

Using Business Action Theory for Dyadic Analysis

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Abstract

Relationships between dyads of customers and suppliers have been a critical research interest for a long time. The importance of understanding inter-organisational interaction between business actors is increasing as the competitiveness of organisations seems to rely more and more on their ability to establish and maintain close relationships with their business partners. This paper is focused on the need for understanding inter-organisational interaction on a dyadic level. In order to understand business interaction we use a conceptual model called Business Action Theory (BAT) phase model. The BAT model describes generic business acts performed by customers and suppliers. The theoretical sources behind BAT are language action theories and theories concerning industrial networks and relationship marketing. The purpose of this paper is to describe the application of the BAT phase model when analysing the dyadic interaction between two organisations; a sawmill and a carpentry firm. The paper consists of a thorough presentation of the BAT model and its theoretical sources. The BAT model is also briefly compared to the IMP model. The aim is to further develop and provide a usable phase model for understanding and analysing inter-organisational interaction. We use the BAT phase model to characterise internal and dyadic actions at the sawmill and the carpentry firm. We also characterise problems that we identified during our case study as either mainly internal or dyadic problems. The identified problems are related to the BAT phase model as well. The paper finally reports some experiences from conducting a dyadic analysis in this way.

Keywords: Inter-organisational interaction, interaction models, business dyad, Business Action Theory (BAT), BAT phase model, relationships, dyadic analysis

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1 Introduction

Relationships between dyads of customers and suppliers have been a critical research interest for a long time (e.g. Håkansson, 1982; Håkansson and Snehota, 1995). The importance of understanding inter-organisational interaction between business actors is increasing as the competitiveness of organisations seems to rely more and more on their ability to establish and maintain close relationships with business partners and sometimes even competitors. Co-operation and mutual knowledge exchange as well as joint development projects seem to be important ingredients of successful inter-organisational interaction.

1.1 The Need for Understanding Inter-organisational Interaction

This paper is focused on the need for understanding inter-organisational interaction on a dyadic level. Such interaction consists to large degree of communication between supplier and customer. In business settings it is important not to reduce communication to mere information transfer. Thus, adequate theories for communication must be found. We get our inspiration from language action theories (e.g. Searle, 1969; Habermas, 1984) where communication is considered to be one special kind of action. According to these theories all utterances and messages are seen as communicative acts with social intents. A communicative act consists of two parts, 1) an action mode expressing the type of action performed and 2) a descriptive part referring to some parts of the world. A communicative action approach is especially important in the area of business interaction. It contributes with a conceptual framework which makes it easy to distinguish and describe important communicative business acts between supplier and customer as for example offer, query, proposal, order, delivery promise, contract, and reclaim. For further discussion about language action theories see section 2.2.

Other important sources for our inspiration are business relationship theories, e.g. network perspective or industrial network approach (e.g. Axelsson, 1996; 1998; Hammarkvist et al., 1982; Håkansson, 1987; 1989) and relationship marketing (Gummesson, 1995). We try to adopt thoughts from these perspectives as guidance when we analyse empirical dyads as well as when we formulate theories. Our research field is business- and information systems development and we argue that this field can benefit from thoughts in the perspectives mentioned above. We are interested in studying inter-organisational issues in order to improve existing practices as well as theories and concepts. To be able to conduct such changes in a well-grounded way it is necessary to understand aspects regarding both communication and business relationships and networks. Thus, we mean that it is important for research within the field of business- and systems development to approach and adopt theories and perspectives from other research domains.

1.2 Research Question and Aims

The research question addressed in this paper is to explore in which ways we can describe and understand inter-organisational interaction between two organisations. This kind of business interaction on a dyadic level is important to study in order to conduct inter-organisational business development and inter-organisational systems development. We have to gain profound knowledge about problems as well as strengths regarding inter-organisational interaction in existing dyads both in order to formulate valid theories and to improve practice in a well-grounded way. This is an important general aim in our research within the field of business- and systems development. Most of our research efforts have the twofold aim of both formulating theories and improving practice.

The purpose of this paper is to describe the application of a conceptual interaction model called Business Action Theory (BAT) phase model (Goldkuhl, 1998) when analysing the dyadic interaction between two organisations. The paper consists of a thoroughly presentation of the BAT model and its theoretical sources. The BAT model is also briefly compared to the IMP model. The aim is

to further develop and provide a usable phase model for understanding and analysing inter-organisational interaction. In the paper we present results and experiences from using the BAT phase model empirically.

1.3 Paper Disposition

The paper is divided into five sections. In this introduction we have given some background to the importance of studying inter-organisational interaction in dyads. We have also explained our research question and research aims. In section two we discuss theoretical models for business interaction. We present the network perspective on interactions in dyads as well as the business action theory (BAT) phase model. A brief comparison between the BAT model and the IMP interaction model is also done. The empirical results in the paper are gathered through an in-depth case study of the business dyad consisting of a sawmill and a carpentry firm. The research project, method and firms studied are further described in section 3. In section 4 we present empirical findings from this case study. The paper is summed up in section 5 where we present our experiences and propose some ideas for future research.

2 Theoretical Models for Business Interaction

There are different theoretical models for analysis, description and evaluation of business interaction. In this section we briefly describe two models for dyadic analysis and parts of their theoretical background. We describe the well-known model of the Uppsala school - the IMP interaction model (section 2.1). We also describe our model (section 2.2) - the BAT phase model - which has been used in the empirical work reported later in the paper. A comparative analysis between the two models is presented in section 2.3.

2.1 Network Perspective on Interaction in Dyads

The industrial/business network approach, called the Uppsala School (e.g. Håkansson, 1982; Hägg and Johansson, 1982; Axelsson and Easton, 1992; Håkansson and Snehota, 1995), can help us to understand interaction between firms in organisational networks. Interaction is an aspect of reciprocal action or interplay, not just the seller *acting* and the buyer *reacting* (Ossiansson, 1997). This is an important standpoint in the network approach. Ossiansson (1997) use a citation from the IMP group (International, alternately Industrial, Marketing and Purchasing group) from 1982 to describe the circumstances in an interaction:

“[...] both buyer and seller are active participants in the market. Each may engage in search to find a suitable buyer or seller, to prepare specifications of requirements or offerings and to manipulate or attempt to control the transaction process.” (Håkansson, 1982, p. 14)

Before introducing the interaction model used by the IMP group, we will describe a relationship's characteristics in terms of level of complexity, symmetry, informality, links, bonds, and ties.

2.1.1 *The relationship's characteristics*

If we take a closer look at the interaction between firms we can find several characteristics of relationships; (1) complexity, (2) symmetry and (3) informality as structural characteristics of a relationship (Håkansson and Snehota, 1995).

The *complexity* in a relationship can among other things comprise the number, type and contact channels for those from each organisation who are involved in relations between customer and supplier (ibid.). This is described by Gummesson (1995) as the “many headed customer or supplier”. Also, contacts can vary from level to level between firms.

It is typical for relations in industrial networks for customers and suppliers to be *symmetrical* in terms of resources and initiatives on each side. In those cases where asymmetry does occur, the customer tends to be bigger than the supplier is.

The relationships often demonstrate a *low level of formality*. Even though contracts exist, they are seldom referred to, as they often point out that contracts are an ineffective way of dealing with uncertainty, conflict or crises in relationships which are going to survive for some time (Håkansson and Snehota, 1995).

Another important aspect to study when looking at interaction between firms are different dimensions of relations, such as links, bonds and ties.

2.1.2 Relationships as links, bonds and ties

The various links, bonds and ties between organisations in an organisational network are important to consider when studying relationships (see e.g. Håkansson and Snehota, 1995, Axelsson and Easton, 1992). The word *link* refers to the connections that exist in the activities between customer and supplier, so-called activity links. Activities can be of various types, for example technical, administrative or commercial. The links between activities reflect the need for co-ordination which affects how and when various activities are carried out. Matching one actor's resources with others' and dividing out the tasks are examples of an aim towards purchasing and marketing functions within an organisation. This, in turn, has consequences for both the costs for carrying out the activities and their effectiveness (Håkansson and Snehota, 1995). The links between activities make up a certain structure within the respect of organisation at the same time as it also creates certain patterns in the network (Axelsson, 1996).

Bonds between the actors in a network can be of various types, for example technical, social, time based, knowledge based, administrative, economic, and legal (see e.g. Håkansson and Snehota, 1995). Bonds can have various aims, an example being to achieve co-ordination as a means of saving money. To gain access to suitable co-operators and maintain a certain position in the network are other examples of the importance of handling bonds.

A relationship between two organisations affects the way in which the organisations use their resources, for example personnel, equipment, know-how, and financial. A relationship between two organisations can comprise pooled resources of these kinds, so-called resource *ties*. The relationships between organisations are not just a way of assuring access to resources, they are also a way of getting various types of resources to meet, confront and combine (Håkansson and Snehota, 1995), and to develop, create or refine (Axelsson, 1996).

2.1.3 The interaction model by the IMP group

The perspective on interaction as a reciprocal action both performed by a seller and a buyer, introduced above, is described by the IMP group (Håkansson, 1982) in their interaction model illustrated in figure 1 below.

The interaction model consists of four groups of variables, so-called main elements. These main elements have an influence on the interaction between the buying and the selling company:

- Variables that describe the involved actors, both as organisations and individuals.
- Variables that describe the elements and the interaction process.
- Variables that describe the environment/context in which the interaction takes place.
- Variables that describe the atmosphere that has an influence on, and is influenced by the interaction.

The interaction process and the relation between organisations are not only dependent on the elements of interaction, but also on the characteristics of the actors (i.e. the two organisations and the individuals that are representing them) (Ossiansson, 1997, p. 86).

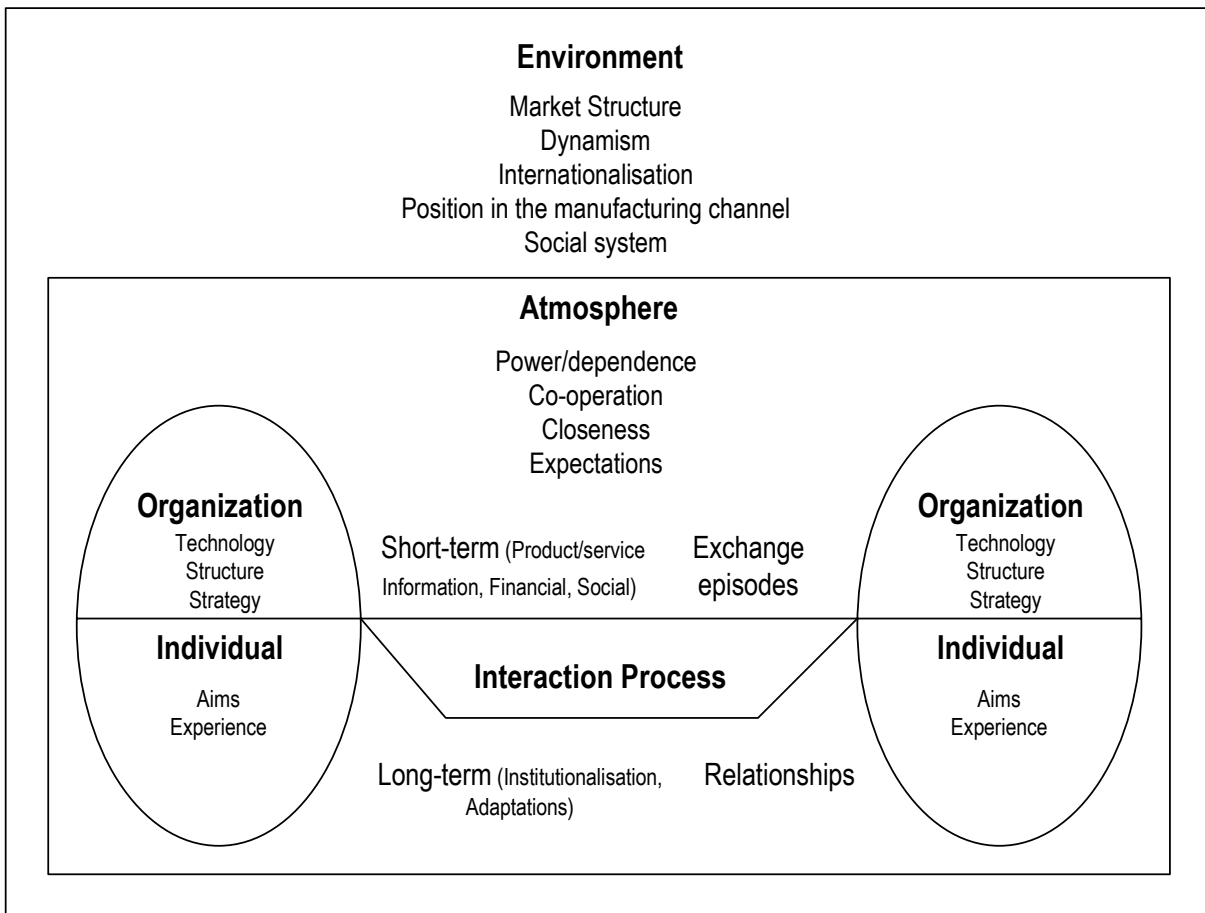


Figure 1 An illustration of the IMP interaction model (Håkansson, 1982, p. 24)

2.2 Business Action Theory

2.2.1 Theoretical sources

A dyad consists of a supplier and a customer performing actions directed towards each other. These actions form together a business interaction. Parts of this interaction consist of exchange of information (i.e. business communication) and parts of it can be labelled as exchange of value, i.e. exchange of products (goods/services) vs. money. The business communication cannot be seen as mere information transfer. The business communication consists of communicative acts that include both representation of the world talked about and certain "relationship creators". When performing a communicative act, an actor is not only presenting some facts of the world. The communicator is *doing* something when communicating in relation to the recipient; e.g. commitments and expectations are raised.

Let us use a simple example to illustrate this important thesis. There can be a piece of message consisting of delivery information like product identification, quantity, delivery time. This piece of information, which represents a part of the world referred to, can be part of different communicative acts. It can be part of a query from a customer about possibilities to deliver the item. It can be part of an offer from a supplier, or it can be part of an order from a customer, or part of an order confirmation from the supplier. It can also be part of a delivery slip following the goods or an invoice to the customer or a reclaim from the customer. All these communicative acts cannot be reduced to a

transfer of information about some universe of discourse. They are all different acts involving different types of relationships between communicator and recipient.

A theory of business interaction benefits from a proper understanding of communication. Speech act theory of Austin (1962), Searle (1969) and Habermas (1984) offers such a proper conceptualisation of communication. The main thesis of speech act theory is that all communication should be seen as action and that every such act consists of two parts:

- The *propositional* part (i.e. references to the world talked about)
- The *illocutionary* (or performative) part (i.e. the action mode with force to establish different inter-personal relationships).

Austin (1962) criticised the "descriptive fallacy" in philosophy and science, i.e. the misconception that language is used only for description of the world. We use language to describe the world but we do a lot of other things with language. We promise, request, command, declare, issue, appoint, excuse and thank, just to mention some typical illocutionary acts.

Speech act theory has been used as a main source of inspiration for several generic business models. There are two well-known models describing business interaction and performance; the Action Workflow model (Denning and Medina-Mora, 1995) and the DEMO model (Dietz, 1994). A business interaction can be seen as formed by a generic action pattern. This means that certain types of acts are performed and that these acts are related to each other by a certain business and communication logic. The Action Workflow describes business interaction to consist of two basic roles (called customer and performer) and of four different phases: 1) preparation, 2) agreement, 3) performance and 4) acceptance. In the preparation phase there can be requests from the customer and offers from the performer. In the next phase customer and performer come to an agreement of what to be done by the performer. In the performance phase the executors reports what has been done. In the last phase the customer accepts what has been done or declares some kind of dissatisfaction if necessary.

In the Action Workflow model (and also in the DEMO model which is rather similar to Action Workflow and therefore not described here) there is an attempt to catch the generic pattern of a business transaction. The different phases represent communicative acts of different types (with clear inspiration from speech act theory). The communicative acts are ordered into a basic pattern. An agreement must be preceded by some initial request and must be followed by performance of the agreed action and this in turn succeeded by some statement of acceptance or non-acceptance.

The basic principles from speech act theory and the ideas of generic acts and phases of business interaction (from Action Workflow and DEMO) form the starting point for our theory: Business Action Theory (BAT). An early version of BAT was described in Goldkuhl (1996) and a later version in Goldkuhl (1998). There are also papers with applications of BAT, e.g. Lind and Goldkuhl (1997) and Melin and Goldkuhl (1999).

Speech act theory is not the only theoretical base for BAT. It is not enough with general theories concerning communication. A proper understanding of business issues is needed. This can be found in what we call business relationship theories, e.g. business network approach (e.g. Axelsson, 1996; 1998; Hammarkvist et al., 1982; Håkansson, 1987; 1989) and relationship marketing (Gummesson, 1995)¹.

We described above very briefly the Action Workflow model. We get some inspiration from this model but we reject it to be a proper generic model for business interaction. A thorough critique is

¹ In Goldkuhl (1998) there is some discussion about the relations and differences between these theories and BAT.

found in Goldkuhl (1996)². We just summarise some main points here: The model is not symmetrical enough. It excludes several important acts (e.g. fulfilment from customer and acceptance/reclaim from performer/supplier). It has an emphasis on performer/supplier serving the customer and excluding the commitments of the customer towards the supplier. There is not a proper view of the exchange between customer and supplier. Being just a communication model it excludes material action. The performance is reduced to a mere statement of what has been performed. We also criticise the Action Workflow model for starting too late in the business interaction. Early stages of the business interaction are excluded.

2.2.2 *The BAT phase model*

One of the most important parts of Business Action Theory is a phase model of business interaction between supplier and customer. These phases are arranged around a business transaction: What generic acts are performed when a supplier sells something and what generic acts are performed when a customer purchases something?

A graphical model is presented in figure 2 where the different phases are made explicit³. Business interaction has here been divided into six generic phases:

1. Establishing business prerequisites phase
2. Exposure and contact search phase
3. Proposal phase
4. Contractual phase
5. Fulfilment phase
6. Assessment phase

The first phase is concerned with establishing prerequisites for performing business. On the supplier side the key-word is *ability*. The supplier must have an ability (a capacity and a know-how) to perform business; to make offers and contracts and to fulfil these contracts. This ability can exist within the supplier's own organisation, but it can also be mobilised by the supplier from other actors outside the organisation. The customer does not have the corresponding ability (or has certain reasons for not utilising such an ability). In the operations of the customer there are *lacks and needs* which may be satisfied by potential suppliers and their products (goods/services). This first phase represents the processes of establishing prerequisites for business interaction. Business prerequisites are of course not only within the firm itself. To a large extent a firm is dependent on resources outside the firm.

The second and third phases can together be viewed as a *business interest* stage. In the second phase both parties search for contact. The ability of the supplier is exposed and offered to the market. The lacks and needs of the customer give rise to desire and potential demand which guide a possible search for products or suppliers. To find each other the supplier and the customer must *expose* their interests to perform business. Advertising can be seen as an example of actions in this phase.

When supplier and customer have found each other they *establish contact* and perhaps start *negotiating* (phase three). The communication here can be described as *proposal* stating. Bids and counterbids are made. The desire and demand of the customer are expressed. The supplier can make different offers. Of course in many cases there are fixed (and standard) offers which have to be taken

² Confer also Verharen (1997) which includes a critical examination of Action Workflow, DEMO and BAT. As a result of this comparison Verharen gives preference to BAT as a proper model of business interaction.

³ The phase model builds on Goldkuhl (1998). Some modifications have been made here. This also includes some minor changes of names in some of the phases.

or rejected as such. Proposal is the key notion in this phase. If we analyse proposals from a communicative action perspective, a *dual* character can be seen. A proposal from a supplier (i.e. an offer) can be seen as both an attempt to influence a potential buyer to make a purchase decision and an expression of willingness to sell under certain conditions. Using the speech act classification of Searle (1979) this type of act is both a *commissive* and a *directive*.

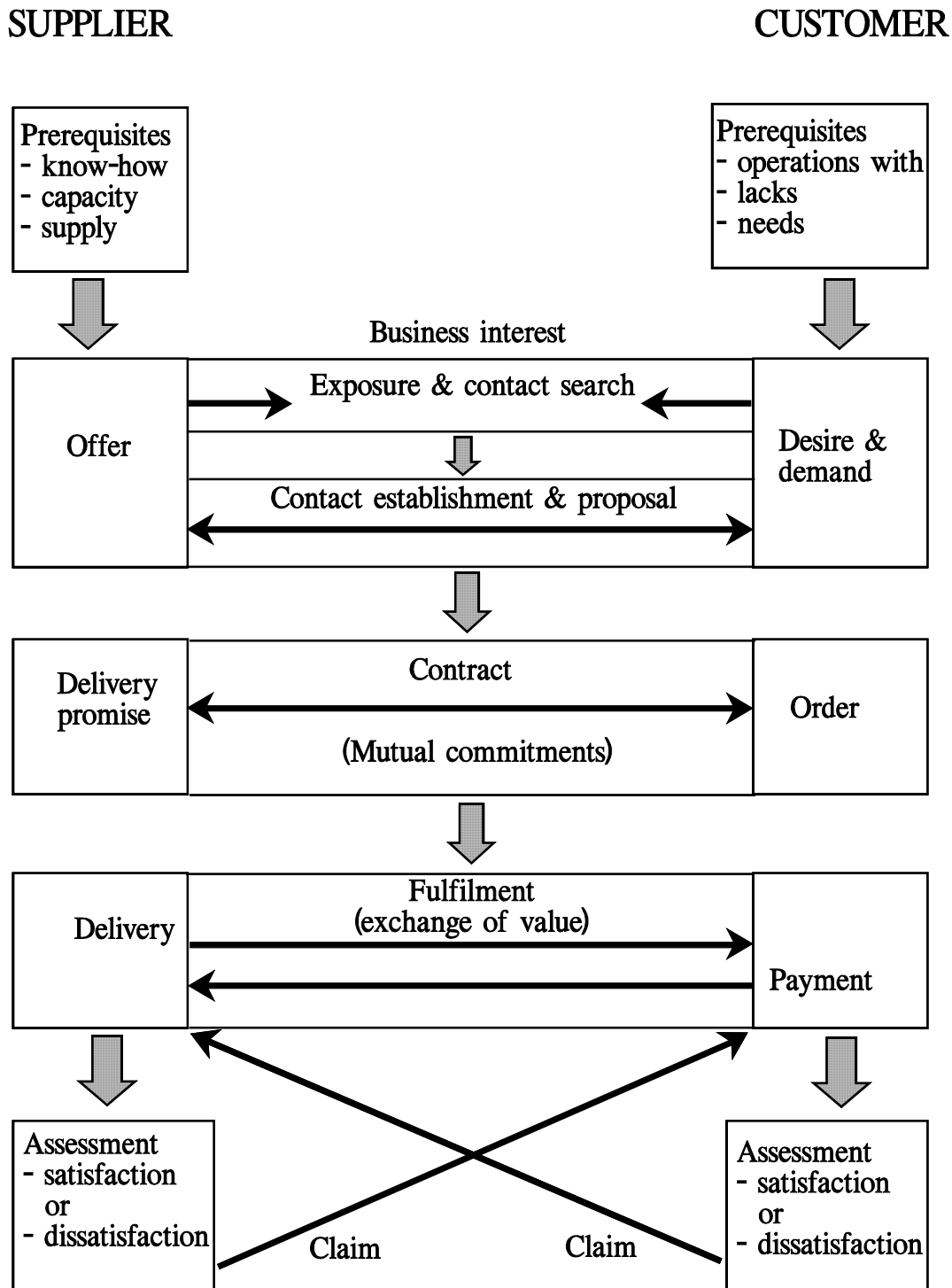


Figure 2 Business Action Theory: A phase model (building on Goldkuhl, 1998)

The negotiation in phase three can be transferred into a contractual phase. This is the fourth phase. The key word here is *agreement*. Customer and supplier come to an agreement concerning the business transaction. The contract is a mutual communicative action expressing the *mutual commitments* made; i.e. commitments for future actions. This involves a delivery promise of the supplier. The order of the customer also includes an obligation for future payment. We use the concept of

contract in a generic sense. We do not presume written contracts, which of course can occur in many business transactions. An oral agreement is also seen as a contract.

These different commitments must be *fulfilled*. Otherwise the contract is broken. The supplier must deliver and the customer must pay (phase five). These material actions can be guided and accompanied by different communicative actions. The supplier can enclose a delivery slip together with the delivery made. The supplier usually present an invoice to evoke payment from the customer.

If not satisfied with the delivery, the customer can make a *claim*. The supplier is requested to make some modification in the delivery. Correspondingly, the supplier can make payment claims towards the customer. This is the sixth and last phase which involves *assessments* of the fulfilment leading to *satisfaction* or *dissatisfaction*.

This generic business interaction model describes the inherent business logic when customers and suppliers perform business with each other. It describes generic business actions of both communicative and material character performed by supplier and customer. Making business involves with necessity communication, otherwise customer and supplier cannot agree on the business deal. But business interaction cannot be reduced to only communication. It must include the material acts of delivering goods and/or services and paying.

The BAT phase model is an interaction and exchange model. It avoids building a theory of one party viewing the other one. This is often done in much marketing literature; an active supplier viewing and influencing a passive customer. Such a uni-directional has been criticised (e.g. Glynn and Lehtinen, 1995; Axelsson and Easton, 1992). Instead, a more symmetrical model is desired giving equal attention to both parties and the exchange character of making business. In the BAT model the two roles have been given equal importance. This is also in accordance with communicative action theories making sender and recipient equally important as a basic theoretical stance; cf. Habermas (1984, p. 323f). This does not however imply that it in some situations cannot be appropriate to put a special emphasis on either part. Within the frame of Business Action Theory it is e.g. possible to study the marketing efforts of a supplier as foreground and having the actions of customers as background.

This interaction approach emphasises that exchange is going on in each phase (besides the first phase). Both parties direct actions towards the other party. Phase 2, exposure and contact search, includes *exchange of interest*. Seller and buyer signal their possible interest for making business. In phase 3, customer and supplier *exchange proposals*. They communicate bids and counterbids. They express preferences and try to influence each other in order to arrive at an acceptable deal. In the contractual phase (4) the parties *exchange commitments*. They commit themselves to future actions, i.e. the proposed exchange of value. This *exchange of value* takes place in the 5th phase, the fulfilment. Assessment phase, the 6th and last phase, can include the *exchange of acceptances or claims*.

Business Action Theory acknowledges the *iterative* nature of performing business. There can be iterations within a business transaction between different phases; cf. Goldkuhl (1998) for discussion and examples. There is also a *cyclic* nature of performing business, which is not graphically described in the BAT phase model. A performed business transaction will be a basis for future business transactions (ibid.). From phase 6 there is a return back to phase 1.

2.2.3 *Business interaction and long-term relationships*

The BAT phase model is considered to be a generic model describing the inherent logic of different possible business interactions. It can be used as a basis for describing and understanding as well business-to-business transactions as business-to-consumer transactions and also as well long-term based business transactions as casual transactions. In this paper we are focusing on long-term based business-to-business interaction. We will therefore make a refinement of the BAT model to such circumstances. We claim that the generic business logic described in section 2.2.2 above is applica-

ble in this type of business domain. There are however certain characteristics in such situations which can be added to the model. What we present in this section can thus be seen as a specialisation of the generic BAT model. This conceptual development has been made with inspiration from case studies of the SAIT project (see section 3.1 below).

In long-term relationships there is recurrent performance of business transactions. This was however already acknowledged in the general description of BAT (section 2.2.2 above). We pinpoint two important aspects to be seen as special cases of business interactions:

1. The lack of need to search for new business parties
2. The existence of long-term agreements

The first aspect means that phase 2 of the BAT model can be said to be short-circuited when there already is an existing business relationship. The two parties have already knowledge about each other and if they are content they are not looking for any alternatives. There is a mutual trust and loyalty between the parties to continue the business relationship.

The other aspect means that there are proposals and contracts on two levels. There can be long-term agreements (on a principal level). These can be agreements concerning a business partnership and also plans for delivery of products for a longer period. Based on these long-term agreements there will be a recurrent performance of business transactions. There will of course be agreements within each business transaction (suborders and confirmations). Once again, contracts do not necessarily mean written contracts.

We divide the business interaction into three general phases: A) Preparatory phase, B) relationship management phase and C) business transaction phase. The preparatory phase includes initial stages before the long-term relationship is established (phases 1 and 2 in the general BAT model). Before such a relationship is established the business parties probably try each others in business transactions (general phase C). In long-term relationships there is a general phase interspersed between the initial preparation and the particular transaction. We call this relationship management (phase B) since it is concerned with work on the relationship level giving prerequisites for recurrent transactions. The three general phases and their different sub-phases are described below. Table 1 presents correspondences between phases in BAT general model and BAT long-term model.

A. Preparatory general phase

- A1. Initial establishing business prerequisites sub-phase
- A2. Exposure and contact search sub-phase

B. Relationship management general phase

- B1. Principal proposal sub-phase
- B2. Principal contractual sub-phase
- B3. Adapting business prerequisites sub-phase

C. Business transaction general phase

- C1. Transaction proposal sub-phase
- C2. Transaction contractual sub-phase
- C3. Fulfilment sub-phase
- C4. Assessment sub-phase

Table 1 Correspondence between phases in BAT general model and BAT long-term model

	Phases in BAT					
BAT general model	1	2	3	4	5	6
BAT long-term model	A1, B3	A2	B1, C1	B2, C2	C3	C4

In a long-term relationship there can be negotiations not only concerning business transactions. There will be negotiations on a long-term basis forming long-term contracts. The business parties can also suggest to each other changes concerning the business abilities. A customer can for example suggest that the supplier should make investments in production equipment in order to enhance product quality. The sub-phase B3 is the continuous adaptation performed by the two business parties in order to calibrate business abilities to each other. In the general phase B there is a continuous exposure of the business abilities towards each other building on trust. In-depth knowledge of the other business party can be acquired. Such knowledge is of course to a great extent established through the recurrent business transactions.

The model described above should not be seen as strict linear model without iterations. There will be iterations and short-circuits of different kinds.

2.3 A Comparative Analysis of IMP and BAT Interaction Models

In section 2.1 and 2.2 above we have briefly described two theoretical models for business interaction. These two models can be used for analysis of business dyads and also as a generic source for further theoretical development. There are similarities and differences between these two models. In this section we will briefly describe some of these similarities and differences. It is beyond the scope of this paper to make a thorough comparison.

First of all we will acknowledge the importance of the IMP approach. The IMP group has over the years contributed with much important knowledge on business interaction and business networks. The IMP approach represents as a whole both a broader and deeper knowledge on business interaction⁴. Anyhow, we think that the BAT approach can contribute with some new theoretical insights and constructs. This is mainly due to the well elaborated constructs on communication and action which are the basis for Business Action Theory. We quote from Håkansson (1982, p. 25) to emphasise the importance of new ways to look at business interaction:

“The practical use of a theoretical model is, of course that it helps to structure the 'world' and thereby the problems. A new model can as a consequence give new opportunities because problems which were neglected earlier may be identified and solved.”

There are similarities in the theoretical stance of the two models. They both emphasise that buyer and seller should be seen as active parties in the business interaction. The two parties should be given equal theoretical attention and the theoretical model should not take the view of one of the parties looking on the other as is often done in much marketing literature. In the two models there is also a common emphasis on actions and relationships. These are however treated in different ways. In the IMP model there is a division into four types of exchanges: 1) product/service exchange, 2) information exchange, 3) financial exchange, 4) social exchange. In the BAT model the interaction is divided into two principal types of exchanges: 1) Business communication and 2) exchange of value. This exchange of value in the BAT model corresponds to product/service and financial exchanges in the IMP model.

Exchange means something going in both directions. There is (usually) no exchange of products and (usually) no exchange of money. There is rather an *exchange of value* which consists of supplier *transfer* of products and customer *transfer* of money. In the BAT model we try to make such a clear distinction between the concepts of exchange (going in both directions) and transfer (going in one direction).

The division into information exchange and social exchange (in the IMP model) is not found in the BAT model. We talk about communication and communicative acts. There is not anything like

⁴ The analysis is restricted to the IMP interaction model as it is described in Håkansson (1982, p. 10-27).

mere information transfer. A “piece of information” is always embedded in a communicative act with commitments, responsibilities and purposes. The main speech act thesis is that every utterance and message consists of both an informative part and an action and relationship part⁵. Communicating means at the same time a transfer of information and an establishment of social relationships. From an explicit speech act perspective one can interpret the IMP division into information exchange and social exchange to be artificial. What is called information exchange in the IMP model always involves social exchange and what is called social exchange always involves information exchange. It is of course possible to thematize information aspects respectively social aspects in an analysis, but the IMP division gives an impression that these are distinct exchange types.

The BAT model has an orientation towards generic actions and how these actions are related into patterns and generic phases. This orientation is missing in the IMP model. The IMP model is, on the other hand, broader and gives a richer contextual description of different business circumstances.

We have presented above a brief comparison of the IMP and BAT interaction models. As a whole there are some theoretical similarities, but also analytical differences and some differences in scope. We summarise this comparison:

- A common theoretical stance in a symmetrical description of the business parties and an emphasis on interaction, actions and social relationships
- Analytical differences in the exchange concepts
- An emphasis on generic actions and phases in the BAT model
- A richer description of the business context in the IMP model

This analysis shows that the models can supplement each other and possibly benefit from each other for further theoretical development.

3 The Sawmill and the Carpentry Firm – A Case Study of a Business Dyad

In this section we describe the case study from which we derive empirical findings to illustrate our dyadic analysis. The case study is part of a larger research project described in this section. The research method in use and the studied firms are also described in brief.

3.1 The Research Project SAIT

Since 1998 we have studied an organisational business network in the wood industry. This research project is named “Co-operation and Business Development in the Wood Industry” (the SAIT⁶ project). The project’s aims can be described from a research as well as an industrial perspective (Axelsson et al., 1999). The research aims can be summarised as increased knowledge of inter-organisational learning, change processes and co-operation. Other important knowledge goals from the research perspective are methods and ways of working towards inter-organisational development together with experience based knowledge on the use of these methods and working practises. From the industrial perspective it is seen as important to increase competitiveness for individual firms as well as the whole business network by inter-organisational development of business conditions and relationships. Other aims are e.g. to improve the preconditions for business and product development through inter-organisational co-operation and to develop usable methods for inter-

⁵ The informative part is usually called propositional contents in speech act theory and the action and relationship part is often called illocution; cf. section 2.2.1 above or Searle (1969).

⁶ SAIT is a Swedish acronym for “Samverkan och affärsutveckling i träkedjan”. For further project information see <http://www.liu.se/cmtto/english/projects/index.html>

organisational business development. These research and industrial aims should not be seen as mutually exclusive but rather as overlapping, though formulated from two perspectives.

The project represents co-operation on several levels between

- different firms;
- researchers from different subject areas (business administration/marketing, informatics, and industrial economics and management) as well as universities⁷ and a research institute⁸;
- researchers and firms.

3.2 Research Method

The research approach used in the SAIT-project can be characterised as a multiple, qualitative case study approach (see e.g. Yin, 1994; Stake, 1995). The project involves activities such as interviews, working seminars (business and process modelling activities), studies of documents, and studies of people's use of artefacts (e.g. information technology). When the project started we began to study four actors in, what we called, a wood value chain. These four actors are private timber suppliers, a sawmill, a carpentry firm, and a house-manufactory firm; each of these being each other's customer or supplier. During this still on-going research project, our focus has been expanded from the wood value chain to a somewhat wider business network. The core firms from the value chain above are still in focus for our study, but we have also included other actors such as a paint and varnish firm, an assembling firm, a building entrepreneur, field salesmen, and some house customers. All these new organisational actors have a business relation to the core firms.

The research project consists of several interactive activities. An important part of the work is to study and co-operate in a number of development projects in the firms within the business network. Method development is taking place in parallel. The business projects are run in a number of phases; a basic division existing in a diagnostic and a design phase. The introductory phase comprises business mapping and evaluatory diagnostic studies. On the basis of the diagnosis carried out, a design and change-oriented phase follows. Because of these development projects our research can be characterised as action research (e.g. according to Argyris et al., 1985) with interventions and co-operative actions. The work with the firms in the wood value chain is carried out on three levels;

- At the firm level (intra-organisational focus)
- At the dyad level, co-operation between pairs of customers and suppliers (inter-organisational dyad focus)
- At the network level, the business network (inter-organisational multi-focus).

This paper is concerned with the second level above; the inter-organisational dyad focus. When writing the paper we have analysed our empirical data from the case studies regarding the business interaction between the sawmill and the carpentry firm. In order to accomplish this analysis in a structured way we have further developed and used the BAT phase model, which also can be seen as a methodological decision.

⁷ Jönköping International Business School, Linköping University, and The Royal Institute of Technology, Stockholm.

⁸ AB Trätek, Swedish Institute for Wood Technology Research.

3.3 The Sawmill and the Carpentry Firm

In this paper we focus on one dyad within the wood industry network; the dyad between the sawmill and the carpentry firm (i.e. two of the core firms mentioned above). Both organisations are made anonymous in the paper.

3.3.1 *The sawmill*

The studied sawmill is a family-owned company, established in the early 1900s. The business employs more than thirty people and has an annual turnover of 75 million SEK. A high proportion of the annual production is exported, mainly to Europe (particularly Northern Europe), the Middle East, North Africa and South East Asia. Domestic sales are arranged through a sales office, while exports usually take place via agents. The firm's aim is to offer wood products of the right quality, adapted to the customer's needs. The wood products shall be refined to a high level and profit both the sawmill and customer in both the short- and long-term.

The sawmill obtains its raw materials mainly from private forest owners. The major part of the raw material supply comes from private forestry local to the sawmill. Wood chips and pulp are some of the by-products which the firm has to dispose of to some big wood suppliers, by means of a so-called barter contract. The sawmill exists in a volatile and competitive market, where raw materials are scarce and prices increasing. At the same time, the market for ordinary sawmill products is relatively saturated, with falling prices as a result. This market situation has led to the sawmill suffering from reduced, even negative, profitability in recent years. The sawmill's market strategy is, among other things, to compete with high levels of refinement in products as well as fast and precise deliveries. Competing in terms of volume (large scale production) is not profitable for a relatively small actor, which this sawmill is compared to bigger sawmills in the business. Specialisation is therefore essential.

3.3.2 *The carpentry firm*

The studied carpentry firm manufactures a central component in the house building process; the stairs. The production started in the 1930s and since then production has continued under various forms of organisation. Over thirty people are employed, five administrators including the two joint owners, and the firm turns over 46 million SEK. The carpentry firm enjoys very good profitability.

The carpentry firm's business concept has remained the same since the beginning. The firm manufactures their product piece by piece, each product being unique. The production is completely controlled by customer orders. They have a number of product components that can be combined in various ways and the products are manufactured from wood of the customer's choice (e.g. fir, birch, beech, sycamore, or oak). Each product is prepared in a CAD/CAM system where the customer's measurements are turned into production information. The export market is important and the firm sells a lot to Germany.

The carpentry firm's relationship with the studied sawmill was established in the early 1980s, the initiative being taken by the carpentry firm which needed to buy seasoned timber from the sawmill.

4 Empirical Findings from Using BAT for Dyadic Analysis

In this section we report results from the dyadic analysis carried out with the BAT phase model as a theoretical lens. This generic phase model makes it possible to carry out a structured description and analysis of a dyad. In each phase of the BAT model we have been able to characterise actions that together form the inter-organisational interactions between two organisations. We also give examples of how problems identified in each organisation can be characterised as mainly internal or dyadic problems and then related to different phases of the business interaction.

4.1 Inter-organisational Interaction Viewed through BAT Phases

We have used the BAT phase model to characterise internal and dyadic actions at the sawmill and the carpentry firm. Internal actions at the sawmill and the carpentry firm can consist of dyadic elements directed to other business actors within the network. In this analysis, however, we only focus on one chosen dyad, but in the network there of course exist many interacting dyads. The references in the headings below correspond to the BAT long-term model in table 1 above.

4.1.1 *Preparatory business prerequisites phase (A1)*

In order to ensure its ability to produce, the sawmill has to find wood suppliers. These suppliers are of different kinds; some are small, private forest owners and others are large purchasing organisations. Since the raw materials are scarce and prices increasing it is sometimes difficult for the sawmill to secure supply of raw materials. Sawmills cannot fully decide what products the raw material should be transformed into, since the qualities of raw material are not always visible before production (e.g. defects in the wood may not be possible to see before the wood is sawn). To be able to meet demands even when the internal production capacity is insufficient, the sawmill co-operates with another sawmill in the same region that also is a competitor in the market for sawn products. These two sawmills have helped each other for a long time during production peaks. The studied sawmill sometimes buys products from the other sawmill to meet the demand of the carpentry firm.

4.1.2 *Exposure and contact search phase (A2)*

To be able to deliver demanded goods to the carpentry firm, the sawmill has to find customers for the parts of the log that the carpentry firm does not want to buy. The carpentry firm is only interested in buying products from the “core part” of the log, but the sawmill must be able to sell all products from the log if they should make an overall good profit. In the same way the sawmill has to find customers for the by-products (such as wood chips and pulp) from their production. These customers are large purchasing organisations, i.e. the actors that also are suppliers of raw material. This situation makes the sawmill dependent on their suppliers in two ways; both as a supplier of raw material and as a customer of by-products.

4.1.3 *Principal proposal and contractual phases (B1, B2)*

A general price agreement is made between the sawmill and the carpentry firm twice a year, from which frequently suborders are made. Suborders are made in an informal way on telephone or fax (see section 4.1.5 below). The agreement is made between the managing director at the sawmill and one of the owners of the carpentry firm (who is also responsible for purchasing). These two persons have known each other for many years and they have a rather informal negotiation based on sales market statistics from the last six months, prognoses for the coming six months and raw material prices. There are no exact amounts of demanded goods specified in the agreement, but the carpentry firm usually buys everything that the sawmill can produce within the demanded qualities. There has at the time of our study always been a new agreement negotiated every sixth month.

The carpentry firm is willing to pay for “right” quality, delivery reliability, stock-keeping outside the firm, etc. They do not primarily look for the lowest market price but the right quality of products is prioritised. Delivery reliability is also highly valued since their own production is dependent on deliveries on time. They do not keep large stores of sawn products, instead they pay for stock-keeping at the sawmill. This makes physical area available in their workshop which can be used for production value adding activities.

The pricing is kept on a medium level in the general agreement thanks to this long-term relationship. The sawmill does not necessarily have to fully compensate for high raw material prices and the

carpentry firm does not seek for the lowest possible prices when the supply of sawn products are good.

4.1.4 *Adapting business prerequisites phase (B3)*

The carpentry firm needs sawn products of a certain quality and level of refinement for their production. To be able to buy these from the sawmill, the carpentry firm has demanded a higher level of refinement than the sawmill primarily offered. This is an example of the fact that the carpentry firm has had an influence on the prerequisites of the sawmill; in this case their level of refinement. The sawmill has also invested in a wood drying plant to be able to offer dried products demanded by the carpentry firm. These examples show how the sawmill has adjusted to customer's demands to be able to keep and further develop a profitable relationship.

4.1.5 *Transaction proposal and contractual phases (C1, C2)*

The sawmill keeps a separate stock for the carpentry firm consisting of products that the carpentry firm always wants to buy. This customer is the only one who buys these qualities from the sawmill. The stock is separated both in the physical store and in the information system. This makes it possible for the sawmill to make a proposal depending on this stock. The sawmill sends a fax to the carpentry firm showing their existing stock of products. The fax can be seen as a "window" of the sawmill's stock that shows their ability to supply. This view of the stock is specific for the carpentry firm and is not shown to other customers.

The fax is returned to the sawmill after the carpentry firm has marked their demands (based on internal purchasing decisions and needs). This example of an informal business interaction is built on mutual trust and is the result of a long business relationship.

Besides this fax communication, the sawmill also contacts the carpentry firm to inform about future production plans in order to meet up-coming demands. This information is based on the sawmill's experience of what the carpentry firm will demand in the near future. The carpentry firm also contacts the sawmill in order to demand products outside the "stock list".

4.1.6 *Fulfilment phase (C3)*

As mentioned above, the sawmill has a long-term relationship to another sawmill from which they buy supplementary goods to the carpentry firm when they cannot produce enough themselves. There are no contracts for these transactions, but the two sawmills have helped each other in this way for many years. This relationship is based on social contacts between the managing director at the studied sawmill and a salesman at the other sawmill. Deliveries to the carpentry firm can consist of both own products and trading products from this other sawmill. The carpentry firm is aware of this fact and they can trace the products to the specific sawmill. The transactions are always made via the studied sawmill. The carpentry firm does not have any contacts with the other sawmill – they are competitors.

4.1.7 *Assessment phase (C4)*

The sawmill and the carpentry firm have chosen not to handle any reclaims in case of bad deliveries. Instead, complaints are handled through adjustments in future deliveries. This way of acting is based on mutual trust and a common wish to keep the bureaucracy as simple as possible.

Operative personnel from the sawmill sometimes visit the carpentry firm to gain knowledge about how their products are used by the customer. The person responsible for purchasing at the carpentry firm frequently visit the sawmill in order to suggest adjustments in for example the sorting process in order to attain the demanded quality. This inter-organisational knowledge interaction is a part of the constantly on-going development of the business relationship.

The sawmill and the carpentry firm have had their business relationship for a many years. It has matured and grown deeper over the years; the sawmill has adjusted to demands from the carpentry firm and the carpentry firm has increased their orders to the sawmill. From the sawmill's point of view the relationship still can be improved so that they produce goods with a higher value; i.e. to increase the level of refinement. This would imply a higher profit on delivered goods. The higher level of refinement was originally a demand from the carpentry firm that has now developed to a business goal at the sawmill.

The carpentry firm wants to improve the relationship further so that they can secure supply of raw material for their production. They want to make their efforts more close to the end customer, such as assembly and other end-customer market activities. Thus, they want to outsource activities such as sorting and gluing the sawn products. The carpentry firm also wants to increase their production volume and must therefore be able to buy larger amounts of sawn products from the sawmill.

4.2 Problems Identified within the Dyad

During our case study we identified problems concerning the business actions between the sawmill and the carpentry firm. We have characterised these problems as either mainly internal or dyadic problems. These two kinds of problems have of course relations to each other and they can often be seen as interdependent. In this section we discuss some of these problems related to the BAT phases. The references in the headings below correspond to the BAT long-term model in table 1 above.

4.2.1 *Preparatory business prerequisites phase (A1)*

The sawmill can only marginally influence the quality of raw material. Since there are lack of available raw material they choose to buy what they can get. Sometimes poor quality is not possible to discover before the log is sawn. The business market for wood is another fluctuating factor outside the sawmill's possibility to affect. The sawmill exists, as mentioned above, in a volatile and competitive market, where raw materials are scarce and prices increasing. This problem forces the sawmill to focus much on their supply and purchasing processes. Under other circumstances this attention would probably to a higher extent be directed towards their customers instead of their suppliers. These problems are mainly the sawmill's internal problems but they certainly affect the carpentry firm as well.

4.2.2 *Exposure and contact search phase (A2)*

To be profitable the sawmill has to find customers for by-products and products with other dimensions and qualities than the carpentry firm demands. This is sometimes a problem for the sawmill. Thus, the sawmill has to calculate about what they can offer to the carpentry firm in relation to what this demands of finding other customers. If this problem is not solved the sawmill offers the products to the carpentry firm anyway, but this gives little or no profit. This is an internal sawmill problem.

4.2.3 *Principal proposal and contractual phases (B1, B2)*

The price for raw material sometimes increases during an agreement period which results in less profit for the sawmill. This is an internal problem for the sawmill. If the rise in prices has been delayed because of the six month agreement period this can cause a considerable increase of prices in the next negotiation. The carpentry firm may experience this as an unexpected rise when they in fact have paid a too low price compared to the raw material prices before. The permanent price setting for six months ahead involves a risk for both parties (i.e. a dyadic problem), but it also makes the suborders easier to handle.

4.2.4 *Adapting business prerequisites phase (B3)*

The carpentry firm has influenced the sawmill to make changes in their level of refinement, as mentioned above. The carpentry firm has, however, other ideas of how the sawmill can develop in a way that would benefit both parties. An example is that the sawmill could take over parts of the gluing process and, thus, sell even more refined products to the carpentry firm and other customers. This would increase the profit further, but it is also combined with investments which the sawmill so far has hesitated to make. The carpentry firm tries to convince the sawmill that this would be profitable for both parties, but the sawmill is at the time of our study reluctant since they cannot be sure of the carpentry firm's future demands. This and similar ideas are brought up by the carpentry firm with a mix of opportunity and threat; both parties can profit from this ideas but if the sawmill refuses to accomplish the changes the carpentry firm perhaps has to look for another supplier. This is an example of a dyadic issue that can be both a problem or a possibility for both organisations.

4.2.5 *Transaction proposal and contractual phases (C1, C2)*

The general agreement does not specify the exact amounts of goods that are expected to be ordered during the agreement period. The sawmill does not know the exact demands of the carpentry firm and this makes it difficult to plan their production on long-terms. Instead, they have to adapt rapidly to signals from the carpentry firm and, above all, rely on their former experience. This is a dyadic problem.

The sawmill experiences that the carpentry firm presumes that their demand is known without expressing it until late in the order process. This is sometimes a cause of complaints and dissatisfaction from both parties. The sawmill means that they cannot guess the demands and therefore the deliveries are sometimes late. The carpentry firm, on the other hand, thinks that the sawmill ought to know their demand after all these years. There has been an alternation of generations at the family-owned sawmill and the carpentry firm points out that these mistakes were not occurring "in the old days". The business relationship has, thus, been inherited and it is obvious that the new actors have had to find their own ways of interacting with each other. This is obviously a dyadic problem.

The carpentry firm finds it difficult to reach persons at the sawmill by telephone. When they make their suborders there are three or four actors involved at the sawmill and it is time consuming to try to get in touch with these persons. Today most contacts are made by telephone or fax. Since this takes time it would save much resources if the carpentry firm could reach stock information (i.e. proposals) from an inter-organisational information technology based system. This could be realised by a web-based view (e.g. an intranet solution) of the separate "carpentry stock". This solution is discussed by the sawmill and the carpentry firm. This dyadic problem implies that the inter-organisational business interaction may be accomplished even closer in the dyad. This would also result in a tightening of the relationships between the two organisations (i.e. a technical bond).

4.2.6 *Fulfilment phase (C3)*

The sawmill keeps a separate stock for the carpentry firm consisting of both produced and purchased products. This is of course an expensive way of meeting the demand, but it is necessary both because of the fluctuation in supply of raw material during the year and because of the carpentry firm's sometimes late orders. Wooden products are perishable goods that cannot be stored for too long without losing in quality. Therefore it is combined with a risk for the sawmill to build up a stock like this (i.e. this is mainly an internal problem at the sawmill). Nevertheless, the sawmill sees the carpentry firm as such an important customer that this risk is justified.

The carpentry firm sometimes finds the product quality too low. This can be caused both by defects in raw material and by mistakes in the sorting process. Such defects cause problems in the production process of the carpentry firm since they do not keep a large stock of raw materials. The carpen-

try firm sometimes requests quicker deliveries than they get. They are striving at increasing their production volume and therefore they sometimes consume their raw material quicker than expected. Problems like the ones mentioned here imply many telephone calls about order status. The fact that the carpentry firm finds it time consuming to reach persons at the sawmill by telephone makes this problem even more serious. These problems are internal problems at the carpentry firm that also affect the sawmill and therefore become dyadic problems in the long run.

4.2.7 *Assessment phase (C4)*

The carpentry firm tries to influence the product quality of their deliveries in different ways. Since the sawmill values this important customer high, they sometimes tend to sell products with extra high quality to the same price as “ordinary quality” which decreases the profit. This is an internal problem at the sawmill. It is not mainly a conscious decision to sell products too cheap, but an effect of the visits that the purchaser at the carpentry firm sometimes makes at the sawmill. After these visits the personnel in the sorting process tend to sort out products of higher quality than demanded to this customer, in order to please him. In the same time as the sawmill experiences inter-organisational knowledge interaction as an asset, they also see problems caused by it. It is therefore important for the sawmill to understand the problems at the customer’s firm but also to understand the business logic of their own firm. This is a dyadic problem.

5 Experiences of Using BAT for Dyadic Analysis

In this paper we have shown how empirical results from a case study of a dyad can be described by using the BAT phase model. This has given us important experiences and understanding of how a dyadic analysis can be accomplished when using a phase model. Here we summarise some of these experiences and also propose some ideas for future research.

We have chosen to use the BAT phase model for the dyadic analysis since this model is part of our research group’s theoretical foundation. We think that the BAT model has proved to be useful for this kind of dyadic analysis. It has helped us to adopt a symmetric view and, thus, focus on both supplier and customer. It has also depicted that inter-organisational business interactions to a great extent consist of communicative actions. The results of the analysis are useful as a basis for development and change activities within the studied organisations. Most of our research efforts within the field of business- and systems development have the twofold aim of both formulating theories and improving practice. Thus, the problem characterisation based on BAT phases is specially useful. This description of internal and dyadic problems can serve as a basis for improvement discussions, both at the firm level and at the inter-organisational (dyad) level. Inter-organisational business development implies that two (or more) organisations and several actors are affected and involved. In intra-organisational business development there is a single management to handle conflicts and establish aims, but during inter-organisational development negotiation and common development are required. Thus, this kind of symmetric, dyadic descriptions of business actions and problems can be very valuable. They can be used in order to show how changes would effect both the single organisations and the dyad; to discuss different problem opinions and relationships between problems on different levels; and to get a shared understanding for the business actions that constitute the business dyad.

As said above, this case study has contributed with knowledge about the applicability of the BAT model and a theory based analysis to be used for inter-organisational business development. This case study, together with other case studies performed by the research group (e.g. Melin and Axelson, 2000), can also give contributions to theoretical knowledge on inter-organisational interaction. The parts which have the greatest potential for further theoretical development seem to be:

- Relationships and dependencies between different contractual levels (long-term vs. transactional)

- Continuous attempts to influence and adapt the business prerequisites to the dyadic situation
- How problems within one company can affect the situation in the other company and thus give rise to new problems

5.1 Future Research

The BAT phase model has served as a tool to help us understand the distinct phases that a dyad can be divided in. The phase model, as illustrated in figure 2 above, can be criticised as neglecting the iterative and cyclic nature of performing business. This is emphasised in the business action theory but not described graphically in the phase model. Therefore, an idea for future research would be to develop the graphical phase model so that iteration within and between phases becomes explicit.

The BAT phase model has get its inspiration from different sources. In this paper we have named these sources language action theories and business relationship theories. The latter consists of both theories related to business network and relationship marketing. These different sources of inspiration can be further reconstructed, compared and evaluated, in order to gain a deeper understanding of how these theories can be combined and in which ways they are contradictory.

We have used the BAT model for our dyadic analysis but we are of course aware of the existence of other frameworks and models for dyadic analysis, e.g. the IMP interaction model (Håkansson, 1982) described in section 2.1.3 above and briefly compared to the BAT model in section 2.3. We therefore propose a thorough and more extensive comparison between these models as an interesting subject for future research. An obvious difference between the two models is the variables describing environment in the IMP interaction model, that has no explicit corresponding aspect in the BAT phase model. Another difference is that individual expectations and aims are not explicitly marked in the BAT model. A more in-depth comparison of the two models could also point out particular ways that the models can benefit from each other and how they can be further developed. This is a future research subject that could be interesting for researchers from the business and systems development field as well as the network perspective.

Another idea for future research is of course to accomplish further empirical dyadic analyses to test the BAT phase model in other situations and contexts.

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