Adaptive and Exchange Interacting: Joining the Interaction and Actor-Resource-Activity Frameworks

Abstract

This paper presents an inter-linking framework between the Interaction and Actor-Resource-Activity (ARA) frameworks. These two frameworks have aided many researchers to understand business relationships and change in business networks, yet they appear largely independent. An inter-linking framework offers researchers additional constructs and the ability to choose different constructs from the three frameworks to study the phenomena of interest.

The paper briefly reviews the interaction and actor-resource-activity frameworks and then proposes an inter-linking framework: Adaptive and Exchange Interacting. The approach is analyzed through a case study. The final sections of the paper address research implications and discuss the limitations of the proposed third and joining framework.

Keywords: Adaptation, time, process, interacting, actors, exchange, proactive adaptation, reactive adaptation

INTRODUCTION

The Interaction (Håkansson 1982) and Actor-Resource-Activity (ARA) frameworks (Håkansson & Johanson 1992; Håkansson & Snehota 1995) have served well the Industrial Marketing and Purchasing (IMP) research streams. These frameworks were empirically derived, in the late 1970s and 1980's respectively, by collaborations between researchers in five Western European countries. The frameworks perform a task in business market research of stabilizing constructs to allow study, so as to understand change and the factors leading to change.

The original interaction model identified four distinct elements: the two interacting organizations, the interaction process, the interaction atmosphere and the environment of interaction (Håkansson 1982, Ch. 2). The interaction framework is dyadic, consisting of two organizations interacting in a broadly envisaged environment. The key issue lies in the concept of interaction: denoting the processes that are enacted through relational exchange between business actors. Continuing interaction through exchange episodes leads to the building up of a business relationship through mutual adaptation.

Later as business relationships were observed in their context of many other firm relations, the concept of a business network was observed (Håkansson 1987), and this lead to the development of the ARA framework first presented in a paper from Uppsala University by Hägg and Johanson (1982). Further papers concerning the framework followed (Håkansson 1987; Håkansson 1989; Håkansson & Johanson 1992; Håkansson & Snehota 1995). The ARA framework applied three analogous sets of constructs to join together the firm (i.e. actors, resources, activities), the relationship (i.e. actor bonds, resource ties, activity links), and the network (i.e. actor web, resource constellation, activity pattern).

When the two frameworks are considered at the broadest level they appear relatively independent, however a more focused examination suggests the two frameworks exist together with the interaction model nested inside the ARA framework.

Our thinking is that a number of additional frameworks can be proposed that link the two frameworks. Axelsson (2010, p.26) notes that there is a *"missing link"* between the two frameworks. He suggests two ways to seek the link. The first is to pursue the nature of the actor and the second is to follow Lenney and Easton (2009) and elaborate the role of future commitments (Lenney & Easton, 2009, pp.26). Axelsson (2010, p.26) considers these two research directions to introduce, *"more of a human touch ... where the actor layer (including interpretation, trust, atmosphere) is more in the forefront."* This approach is also broadly in line with Medlin and Törnroos's (2007) call for a human perspective of business networks.

The purpose of this paper is to present a new linking framework between the interaction and ARA frameworks, by highlighting the importance of individuals and exchange-adaptations within inter-firm interactions. We first review key aspects of each framework in section one and two, each from the perspective of the other. In a third section we introduce a linking framework by elaborating a number of concepts, including relational time, adaptation and exchange. Next we apply the new framework to an existing case study that followed an ARA approach. In the last two sections we discuss opportunities for further research and managerial implications.

INTERACTION FRAMEWORK

In this section we consider the interaction framework from the perspective of the ARA model. The focus is on the definition and role of actors, the purpose of resources including adaptation, and finally the definition of activities.

First though some general comments concerning the interaction framework. The dyadic view of business firms acting on industrial markets leads to interaction and processes as key concepts. These concepts informed a critique of the traditional and mainly transactional marketing approach. The interaction approach also was a forerunner to the upcoming relational approach to marketing. Noteworthy in the following discussion is the focus on a single firm, with only some movement in conceptualization to the relationship. This focus on the firm likely follows from the dominant theoretical views in the early 1980's and they way data was collected and interpreted.

Defining actors

In the interaction framework the 'actors'[1] are explicitly noted as individuals within organizations, which are usually referred to as parties, or firms. These organizations have resources (e.g. technology, know-how), characteristics (e.g. size, structure, strategy), and experience all of which affect inter-firm interaction (Håkansson 1982). Noteworthy, is that there are always *"at least two individuals, one from each organization, ... involved in a relationship."* (Håkansson 1982, p.19) In addition, there are usually many managers from different hierarchical positions involved with the inter-firm interactions (Håkansson 1982). 'Actor bonds' develop as the managers *"exchange information, develop relationships and build up strong social bonds which influence the decisions of each company in the business relationship"* (Håkansson 1982, p.19). Here the interaction model is explicit concerning the role of different managers: they are 'actors', either individually as boundary spanners or as members of an hierarchical team that pursues the purposes of the organization.

The importance in the interaction model of the individual as an 'actor' is also shown by the way a person can influence firm level outcomes. *"Individual experience may result in preconceptions ...* [which] *will affect attitudes and behaviour"* (Håkansson 1982, p.20). However, individual experience is also a part of group and team experience as managers collectively pursue the interests of the firm. *"The process of learning from experience on both an individual and corporate level is communicated to and affects detailed `Episodes' in interaction. Additionally, the experience gained in individual episodes aggregates to a total experience."* (Håkansson 1982, p.20) Noteworthy is that learning and aggregation of experience are time-bound human processes, which are necessarily social and language based.

The chapter on "Inter-organizational personal contact patterns" by Cunningham and Turnbull, in Håkansson (1982) points to the central role of individuals and groups of individuals as 'actors'. Cunningham and Turnbull assert, *"personal contacts are at the heart of interaction between organizations and, in industrial markets, in particular, serve as the medium through which communications in buying and selling take place."* (Håkansson 1982, p.314) In empirical cases studied by Cunningham and Turnbull they find evidence of *"the vast networks of inter and intra organizational personal contacts which involve design,*

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[1] To aid the reader's interpretation from the alternate framework we place ARA concepts within single inverted commas, whereas the text follows the interaction model.

production, quality, service, and distribution staff on both customer and supplier companies. It is by no means obvious that these contacts are subject to explicit planning and control by the companies." (Håkansson 1982, p.315) This suggests that the interaction model predominantly has individual human 'actors' operating on behalf of the firm. The interesting issue indicated by Cunningham and Turnbull is the uncontrolled nature of the humans in the interactions between firms. The 'actor bonds' *"which are established for one purpose begin to serve other purposes"* (Håkansson 1982, p.315). Thus, the concept of 'actors' as only individuals seems incomplete.

However, the conceptualization of 'actors' is not so clear in another way, for the firm is also considered an 'actor' within the interaction process. *"The process of interaction and the relationship between the organizations will depend ... on the characteristics of the parties involved. This includes both the characteristics of the two organizations and the individuals who represent them."* (Håkansson 1982, p.18) One can conclude, for the interaction model, that managers in plural are 'actors' who operate the firm as an 'actor' in interaction with other firms. This multiple level of analysis issue is a particular feature of the general interaction concept, where interaction processes occur in a context, and within a context. For example, the IMP interaction framework has two firms interacting in a relationship, within a wider environment. A result of this general interaction framework is analysis on multiple levels and so two constructions of the actors. This issue of actors deserves further conceptualization, especially with regard to changes in level of analysis. Important to that conceptualization is that human managers mediate the interaction processes.

Defining resources

'Resources' within the interaction model are equated to technology and to financial, human and time resources. The resource base of the firm is viewed as a main characteristic that shapes the nature of inter-firm interaction. Further, the resources of the other firm are seen as an available resource to the focus firm. For example purchasing strategies were found where, *"suppliers are used as an external development resource and as an external source of production capacity."* (Håkansson 1982, p.113) The idea of acquiring external resources through relationships also leads to an early glimmer of business networks: *"In order to obtain necessary resources, the organization is seen to develop relations with a number of other organizational units and thus it enters into a network of relationships."* (Håkansson 1982, p.11)

An additional application of 'resources' is their use for developing relationships with other important firms. The 'resources' are considered signs of commitment to the relationship (Håkansson 1982). In a twist of meaning, and following the general interaction concept, these relationships are also viewed as resources in negotiations with other firms. This double use of the 'resource' construct indicates issues with multiple analysis levels and the need for clarification.

Interesting distinctions in 'resource' classes are found in the original IMP text when Jan Johanson considers the distinction *"between the efficient current use of the external resources and the development of those resources."* (Håkansson 1982, p.222) Efficient exchange of resources for production is coupled to the needs of the manufacturing system; whereas, a separate design system is responsible for future development of external resources. *"Technical development takes place in a separate development system - design - which aims at discrete changes in the products and the production system."* (Håkansson 1982, p.222) At the heart of this distinction is the difference between production efficiency in the present exchange and product effectiveness and production efficiency in the future. These time distinctions are worthy of further attention.

Cunningham and Turnbull (Håkansson 1982), also point to the same disjuncture, but in the way personal communication patterns focus on different matters. The personal contacts *"facilitate other elements of interaction, such as the adaptations by suppliers and customers to the design or application of the product or the modification to the production, distribution, and administrative systems of either party to the transaction."* (Håkansson 1982, p.314)

Within the interaction model changes to resources are approached as adaptations: (i) of technology, (ii) change in organizations or (iii) changes in the operations of either firm. Adaptation was one of the key findings of the first IMP-interaction approach (Håkansson, Ford, Gadde, Snehota & Waluszewski 2009, p.20). According to Håkansson et al. (2009) it is the variety of different tasks and solutions between firms (i.e. administrative routines, financial solutions, distribution and technology) that is the reason for the need to adapt. The adaptations are focused on *"either the elements exchanged or the process of exchange."* (Håkansson 1982, p.18) These adaptations are seen as either on-going and occurring *"in an un-conscious manner"* (p.18), or importantly many are viewed as part of *"conscious strategy"* (p.18) by buyer and seller firms to adapt resources to each other.

Overall, one can say that 'resource' issues in the interaction model are mainly concerning efficiency of use, and allocation by the firm to achieve desired ends. However, when the meaning turns more to technology and development of new production systems the focus moves to adaptation and purposeful shaping of interaction between firms.

Defining activities

"Activity' is mentioned only at a general level in the original IMP-interaction text. Thus there are changes in economic and business activity and at the firm level production, financial and purchasing/selling activities. Purchasing activity is linked to creating both stability and change. Stability is important in activities to secure security of supply of raw materials, while there is also pressure to *"ensure that relevant technical developments in materials and components are identified and incorporated in their own products."* (Håkansson 1982, p.230) Thus, product research, design and development are considered important activities for both purchaser and supplier.

Another use of the 'activity' idea is that of personal interaction and communication between individual managers. Personal contacts are important in the development of mutual trust. Further, personal communication activities are considered important in information exchange about the product, the firms and issues in the wider environment (Håkansson 1982, p.314). The communication activities are also important in assessing competence of the other party, arranging negotiations, arranging adaptations to product or production system, crisis insurance role, social activities and ego-enhancement. These roles of personal contact were earlier elaborated by Turnbull (1979).

Overall, the concept of activity within the interaction framework is generalized into product design and production design activities (i.e. adaptation), which are enabled and mediated by individuals in both firms.

Summary

The interaction model opens the way to look at business relationships, and viewed from the perspective of the ARA framework a number of areas requiring further clarification are noted. However, applying the ARA lens also conceals aspects of the interaction model. Missing are the distinctions between exchange episodes and adaptation processes, which are quite strongly highlighted in the original interaction model. Exchange is considered to operate with short time periods and is focused on *"product-service, financial, information, and social exchange"* (Håkansson 1982, p.23), while adaptation is considered as *"longer term processes"* (p.23). This time distinction between exchange and adaptation processes deserves further attention.

To conclude, a new linking framework needs to deal with the questions of (i) configuring actors, (ii) the distinctions between exchange and adaptation, and (iii) the role of time in each of the previous two points. Resolving these issues should provide different ways to link the interaction model with the greater structures of the ARA framework.

ACTOR-RESOURCE-ACTIVITY FRAMEWORK

In this section we consider the ARA framework from the perspective of the interaction model[2]. The focus is on the interacting entities, the interaction process, the interaction atmosphere and the environment of interaction.

Interacting entities

Within the ARA framework the nature of actor is clear and unambiguous at the beginning: the interacting entities are companies. The actors with knowledge are not human mangers, rather they are 'firms'; *"knowledge is scattered among different actors (other companies)"* (Håkansson & Snehota 1995, p.14) Further, business relationships connect companies, who are the actors;*"Relationships are parts of the broader structure that links its elements — the actors (companies)."* (Håkansson & Snehota 1995, p.19)

However, when the concept of actors is elaborated within the ARA model the 'interacting entities' are specifically individuals operating in groups. *"It is individuals who endow business networks with life. What happens in a network stems from the behaviour of individuals who bring into the relationships between companies their intentions and interpretations upon which they act. But, the individuals are not acting in isolation, they interact and their action becomes organized. Companies, as all organizations, are units of interlocking behaviours."* (Håkansson & Snehota 1995, p.192) Thus, 'interacting parties' becomes either groups of individuals or firms. However, in the end Håkansson and Snehota (1995, pp.193) settle for companies as the actor, or 'interacting entities', *"because they are perceived to have an identity and thus ascribed purposeful action."* (p.193) And *"Companies are actors because they are attributed the identity of an actor by those who interact with the company."* (Håkansson & Snehota 1995, p.195)

However, attribution of an identity as an actor is not a final or absolutely distinguishing characteristic of an actor. There are two arguments against such a distinction defining an

[2] Following the convention that concepts from the interaction model lens are indicated by single commas, and quotes concerning the ARA framework are double commas.

actor. The first is seen within the elaboration of the ARA framework, where large companies can *"be seen as multi-actors.* [With every] *unit ... seen as an actor .."* (Håkansson & Snehota 1995, p.196). Thus, the levels of dis-aggregation of an actor can extend to even the smallest business unit, for a *"company, as* [with] *all organizations, is only a 'mental construction' by people who get together – organize their activities – in order to overcome their individual limitations in resource terms."* (Håkansson & Snehota 1995, p.195) In other words, a company is a synonym for a group of individuals, and so the real actor is a group of people.

Second, the observer of the firm as actor knows full well that the attribution is only that: a generalization concerning an organization of individuals who seek multiple goals. Thus, the company is not the actor, even though the goals of the firm are the rationale for the managers' collective behavior. This means the distinguishing features of the actor/s are spread across the characteristics and intentions of the company and also the involved managers and workers. The actor concept encompasses two levels of analysis.

Håkansson and Snehota (1995), recognize this ambiguity concerning the 'interacting parties' by their comments that, *"it has to be kept in mind that they* [firms] *act through individuals"* (p.193), while firms are also *"ascribed purposeful action"* (Håkansson & Snehota 1995, p.193). However, defining actor characteristics was not Håkansson and Snehota's (1995) primary purpose; rather their interest was in the network of firms. In that research task the company, with flexible boundary conditions, substitutes for managerial actors because the issue is resource and activity connections.

However, when the research focus is between two 'interacting entities' resolving the actors as two teams of managers opens analysis to other issues, such as the processes of adapting to maintain stability and also changing to gain economic efficiencies under new conditions.

Interaction processes

Within the ARA model business relationships result from 'interaction processes' between firms. The nature of the 'interaction processes' *"brings about the adaptations in activities."* (Håkansson & Snehota 1995, p.120) Importantly there is no end to the interaction processes, so long as there is a future economic gain, and the interaction process of activity linking *"never reaches an end or equilibrium."* (Håkansson & Snehota 1995, p.123)

The nature of 'interaction processes' within the ARA model is developed on empirical evidence focused on 'adaptations', 'cooperation and conflict', 'routinization' and 'social interaction'. Each of these concepts is considered a *"process characteristic"* (Håkansson & Snehota 1995, p.9) and each is very much an extension of the ideas espoused in the interaction model. However, within the ARA framework the main discussions are of 'adaptation', with minor comments on 'cooperation and conflict' and 'routinization'. The comment on 'social interaction' holds a middle ground. As a result, in the discussion below the focus is on the first and last of these 'interaction processes'.

In the ARA framework 'adaptation' occurs to resources, activities, routines, and product, with adaptation of the product and production processes being more or less continuous. The term 'adaptation' is defined by example as a modification, or customization, for a specific 'interacting entity'. For example, adaptation of activities *"indicates that there are some activities in a company which are the same for several counterparts and others that are adapted (differentiated and unique) with respect to a specific counterpart."* (Håkansson & Snehota 1995, p.55) An important aspect of the adaptation 'interaction processes' is their mutual nature, so that adaptation requires *"mobilization of counterparts"* (Håkansson & Snehota 1995, p.64). The difficulty of mobilizing counterparts is given as a reason for adaptation being gradual. The highlighting of adaptation as a 'mutual' process is noteworthy.

Similar to the idea of on-going interaction processes, 'adaptation' is always *"a series of adaptations"* (Håkansson & Snehota 1995), and the process is considered as continuous and evolutionary, with *"most adaptations ... done `locally' and ... not much known in the company."* (Håkansson & Snehota 1995, p.125) Further, *"the adaptations ... are gradual, on the spot, often implicit while done but given a meaning with hindsight."* (Håkansson & Snehota 1995, p.53) This perspective of 'adaptation' evidently follows Weick's (1979) concept of "sensemaking", especially with the reference to meaning given in hindsight.

Thus, adaptation is understood within the original ARA framework, as more of a reactive process of on-going change: there is no clear beginning to an adaptation process, no one driving force, no group of driving managers, and the intention is localized without a long insight into future possibilities. This is a limited view of adaptation that strengthens the role of connections between firms and helps to elaborate the network concept.

The alternate perspective arises from a 'social interaction' view, but is not so strongly argued within the original ARA framework. Adaptation, as a 'social interaction', concerns managers as individuals and within groups discussing and considering opportunities for improving mutual, or even firm specific, business matters. Pels and Snehota comment in the Svitola SpA case (Håkansson & Snehota 1995) on the many and varied meetings and on-going contacts between managers from 'interacting parties' that lead to different adaptations. This 'social interaction' perspective of adaptation is seen to start *"... as a request from one of the companies to the other: 'Could you do this or that in another way?'... "* (Håkansson & Snehota 1995, p.55). Further, the role of groups of managers and even individuals is highlighted by the joint learning, which can *" ... be seen as the effect caused by team management. Two resource holders will in an interaction process develop the knowledge and skills to utilize each other's resources. Joint learning is a double (or mutual) specialization which includes adaptations."* (Håkansson & Snehota 1995, p.140). Thus, learning is an individual and group activity, pointing to a conflation between the firm as actor and individuals as actors.

To summarize, in the ARA framework Håkansson and Snehota (1995) moved the focus onto the network as a new idea. This removed the viewpoint of the individual and even of groups of individuals from how the processes of adaptation are understood. One can also say that in applying Weick's (1979) sensemaking concept, which stresses meaning after events within an action stream, there is a downplaying of the ideas of forward looking and insightful perception of possible futures. This reduced recognition of the role of foresight leaves the original ARA framework weaker on purposeful and directed adaptation.

Compared to the interaction framework, processes within the ARA framework have moved away from the distinctions between exchange and adaptation processes. Further the time element of shorter and longer periods for exchange and adaptation is no longer mentioned. Finally, the nature of adaptations has shifted more towards a reactive approach.

Interaction atmosphere

The atmosphere of business relationships becomes a matter discussed in the cases presenting the ARA structure, but does not feature in the concepts and functions of the framework. This follows from removal of individuals and groups of managers from the actor role.

Interaction environment

The ARA framework has a well developed and also a dynamic conceptualization of the interaction environment. In the ARA framework the environment is conceptualized as a network of interdependent firms with heterogeneity of resources a central concept, and with business relationships providing access to resources or to markets (Håkansson & Snehota 1995).

Concluding comments

Looking at conceptual development from the interaction model to the ARA framework one can see elaboration of (i) the networked environment; (ii) the role of inter-company business relationships within the network, and (iii) that adaptation is a mutual and evolutionary process constrained and shaping the business relationships and the network. However, this conceptual development is achieved by (i) underplaying the role of individuals and groups of managers, (ii) making secondary the purpose and intention of firms to the on-going interaction of firms in a network, (iii) overlooking the ability of individuals and groups of managers to judge the important changes of the future and so prioritize and shape their business relationships.

Thus, one can argue that the role of individuals, groups of managers, and even dyadic interaction between managers from different firms for adaptation processes is underplayed in the ARA framework. But how does this network come into life in real business situations? How do researchers collect data for unfolding change processes in relationships and networks? Who is making sense of events and processes in business? In all cases individual managers, relying on and extending group sensemaking find plausible answers to these questions. Consequently with human mediation essential to both the interaction and ARA frameworks one can now ask whether network adaptation is open to greater scrutinization? In the next section is presented a linking model between the interaction and ARA frameworks, and with a focus on adpatation.

ADAPTATIVE-EXCHANGE INTERACTING FRAMEWORK

This inter-linking framework focuses on specific aspects of the interaction and ARA framework. Inter-linking all aspects of the two frameworks in one model is not possible, nor desirable. This follows from Starbuck's (1976) thesis in which increasing complexity of a model towards reality leads to greater impenetrability. Thus, a decision is made to focus on specific concepts from each framework and clarify additional concepts to create the inter-linking framework.

Following Axelsson (2010) the linking framework seeks to re-introduce the human actor into the business-to-business marketing research area. The interaction model provides an understanding of the nature of the interacting parties and the interaction processes. The linking framework does not apply the environment and atmosphere elements of the interaction model. Also accepted from the interaction model is the essential element of dyadic interaction. This follows directly from the focus on human managers as actors, and points to the role of business relationships as central ways by which humans are active in networks. Finally, also taken from the interaction model and further elaborated are the concepts of short time frames for exchanges and longer time frames for adaptation. This viewpoint is accentuated more when networks are considered as sets of connected dyads.

From the ARA framework the concept of a networked environment is taken into the new model. This includes the networked and dynamic nature of resources and activities, and especially their connected nature: resource ties and activity links. Thus, adaptation within a firm is not discussed.

Next some specific concepts are elaborated, always working outwards from the human nature of managing within a firm networked environment. Noteworthy is that the discussion does not focus on an individual firm; rather the focus in every aspect is on mutual dyadic interaction.

Time

Time is essential to understanding both adaptation and exchange. Both are interaction processes situated over time and within time contexts. Yet time was not highlighted in the first presentations of the ARA framework, and is only highlighted in the interaction model with regard to the distinction between adaptation and exchange (Håkansson 1982, Ch.2). However, researchers have continued to indicate the importance of time and timing in understanding interaction in networks (Halinen 1998; Halinen, Salmi & Havila 1999; Medlin 2004; Håkansson, Ford, Gadde, Snehota & Waluszewski 2009 p.48-53).

In the framework presented here 'time' is defined in terms of 'event time' (Hedaa & Törnroos 2008), rather than as clock-time. Such a definition focuses the nature of interaction between firms as a 'process', where events signify change or the beginning and end of processes that occur when two firms interact. Clock-time is useful in indicating the uniqueness of an event in the flow of time, however the focus on event time means that subjective meaning is fore fronted, so placing the focus on individuals and groups of managers as 'actors'.

Within event time a specific way of understanding time is with reference to the "present', where the "past" and the "future" are given meaning in the present. In this understanding of time, interaction processes occur in the present and have their purpose in the future (Medlin 2004). Further, the specific focus of the two parties can be on an element in their business environment that is located in any of the three periods: past, present or future.

Thus, managerial concerns with exchange and adaptation can be located in either the present, past or future; but time only flows in one direction, so re-interpretations of the past shape the present and future. Also the shadow of the future shapes the present (Axelrod 1984), so that managers and even an individual manger might seek to re-shape the past so has to manage in the future. Hedaa and Törnroos (2008) refer to these concepts as 'past-loadedness' of the present and future, and 'future loadedness' of the past and present. This relational aspect of time, where concepts are connected to the present, is applied in the new framework.

Actors

The concept of actors requires careful elaboration. The role of individuals and groups of managers is fore fronted on the basis that individuals are the key way that interaction occurs between firms. Brennan and Turnbull (1999) make this point most strongly. *"It is at the individual level that interactions between buyers and suppliers take place, and it is at this level that the well-being of buyer–supplier relationships is affected. However, those individuals responsible for developing and managing buyer–supplier relationships need to work within a strategic framework, so that the "right" relationships are developed in the "right" ways."* (Brennan & Turnbull, 1999, p.481-482)

Actors are humans, who undertake economic roles on behalf of a firm. The firm is only a legal shell and *individuals and groups of managers mediate* all decisions and implementation processes of change and stability. Firms have goals and intentions (Halinen, Salmi & Havila 1999), and these are given their meaning by groups of individuals, inside and outside the firm. The goals of the firm are contested by managers, as individuals and in groups, and even across firm boundaries by groups that work within other firms or exist within both firms (e.g. boundary spanners in both firms).

Interesting in these considerations of actor are the distinctions between who acts and who has intentions. Groups of individuals inside firms interact with sets of intentions, and the group contests the multiple goals of the firm, or even the goals of a partner firm. Thus, when there are two 'interacting entities' there are two sets of multiple goals at the firm level and many more within each firm. This interactive formation of implied and plural firm intentions is a necessary outcome of sensemaking processes performed by multiple individual actors (Weick 1979). Any attempt to resolve the actor-'interacting entity' issue must account for these distinctions of intentions.

The role of managers inside a business relationship is most easily elaborated with regard to managing resources and activities through interaction with other firms as well as inside their own firm. Thus, the ARA framework (Håkansson 1987; Håkansson 2009; Håkansson & Johanson 1992; Håkansson & Snehota 1995) provides a succinct way to elaborate the role of managers, provided the firms' goals provide intentions and individual managers are the actors concerned with resources and activities. This elaboration of actors distinguishes between firm and individual goals and highlights the economic purpose of business interaction.

Exchange

The purpose of business relationships is to maintain continuing exchange. As with the interaction model, exchange is concerning *"product-service, financial, information, and social exchange"* (Håkansson 1982, p.23). The focus is the short term with regard to each exchange, as in the interaction model.

There are, however, important time distinctions with regard to the matters exchanged. The exchange interactions are future focused, with exchange continuing to occur because of future possibilities. The future drives the exchange in two ways: the future application of finished products in consumer lives requires present exchange of product and financial flows. Second, the possibility of future sales leads to present exchange of information and social exchange. The first relates directly to resources and activities in the present, whereas the second occurring in the present is concerning human interactions. Overall exchange interactions are present bound, but highly future loaded.

Adaptation

Since the interaction model was introduced many scholars have studied the role of adaptation in business (Brennan & Turnbull 1999; Brennan, Turnbull & Wilson 2003; Ford 1980;

Hagberg-Andersson 2006; Turnbull & Valla 1986). Hallén et al. (1991) looked at long-term exchange relationships in business markets. They looked at exchange as both an interaction process, and a process of adaptation in which firms change their way of doing business. Some key issues developed include the following: (i) adaptations are made in a unique fashion for individual partners, (ii) adaptations made were important for working relationships between partners, (iii) adaptations are investments made by one or both partners, (iv) adaptation is an important offering of a firm to its key counterparts in business, and (v) adaptation can form a key issue in working relationships between buyers and sellers. These understandings of adaptations tend towards a firm centric perspective.

Adaptation is concerned with dynamic phenomena. Ellegaard and Freytag (2008) suggest prioritization of adaptation on the basis of a portfolio analysis. Brennan and Turnbull (1999, p.482), recognizing a more mutual process, highlight that *"... the concepts of power and social exchange in relationships are important drivers of adaptive behavior".* Also one should note the shorter and longer-term orientations of adaptations, where both form part of each other. That is adaptations are sequences within longer time frameworks of adaptation, with the shorter tactical adaptations given meaning by the longer-term processes and the shorter-term adaptation processes aggregating and generalizing to the longer-term strategic adaptations.

Further, adaptations can be firm centric or mutual (Brennan et al. 2003; Hagberg-Andersson 2006). Within the interaction model discussion of adaptation tends towards firm centric, with changes made by firms to either the firm processes or production technologies (Ford 1980; Håkansson 1980). On the other hand, within the ARA framework there is a shift in discussion towards mutual adaptation (Håkansson & Snehota 1995), where both parties work jointly to change product, the exchange process or production technologies. This change in focus, towards dyadic or multi-party adaptation in a network, is important and needs highlighting within the new model. The change means that adaptation within an interaction context is concerning mutual understanding of resources and activities within the firms and the relationship. In other words a firm never adapts alone within a relationship perspective. Necessarily the purpose of adaptation always involves a degree of coordination with another firm, even if only to meet required specifications.

The proactive/reactive adaptation categories are noted in previous IMP research. For example Brennan and Turnbull (1995) note that reactive adaptation refers to a change resulting from a request by the other party, while proactive refers to a change initiated by the focal firm. The difference in definition is the source of initiation for change.

However, there is another way to distinguish between proactive and reactive adaptation: based on event time. Proactive adaptation is forward looking, where the change is envisaged in the future, and there is a choice of whether to make the change or not. The choice to adapt is within the interaction possibilities of the parties. On the other hand reactive adaptation follows from changes elsewhere in the network or the other firm, and the firms have no choice but to adapt to maintain on-going exchange. Reactive adaptation is localized, along the lines of adaptation in the ARA framework, where effort is minimized to maintain the institutionalized procedures. Thus, reactive adaptation tends to occur within periods of the present, periods that may be longer than exchange episodes, but definitely do not have managers looking into the future and envisaging an entirely new set of processes.

The meaning taken here for proactive adaptation in the exchange-adaptation framework is that of conscious change (Brennan, Canning & Edgbaston 2004; Håkansson & Snehota 1995). Also neither reactive nor proactive adaptations are concerning a single organization, rather the change is mutual and in a business relationship: a change to a resource tie or activity link. This specification follows from a narrow interaction perspective, which is only concerning two parties and so adaptations are mutual temporal processes. The idea of a firm adapting alone is not relevant to the discussion of an interaction context. Such a discussion is a reversion to a firm perspective of business, or a general interaction perspective.

Further, for proactive adaptation the change is prepared and made to a future positioned resource tie or activity link. Noteworthy is that the source of instigation to change, whether in a firm or the wider network, does not feature in proactive adaptation because of mutuality. The focus of managers undertaking proactive adaptation is to make a significant adjustment to resource ties and activity links, while those undertaking reactive adaptation seek to maintain as much as possible the status quo. Table one presents these distinctions, not previously noted in the literature, of reactive and proactive adaptation.

Table 1: Comparing reactive and proactive adaptation in a business relationship

	Reactive adaptation	**Proactive adaptation**
Instigation to change	Outside the relationship (in firm or network)	The source is within the relationship. Which firm is the source is of no consequence as the adaptation is mutual.
Change - position in time	Present	Future
Managerial focus	Maintain status quo/routine	Change

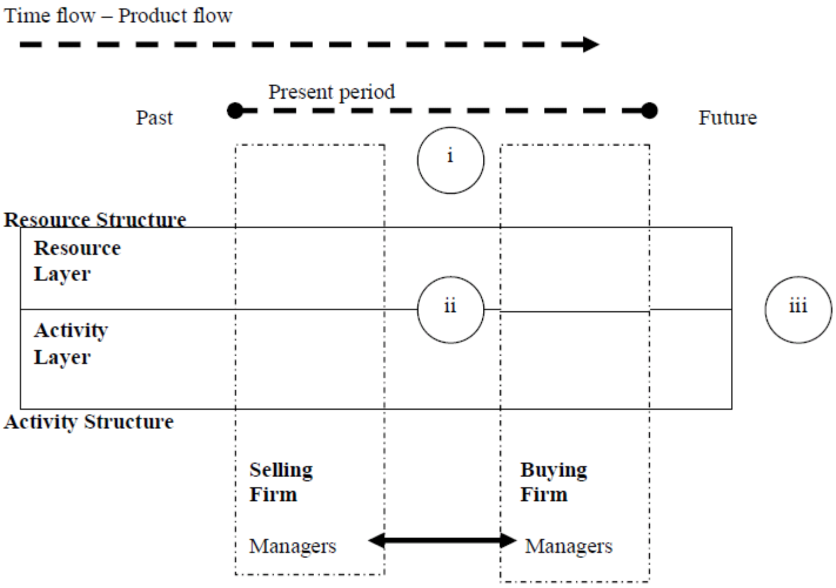
Exchange-adaptation framework

The processes of exchange and adaptation rely on each other, with maintaining and gaining future exchange being the driving reasons for relationship adaptations. Business relationships and networks provide the means for managers to adapt resources and activities and so create the context to maintain and develop exchange. Thus, exchange and adaptation, along with the actions of individuals and managers over time and on behalf of their firms, are the connecting concepts in the new framework that join the interaction and ARA frameworks.

Figure one specifies the exchange and adaptation linkages between firms with managers' interacting on behalf of firms (i.e. the interaction model) and firms operating within a resource and activity structure (i.e. the ARA framework). The resource and activity layers are shown stretched and extended through time. Here the distinction is the addition of time frames to resource ties and activity links. The extension and stretching of the resource and activity layers through time is termed a 'structure', so as to point to the time differentiations possible in resource ties and activity links. The structure of resource ties and activity links is malleable through time, but always continuous and event punctuated. The result is that exchange and adaptation act as a bridge between interaction now and the ARA framework.

Although networked resources and activities are spread and layered through time as structure, managers only work and make decisions in the present (cf Mead 1932; Smith 1958). As a result, in figure one, the shell of the firm and the processes of individual and group decision-making are not shown as a structure extended through time. Rather the buying and selling firms are shown in the 'period of the present'. The period of the 'present' is an artifact of considering 'event time', or relational time (Halinen & Törnroos 1995). The present is an elongated period over which meaning is generated by a group of managers making their decisions. For an individual the minimum period of the present is two moments (Medlin 2004), whereas for a group the period can extend over a meeting, or even be considered a series of meetings. Under event time, meaning is always subjective and relative to the managerial group and their current task/s. The nature of the 'period of the present' is elaborated shortly relative to different tasks.

Figure 1: Managers roles in changing resource and activity layers within business relationships



Note: Roman numerals represent the three concerns of managers, as elaborated in the text below.

Exchange

Individuals and managers from both firms facilitate exchange of product as the 'present flow' of goods/services. These facilitating roles for exchange are represented in the figure at (i). The exchange occurs within the present short-term period. One can think of this short time period of the present as a single order cycle, from placing an order through to supply and payment. Thus, the exchange period encompasses the financial, informational and social exchange aspects found within the interaction model.

At the exchange interface individuals and managers are responsible for the day-to-day flow of products between the firms, with many activities arranged to facilitate that flow. The concerned individuals and managers rarely need to look into the future to manage these exchange processes; rather many processes are institutionalized.

However, with regard to future exchange and sales, responsible individuals and managers undertake information exchange concerning the future relationship, and the future needs for specific resources and activities, and future coordination between buying and selling firm. The object of information exchange is future bound. Discussions of past or present exchange by these specific managers have a future purpose. Where there are discrepancies between the present resource and activity layers and that required to fulfill future exchange, the discussion and sensemaking processes turn towards adaptations. That is adaptations follow from the need to maintain exchange of product into the future, and that requires a suitable resource and activity structure.

Adaptations

Adaptations are temporal process of two conceptually different types. First, reactive adaptation (shown as ii in figure one) is where individuals and managers seek to maintain the institutionalized processes of the firm and the business relationship. In reactive adaptation the processes of change are held within a period of the present, as the purpose is only maintenance of the exchange process by replicating as much as possible the present arrangements between the firms.

Reactive adaptation is akin to the nature of adaptation highlighted in the ARA framework. The sensemaking is concerned with local issues between the two firms. There is no consideration of wider issues and the purpose is to maintain the present routines and status quo. The number of individuals and managers involved is minimized.

The second form of adaptation is proactive adaptation to facilitate a 'future flow' of goods and services (represented by iii in figure one). In proactive adaptation the resource and activity layers, and/or the product, are changed as a result of managerial decisions, with actions and implementation planned for a future period. These adaptations are mutual with both firms involved to varying degree. Which firm instigates the adaptation is questionable depending on the perceived beginning time of the process, although most often one or two individuals from the two firms are involved in initially foreseeing the possibilities.

Most often the interest in proactive adaptation is found within the desire for future exchange, and recognition that this can be achieved in a new way. Understanding of the possibility to change is gained by managerial foresight based an understanding of interaction possibilities between the firms and an understanding of future network configurations.

Noteworthy is that both reactive and proactive adaptations (i.e. ii and iii) are concerned with changes to the resource and activity layers, whereas facilitating the present flow of product generally leaves these layers unchanged. Table two shows how the three sets of individual and managerial roles are logically differentiated.

Table 2: Distinctions between managerial roles within interaction processes

	Facilitating (i) and Reactive Adapting (ii)	**Proactive Adapting (iii)**
Time period	A present period	Future
Time horizon	Short	Mid-term or Long
Managerial focus	Maintain/stable	Change
Locus of control	With other managers, firms	With managers in relationship
Change in resource, activity layer and/or product	None (i) and Minimal (ii)	Significant (iii)
Change timing	Immediate present	Lagged, longer time
Impact on firms	Attempts to maintain status quo	Partly disruptive

Elaborating time and timing with activities

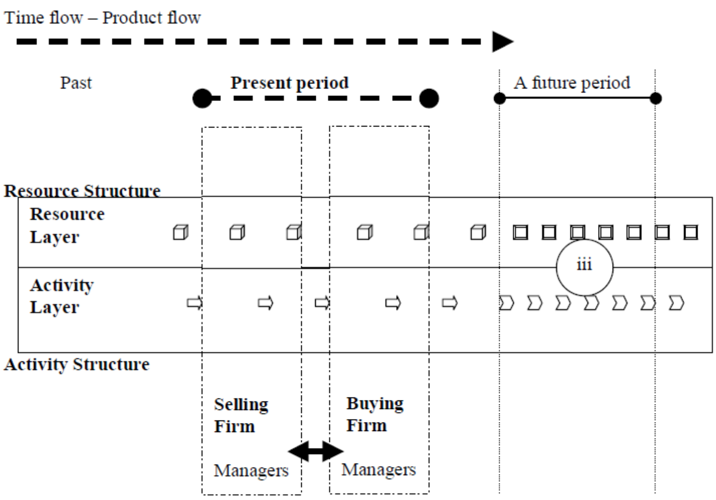
There is an inherent differentiation of the three managerial roles in time. Examining a present period there is a focus on (i) facilitating present flow of goods and services and (ii) maintaining and attempting to replicate the present into the future (i.e. reactive adaptation). In an ongoing business relationship these activities are also past loaded. The time horizon for these processes is short, and as much as possible there is immediate resolution of problems. Decisions and communications focused on the 'present flow' of goods and services result in immediate implementation. The adaptation is reactive, continuous, local, and un-noticed within non-local areas of the firm or the relationship - along the lines of adaptation within the ARA framework.

Turning to proactive adaptation, managers seek to alter the process or product at a future date, or by a series of changes achieve the same. The distinction is the time between conception of an idea and conclusion of implementation. In proactive adaptation the time horizon is extended and there are major changes in the resources and activity layers. This results in a lag between decision, implementation and outcome. The lag is necessary because resources and activities within both firms must be re-aligned and coordinated. This idea is noted within the ARA framework, where mutual adaptation requires the mobilization of the other party (Håkansson & Snehota 1995, p.64). Figure 2 shows these distinctions with managers from both firms working in the present to establish new resource and activity structures in a future period.

A further distinction with proactive adaptation is the variation in the locus of control. In proactive adaptation the managers enforce many elements of the change rather than only react. Thus the change is more planned and the period between consideration and final implementation is relatively longer – the future takes longer to unfold.

The relational and event elaboration of time allows distinction between managerial decisions and roles for tasks associated with exchange, and reactive and proactive adaptation. These three temporal processes connect the interaction between two firms to the maintenance and change of resource ties and activity links. In the next section, a case study is applied to verify the exchange-adaptation framework.

Figure 2: Proactive adaptation



EMPIRICAL CASE

The case deals with a focal business dyad between an international marine engine supplier and a large cruise shipping company, both operating in a wider network. Forsström (2005) originally reported the case, based on events and activities between the firms over the period 1970 to 2004. The key actors are interviewed through the individuals representing their respective firms. Value co-creation and interdependencies between the companies were forming key issues in unfolding the relationships between the companies. Important events and how processes are given meaning are noted through the eyeglasses of involved individuals.

The shipbuilding industry is a traditional industry sector. During the shipbuilding phase the triad consists of the ship-owner, the shipyard and the supplier. After about two years when the ship has been delivered and after another warranty-period of about one year the situation between the actors changes quite dramatically. In this phase the ship-owner needs to deal with almost 3,000 suppliers when operating the ship over approximately 20 years. This case focuses on the relationship between the diesel engine supplier and the cruise shipping company as the owner and user (Forsström 2005). The seller builds, markets as well as maintains and services the engines for large cruise ships. That means that the Seller is a key supplier.

During the long operational phase the buyer aims to run the ship efficiently and create profits. The seller of the marine engines maintains, services and monitors the operations so that the fleet operates efficiently and as reliably as possible. The buyer has ships of different age and also new vessels are under planning to be built, which means that the different interactions between the selling and buying companies are manifold and complex.

The fleet operates for tourists at the top end of the luxury and "outstanding vacation experience" market. This means that the engines should run without any disturbance, not compromise safety etc. The mission of the seller is to improve the performance and profitability of the customer's business by providing reliable and cost effective total marine power solutions while respecting environmental demands (Forsström 2005, p.97).

Many people from the CEO-levels down to Chief engineers are forming key people interacting constantly between the companies. Their roles and positions, however, vary quite dramatically as the situation and relationship changes. Three key persons that work for the buyer company have previously worked for the selling company, which is notable in order to understand the relationship development of the dyad.

Relationship development

The relationship history in 2005 encompassed over 30 years. In the final stages it had developed into a partnership with close collaboration between the companies. Many events before this could be detected along the way to this close relationship.

A. Ownership change 1988 - 1990

The first ships, a series of three, were built in the beginning of the seventies. The ownership of the buyer at the time was based in Norway, but shifted to American ownership. The relationship was stable, but during 1987-88 some problems emerged basically due to the Seller. These problems related to personal problems. In 1988-89 new management and organizational change took place in the Seller's company. The new Manager (Mr. S) established a good relationship with the buyer when the next class of ships was built. During the early phase the relationship was informal and problems were handled through personal relationships between the key managers. An informal "Nordic approach" of relational management through key actors was pursued.

B. The built-up phase between 1991 - 1998

This phase was critical in the development between the companies. A key person (Mr. B) was appointed responsible for Marine sales to the US market in 1991. The seller soon took responsibility for a service business comprising of the delivery of spare parts, service and maintenance work for the engines to the vessels of the buyer. In 1994 the Seller lost the order of two ships to French competitors who installed competing engines in these ships. But in 1996 the buyer returned to buy Nordic built ships in the next class.

A critical epoch in the relationship between the companies started in 1997 when Mr. B transferred to the buying firm and was appointed to take care of the management of marine operations. A discussion took place between the companies through the initiative of the key managers (Mr. B & Mr. S) to start to develop relationships between the companies. Efficiency and safety were key factors as high-class operations are a must in cruise shipping. However, the planned service package agreement was not settled. Rather, the buyer developed in in-house service organization for their ships' engines (Forsström 2005, p.105).

The new riding crew of the buyer decreased the buyer's account with the seller considerably. But the seller did not loose contact with the buyer because most of the fleet had the Sellers engines installed and these needed service work and the expertise from the producer. The seller company had to adapt to the situation and keep the relationship going on in a new manner. During the years 1997-98 when problems occurred with the engines the Buyer asked for a person from the selling company to take care of the communication between the companies. Mr. B1 was first leased for the job and became recruited by the Buyer. He is now an important link in the dyad concerning their relationships (Forsström 2005, p.106-07).

During the following years the Buyer managed to develop its business towards the seller, where both parts were able to note the criticality of the relationship. The seller developed its service organization and built up capacity for widening the service scope. The Seller began to see that being more co-creative in business development with the Buyer made more sense. The Seller needed to develop more creative offerings towards the buyer and its specific needs. The Buyer still required the expertise and know-how of the Seller.

In 1999 the Buyer started to build new types of vessels once again. The Seller lost the order to competitors due to environmental concerns with their engines. This triggered the seller to rapidly develop new environmentally friendly engines based on common-rail technology. This, in turn resulted in a new deal. The informants noted that the development process would not have been done so quickly if the deal had been won in 1999.

C. The phase of partnership development 1999 - 2005

The first cooperation agreement was made for the period 1999-2004. A new logic to work together was developed due to the foregoing events and processes. This period marked the beginning of a new era in a more relational mode between the firms. It consisted of specified issues for both parties to handle. Key issues on the part of the of the seller were:

- To provide the buyer a preferred status
- Provide a designated person to handle technical matters for the buyer
- To give discounts for spare parts
- To offer the buyer with pro-active technical information and to offer a maintenance program.

Key issues concerning the buyer were:

- To buy spare parts from the seller
- To pay a knowledge fee for getting the technical information
- To act as a test lab, and follow the seller's recommendations (Forsström 2005, p.112).

A Manager was dedicated from the seller's side to be responsible for both marine as well as service sales for the buyer. The criticality of the dyad was the key issue noted in this decision. Two years later the buyer developed an operation efficiency program "next level". There was, however a conflict between the "next level" objectives and the cooperation agreement. An atmosphere of distrust materialized and the Buyer felt that the Seller did not understand their business and what they really needed from them. In the fall of 2003 new discussions about theses critical issues started.

The new deal started with negotiations in the autumn of 2003 and formed the basis for a relational agreement. The managers Mr. S & B1 were both in favor of an agreement due to the obvious interdependencies of the firms. On the sellers side Mr. B1 promoted a long-term agreement and talked about co-development of new ideas and learning together in a partnership, stressing the need and importance of mutual trust. The agreement was written in very explicit terms.

The role of key individual managers in this process was paramount. They represent their respective firms, but also represent the relationship back into their firms. *"Both B1 and myself realize that we have a battle within our own organizations to get people to understand what it means…."* (Forsström 2005, p.130).

Case analysis

In the development stage of the relationships a transactional mode of the seller in particular prevailed. A classic notion of markets as a competitive offering was made between competing actors on the market. The Norwegian and Finnish business culture fostered also a relational approach through a relaxed individual relationship management between the companies.

The adaptations took place as a result of interpersonal interaction where information was given to both actors. The differences in culture of the then newly owned American and Nordic seller made things complicated. The Seller was the partner that was adapting and learning more about the Buyer needs. Also novel ideas from the Seller could be of use for the Buyer. In the first phases the adaptation was more reactive and sometimes "forced" by one or both companies. A few managers mediated the information and the Seller was very production orientated and held that information was too sensitive to openly disclose to the Buyer.

In the phase between 1991-1998 the issues of mutuality in the business of the two firms became an issue. Here adaptation is not working well due to differences in the culture of the companies. This resulted in mistrust and misconceptions from both sides. The mutual gains and the role of creating a common ground for business was at stake. The role of value analysis and understanding what business the Buyer was in could also be seen as a basic problem. In this second stage problems emerged due to the sellers decision to develop an own riding crew in 1997. There was an attempt to find solutions, but the time was not ripe for developing a relational mode. However, the relationship prevailed due to former investments and service agreements. Further, both parties started to realize the potential and interdependence of each other for value creation.

In the third phase proactive adaptation was visible as the actors, largely due to inter-personal interaction, could reach an agreement that was co-creating and the result was a partnership agreement.

The role of event time

During the different phases events materialized and had a decisive impact on the relationship between the firms. Acts and actions from outside the dyad were one big issue, e.g. competitors' moves, new technology and environmental concerns. The competitors were in some cases taking over some of the business when the Seller was competing for orders. Also political decision-making, such as tax or other subsidies for promoting national shipbuilding, played their role. The development of an environmental engine was an example of a political move.

Decisive issues were how the firms themselves created events between each other. In the end of the first period in the late seventies problems came to the fore. The same goes with 1980s and later on in the early 2000s when the Buyer took the "next step" program. The actors firms worked in a transactional cost-sensitive mode and could not see the potential of interdependence. In order to handle these events managers and their relations, as mediators, came to the fore. The focus or nexus for handling change and events was strongly on the shoulders of key individuals to solve problems that materialized. These problems revolved around maintaining the exchange, or not, and reactively adapting, or not, to each other. Also noteworthy is sensemaking that was crucial in order for the firms to see the importance of the resources that the Seller possessed for the Buyer.

The role of individual managers and interaction in adaptation

In this case the individuals and their roles played an important part. Team management was more pronounced in the final partnership negotiations after 2003 as well. The need to adapt technically was a key issue, as well as servicing and developing the product- and service offerings in a clear-cut form by agreements. A more co-creative mutual culture and trust was a goal for the agreement. Some issues related to the case and the models and ideas presented in relation to the case are the following:

1. The role of the individual in a representational role in interaction, and by communication in both directions, externally and internally, was important for the firms to adapt successfully
2. Adaptation is a two-sided process – it has to be done jointly, but it is also a matter of degree at different phases of business development.
3. Adaptation is a process where learning has a major role. To learn and understand the business your customer is in forms a key.
4. Agreements were – in the latest phase - negotiated carefully together in order to give specific roles to both parties across the dyad. A joint value platform seemed important to develop.
5. In the beginning of the process adaptation was not a key issue and it was made reactively in the short term. In later phases, adaptation and commitment were put in place more proactively and mutually over the long term (Table 1).
6. Both adaptive as well as interacting exchange can be detected as existing in parallel. It can be seen that interaction drives the process of relationship development via mutual adaptation and learning.
7. Proactive adaptation developed as an outcome of many internal and external events as well as learning and mistakes that unfolded during the process.
8. Through interaction the resource layer and the activity layers of the firms change, as an outcome of learning, adaptations and the unfolding of events over time.

Actors in the case include individuals and teams mediating the firms actions. Individuals were those holding and disclosing information and acting between the firms. In the final phases especially teams and firms were more involved in interaction and adaptation processes. The final agreement is made between the legal parties (i.e. the companies). Individual managers conduct the process of interaction in the first place.

Activities that were in focus deal with information, servicing, know-how development, co-value creation in connection to different types of learning and adaptation.

Resources were seen as a key issue. The service-business of the Buyer and the production orientation of the Seller meant that the parties were quite distant from the value processes of each other at the beginning. Some resources are created jointly, some separately so as to keep core know-how in house. As the case and the relations unfold the more joint efforts are made. Also "Value development on behalf of the counterparts" could be noted in the case. Interaction, including atmosphere, the interacting parties with the help of managers in key roles as well as the environment (the shipbuilding and cruise-business contexts) and the interactive process itself forms key issues. How this dyad is embedded into other actors such as competitors, other suppliers and institutional actors and legal parties also forms another key issue.

FUTURE RESEARCH

There are a number of areas of future research that follow from the exchange-adaptation framework. The distinctions between exchange and adaptation require further elaboration, in particular the nature of changes in the exchange processes that lead to managers taking a reactive and proactive stance towards adaptation. There are likely a number of different changes in exchange processes related to (i) the product, (ii) the resources and activities associated with facilitating exchange, (iii) the financial flows, (iv) the information flows, and finally (v) the social bonds. A change in product is most likely to be the most important because of the way product is embedded through a network. However, there are also likely to be interesting affects on adaptation processes following on from the quality of information flows and the variations in social bonds across the relationship and through the firm hierarchies.

Another area of research is to examine the nature of event time and in particular the characteristics of managers' perceptions of time periods, and how variations in time periods and timing between firms affects exchange, and the two forms of adaptation. The essential role of time conceptualizations in the exchange-adaptation framework suggests that variations in time periods and timing across inter-firm relationships might lead to identification of other ways of categorizing adaptations.

A third area of future research is the role of adaptations in changing the resource and activity structures. The processes of adaptation have been generalized in the present framework, and in much past research. There is an opportunity to examine in-depth the adaptation processes, the mechanisms, by which managers undertake change. The concepts of foresight, insight, and anticipation versus rearward sensemaking seem essential to the distinctions between reactive and proactive adaptation. Considerable theoretical and empirical work is required to understand these adaptation processes. In particular how to managers work collectively and also hierarchically across inter-firm relationships to gain required resources and implement change?

A fourth area of future research is examination of the different roles of commitment and trust for managers responsible for exchange, versus reactive adaptations versus proactive adaptation. The framework elucidated above distinguishes these three processes according to time and timing, and according to resource and activity changes. This suggests that trust and commitment will play different roles across a business relationship according to the nature of the processes manager face. In particular proactive adaptation with an extended timeline between individual decisions, gaining managerial support within two or more firms, and then implementing changes suggests a strong impact for trust and commitment. It seems that proactive adaptation processes might allow managers to develop new and deeper levels of trust compared to the shorter time periods of exchange and reactive adaptation.

A further area of research is to identify other linking frameworks. For example, taking a slightly different tack to the third research area, the present framework can be changed and extended so that a number of relationships are linked to resource constellations and activity patterns. The goal would be a framework linking firm interaction with network structure, so as to elaborate resource constellations and activity patterns.

MANAGERIAL IMPLICATIONS

Individuals play multiple roles in business interaction. First, individual managers present themselves and personal qualities; for building trust, atmosphere, and developing social bonds. Second, they play a role for their own organization and act in that role. They represent their company in business interaction. Third, they are mediators of what takes place in interaction to their company and form a communication bridge between actors in the network, which is also a key role.

The managerial implications of the exchange-adaptation framework are mainly in the area of improving managers' understanding of firm networks and how to manage within them. The distinctions between exchange processes, reactive adaptation processes and proactive adaptation processes can allow managers to differentiate between how and when their joint decisions will influence only the firms in the business relationship, or firms connected in the network. The differences in activity patterns and application of resources to the three processes and the different ways that managers must work together within each process are yet to be fully elaborated, but already clear differences in managerial work and methods of work are distinguishable.

The exchange-adaptation framework offers a new opportunity for managers to understand how they must operate in business networks. The network paradoxes (Ford, Gadde, Håkansson & Snehota 2003) are premised on the adaptations processes observed in developing the ARA framework. While it is clear from an ARA perspective that firms can only manage jointly in a network and that trying to control a network position or a network tends towards being counterproductive; the processes of proactive adaptation are likely to offer the means for firms to manage within indeterminate network situations. However, these potential solutions require further research as outlined above.

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