Broken Patterns

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Abstract

The development of business relationships have become an important competitive ability of contemporary organisations. In order to enhance such development between suppliers and customers there are modelling techniques founded in communicative action theories. These theories stress the importance of analysing and developing comprehensive patterns of interaction. Long-term relationships are often regulated by frame contracting processes embedding several recurrent business transactions. In such long-term relationships there are many business acts issued by each party over a long time period that need to be regarded as related initiatives and responses in order to prevent broken patterns. In this paper a business interaction theory, Business interAction & Transaction framework (the BAT-model) has been used as a generative theory for revealing broken patterns in an empirical setting involving a third party logistic firm and one of their customers. Broken patterns in their long-term business interaction were revealed and a development, both concerning the communicative function and the contents of the communication, was proposed in the empirical setting. In this paper a proposal for a detailed refinement of the BAT-model is also put forward.

Keywords: Patterns of business interaction, long-term relationships, frame contracting, process modelling

1 Introduction

Companies of today highly rely on continuous development of business relationships (Håkansson & Snehota, 1995). Well developed business relationship with customers is an important competing factor. According to communicative oriented business theories (Austin, 1962; Searle, 1969; Habermas, 1984) business relationships are maintained and enhanced by realizing expectations created between the two parties.

During a business transaction several business acts (c.f Lind & Goldkuhl, 2003) are issued from one party to the other. These business acts are grouped together in patterns of interaction. In the beginning of the eighties Winograd & Flores (1986) introduced the conversation-for-action schema (CFA-schema). Building upon that schema a number of scholars have propagated for different ways of interpreting patterns of interaction during business transactions (c.f Dietz, 1999; Medina-Mora et al, 1992; Goldkuhl & Lind, 2004). The underlying meaning of these different transaction models is that communication implies action and that the performance of fulfilment acts (many times material acts) should be preceded by communicative acts. Such communicative acts are about setting the expectations, in terms of e.g. proposals and commitments, between the two parties. As distinguished by these scholars there are also important communicative acts, e.g. assessments, following the actual fulfilment of a business transaction.

As identified by Lind & Goldkuhl (2003) these interaction models are organized as patterns of initiative and response (Linell, 1998; Schiffrin, 1994). This means that one initiative taken by the first party serves as a trigger for a response by the other party. That response is to be regarded as a new initiative directed to the first party. This double function of each communicative act makes it possible to relate different business acts to each other in order to identify sequences. The overall purpose of identifying patterns of interaction is the strive for

successful business communication when setting, realizing and evaluating expectations between two or several parties. Long-term business interaction is complex since there are different types of sequences related to each other. One type of sequence of interaction is of course the interaction concerning establishment, assessment and renewal of frame contracts. Another type of sequence is the embedded sub-orders, in which the frame contract constitute the context for the realisation of sub-orders.

Future expectations can be regulated between two parties in different ways. Goldkuhl & Lind (2004) have in the Business interAction & Transaction framework (the BAT-model) identified the need to distinguish between frame contracting and separate (single) customer orders. Frame contracting is often used for regulating long-term relationships while separate (single) customer orders are about the settlement and fulfilment of one business transaction. Lind & Goldkuhl (2004) have presented two integrated models for understanding business interaction during frame-contracting with embedded sub-orders and single business transactions. Besides that frame contracts often regulate long-term relations, it also contains important parameters for business interaction during the realisation of the embedded sub-orders.

Different types of business interaction are often identified in the two categories B2B and B2C. In a B2B situation the customer and supplier often repeatedly interact, i.e. realize recurrent business transactions, in order to continuously contribute to the development of each others capability. Importantly the capacity for future demands then needs to be prognosticated for. Supplier and customer must reserve future capacity needed for fulfilling the upcoming needs for the other party. This is especially important in transaction intensive businesses. Such businesses are dependent on cost-efficient realizations of each transaction. It is rather low profit on many transactions than high profit on few transactions that generate profitability for the involved parties. It is important that these transactions (sub-orders) can be performed according to mutual expectations, high quality and cost efficiency. The latter development of the BAT-model covers frame contracting as well as embedded sub-orders that can be used for understanding transaction intensive businesses in B2B settings. Since there are several parallel ongoing communicative sequences (frame contracting, sub-ordering) the long-term interaction becomes complex. In the BAT-model there is a focus on successful realisation on both the frame contract level and the sub-order level. There is however an unsolved quest of how to avoid broken patterns (in terms of related initiatives and responses) between the two levels. Sub-orders are to be regarded as embedded sequences in the frame contracting process.

One setting with such characteristics (long-term relationships, transaction intensive) described above, is third party logistics (3PL). Essentially, a 3PL company may be defined as an external supplier that performs all or parts of a company's logistics functions (Coyle, et al., 1996). Third party or contract logistics companies have become an increasingly popular alternative and this trend is expected to continue (Coyle, et al., 1996). Accordingly, collaboration between businesses and relocation increases with higher acceptance for different business network constellations. (Normann & Ramirez, 1993). A 3PL company has a mission to handle numerous customers with limited resources, in order to satisfy customer needs. One challenge is to manage different and to some extent unique customer demands with such limited resources. Since the customer use a third party, they expect the 3PL company to perform the outsourced activities more effective than they are able to do themselves.

The purpose of this paper is to report upon the usage of the BAT-model for development of 3PL business interaction. The empirical foundation is derived from a business analysis performed together with a third party logistic firm and one of their customers.

This paper is arranged as follows; in the next section we will introduce the empirical setting. Further, we will elaborate on relevant theories regarding business interactions in order to create a basis for the analysis of the empirical data. In the following section the empirical data will be analysed concerning the business interaction between the frame contract and the embedded sub-orders. A way to arrange such business acts as well as the content of the communication, i.e. the propositional content, will be developed in order to prevent broken patterns of business interaction in long-term relationships. This section will be concluded by implications for and proposed refinements of the BAT-.model and its future usage in similar settings.

2 Third party business interaction in practice

2.1 Research setting

During 2004 a series of process modelling seminars was conducted, involving two organizations; a third party logistic company and one of their customers. The aim was to enhance the mutual relationship between the two parties involved and to establish a foundation for IT-based business interaction. During the seminars both parties were present, with representatives from different business areas. The seminar group consisted of business representatives (5-10 individuals), a seminar leader and an assistant seminar leader.

The process modelling sessions included a number of different areas;
- a business definition, in order to identify business characteristics

- a co-operation analysis, which on a comprehensive level gave an initial understanding of the business logic, a detailed analysis resulted in a number of inter-action diagrams

- a process analysis, containing a detailed analysis of the business action logic with its actors, pre-conditions and result (action diagrams). The action diagrams were abstracted to a comprehensive process diagram.

During the process modelling, different areas of improvement were identified. These aspects were later unified and analyzed in order to reveal possible connections with identified goals and problems. The process modelling was concluded by a final report, approved by all participants. The final report can be seen as an instrument or a base for further business development.

2.2 Empirical setting

In this section, we introduce the two companies; *LogCom* (the third party logistic company) and their costumer *CusCom*. *CusCom* is a retail home decoration company and have several retail shops. The shops product assortment is regulated from the central purchasing management. Seasonal purchase is conducted based upon estimation of customer needs and orders are then placed to the product supplier. After quality controls, the products are delivered to *LogCom*, who handles inbound logistics, warehousing, and outbound logistics. The product assortment is divided into two main groups; *distribtion products* and *refilling products*. *Distribution products* are controlled by the central purchasing management, and are

distributed to the shops based on a distribution plan. The other product type can be ordered based on demand directly from *CusCom* shops. The central purchasing management is responsible for coordinating the activities regarding distribution of goods from *LogCom* to the shops.

When decided what, when and to who to distribute *CusCom* issue a sub-order towards *LogCom*. Sub-orders can occur several days a week. The amount of sub-orders vary between 30 000 till 100 000 units per occasion, depending on season. In order to inform about future sub-orders, prognostications regarding future needs of capacity are supplied to the third party. These estimations only include the *refilled products* (approximately 60% of the total product assortment). *CusCom* has a central logistics department, managing the central coordination of deliverance, and are divided into in- and out deliverance. Depending on the character (operative or strategic) and which part of the deliverance (in or out) the issues concerns, different actors take part in the communication.

The financial relation between the parties is regulated by the amount of incoming goods, the amount of outgoing goods, stock rent, and addition services. The two parties have a long-term relationship, which is regulated by a frame contract. The frame contract includes for instance responsibility regulations, quality norms, cost aspects, etc. The cost for a business transaction is determined by a certain fee. The frame contract is considered vague concerning the regulation of how the interaction between the parties should occur prior the commitment embedded in each sub-order. The frame contract does for example not regulate the communicative functions as well as the propositional content concerning the process of communicating about prognostications. This vagueness has the effect that each party act for their own best rather than acting for contributing to a win-win situation.

2.3   Identified problems

Since it can be a high degree of variation between the capacity needed at different suborder occasions (dependent on seasons and customer demands) there is a need for establishing mutual expectations of needed capacity for a certain occasion. It is therefore a need for accurate prognostications of desired capacity. Such foundations can be established in business interaction sequences. It is however important that there are strong incitements for each party (internally and in relation to the other party) for issuing communicative acts concerning this matter.

For *CusCom* there is a need for ensuring a certain capacity at a given occasion. For *LogCom* there is a need for having a certain amount of capacity available at a given occasion in order to deliver high quality services to *CusCom*. A great task is therefore to establish a communication pattern (sequence) between the two organizations in the proposal phase of the business transaction (c.f section 3 below).

As observed in this empirical setting there are a number of challenges that need to be handled:
- The precision of the estimation of needed capacity varies dependent on how far away (in time) the suborder fulfilment is.

- One important characteristic of a business transaction is that each business act is related to another in a pattern of initiative and response. This means that the sequence of business acts needs to be secured in the sense that the pattern should not be broken. Going back to the empirical setting it can be identified that *CusCom* supply with estimations (as an initiative) without getting a response. There is thus a pattern of interaction when establishing the frame contract and also when realizing the business transaction. The

pattern of interaction, gluing the frame contract and the embedded sub-orders to each other, is broken. This has the effect that *CusCom* cannot be sure of which capacity that will be available at the given occasion and *LogCom* does not secure the needed capacity. The estimations made by *CusCom* are neither informative nor directive and do not imply mutual commitments.

- The propositional content of the estimation needed must include all products in order to become meaningful for *LogCom*

- The financial dimension of the business interaction governs the acts by each party. Therefore the financial agreement must encourage the two parties to act in a way to avoid the pattern of interaction between the frame contract and the realisation of the suborder, to be broken.

- There is no regulation of how to interact between the overall frame contract and the embedded business transactions. There must be an efficient way of handle such business interaction – both in terms of regulations of how the interaction should be constituted and in terms of infrastructural support, such as IT-systems.

3   Foundations for analyzing long-term business interaction

An organisation's existence is determined by its capability to contribute with value to its customers. A business means that agents, acting on behalf of the organisation (c.f Ahrne, 1994), performs actions oriented towards somebody else (Goldkuhl & Röstlinger, 2002). In a business interaction two roles can be distinguished, supplier and customer. Based on communicative (Habermas, 1984) and language/action theories (Searle, 1969) it can be founded that a business interaction sequence involves setting and realising expectations between the two parties. In the BAT-model (Goldkuhl & Lind, 2004) this business interaction sequence is divided into a number of different communicative and material exchanges. These are exchange of proposals, commitments, fulfilments as well as assessments (c.f figure 1). These exchanges constitute a business transaction. These exchanges are constituted of interchanges in patterns of initiatives and response where one response also serves as an initiative for another response (Linell, 1998; Schiffrin, 1994).

Before the two parties enter a business transaction a business relation (pre-transactional) exist and the success (or failure) of the realisation of the business transaction determine the post-transactional business relation.
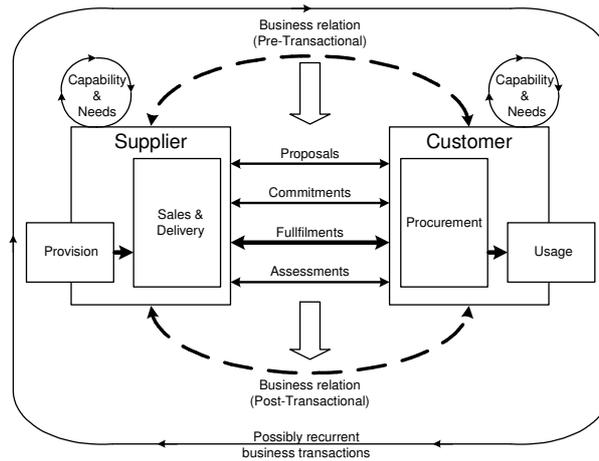
Figure 2: The constituents of the business transaction (BAT business transaction model)

Important considerations for the customer are of course the capability and the capacity that the supplier can provide. Capability is about the organisation's ability to perform something and capacity concerns the resources (human activity, stock area, financial capital etc.) needed for the fulfilment. In this sense the supplier does not need to be one organisation. Many times there are a number of organisations involved in the task of contributing with value to the customer. This issue is addressed by Hedberg et al (1997) as the concept of the imaginary organisation as well as by Normann & Ramirez (1993) as the concept of the "value star". Based on this perspective the third party company can be regarded as one constituent of the total capability for the customer of the third party. It would thus also be natural to value the established relationships to sub-contractors as one part of the capability.

Given the situation that a company builds and offers a capability that is dependent upon other companies it is important that the relationships between the company and these companies are formed on a long-term basis. Since exchanges performed between the two parties determines the development of the relationship it is important to ensure that these exchanges are realised according to both parties' expectations.

The business transaction model, described above (figure 1), has been expanded to a *frame contracting transaction model* (figure 2). According to BAT this is a supplementary model to the business transaction model.

Frame contracting occurs between a particular supplier and a particular customer. A frame contract is a long-term agreement. Such an agreement is established through exchange of proposals and commitments. The frame contract is an agreement that governs the subsequent recurrent business transactions, i.e. the embedded business transactions. Frame contracting is used to reduce uncertainties and to ensure future procurement, production and sale.

The two contract levels correspond to two different contract types: *Frame contract* and *transaction contract* (transaction order). If no frame contract exists the transaction contract will be a *separate transaction order* (single order). If a frame contract exists, the transaction contract will be a *sub-order* defined within the frame contract. The frame contract will usually give rise to several sub-orders and thus to several recurrent business transactions covering the phases as indicated in figure 1.

In business transactions, according to Goldkuhl & Lind (2004), governed by a frame contract, the need for exchanging proposals will decrease and could be determined by the specifications in the frame contract. They claim that many times the proposal phase (of the business transaction) will be short-circuited when a frame contract exists. There is nothing more to negotiate about. Everything is settled within the frame contract. One of the main intentions behind frame contracting is to *decrease transaction costs* (Coase, 1937) through decreased interaction. Usually the contents and the transfer of the sub-order is standardised in ways to decrease transaction costs. In this paper it is however claimed that the proposal phase of the business transaction is essential for the success of the realisation of the embedded business transactions.

Assessments can occur on both transaction level and frame contract level. Experiences from the performance of business transactions may be a basis for an assessment of the frame contract and its fulfilments. Assessments can be made by each party and some of these can be exposed to the other party, i.e. assessments may be exchanged. When a discontent exists and a change is desired this need to be expressed as a claim for improvement to the other party. Of course satisfaction may also be expressed as compliments. A new frame contract should build on experiences and performed assessments. Frame contracts can in a long-term business relation be recurrently developed and executed.

A recurrence of frame contracting over time is indicated in figure 2. This means also a continual development of business relations (in the same way as recurrence of business transaction depicted in figure 1).
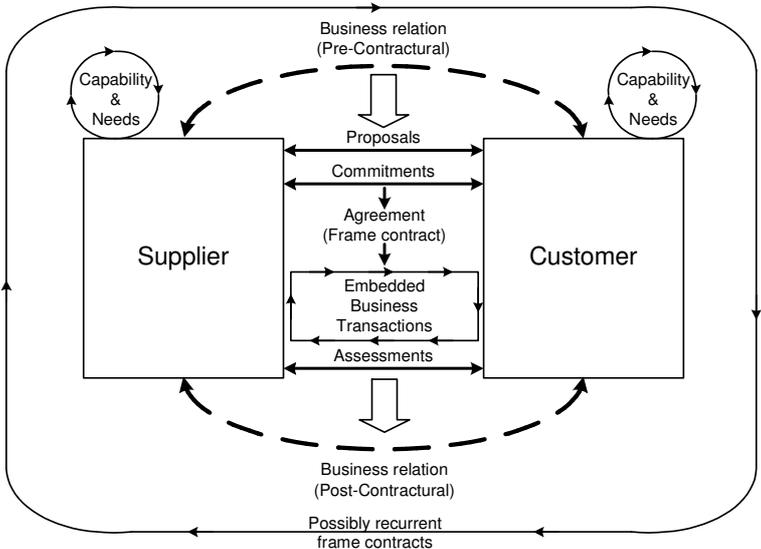
Figure 3: The constituents of frame contracting (BAT frame contracting transaction model)

When a customer places an order to the supplier it is to be understood as a reservation of capacity from the customer's point of view. An order confirmation is to be understood as a commitment of future capacity from the supplier's point of view. Here it is of course important to establish solid foundations for such a communicative act. Sometimes there might be a need to secure the commitment with sub contractors.

Given the need for a company to ensure strong and long-term relationships with some parties, especially with third party suppliers, frame contracting is to prefer. Another strong incitement

for frame contracting in this context is to reduce the need for *negotiation* for each sub-order. An important question is however what aspects, concerning the future sub-orders, that should be regulated in the frame contract (as part of the propositional content). Is it possible to predict all upcoming situations? Is there no need for more precise capacity reservation between (in time) the agreed frame contract and the realisation of the succeeding sub-orders?

# 4 Using BAT for developing 3PL interaction

In section 2.3 several problems regarding the business interaction between the agreed frame contract and the realisation of the sub-orders were identified. These problems were related to the proposal phase of each embedded sub-order since the broken patterns of interaction were related to the following commitments within each sub-order. These problems were in the BAT-model positioned to the proposal phase of the business transaction. During the process modelling seminar these problems were identified and solutions for how to interact emerged. This solution was founded in the BAT-model and its underlying theories. In this section the solution for this 3PL company's interaction with one of their customers is presented.

4.1 From Estimation to Capacity Reservation

One key problem identified was that the sequence of related initiatives and responses were broken in the proposal phase of the business transaction (each sub-order). It was identified, by the use of the BAT-model that this problem had to do with both the lack of a clear communicative function for each business act (proposal act) as well as with the fact that there was no agreement concerning the propositional content of the business acts. The BAT-model emphasise the need for identifying patterns of interaction and the role that the propositional content have in order to prevent broken patterns. In this section, an approach for handling the desired interaction, based on both the BAT-model and the underlying foundation, will be presented.

The interaction in the proposal phase of the business transaction needs to be efficient. From the customers point of view securing future needs is essential in order to realise potential commitments towards the customer. From the suppliers point of view securing capacity for future needs of capacity is essential in order to provide the customer with customer value. In the empirical setting it was identified that both parties had an interest in communicating about potential needs of capacity. At the same time it is important to note that one of the reasons for contracting a third party is the potential of flexibility. Such flexibility was in this empirical setting handled by considering allowed deviation. Early in the process modelling the notion of reservation, instead of estimation, was used in order to emphasise the communicative function of prognostication.

Of course it is harder to predict the needs the further away (in time) they occur. For example to specify the exact needs on an exact time six month in advance is harder than to specify the needs two weeks in advance. In the figure below it is depicted that the tolerance of deviation from the actual need should be greater the further away (in time) the actual need occur.
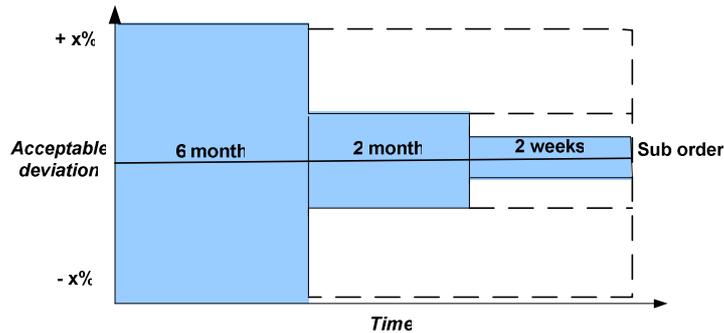
Figure 4: Acceptable deviation of estimation during different time frames prior the sub-order occasion

The frame contract regulating the relationship between *LogCom* and *CusCom* covers a three year period. Aspects such as the price, quality demands, time limits etc are parts of the propositional content of the frame contract. Within the frame contract there are also demands placed on *CusCom* to supply with estimations regarding upcoming needs.

The empirical observations showed that the notion of estimation was vague since it did not stress what response to expect for a proposal given by a customer in the proposal phase of the actual sub-order. The notion of reservation in order to avoid broken patterns of interaction was therefore introduced. A capacity reservation stresses, as indicated above, mutual commitments from both parties and thereby the avoidance of broken patterns. *CusCom* commit them selves to utilize a certain degree of capacity, and *LogCom* commit themselves to provide such degree of capacity. Given the need for being flexible there must be an acceptable deviation of the future capacity need (see figure 3 above). Reservation together with appurtenant confirmation forms the mutual commitment. For different time frames prior the sub-orders this deviation must be agreed upon between the two parties. The notion of deviation is founded in that it should be possible for the customer to change their reservation within the time frame.

During the process modelling seminars, a lot of effort was put upon how to interact in the proposal phase of each embedded business transaction. One important aspect that was agreed upon was the need for a measurement (unit) to use for stating the need for future capacity. It also turned out that this measurement (unit) varied between different time frames and for the two parties. Identified properties for capacity reservation (as an initiative) and confirmation of such capacity (as a response) were according to the table below.

Time frame

Time of occurrence	Reserved amount	Confirmed	Unit type	Time of validity From To	Acceptable deviation	Outcome

The dimensions in the table are to be seen as a result of commitments made by the two parties. Of course the different values will have different status, depending on where in the interaction it occurs (e.g. the capacity can be requested from *CusCom*, the capacity can be confirmed by *LogCom*). One important property is *Time of occurrence*. This property specify on which occasion a need for capacity (specified in amount and unit type) will occur. The amount concerns a certain *unit type*. Within different time frames the time type might vary. The further away from the sub-order occasion, the lower degree of precision of the exact time

needs to be specified. It can be hard, impossible or irrelevant to specify the exact time dependent on the time frame. Another important dimension in the table is the *reserved amount* measured in a certain unit type. The unit type can vary between different time frames. The dimension *confirmed* reflects whether the supplier has confirmed the (proposed) amount of capacity needed by the customer. If not confirmed there will be a new round of a proposal for needed capacity. It must also be *acceptable to a certain degree of deviation* concerning the reserved/confirmed capacity. Neither *CusCom* nor *LogCom* might be able to predict the future situation. The unit type used might not suit the companies involved, and a translation on used unit type in the agreement to the specific business vocabulary could be required. *The time of validity* regulates whether or not the table is valid.

The dimension of *acceptable deviation* determines the allowance of variation (from both parties) that is acceptable during a certain time frame. Acceptable deviation is an account for the range of capacity that is intended to make a (fulfilment) commitment for. This field is multi-functional in the sense that it is used prior the sub-order commitment. This in order to determine the level of capacity to reserve / confirm and post the sub-order realisation in order to determine financial matters (see section 4.2). The last column (*outcome*) is the value of the actual capacity used for fulfilling the sub-orders at the certain occasion. Outcome is both used for calculating the exact cost for the customer of the fulfilled business transaction as well as a basis for assessment.

In the table below an example covering the 2 weeks (weak 27 and 28) in the 6 month time frame is indicated. The table shows that there is a need for capacity of handling a certain amount of products and that it is acceptable to revise the reservation during a certain time frame. The acceptable deviation is +/- 25 % of the estimated amount. The outcome indicates what the actual need was when the sub-order was realised.

Time frame: **6 months**

Time of occurrence	Reserved amount	Confir-med	Unit type	Time of validity From To	Acceptable deviation	Out-come
Week 27	**10 000**	**YES!**	**Products**	**Week 1 – Week 18**	**+/- 25 %**	**7 000**
Week 28	**8 000**	**YES!**	**Products**	**Week 2 – Week 19**	**+/- 25 %**	**3 000**
...	**...**		**...**	**...**	**...**	**...**

As indicated above there is a need to work with several time frames in order to continuously become more precise concerning the reservation / confirmation of desired capacity. A certain row in the 6-month table above indicates for how long there can be alterations. For week 27 it is possible to change the content until week 18. After week 18 another table covering another time frame will instead be valid. An example of such a table is indicated below.

Time frame: **2 months**

Time of occurrence	Reserved amount	Confir-med	Unit type	Time of validity From To	Acceptable deviation	Out-come
Week 27	**6 000**	**YES!**	**Products**	**Week 19 – Week 24**	**+/- 10 %**	**7 000**
Week 28	**4 000**	**YES!**	**Products**	**Week 20 – Week 25**	**+/- 10 %**	**3 000**
...	**...**		**...**	**...**	**...**	**...**

The same reasoning is applicable even for the next table covering another time frame. In the table below the time frame of two-weeks (two weeks prior the sub-order) is covered.

Time frame: **2 weeks**

Time of occurrence	Reserved amount	Confir-med	Unit type	Time of validity From To	Acceptable deviation	Out-come
Week 27	**6 500**	**YES!**	**Products**	**Week 25 – Week 26**	**+/- 5 %**	**7 000**
Week 28	**3 500**	**YES!**	**Products**	**Week 26 – Week 27**	**+/- 5 %**	**3 000**
...	**...**		**...**	**...**	**...**	**...**

By comparing the tables it can be noted that the acceptable deviation decreases the closer the actual sub-order occasion it gets. This is reasonable since it thereby puts demand on both parties to become more precise when issuing communicative acts of reservation / confirmation. It can also be noted that the reserved amount differs, which is in line with the fact that the precision of needed amount of capacity, must be higher the closer the actual sub-order occasion it gets. The column specifying outcome is the same for all tables and reflects the actual occurrence of capacity used during the specified week (week 27 as well as week 28). This field will be filled after the actual sub-order occasion has occurred. It can in this example be said that the long-term reservation was higher than the actual need, but the closer to the sub-order occasion it got, the more precise the estimation of needed capacity (put in relation to the outcome) was determined, reserved and used.

By working with these kinds of tables, as the propositional content of the business acts, in order to handle the exchanges in the proposal phase of the embedded business transaction the two organisations can learn – both from each others behaviour and by its own foundations for reserving / confirming a certain capacity need. There should be incitements, such as e.g. financial incitements, for each party to be as precise as possible in their reservation and confirmation. For *CusCom* it is thus a need to also involve logistical activities in their market prognostications in order to ensure a solid base for issued reservations. Thereby the prognostication does not only concern what market opportunities there are. Well-founded decisions about future market revenues need to include a lot of consequential aspects. By being aware of the need for logistical capacity at *CusCom* can create a high degree of cost-efficiency for outsourced logistical capacity. It is however important that the financial model (see section 4.2) also encourage such way of acting. For *LogCom* it is thus a need to establish well-founded expectations concerning the possibility to fulfil upcoming business transactions in order to ensure a fulfilment of the sub-orders according to expectations. It is as hard, or almost impossible, for *LogCom* to make valid confirmations in the way that the exchanges between the parties occur today. By having the capacity reservation issued by *CusCom* based on realistic prognostications it creates solid foundations for making confirmation of the reservation of capacity at *LogCom*. The reservations issued by *CusCom* however need to become important as well as covering all services needed from *LogCom*, i.e. cover all needed products and not just 60 % of the products. Of course it is important to acknowledge that it for some products might be harder to estimate the upcoming need. This has to be reflected in the requirements concerning estimation accuracy. By including all products in the reservation, i.e. in the propositional content of the reservation, *LogCom* can become more cost-efficient and offer more valuable services to their customers.

As indicated in the beginning of this paper the exchanges for establishing and realising expectations are essential for a continual development of business relationships. The relationship between a third-party and its customer need to be continuously developed. Such development is important to enhance via exchanges oriented towards establishment and realisation of well-founded expectations. In this paper it is claimed that such development can

be enhanced via well-structured exchanges post the agreed frame contract within the proposal phase of the embedded business transactions. Exchanges oriented towards establishing and fulfilling action relationships is an important part for developing role relationships (c.f Goldkuhl & Röstlinger, 1999).

4.2 The financial dimension

The frame contract also need to reflect the financial dimension concerning the outcome put in relation to the reservation/confirmation of the capacity made by the parties. Our experience show that, in the empirical setting referred to above, it is a great interest from both parties to create a win-win situation. The two parties strongly encouraged an attitude of becoming more cost-efficient, i.e. realizing sub-orders with as low transaction cost as possible. We believe that the two parties' actions many times are governed by financial benefits. The need for establishing a financial model that encourages behaviour of issuing communicative acts that establish solid foundations for reservation as well as commitments regarding future capacity needs/confirmations is thus needed.

The notion of trust is an important issue for successful business interaction. Trust continuously evolves based on the success of the realisation of frame contracts as well as embedded sub-orders in long-term relationships. It is therefore important to enhance successful interaction between the two parties in order to ensure a positive development of the relationship. The financial dimension has an important role to ensure successful business interaction.

The discussions that occurred between *LogCom* and *CusCom* showed that there is a need for some kind of financial encouragement when a high precision of reservation of future capacity needs can be supplied by *CusCom*. This means that there should be a price deduction when *CusCom* has a high degree of precision. Going back to the example presented in section 4.1, given certain conditions, this would mean that the price for the realization of the sub-order concerning week 27 becomes higher than needed since the outcome is out of range of the 6-month table .

The certain conditions could be that:
- The cost per handled unit is 1 Euro

- The price reduction of a high precision in the 2 week frame is 3 percent

- The price reduction of a high precision in the 2 month frame is 2 percent

- The price reduction of a high precision in the 6 month frame is 1 percent


The price for the realised sub-orders in week 27 would then be 7000 Euro (7000 * 1 Euro) minus 210 Euro (3% * 7000) minus 140 Euro (2% * 7000) minus 0 Euro (for being out of range in the 6 month frame), i.e. 6650 Euro.

Strategically it therefore becomes very important to establish the basic cost for a sub-order as well as the allowed deviation and the discount level of achieving an outcome within the frame. The participants in the process modelling seminars believed that such establishment should be regulated in the frame contract.

4.3 Implications for Business Interaction Model (BAT)

The BAT-model has been used as a generative theory in the setting described above. This means that the BAT-model has been used for directing attendance towards important aspects concerning the development of long-term business relations. There is however vagueness in the BAT-model of how the patterns of interaction should / can be constituted in the proposal phase of the business transaction, when there are several business transactions governed by a frame contract. According to Goldkuhl & Lind (2004) the proposal phase in the business transaction model is often short-circuited when dealing with embedded business transactions framed by a frame contract. In this paper it has however been noticed that the interaction patterns regarding the exchange of proposals in the embedded business transactions need to be considered carefully in order to avoid broken patterns. In this respect we have based ourselves on the notion of sequences of intiative and response throughout the whole business process (including frame contracting and embedded business transactions).

In order to prevent broken patterns during the proposal phase of the embedded business transaction, the communicative functions as well as the propositional content of two inter-related business acts is proposed as a refinement of the BAT-model. These business acts, i.e. the acts of reservation and confirmation of the reservation, are recurrent which means that the business acts continuously shift between an initiative and a response. The reservation is an initiative to a response of confirmation, where the confirmation is an initiative for a new refined reservation etc. The refinement of the proposal phase of the business transaction is depicted in figure 4.
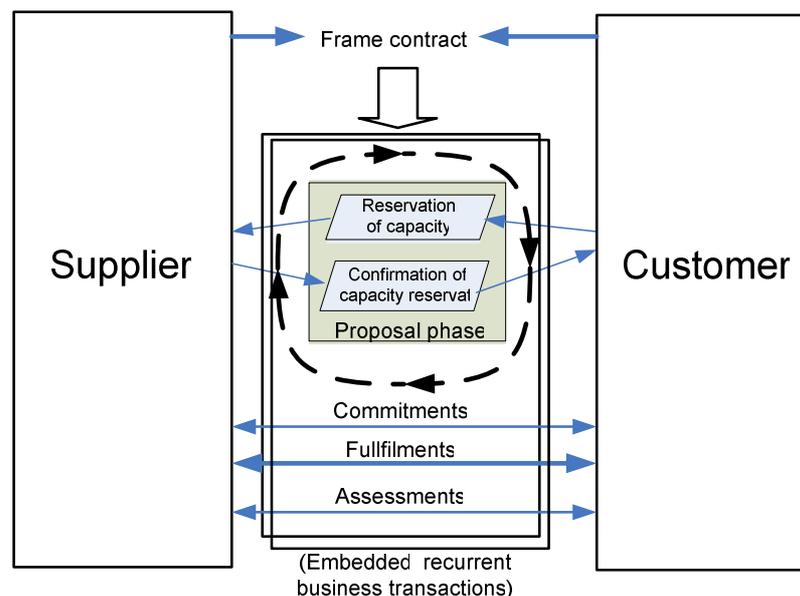
Figure 5: Refinement of the proposal phase in embedded business transactions in the BAT-model

In this paper it is claimed that each business act needs to have a communicative function in order to avoid broken patterns. In the empirical setting elaborated on in this paper the communicative function of estimation was too vague. In order to stress the communicative function of a prognosis and the mutual commitments (of future acts) the notion of capacity reservation was introduced. The notion of capacity reservation / confirmation implies a response and preliminary commitments, i.e. a commitment of making a commitment of fulfilment, from both parties. The customer commits them self to a future act of ordering and

the supplier commits them self to a future act of supplying with a certain amount of capacity (within a certain frame of acceptable deviation).

In the empirical setting discussed in this paper different time frames have been important to manage. This shows that the actors in the proposal phase (of the business transaction model) need to be able to handle a number of different simultaneous discourses (Holm & Ljungberg, 1996), i.e. several simultaneous business transactions that are going on at the same time. Some communication is thus about what is going to happen six months later, some about what is going happen two months later, and some about what is going to happen next week. It has also been identified a need to distinguish between different propositional contents depending on the current time frame.

Further, the propositional content of the frame contract also needs to reflect such interaction patterns. Aspects, such as who communicates with whom, at what time and what to communicate about, are important to consider and regulate. This implies that communication needs to be structured for the different levels of interaction. It has also been noted that financial dimensions needs to be considered carefully. The way that the business transactions are financially regulated drives the behaviour of the actors acting on behalf of respective organisation (i.e. supplier and customer). This means that the cost of a fulfilled business transaction might need to be more complex than just regulating a fee for a performed fulfilment. In this paper it has also been proposed a financial regulation dependent on how well the actors behave in the interaction prior the fulfilment of the business transaction. Such aspects need to be regulated in the frame contract.

The BAT-model has during the process modelling seminars been used as a generative and practical theory (c.f Cronen, 2001). It has helped us to develop our understanding of complex business interaction. A business interaction theory such as BAT builds upon the idea of patterns as an analytical tool and stresses the question of analyzing and securing comprehensive patterns. One should however be careful with using pre-defined *patterns* of communicative and material acts during business modelling (c.f Lind, Hjalmarsson & Olausson, 2003). BAT should be and has in this case rather been used as a generative theory using the categories built into the theory without forcing an ideal picture of patterns.

5   Conclusions

As mentioned above, exchanges between supplier and customer need to be efficient in all respect, in order to develop long-term relationships. This implies that expectations, in both short-term (sub-orders) and long-term (frame contracts), need to be established and realized with quality. The establishment and realization of short and long-term expectations are constituted by business acts covering communicative as well as material acts. These business acts need to be arranged in comprehensive patterns. Business communication on both frame contract level, sub-order level and the glue between these levels, can be successful by regulating the communicative function as well as the propositional content of the business acts in the frame contract. Interestingly to note is that in a long-term business interaction there will be interplay between putting the frame contract vs. the sub-order in fore-ground. Naturally the frame contract is in fore-ground in the frame contracting process and the sub-order is in fore-ground during particular sub-order occasions. In case of communication breakdowns during sub-ordering it has been noted a need to put the frame contract, as a definer of the contextual scope, in fore-ground.

When such business aspects are being analyzed there is a need for good theories and models that can aid the analysts to pay attention to essential aspects, without pre-defining the acts. There is a need to be sensitive to the characteristics of the context being studied. In this paper we have studied the usage of the BAT-model as a generative tool for covering essential aspects in short and long-term business interaction. The BAT-model is a two-role model (supplier and customer) that, among other things, direct attendance towards patterns of dyadic interaction. It has however been noticed that the BAT-model, even though the theoretical foundation imply such possibility, does not enough give guidance for understanding the patterns of interaction prior the realization of embedded business transactions. Since we have identified a similar problem in the empirical setting we find this research issue highly relevant. We claim that the exchange of proposals, of the embedded business transactions, serve as a frame for such interaction needed in order to establish good foundations for realizing the expectations.

Many communicative business models are built upon analyzing predefined patterns. In this paper we have shown the importance of being sensitive to the process of understanding and analyzing existing patterns in the specific context. This in order to ensure a consistent sequence of business acts, i.e. related initiatives and responses in an unbroken sequence throughout the whole business interaction. In this paper, patterns of interaction has been analysed and described in respect to both each business act's communicative function and propositional content, suitable for a specific empirical setting. We have used the BAT-model as a generic theory meant to be applicable in different settings. The proposed developments, founded in a specific empirical setting, of the BAT-model are thus valid for other empirical settings as well. The proposed patterns of interaction in the proposal phase of the business transaction should be seen as generative rather than predefined patterns.

Process modeling seminars can be regarded as means in order to enhance the relation between the two parties. This process is as important as the outcome but requires good theories and models in order to identify important aspects for this kind of setting. By using the BAT-model as a generative theory together with methods for documentation and a driver for asking new and cumulative question the process of creating a joint arena of reflection for the two involved parties has worked well.

The research reported upon in this paper has generated some ideas for further research. Since the financial dimension seems to be important in order to ensure that the supplier and customer act as desired different ways of regulating the financial matters between the two parties needs to be investigated further. It seems also important to make thorough analysis of what to regulate in a frame contract. Another issue would be to investigate similarities and differences in patterns of interaction related to the different time frames focused in the proposal phase of the sub-order. Further, the empirical setting in reported upon in this paper has been about the interaction between a third party logistics company and one of their customers. Can business interaction, with other third party logistic settings and with other transaction intensive companies, be understood in the same way? Finally it would be interesting and reasonable to investigate which role information technology can have in supporting the part of the business interaction studied in this paper. Especially since transaction intensive setting implies cost-efficiency in the interaction, which could be enhanced by the use of information technology.

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