanding.

#### Power, coercive and non-coercive

Empirical findings by Lusch (1976a), Wilkinson (1981), and Dwyer (1980) suggest a connection between the use of non-coercive/coercive power and conflict. It is assumed that non-coercive power enhances the willingness to cooperate and reduces conflict (Wilkinson 1981). In this respect the mobilization of reward-, referent-, and expert power is regarded important (Dwyer 1980). An influence strategy based on coercive power, however, is assumed having the opposite effect. It is hard to argue against these findings in a complex project context. There are at least two good reasons for this:

First, activity structures, resource structures and actor structures are complex and characterized by interdependencies. This requires a high degree of smoothness, flexibility, and adaptability among the actors involved. Use of threats and coercive power weaken this possibility, thus increasing the risk of jeopardizing project progress and causing conflict. Second, contracts are based on bounded knowledge thus leading up to imperfect and incomplete contracts (Macaulay 1963). With high innovation involved in the interaction, the scope of work might not even be clear prior to contractual award. Use of coercive power in terms of i.e. legal sanctions from one part, will probably cause the same reaction from the opposite side because of contractual ambiguity. Third, use of non-coercive power, i.e. reward-, referent-, and expert power, can stimulate cooperativeness from the fact that the number of buyers and sellers are limited (compared those serving the consumer market). Furthermore the use of incentives in terms of collective bonuses, are used for rewarding cooperative suppliers. These bonuses are often a major part of the supplier's profit. A supplier causing conflict will therefore, both as individual company as well as a part of a collective group, running the risk of loosing profit.

The power issue also involves the question of how much of each partner's resources can be legitimately claimed by the project and to what extent each partner's governance structure has legitimate power over the hybrid (Borys and Jemison 1989). A certain resource controlled by one party might not be made available for the focal project due to allocation to other projects, or certain critical resources may be transferred to other projects too early at the sacrifice of

the other party. Empirical evidence of power as a tool to claim resources from cooperating parties is not rare.

#### Perceived satisfaction with the other part

The parties' satisfaction in dyads is a result of their self-control of the decision areas and perceived cooperativeness in the channel (Dwyer 1980). Satisfied partners are assumed to reduce conflict. Actors in a complex project are in a varying degree interdependent, which further implies that both parties do have power. The supplier may reduce the project progress through maneuvers beyond their contractual obligations, and the project team/project owner(s) has the power to exclude the supplier for future business. In this perspective both parties have self-control of the decision areas. It is therefore a reason to believe that a more or less balance of power (and self-control) increases cooperativeness and reduces the conflict in accordance with the findings of Dwyer (1980). In an innovation-intensive project with high degree of interdependencies between the parties one can thus argue the level of conflict is low due to the parties self control and satisfaction.

Further research of hybrids, in terms of complex projects, might reveal much of the same causes to conflict as indicated in the discussion above. Nevertheless the fundamental characteristics of the hybrid is different from the conventional unitary organization hence the importance of the different causes to conflict suggested from those studies might be different. This is to some extent suggested by the stream of industrial network research including the importance of third parties.

#### Studies of industrial networks, role of 3<sup>rd</sup> parties

Adding third party contribution to dyadic conflict is rare among the empirical studies of conflict in marketing channels. Some recent studies have, however, emerged within the IMP research tradition based upon the industrial network approach. One case study of a conflict between the weapon supplier Bofors and the Indian Government revealed a strong connection between third parties and the dyad of which the conflict started (Hadjikhani and Håkansson 1996). A more recent study made by Welch and Wilkinson (1999) concluded that conflict was developed and managed by a business network, thus moving away from the conventional dyads as unit of analysis.

Studies of industrial networks have relevance for the complex project in more than one way. First, if we recognize the interdependencies of resources, activities and actors it is hard to argue that the same interdependencies do not prevail when it comes to conflict. Second, a large complex project often has several end customers. In an oil related fabrication project the customers are the operation team of the oil field, the owners of the license to the oil field, the governmental tax authorities and the Department of Oil and Energy. The various interests are not always corresponding. The project team has for instance a stronger emphasis on project progress than environmental organizations claiming influence on specific technical solution for bringing the oil to deck. This may further interfere with the suppliers.

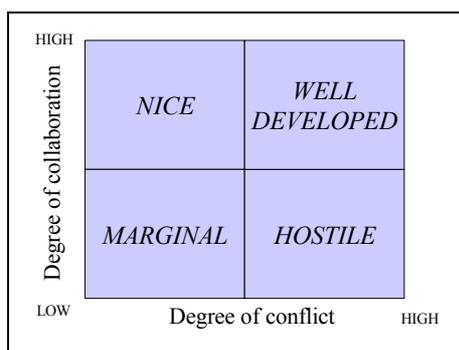
By adding third parties, we may distort understanding the main variables apparent in the dyad because we add complexity. On the other hand we reduce the risk of simplifying the phenomena of conflict in complex structures.

#### 4. Conflict as a dysfunctional or functional phenomenon

Two broad streams of thought exist in regarding the value of conflict. From the first perspective a conflict is regarded as a disease in business exchange having primarily disruptive, dissociating and dysfunctional consequences (Coser 1956). The aim is to avoid conflict or reduce their consequences because of fear that too little coherence can develop into destructive conflict and a diffusion of focus. In projects this is done through detailed contracts and a high degree of specification. Price mechanisms and institutionalized patterns of behavior are used as instruments to reduce emergence and growth of conflict. In recent years new relational based contractual forms have supplied formal mechanisms by including social interaction elements and relational norms (Heide and John 1992) and (MacNeil 1980). The main point is, however, that conflict should be avoided.

The second perspective holds a more ambiguous view in assessing the cost/benefit of interorganizational conflict. Hence conflict may in fact be functional as well as dysfunctional (Pondy 1967). According to Gadde and Håkansson (1993) this can be illustrated along two axis, the first indicating the degree of collaboration between buying and selling party, and the second indicating the degree of conflict:

Figure 2:



Source: Gadde and Håkansson (1993 p.75)

The model indicates that a low degree of conflict may either cause a marginal relationship where none of the parties benefit in terms of complementarity, or that the relationship may be "nice" in terms of efficient transactions and well developed institutional mechanisms for handling "opposition". With a high degree of conflict and low degree of collaboration efficiency is challenged. The fourth quadrant is characterized by high degree of conflict and at the same time a high degree of collaboration. The well-developed buyer-seller relation is thus characterized having concurrent existence of conflict and cooperation (Gadde and Håkansson 1993).

In a complex project the degree of cooperation between buying and selling parties is extremely important of several reasons. First, because of the technological complexity, second because of the great number of actors involved, third because of the strong activity interdependencies, fourth because of the large number of internal and external third parties directly or indirectly involved, and finally because of time pressure. The importance of cooperation is not necessarily accompanied by cooperative atmosphere. During recent years large investments are therefore made in introducing new strategic and managerial concepts (i.e. Crine and Norsok initiatives) in order to enhance industrial cooperation.

The cost/benefits of conflict in a complex project can be discussed along two dimensions, conflict in the short range and in the long range. In the short range, i.e. day-to-day operations, there is a rationale to minimize conflict and establish balance and harmony in both activity- and resource structure. This is because a reduction in friction can reduce administrative- and other overhead costs for the project actors as well as speeding up the project progress.

A long range of episodes in the empirical material indicates that conflict in the short range increases project costs and slowing down project progress. Endless number of incidents, of which a few examples are on the following list, indicates the bad side of conflict:

Table 1:

<b>Category</b>	<b>Key issues / Examples of Incidents</b>
1. Organization of work	<ul style="list-style-type: none"> <li>• Late startup of certain activities caused problems for succeeding activities.</li> <li>• The information flow was delayed when claimed problems are relayed.</li> <li>• Interfaces between disciplines in and between actors involved were unclear.</li> </ul>
2. Data precision	<ul style="list-style-type: none"> <li>• Drawings made for one purpose were not adjusted and sharpened for related purposes.</li> <li>• Activities were performed without updating information system</li> <li>• Erroneous data-entry and data-transfer in and in between systems and registers.</li> </ul>
3. Work performance	<ul style="list-style-type: none"> <li>• Design and construction errors caused effect in terms of too large anchors, malfunction in interface between modules and systems, and collisions between cable gates and pipes.</li> <li>• Operational errors included such as requirement for rework due to lack of compliance with procedures and good practice.</li> </ul>
4. Human interaction	<ul style="list-style-type: none"> <li>• Weak communication between disciplines such as between engineering and production.</li> <li>• Cultural and linguistic differences imposed stress on the buildup of business relations.</li> <li>• Buyer wanted to communicate with sub suppliers beyond seller but was hindered by formal obstacles or willingness to circumvent.</li> </ul>
5. Physical resources	<ul style="list-style-type: none"> <li>• Lack of physical capacity within such as material- and welding.</li> <li>• Tools for inter-discipline check such as cable routing software were missing</li> <li>• Incompatibility between data systems caused data duplication.</li> </ul>
6. Manpower resources	<ul style="list-style-type: none"> <li>• Lack of skills to understand and/or carry out aspects of the task.</li> <li>• Capacity was sometimes too low with too few people allocated to the task.</li> <li>• Managers were missing decision making power when trying to solve problems</li> </ul>

The list is not complete.

By applying a longer time perspective the picture becomes more blurred. A longer time perspective in a project is probably a few years compared to a non-project with less imperative time constrains. At any rate several scholars within industrial network approach (i.e Gadde and Håkansson (1993)) and conflict theory (i.e Pascale (1990), Deutsch (1973), and Pondy (1967)) argue that development, and creativity, are stimulated by imbalance and problems. This is backed by the old Japanese saying; "The moment two bubbles are united, they both vanish" (Pascale 1990).

For a project this have at least two interesting implications. First, the fact is that complex projects have different degrees of freedom with respect to i.e. choice of technological concept. This implies different value of creativity and innovations after project development decision is made hence the value of conflict may vary. Second, is that the success of a project is partly depending upon its base organization which is the starting point of any project. Creativity and innovations outside the frame of the focal project is therefore an important ingredient in establishing the fundament for future projects, not at least with respect to development of new marginal oil fields requiring heavy technology development.

The value of conflict can be further illustrated by means of the Norne-project which was a successful result of a technological- and a managerial conflict leading up to a new type of offshore production facility and a new managerial concept reducing buyer-seller interface problems. The technological conflict stemmed from a mismatch between a low profitable oil- and gas resource discovered in the North Sea and contemporary technology offered by the concept/fabrication-suppliers. A profitable exploration of the field was dependent upon new solutions. The traditional oil platform was replaced with a production vessel and a new offshore technology emerged capable of exploring marginal oil fields.

The managerial innovation stemmed from a conflict between buyer-seller autonomy and interface complexity fueled by costly and comprehensive procedures and lack of project progress. A new structural- and process concept was then introduced by buyer-side to seller-side, thus challenging the traditional organizational forms in the supplier industry. The outcome was integrated core team consisting of buyer and seller in one project organization with larger autonomy to their base-organizations than before. The solution was a success and was adapted in succeeding projects.

*"The most gifted members of the human species are at their creative best when they cannot have their way. Creativity and adaptation are born of tension, passion, and conflict" (Pascale 1990).*

We will accordingly conclude that in a complex project, including its base-organization, conflict and cooperation coexist. And furthermore that even that organizational stability is desirable to smooth daily operations, stability should be disturbed by activities which create openings to identify new combinations or resources and/or activities.

*"Confrontation is the mother of progress and the fertilizer of an aggressive enterprise. If you fear conflict it will make you timid and irresolute." Chairman Hideo Yoshida, Dentsu (world largest ad agency). "(Pascale 1990)*

## **5. The process of conflict**

From a sociological point of view conflict is a social phenomena, and neither the occurrence nor the outcome of the conflict is completely and rigidly determined by the objective circumstances (Deutsch 1973). On the other hand the importance of "real" conflict cannot be denied. Nevertheless, the psychological process of perceiving and evaluating are also "real", and they are involved in turning objective conditions into experienced conflict (Deutsch 1973). This view is brought into the industrial network approach recognizing the importance of context in investigating any interorganizational phenomena (Håkansson 1982).

Two processes can be related to the phenomenon of conflict. The first process deals with the coupling between the "real" situation (Deutsch 1973) and the conflict as such. The "real" situation is the endogen variable, more or less objective, in terms of i.e. a technical interface problem. This process, caused by the situation, can develop into either a conflict or a direct solution. In many instances a situation leading to a solution is favorable. On the other hand the process should sometimes rather develop into a conflict prior to solution thus opening for new ideas and alternatives. Other situations lead to unnecessary conflict. The crucial question is what kind of forces drives the process into a constructive pattern, and what doesn't. The second process deals with the coupling between the conflict and solution. This process will be further discussed under chapter 9.

Applying a social interaction approach the process from the situation to the conflict is interpreted in terms of the actor's perceptions of history and expectations. This implies that the actor's position in the network is a crucial point in addressing the situation as a conflict. This further implies that whereas some actors may define the situation as a challenge and a potential for strengthening the relationship, others may perceive this as an expression of lack of mutual goal orientation and distrust. This can be illustrated through a situation where the project site team (buyer) discloses faulty welding seams at the Yard (seller). The seller, building an offshore production vessel for the first time may interpret this as an opportunity to initiate improvement in welding procedures and quality assurance and further enhance future business relations with the buyer. The buyer, however, are convinced that this is one event in a chain of incidents indicating incompetence and/or dishonesty.

Different perceptions of a conflict can also stem from other actors than the buyer or seller in a dyadic relation. The relation between the project team and base-organization on both buyer- and seller sides respectively have interesting implications for perceiving conflict. The project team is organized as a unit designed for accomplishment of a specific task. Their point of origin is the base organization of which the majority of manpower and physical resources such as technical and managerial support systems are drawn. After project accomplishment the resources are reversed and deployed for other use. This interaction can in one way be described as an independent business unit operating with a minimum of direct involvement from the base organization, and a high degree of managerial freedom. On the other hand organizational or hierarchial mechanisms may be applied by the base organizations in situations where project goals interfere with i.e. company strategy. The base organization may also consist of a variety of sub units with more or less goal harmony. Legal department and Department of Contracts and Industrial Relations may for example have different opinions regarding incentives which they may impose the project team. They may accordingly be characterized as *internal third parties* to the focal project, and represent the *base organization's decision level* imposing both opportunities and constraints to the *project decision level*. It is thus hard to argue that conflict occurring between the projects' buyer side and sellers' side of the same can be fully understood regardless of considering the role of the parties' base organizations.

## **6. Friction events as an indirect approach to the study of conflict.**

One dominant way to study conflict is by directly identifying specific issues of conflict (see Gaski (1984)). One alternative way is to apply an indirect approach by focusing on events occurring prior to a conflict. The phenomenon of interorganizational conflict in economic interaction requires carefulness in interaction with the empirical world. Constructs to be used in this interaction are therefore crucial in building trust and openness with key informants. The conflict construct is as such difficult to apply, especially in ongoing business relations, not at least because of the risk of the self-fulfilling prophetic consequences by addressing "would-be-conflict" as "conflict". Hence an indirect approach seems more fruitful.

One solution is to connect to an emerging research stream dealing with critical incidents in business relationships (e.g. Liljander and Strandvik (1995) and Holmlund and Strandvik (1999)). The critical incident-construct addresses significant actions or episodes, which deviate from a comparison standard. One problem in applying the critical incident construct in investigating conflict is that many of the events occurring between project suppliers and buying parties are not critical although they comprise interesting indications of emerging

conflict. It may on contrary be very normal in technological complex situations with high time pressure to have a large number of events containing various degrees of conflict and preliminary stages prior to a manifest conflict between buying and selling parties, as discussed above. We thus suggest the term "friction event" comprising all types of events indicating disagreement between the parties.

Friction events further imply recognition of the parties' varying degrees of concurrence in acknowledging as an indication of disagreement. Whether we focus on dyadic relationships or network, the main point is that the perceptions from both parties should be assessed. Like the conflict-construct the *friction event*-construct is not an objective issue, rather regarded in terms of how it is perceived by involved individuals with a potential of changing the relation either in the short term or the long term.

A *friction event* may, however, not necessarily lead to conflict. Some reach a satisfactory solution without being escalated into a manifest conflict. Any *friction event* is thus assumed having the ingredients necessary for development into a negative pattern. This implies that understanding the core of attributes leading to *friction event* is an important mean of understanding conflict.

Critical incidents consist of an initial relationship state, a trigger starting a critical incident process that ends in a direct or indirect outcome modifying the state of the relationship (Holmlund and Strandvik 1999). We suggest that the same stages are fruitful applying the *friction event*-construct. Initial stage can be described as a cooperative atmosphere between owner of the project (buyer) and the yard (seller). Several years of business exchange and expectation for the future are manifested in a sound business relation. The trigger starts from sporadic and unplanned variation or from planned and repetitive aspects. At the Yard the site team of the project (buyer) discloses faulty welding seams caused by a sub supplier to the yard, an unexpected episode which triggered a process. The process leads to a buyer claim towards the Yard to carry out comprehensive extra tests of all welding seams. As a direct outcome of this, the required tests are denied. Taken together with other *friction events* accumulated in the interaction between the parties, a temporarily breach of the business relation later emerges. The *friction event* thus triggered a domino effect changing the relationship between the two parties into a legal dispute, still not resolved (4 years after project completion).

This further illustrates that a *friction event* is strongly contextual connected, and therefore difficult to assess isolated. Some caution should therefore be executed in carrying the *friction events* into a variable analysis without being aware of the danger of isolating events from the context. One other closely related aspect is the issue of event embeddedness discussed below.

## **7. The embeddedness of *friction events***

Some of the *friction events* consist of actions such as i.e. the first observation of one faulty welding seam by one sub-supplier. These are elements in an episode of which all welding seams by the sub-supplier were found faulty. This in turn is a part of a sequence where the yard, which hired the sub supplier, and the project team developed into a managerial dispute in the specific project. This is further one ingredient in the business relationship between the Yard and the Project owners (the license partners in the oil field) characterized by breach of contract claims. This can be further recognized in the industrial network of which the Yard and the Project owners are embedded and where their positions are interdependent with a

variety of other actors. From this follows that a single action occurring in a project dyad is a part of an industrial network.

In relating *friction events* to business relation level it is worth remembering that an episode does not necessarily accumulate into breach of relations as some of them may even strengthen the relations. The significance of episodes lies in the power of detecting which episodes represent relation-breaking events, or episodes that weaken the relationship, and which kind of episodes result in a deeper, stronger relationship between the customer and the firm (Liljander and Strandvik 1995).

Recognizing that a friction event is a deviation from a standard or expectation, what standard/expectation apply as reference points? Liljander and Strandvik (1995) suggest ideal standards, relationship norms, industry standards and predictive expectations. The problem in projects is the lack of clear standards or expectations. Whereas a continuous value chain, such as base operations, concerns with management of a recurrent flow of known materials, a complex fabrication-project comprises organizational and technological innovations and diversity. It is thus not easy to define a clear comparison standard in a "prototype"-project. In a complex project context we, however, find predictive expectations such as "high progress"-expectations and "low cost"-expectations fruitful because of the overall strong focus on time and/or cost elements.

Variables reflecting the amount of deviation from the predictive expectations should be easy to relate to for both seller- and buyer perceptual sides, and thus represent one mutual accepted goal for both sides. Furthermore it should be possible to apply on a variety of different *friction events* ranging from rare but important episodes to chain of events characterizing a composition of episodes, and highly recurrent minor incidents. Hence the following variables are suggested for two different projects with slightly different main goals, -and one "non-project":

Table 2:

Case	Comparison standard/expectation
Project 1	Expecting no delay in project progress within the frame of technical solutions
Project 2	Expecting low cost solutions within the scope of work
Non-project	Expecting a smooth and safe flow of materials and services from suppliers to meet the offshore installation requirements in due time.

## 8. *Interaction processes and interaction parties to understand the business atmosphere.*

We have discussed the value of conflict in two broad perspectives, conflict as a dysfunctional- and a functional phenomenon. This is one contribution to better understanding of the interaction processes in complex projects. The interaction processes are, however, strongly connected to the atmosphere, which Håkansson (1982, p.285) describes as a condition that "...affects and is affected by a specific interaction process between two specific parties in a specific environment." Hence the atmosphere is dependent upon the interaction, the environment and interacting parties.

In order to understand the phenomenon of conflict we thus need to know more than the occurrence and characteristics of conflict in the interaction, and the environmental aspects

discussed in introduction chapter. What we also should know more about is the interaction parties in relation to the question of conflict value. How do they perceive conflict?

Turning back to the friction events, how do the interacting parties perceive the events in relation to the conflict value? This leads us to a discussion of the content of governance mechanisms connected to the two alternative perspectives of conflict, dysfunctional- and functional respectively. Hence the following question emerges: What kind of governance mechanisms are associated with the friction events perceived from both sides of the dyadic relation? One could further ask questions such as: Is it possible that one party considers conflict (applying the friction event-construct) mainly as a dysfunctional phenomenon, whereas the other party hold the opposite view? Are certain friction issues perceived more dysfunctional than other? What should be improved, contracts and formal structures or social interaction in order to enhance activity links and/or resource ties?

In the following the governance mechanisms will be further explored and operationalized in terms of a continuum between formal (structural) mechanisms and social interaction (network based) mechanisms.

## **9. The friction events in relation to formal and network governance mechanisms**

A large stream of research within interorganizational relations deals with governance mechanisms. Whereas some of the studies focus on specific forms (i.e MacNeil (1980) and Håkansson and Johanson (1993) others focus on the mixture of forms (i.e Heide and John (1992) and Reve (1990). Having different theoretical point of departure, the governance mechanisms are related to the company, the dyad or the network. Very few if any addresses the governance mechanisms related to the specific friction events, so to say in a micro perspective. Applying the network approach, with a focus on events from buyer-seller interaction we suggest that the events should be considered in relation to the degree of governance formalization. Hence we apply a micro perspective as a point of departure when analyzing friction events. In other words we raise the question: Are friction events related to formal- or informal governance mechanisms? What characterizes friction events related to formal mechanisms such as prescriptive and formalized rules of conduct including standard operation procedures and contracts? What kind of friction events is related to informal mechanisms found in social interaction, and further developed in the industrial network theory?

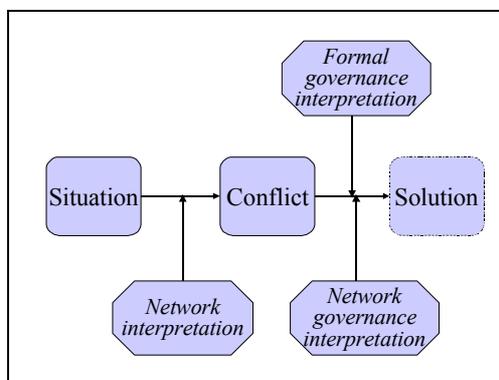
From this one theoretical issue emerges. Is a friction event an expression of a business relation per se, or is it the accumulated number of events that provide us with insight into the relation. In other words, how strong is a minor event to reveal interesting aspects of a business relation? We have entered the position that any indication of friction occurring in buyer-seller interaction is a direct expression of a business relation. At the same time the fruitfulness of the events may vary from a practical point of view. If we turn to the empirical base it consists of minor isolated events and larger chain of events comprising fundamental challenges for the relation. The fruitfulness in applying all events as equivalent measure of interorganizational phenomena is therefore limited, in spite of our view that all are claimed as indicators of friction.

We suggest two contradicting governance mechanisms, formal- and network mechanisms for the analysis. The formal mechanisms reflect a traditional view where prescriptive- and

predefined patterns of behavior are assumed to reduce friction. In other words friction is a problem which should be avoided through formal arrangements. These attributes characterizing formal governance are based upon a set of underlying norms, which MacNeil (1980) defines as a principle of right action binding upon the members of a group and serving to guide, control, or regulate proper and acceptable behavior. These can further be prescribed by some authority or be agreed upon by different actors (Håkansson and Johanson 1988). The extent of formalization in the governance mechanisms connected to the friction events can thus be more precisely expressed as norms. These norms can either be formalized in terms of legal contracts, steering documents and procedures or informal in terms of unwritten codes of conduct.

Whereas the definition of conflict were made in terms of network interpretation, the subjective construct "conflict" is now subject to formal governance interpretation and network governance interpretation, as illustrated below:

Figure 3. Conflict and related governance mechanisms



The network mechanism is based on social interaction where friction is assumed being a natural part of a relationship and where friction is intertwined with how informal people relate in the relation. These mechanisms can further be characterized with respect to different types of attributes as suggested below:

Table 3:

<b>Formal mechanisms</b>	<b>Type of Attribute</b>	<b>Network mechanisms</b>
Sanction driven, power related Authority	<i>Control mechanisms</i>	Cooperative Trust
Compliance, awareness Comprehensive planning, structural	<i>Managerial ideal</i>	Trust, flexibility Lack of planning, processual
High Structural	<i>Contract status</i> <i>Conflict resolution</i>	Low Political and processual
Unnecessary. Avoidance is the important issue	<i>Conflict status</i>	Normal. Its resolution-process is the important issue
Reduction of transaction efficiency	<i>Effect of conflict</i>	Enhanced effectiveness through new resource- and activity combination.
Lack of formal precision	<i>Conflict point of origin</i>	Lack of informal interaction and flexibility.
Functional, prescriptive and formal following predefined procedures. Normative	<i>Communication</i>	Informal, cross-functional, open, complex, social

The list is not complete

This picture reveals major differences in the assumed point of origin to the conflict, the status-, possible effect- and resolution of conflict. Related attributes such as control mechanisms, managerial ideal and the issue of communication further sharpen the dividing line between the two paradigms.

From a conceptual-theoretical perspective, the story may end here. On the other hand we concur with Frankfort-Nachmias and Nachmias (1996) arguing that the meaning of a concept is fully and exclusively determined by its operational definition. Hence we need to proceed in bridging this level with empirical-operational level. This can be done by elaborating the two mechanisms into a set of elements characterizing the more practical sides of structure and processes as suggested below:

Table 4:

<b>Some important elements of the mechanisms</b>	
<b>Formal governance</b>	<b>Network governance</b>
Contract, corporate law	Goal orientation
Procedures and routines	Mutual trust
Specifications and standards	Informal communication
Budgets	Ability to utilize creativity
	Ability to explore new activity/resource combinations
	Ability to adapt during the process

The list is incomplete

Relating friction events directly to the elements is not easy because in a practical situation, a combination of the elements from both sides might be the normal, and a further sharpening is necessary. One way is to combine attribute characteristics (table 3) with elements of the mechanisms (table 4) and construct a few allegations favoring either a formal governance side or a network side with respect to the individual friction event. We thus suggest the following set of allegations to the informants as our operational definition of the two sets of governance mechanisms:

Table 5:

<b>Strong formal governance</b>	<b>Strong informal (network) governance</b>
<b>The event is primarily associated with:</b>	<b>The event is primarily associated with:</b>
Lack of precision in contract or specification/standards	Lack of informal communication across boundaries
Lack of understanding of contract or specifications/standards	Lack of ability to see new possibilities in improving project activities.
Procedures and routines are important, but not good enough to prevent the events from happening	Events are not associated with lack of procedures and routines
Events should be reduced to a minimum in order to keep high project efficiency and effectiveness	Events are valuable sources to project improvements

## Concluding remarks

- Conflict was defined and related to different stages of conflict existing in complex projects.
- Conflict may be claimed as a dysfunctional- or functional phenomenon, largely depending on paradigms. In a complex project we assumed that the value of conflict partly depends on time

perspective and conceptual flexibility. We argued that conflict is used as a tool for technological and organizational innovations.

- Conflict and cooperation are intertwined in a network perspective and highly relevant for understanding the role of conflict in projects.
- The perceptual side of conflict was discussed in terms of the actor positions in the network.
- In exploring conflict in ongoing business relations, friction event was claimed to be a fruitful construct. Event embeddedness was further discussed.
- Finally it was argued that the governance mechanisms related to the conflict was fruitful. Formal- and network governance mechanisms was defined and operationalized.

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