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The Effect of Network Organisers on Relationship Commitment

Kent Eriksson, Øystein Fjeldstad, Amir Sasson

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Introduction

A growing phenomena is that firms become interdependent in networks of relationships. This is especially true for some of the '.com new-economy' firms, whose business models focus on organising networks. The Internet augments the mediating, network organising, nature of many economic agents. A recent survey of E-management in the Economist (2000-10-11) reports how General Electric and ABB have organised a market for their suppliers. Swedbank, Nordea, Storebrand bank and many other financial institutions are all working on similar initiatives to develop, organise and manage networks of interdependent firms. These market makers are themselves firms and they represent a growing mode of business that mediate supply and demand between actors. Mediation is a form of value creation with long traditions. Thompson (1967) identified that organisations such as banks, telephone companies, insurance companies and employment agencies all appear to use a similar mediating technology. A number of the mediation industries have for the greater part of the 20th century been extensively regulated, and in many cases the mediation functions have been performed by public monopolies.

The mediating function is not a simple task. It requires the organising of networks of interacting firms, e.g. suppliers and buyers. Organising networks is difficult because it implies the structuring of many business relationships, which are difficult or even impossible to control. There is a shortage of studies of how networks can be organised. Numerous studies have identified networks as structures that govern firms' market behaviour (Granovetter, 1985; Uzzi, 1997). The network can govern firm behaviour by being a system for innovation (Powell, Koput & Smith-Doerr 1996) a source of new knowledge (Ahuja, 2000), safeguarding against opportunism (Jones, Hesterly & Borgatti 1997) and through co-ordination (Blankenburg-Holm, Eriksson, and Johanson 1999). However, there has been few studies of how networks can be managed, while at the same time govern firm behaviour.

The vast majority of network-based research has focused on industrial firms (e.g. Gulati, 1995, 1998, Nohria and Gracia-Pont 1991, Uzzi, 1997), and the relationship between knowledge based firms or departments (e.g. Powell, et. al. 1996, Doz, olk and Ring, 2000).

The relationship between network organisers (i.e. banks, telecommunication firms) and the network being organised have been given little attention. Even studies focusing on bank-customer relationships (Eccles and Crane, 1988, Uzzi, 1999) take a dyadic view and lack of through analysis of the relationships between the network organiser and the organised firms. Some studies have focused on strategies for creating collective action (Astley 1984). But studies of collective action have not explicitly focused the firm effects of collective action. To our knowledge, there has been no systematic study of how network organisers manage networks to achieve effects on firm behaviour.

The purpose of this study is therefore to study the effect of network organisers on networks and also how the organised networks influence an individual relationship. The results of this study contribute to network theory in a number of ways. First, we investigate the management of networks, rather than studying networks as a structural antecedent. This brings forth the role of networks for the firm's management of its environment, which is similar to strategic management for competitive advantage by the change of industry structure. This is an important addition to network theory, since it answers a call for the study of how '…interactions support the network and the network supports the interactions…' (Salancik 1995:349). The understanding of how micro and macro relate to each other in structuration is essential for theory building, and poorly researched as far as networks are concerned (Salancik 1995, Blankenburg-Holm et al. 1999).

While there may be many actors that organise networks, this paper focuses the effect of banks, being a mediator that organises networks, on business relationships. The dominant theories of financial intermediation explain banks, institutions that accept deposits withdrawn on demand, and make commercial loans, in terms of monitoring, risk pooling, transaction costs and incomplete contracts. The existence of financial intermediaries is explained either in terms of transaction costs (Gurley and Shaw, 1960) or in terms of information asymmetry (Diamond, 1984, Leland and Pyle, 1977). These explanations serve as a platform for both bank management and bank regulation. Banks have been conceptualised as firms creating and distributing products to independent customers (e.g. Diamond, 1984) assuming away any effects of interactions between customers. However, banks belong to a group of firms including telecoms, airlines companies etc. that create value by facilitating the interaction between interdependent customers (Stabell and Fjeldstad, 1998).

Since we are interested in the effect of banks, the focus is the business relationships that banks have an effect on. If banks have an effect on business relationships by being network

organisers, then their effect on the exchange taking place in that relationship should be indirect, via the business network. For analytical reasons, we selected one specific dimensions of relationship exchange, namely commitment. The reason for this being that commitment is a central concept in many relationship studies, and because it reflects investment decisions where Banks have expertise. Based on the above, we hypothesise that Banks have an effect on business relationship commitment in their capacity as network organisers.

The paper is structured so that we start by discussing the nature of the dependent variable, relationship commitment, and then go on to discuss networks, and finally network organisers. We generate hypotheses and test them on a sample of 256 business relationships. The testing focuses causal relationships, and therefore uses a structural equations modelling technique called LISREL.

Relationships and Networks

Reflecting developments in the world of business, there has been a surge of studies into relationships, variously conceptualised as co-operative alliances (Killing and Beamish 1996), consumer (Grönroos 2000), and business relationships (Håkansson and Snehota, 1995). The motivations for individual consumers and firms to retain relationships have found as many explanations as there are schools of thought. Actors may engage in relationships to avoid uncertainty (Sheth and Parvatiyar, 1995), safeguard for opportunistic behaviour (Achrol and Stern, 1983), reduce transaction cost (Williamson, 1985), satisfy psychological needs**,** and many more reasons. Regardless of why actors engage in relationships, they have been found profitable (Grönroos, 2000; Jap, 1999; Kalwany and Narayandes, 1995), even though the profitability varies much by relationship characteristics (Reinartz 2000, Storbacka 1994).

Profitability arises from co-ordination of activities, which creates efficient routines for exchange in relationships (Blankenburg-Holm et al 1999). The co-ordination of activities between firms in a relationship can, but may not result in a development. Studies into relationship development patterns have found that idiosyncratic, or relationship specific commitments are most potent drivers (Anderson and Weitz 1992). This is often a process of small commitments, whereby the buyer and seller come to understand each others resources. Commitments may involve investment in many ways, for instance product, production, logistics, trade credits, social interpersonal ties (cf. Alter and Hage 1993, Ford 1990, Håkanson and Snehota 1995). In many different areas, the seller and buyer can match their

needs (Hallén, Johanson and Nazeem-Mohammed 1991). The matching of needs gradually transforms the exchange between parties into a relationship where the partners are mutually dependent and use each others surrounding network to create value (Blankenburg-Holm et al. 1999), in accordance with social exchange processes (Cook and Emerson, 1984 Anderson and Narus, 1990).

Studies have found that relationship development depends on how they are embedded in a network (Blankenburg-Holm et al. 1999, Ahuja 2000), and it can thus be expected that networks have an effect on relationships. More co-ordinated networks have been found to facilitate more efficient resource flow (Blankenburg-Holm et al. 1999), and, thus a more tightly co-ordinated network is likely to have a positive effect on relationships. The nature of these positive effects probably differ since relationships are multidimensional and complex, but for the present purposes it is sufficient to state that there is an effect. For this purpose, we choose to focus on commitment, which, as mentioned above, has a central role in relationships. We therefore hypothesise that more connected networks will facilitate more commitment in the relationship.

Hypothesis 1. The more connected the network, the more the commitment in the relationship.

Networks and network organisers.

The above description of relationships and networks focused on commitment to co-ordinate as the primary mechanism. Co-ordination is done in multiple ways. Several case studies have found that networks co-ordinate resource deployment, and activities associated with business done by actors (Håkanson, 1989, Waluszewski, 1989, Wedin, 2001, Dubois, 1994). Other findings are that knowledge essential for innovation can be found in combinations of weakly tied relationships (Powell, Koput, and Smith-Doerr, 1996). But there is little knowledge about how networks can be managed. Studies have identified that networks can be managed. For instance, when threatened by the Japanese, the U.S. Semiconductor industry re-organised to increase collaborations and the sharing of corporate secrets. The collaboration made competitors work together, and increased inter-industry contacts (Browning, Beyer, and Shethler, 1995). These firms effectively managed to co-ordinate activities and resources as a means to achieve their ends. However, the case does not disclose how the actors did this.

A recently developed model provides a possibility to analyse network management (Stabell and Fjeldstad, 1998). The management of networks may be considered to involve three primary activity areas: 1) The promotion and management of relationships in the network, meaning the management of increase and decrease of involvement in relationships in a network; 2) Service provisioning, meaning the management of commitments through co-ordination activities within relationships; 3) Network infrastructure operations, meaning the maintenance of an information processing and access structure for the network. In each of these three areas, there is a need to manage the activities and resources exchanged by the actors in the network. For instance, there is a need to organise the firm so that it matches the firm internal processes, as well as the network. There is also a need for human resource management, development of technology, and procurement. The above framework has been applied to the Telecommunications and Banking industries (Stabell and Fjeldstad 1998, (Sasson, 2000). In both cases, the framework explicates the managerial tasks involved in the management of networks. The studies also show that firms that manage to co-ordinate networks so that they become more inter-connected create value, not only for themselves, but also for their surrounding network.

Treasury Management at Motorola is a case in point.[1] Motorola is a multinational provider of wire-less communications, semiconductors and advanced electronic systems and services. Motorola consists of numerous autonomous companies that trade with each other and with numerous suppliers and customers. Working on interdependent and complementary projects, the actors in this cohesive subgroup transfer information, products, resources and capital on frequent bases. Financial transactions in general expose Motorola and co-operating companies to inefficiencies in co-ordinating exchanges, to the risk of non-payment when interfaces across owners is required as well as time delays until clearing. In the case of international transactions the firm is exposed also to exchange rate risk and higher costs of clearing involved in currency exchanges.

Motorola joined with Citibank to create a cash management/netting system for the cohesive group of Motorola companies and their suppliers and customers that improved the business of Motorola, its suppliers and customers as well as Citibank. Having all firms in the network join the Citibank system was estimated to save $6.5m per annum in foreign transactions and immeasurable administrative expenses.[2]

[1] This example builds directly on the case study conducted by [Holland, 1994 #49].

Motorola and its external partners benefit from reduced transaction costs, transaction volume, number of transactions and increased information regarding availability of capital. Citibank benefits from the increase in its foreign dealings and the number of transactions per customers it manages.

In such a non-adversarial environment, Citibank will be in a position to utilise the developing long-term relationship (due to the interlocking nature of such systems). It will enable Citibank to expend its financial service offerings to Motorola's suppliers and customers cheaply and safely and will allow it to benefit from reduced risks of adverse selection and moral hazard.

Further banks may gain competencies and resources from one customer relationship that improves it's abilities to service other customer relationships through transitivity (Uzzi and Gillespie 2001:2), that allow them to improve the efficiency of credit provisioning, and act as 3rd party guarantors that alleviate frictions hindering trade between firms, e.g. by improving letter of credit processing. Efficient performance of such activities enables the members of the network to concentrate more on their core competencies (Prahalad and Hamel 1990) and the business specific properties of their relationships such as transferring information relating to investments, production capabilities and engaging in mutual adaptation (Hallén et al 1991). A further benefit to the network is that capital resources that otherwise would be tied up in financing working capital are freed for investments in innovations. The cost of capital for firms using trade credit is much higher than the cost of capital when borrowing from commercial banks (Petersen and Rajan, 1994). Embedded ties between the firm and its bank reduce the likelihood that the firm incurs late credit penalties and increases the likelihood that it takes early trade credit discounts (Uzzi and Gillespie 2001).

Thus, providing financial services to a tightly co-ordinated group of interdependent firms may enable group members to concentrate on and develop their core business decreasing inefficiencies and increasing the business co-operation.

Hypothesis 2. There is a positive effect of the co-ordination of network organisers to a focal relationship on the co-ordination of the surrounding network to a focal relationship.

Relationships, Networks, and Network Organisers

As stated above, there is a reason to expect that commitment in a relationship increase by greater co-ordination of the network. It can also be expected that more co-ordination of networks is achieved by more co-ordination of network organisers with a focal relationship. As a conclusion, it can be expected that network organisers have an effect on a focal relationship through the surrounding network.

There is an important consequence that follows from that network organisers have an effect on a focal relationship via the surrounding network. This consequence is that the network organiser has a positive influence only at the network level. There are two reasons for this. First the network organiser is probably too ignorant of the specifics of the business relationship to influence it directly. The reason for this being the network organisers' lack of knowledge about the relationship specific adaptations that have evolved in the relationship. Understanding of such relationships specific assets are key to bringing the relationship forward, but studies have shown that the knowledge involved in relationships is tacit to a large extent, and hence it is almost impossible for parties not directly co-ordinated with the relationship to meaningfully have an effect on it (Tyre and vonHippel 1997). The inter-relatedness of the relationship and network is therefore such, that network organisers can only have a positive effect on a relationship through the co-ordination of the network.

Second, relationship commitment may in part be a response to a need for relationship adaptations that Banks can reduce. Firms may commit to their customers or suppliers by providing trade-credit or financing of pre-production purchases for larger projects. To the extent that an embedded bank is able to provide financial solutions that firms and their customer would otherwise to themselves, the direct need for commitment for the firm and the customer to manage financial uncertainty is reduced.

Banks concentrate on information acquisition and analysis to identify the correct cost and volume of capital to firms. Redundancies of information transfers and monitoring (trade creditors need to monitor the firm's behaviour to secure repayment) are reduced. By organising the financial interactions of network members, the network organiser routinizes and structures the interactions between the focal actor and the network. Network organizers thus effectively convert tacit and relationship specific knowledge into more explicit and less specific knowledge. More explicit knowledge is less resource consuming in interfirm cooperation, which leads to a decrease in the need for relationship commitment between firms that were related to functions taken care of by the bank.

To clarify that the positive effect of network organisers goes only via the network, and that there may be a direct negative effect from the co-ordination of network organisers we hypothesise that there is no direct positive effect from co-ordination of network organisers to relationship commitment and that there is a negative direct effect.

Hypothesis 3a. There is no positive effect of the co-ordination of network organisers to commitment in a focal relationship.

Hypothesis 3b. There is a negative effect of the co-ordination of network organisers to commitment in a focal relationship.

Method

There are many actors that organise networks. This study targets Banks, because they organise both industrial firms and individuals so as to mediate resources between them. This also involves the physical maintenance of markets, Internet, and ATM networks. In addition, the network management of Banks has been exemplified by Stabell and Fjeldstad (1998), and Sasson (2000).

The empirical analysis of the study utilises a database established in the European International Marketing and Purchasing (IMP) project. Data were gathered through personal interviews with marketing executives of supplier firms in Australia, France, Germany and Sweden. In order to reflect the internationalisation which is generally assumed to be one of driving forces towards interfirm co-operation (Contractor and Lorange 1988; Beamish and Killings 1997) they were interviewed about business relations with their most important customer firms in France, Germany, Italy, Japan, Sweden, the UK and USA, and in Asia. The respondents were asked to select one of their firm's most important customers in one of the seven indicated countries so that en even distribution of relationships across countries could be achieved. Thus, the sample of 265 relationships investigated is truly international. The sample investigated is fairly evenly distributed over the customer countries. In order to secure that the sample also reflected a wide spectrum of technologies the supplier firms were selected so that they belong to different industries ranging from raw materials to equipment.

The respondents were also asked to select a customer relationship they were responsible for and had personal experience of. Thus, each manager interviewed played a key role in the firm's enactment of the relationship investigated.

The data were processed using LISREL, a structural equations modelling technique that traces structural relations in a set of data (Hayduk, 1987; Anderson and Gerbing, 1988; Bollen, 1989; Jöreskog and Sörbom 1993). In order to trace structures, LISREL utilises two independent sources of variation between variables. Firstly, estimated linear regression coefficients are used. Secondly, the technique uses covariances between the error residuals of the linear regression estimates. The true variation of variables is approximated better when both regression estimates and error term covariances are used (Lord and Novick 1968; Jöreskog and Sörbom 1993). LISREL has been found robust to non-normality (Mattsson, 1998).

Structural models are formed by defining relations between latent variables, which are higher order variables that represent underlying commonalties of the observed variables. Groups of observed variables are indicators of a latent variable, which is often interpreted as a theoretical construct. The formation of constructs and models together with the error covariance and correlations make up the fundamental dimensions of LISREL. The formation of constructs and models may be described as causal dimensions, whereas the pattern of covariance in error terms and correlations may be described as a structural pattern in data.

The method for assessing validity stems from the basic dimensions used in modelling. We assess the validity of our structural model in three dimensions: a) nomological validity, meaning the validity of the entire model; b) convergent validity, meaning the homogeneity of constructs in the model; and c) discriminant validity, meaning the degree of separation between constructs. Estimates for assessing validity are derived from the structural model and a measurement model, which contains no structural relations. All three validity dimensions should be confirmed in both models. The key statistical estimates result from both error covariances and correlations, but their separate contribution can also be estimated.

The measures of nomological validity are χ^2 and degrees of freedom, which measure the distance between data and model, and an estimate of a non-significant distance, the p-value, which should be above 0.05 for significance at the 5% level (Jöreskog and Sörbom 1993: 111-131). There is an ongoing debate on what measures to choose for assessment of nomological validity (Bollen and Long 1993), but as Jöreskog and Sörbom (1993, pp.121, 122) point out,

the other measures proposed are all functions of the chi-square. Three frequently mentioned measures are: 1) the GFI, which checks for sample size effects, and should be above 0.90; 2) the RMSEA, which measures population discrepancy per degree of freedom, and should be below 0.08; 3) the CFI, checking for non-normal distributions, and should exceed 0.90 (Murtha, Lenway, and Bagozzi, 1998; Bollen 1988). Convergent validity is confirmed if indicators load only on their constructs. Convergent validity is judged by factor loadings, t-values and an R2 value, which measures the strength of the linearity in the relation (Jöreskog and Sörbom, 1993: 121; Bagozzi, Yi and Phillips, 1991: 434; Bollen, 1989: 190-4). Discriminant validity is assessed from the measurement model. Correlations between latent variables should be significant, and not be unidimensional. Significance is investigated by the t-values of correlations. Testing of unidimensionality is done by forming an approximate confidence interval from error terms and correlation coefficients. An interval including 1 suggests unidimensionality, and thus rejects discriminant validity (Jöreskog and Sörbom, 1993: 117; Bagozzi, Yi and Phillips, 1991: 436; Bollen, 1989: 190-4).

Interpretation of a valid model should be done with the awareness that each relation in the model is a part of the broader context of the model itself. There are many counteracting and reinforcing structural effects within a model. It is therefore essential to view one part of the model in light of it being contextual to the model. A simple example is a causal chain where the construct *a* causes *b* causes *c*. In such a model, *a* has an effect on *b*, and *b* has an effect on *c*, but *a* has also an indirect effect on *c* that is mediated by *b*. The effect of *b* on *c* is thus the total effect of the direct effect of *b* on *c* and the indirect effect of *a* on *c*. The correct interpretation of this simple example is that *b* has an effect on *c*, in the context of *b* being affected by *a*. Patterns of causal effects are often very complex, which is the reason that it is recommended that the researcher be as parsimonious as possible in structural modelling (Bollen 1989). Another implication is that validity cannot be assessed piece by piece. It is not correct to investigate the causal effect from *a* to *b* in one model, and then *b* to *c* in another, in order to conclude that *a* has an effect on *c*. All constructs and relations have to be assessed in one and the same model.

The total number of missing values in the data is 27, of which 11 are on the COS indicator (see Table 2). A likely explanation for this is that there are cases when there are no suppliers of products supplementary to the focal supplier's. The remaining missing values are distributed evenly among the cases and indicators. We have used pairwise deletion in the

computations, though more or less similar results were found using listwise deletion (sample size 114).

Construct validity

The *mutual commitment* construct consists of two indicators. Since investment in the relationship corresponds to our definition of commitment as the willingness to sacrifice short-term gains for long-term benefits, we use two questions about investments in the relationship of the partners, one concerning the supplier's investment in the relationship with the customer (INVESTS), and the other the customer's investment in the relationship with the supplier (INVESTC). We interpret mutual commitment as the higher order theoretical construct that affects both of these two indicators simultaneously. The basis for this is that the shared domain of two parties' views of their relationship is their mutual view. In the interview, these questions were preceded by a detailed discussion of different aspects of relationship investment, such as investments made with the intention of adapting products and production processes to the focal partner. The wording: "In all, how large is the investment made by your firm in your relationship with this customer?" suggests to the respondent that she/he should condense all specified aspects of investment into one. The strength of this question is that it corresponds closely to the way managers look at their customer relationships. Taken together, these two investment indicators make up our construct of mutual commitment to a business relationship. Key statistics in Table 1 show that the indicators are convergently valid for the construct. It is well worth noting that mutuality is an important aspect of the construct.

Table 2. The constructs and their indicators.

Indicator	*Abbreviation*	*Factor Loading*	*T-value*	*R2-value*
The mutual commitment construct				
In all, how large is the investment made by your firm in your relationship with this customer?	INVEST_S	0.54	3.24	0.30
In all, how large is the investment made by the customer firm in his relationship with your firm?	INVEST_C	0.67		0.46
Business network connection				
To what extent is your business with this customer affected by any of your own other customers?	SOC	0.39	4.07	0.16
To what extent is your business with this customer affected by any of your own suppliers?	SS	0.70	4.88	0.50
To what extent is your business with this customer affected by any of his own customers?	CC	0.41		0.17
To what extent is your business with this customer affected by any of his own other suppliers of products supplementary to yours?	COS	0.41	4.17	0.17
Bank connection				
To what extent is your business with this customer affected by any of your own Bank relationships?	BANK_S	0.91	13.59	0.82
To what extent is your business with this customer affected by any of his own Bank relationships?	BANK_C	0.84	12.73	0.71

We define business network connection as the degree to which business in a focal relationship is contingent on business in connected relationships. This is captured by the business network connection construct which represents connected relationships that are important to activities in the focal relationship. We have identified to what extent business in the focal relationship may be affected by, on the one hand, any of the supplier's relationships with his own suppliers (SS) or other customers (SOC), and, on the other, any of the customer's customer relationships (CC) or relationships with suppliers of supplementary products (COS) (see Figure 2 and Table 2). The respondents were asked to identify one relationship of each of the four kinds and indicate how strongly it was connected to the focal relationship.

The business network connection construct has high factor loadings and t-values, but two of the R2 values are somewhat low. The estimates show that the connections with the supplier's suppliers and with the customer's customers have the highest validity, and that the other connections are almost acceptably valid. In cases where the business network connection construct has been applied to other contexts, the validities of the connections have been different (Blankenburg Holm, Eriksson and Johanson, 1996, 1999, Blankenburg Holm and Eriksson 2000). The construct seems to display different faces in different settings, which is why we consider it important to keep all the four indicators in the construct.

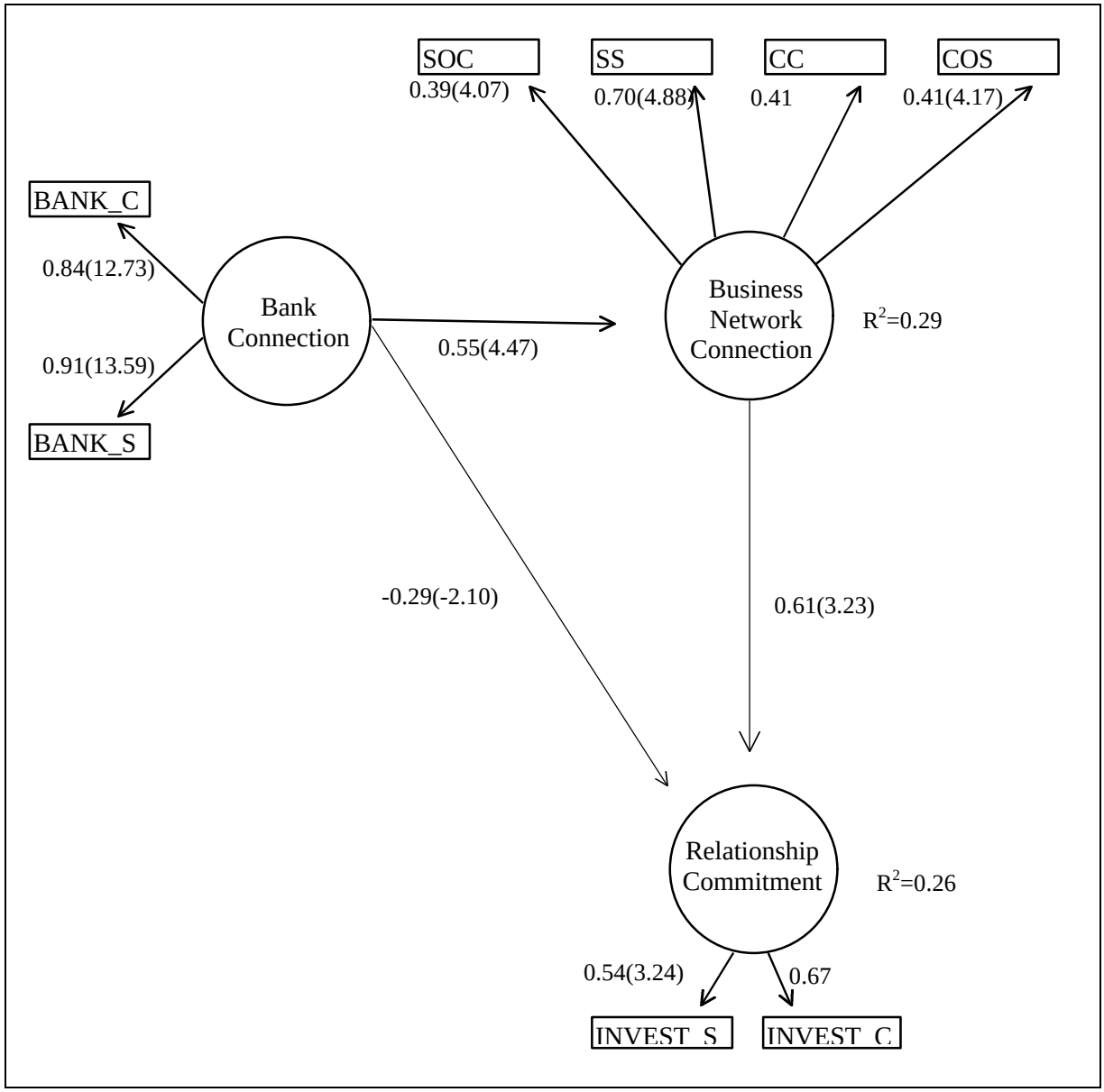
The Bank connection construct captures the connectedness of both supplier and customer relationships with banks. Together, these indicators give a picture of the effect of banks on the mutual relationship between two parties. The key statistics support that both indicators are valid for the construct.

So far, all indicators are valid indicators of their constructs. The next step is to examine the measurement model for discriminant validity. The measurement model contains the same modification (ϕ's) that were added to the structural model (see Figure 1 below).

Results

The result is one model of causal relationships, which is displayed in Figure 1. The model shows how relationship commitment is effected by network connections and bank connections. There is also an effect from Bank connections to network connections. Each arrow between constructs is a test of a hypothesis. The model is valid, so we can proceed to interpret the results ($\chi^2 = 20.56$, d.f. = 16, p = 0.20, GFI = 0.98, RMSEA = 0.04, CFI = 0.99).

Figure 2. The resulting structural model.



Note: Model χ^2 is 20.56 with 16 degrees of freedom. The p-value is 0.20. The model was modified by adding error covariances between BANK_S and INVEST_C (t-value 3.89). The GFI is 0.98, the RMSEA is 0.04, and the CFI is 0.99.

The results test the hypotheses that relationship commitment is effected by network co-ordination, and that network co-ordination is effected by Bank co-ordination. Both these hypotheses are confirmed. Network connections, in turn, has an effect on relationship commitment (0.61, 3.23), meaning that a more connected network facilitates relationship commitment. Bank connections have a positive direct on Business network connection (0.55, 4.47), meaning that Banks organise business networks.

The third and final hypothesis stated that the co-ordination of network organisers with a relationship does not have a direct positive effect on relationship commitment. This hypothesis is also confirmed, since Bank connections do not have a positive direct effect on relationship commitment (-0.29, -2.10 in Figure 1). The fact that this effect is negative is taken as support for that network organisers are not operatively knowledgeable of the relationship, and can therefore not add value. As a matter of fact, the negative effect suggests that they are a hindrance to relationship development.

The model shows that Bank connection has an indirect effect, via business network connection on relationship commitment. The estimate of this indirect relationship is 0.33, with t-value 3.24. Bank connection, thus have a negative direct, and a larger positive indirect effect on relationship development. This result clearly shows that Banks can only add value to a customer's business relationships through their surrounding network.

Conclusions

This paper has found that network organisers have a strong influence on individual relationships. The management of networks can bring closer, and more efficient co-ordination within and between relationships. The results in this study clearly shows that the influence of network organisers is positive only through the organisation of the network, which surrounds a relationship. The research presented here is far from conclusive. It does, however, open up for more detailed and in-depth studies of networks as a governance mode. Previous studies have not explicitly focused how network organizers can achieve effects on business relationships through coordination of the surrounding network.

Further research is needed into how other business actors than banks can organize the network. It may be expected that regulators, lawyers, and industry organizations want to achieve network organization. There is also a need to better understand which dimensions of relationship exchange that network organizers influence. This study focused relationship commitment, but there may be other areas of interest, such as technical adaptations or trust. It seems reasonable to expect that there are pairs of network organizers and relationship exchange dimensions that work particularly well. This study paired banks and relationship commitment, which seems reasonable considering that banks are experts on investments. Other pairs may be standard setting organisations and product adaptations in relationships, or lawyers and trust.

Even though this study does provide an opening to study networks as governance mode, it should be remembered that networks are also governed by relationship mechanisms. There is therefore reason to consider more complex models that incorporate the reciprocal effects that are likely to exist in the real world of relationship and network exchange.

References

Achrol, Ravi S., Torger Reve and Louis W. Stern (1983) 'The Environment of Marketing Channel Dyads: A Framework for Comparative Analysis', *Journal of Marketing,* 47 (Fall), pp. 55-67.

Ahuja, Gautam (2000), 'Collaboration Networks, Structural Holes, and Innovation: A Longitudinal Study', *Administrative Science Quarterly*, 45, 425-55.

Alter, Catherine and Jerald Hage (1993) *Organisations Working Together*, Newbury Park, CA: SAGE.

Anderson, James C. and James A. Narus (1990) 'A model of distributor firm and manufacturer firm working partnerships', *Journal of Marketing,* 54 (January), 42-58.

Anderson, Erin and Barton Weitz (1992) 'The Use of Pledges to Build and Sustain Commitment in Distribution Channels', *Journal of Marketing Research.* Vol. XXIX, pp. 18-34

Anderson, J.C. & D.W. Gerbing. 1988. 'Structural equation modeling in practice: A review and recommended two-step approach'. *Psychological Bulletin*, 103(3), 411-423.

Astley, W.G. (1984) 'Toward an Appreciation of Collective Strategy', *Academy of Management Review,* 9 (3), pp. 526-535.

Bagozzi, Richard P., Youjae Yi and Lynn W., Phillips (1991), 'Assessing Construct Validity in Organizational Research', *Administrative Science Quarterly*, 36, pp. 421-458.

Beamish, Paul W. and J.Peter Killings, eds. (1997) *Cooperative Strategies, Volume 1-3,* San Fransisco: The New Lexington Press.

Barnard, C. I. (1938). *The functions of the executive*. Cambridge: Massachusetts, Harvard University Press.

Blankenburg Holm, D., Eriksson, K., & Johanson, J., 1999, 'Value Creation through Mutual Commitment to Business Network Relationships', *The Strategic Management Journal*, No. 20, pp. 467-486

Blankenburg-Holm, D., Eriksson, K., & Johansson, J., 1996, 'Business Networks and Cooperation in International Business Relationships', Vol. 27 (5), *Journal of International Business Studies.*

Blankenburg Holm, D., & Eriksson, K., 2000, 'The Character of Bridgehead Relationships', *The International Business Review*, No. 9, pp. 191-210.

Bollen, Kenneth A. & Scott J. Long. Editors. 1993. *Testing structural equation models.* Newbury Park: Sage.

Bollen, Kenneth A. (1989) *Structural Equations with Latent Variables*, New York, NY: John Wiley & Sons.

Browning, L.D., J.M. Beyer and J.C. Shetler (1995) 'Building Cooperation in a Competitive Industry: Sematech and the Semiconductor Industry', *Academy of Management Journal,* 38 (1), pp. 113-151.

Contractor, Farok J., & Peter Lorange eds. (1988) *Cooperative Strategies in International Business,* Lexington, MA: Lexington Books.

Cook, K.S. and R.M. Emerson (1984) 'Exchange Networks and The Analysis of Complex Organisations', *Research in the Sociology of Organisations,* Vol. 3, pp.1-30. Greenwich: JAI Press.

Cook, K.S. and R.M. Emerson (1978) 'Power, Equity, and Commitment in Exchange Networks', *American Sociological Review,* 43 (October), pp. 721-738.

Diamond, D. (1984). 'Financial intermediation and delegated monitoring.' *Review of Economic Studies* 51: 93-414.

Doz, Y. L., P. M. Olk, et al. (2000). 'Formation processes of R&D consortia: Which path to take? Where does it lead?' *Strategic Management Journal* 21(3): 239-266.

Dubois Anna (1994), *Organising Industrial Activities – An Analytical Framework*, diss. Chalmers University of Technology, Gothenburg, Sweden.

Eccles, R. G. and D. R. Crane (1988). *Doing deals: Investment banks at work.* Boston, Harvard Business Press.

Ford, D. (ed.) (1990), *Understanding Business Markets: Interaction, Relationships and Networks,* San Diego, Academic Press.

Granovetter, M. (1985). 'Economic action and social structure: The problem of embeddedness.' American Journal of Sociology 91: 481-510.

Grönroos, Christian, 2000, *Service Management and Marketing: A Customer Relationship Management Approach*, Wiley: Chichester, UK.

Gulati, R. (1995). 'Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances.' *Academy of Management Journal* 38(1): 85-112.

Gulati, R. (1998). 'Alliances and networks.' *Strategic Management Journal* 19(4): 293-317.

Gurley, J. and E. Shaw (1960). *Money in the theory of finance.* Washington, Brookings institution.

Hallén, Lars, Jan Johanson and Nazeem Seyed-Mohamed (1991) 'Interfirm Adaptation in Business Relationships', *Journal of Marketing*, 55 (April), pp. 29-37.

Hayduk, Lesley A. (1987) *Structural Equation Modeling with LISREL*, The Johns Hopkins University Press.

Holland, C. P., G. Lockett, et al. (1994). 'The evolution of a global cash management system.' *Sloan Management Review* Fall: 37-47.

Håkansson, H. (1989) *Corporate Technological Behaviour: Co-operation and Networks,* Routledge. London.

Håkansson, H. and I. Snehota (1995). *Developing relationships in business networks.* London, Routledge.

Jap, S. 1999 'Pie-expansion Efforts: Collaboration Processes in Buyer-Supplier Relationships', *Journal of Marketing Research*, XXXVI, November, pp. 461-475.

Jones, C., W. S. Hesterly & S.R. Borgatti (1997). 'A general theory of network governance: exchange conditions and social mechanisms.' *Academy of Management Review* 22(4): 911-945.

Jöreskog, K-G. and Sörbom, D. (1993) *LISREL 8: Structural Equation Modelling with the SIMPLIS Command Language.* Lawrence Erlbaum Associates Publishers, Hillsdale, NJ.

Kalwany, M.U., & N. Narayandas. 1995. Long-term manufacturer-supplier relationships: Do they pay off for supplier firms? *Journal of Marketing*, 59 (January), 1-16.

Beamish, P.W. and J.P. Killing, (eds.) (1997) *Cooperative Strategies, vol 1-3,* San Fransisco: The New Lexington Press.

Kollock, Peter (1994) 'The Emergence of Exchange Structures: An Experimental Study of Uncertainty, Commitment, and Trust', *American Journal of Sociology*, 100, 2(september), pp. 313-345.

Leland, H. E. and D. H. Pyle (1977). "Informational asymmetries. financial structure, and financial intermedation." *The Journal of Finance* XXXII(2).

Lord, Frederic, M. and Melvin R. Novick, 1968, *Statistical Theories of Mental Test Scores*, Reading, MA: Addison-Wesley.

Murtha, Thomas, P., Stefanie Ann Lenway, and Richard P. Bagozzi (1998), "Global Mind-sets and Cognitive Shift in a Complex Multinational Corporation", *Strategic Management Journal*, 19, 97-114.

Nohria, N. and C. Gracia-Pont (1991). "Global strategyic linkages and industry structure." *Strategic Management Jorunal* 12(Summer Special Issue): 105-124.

Petersen, M. A. and R. G. Rajan (1994). "The benefits of lending relationships: Evidence from small business lending." *The journal of finance* XLIX(1): 3-37.

Powell, W. W., K. W. Koput, et al. (1996). "Interorganizational collaboration and the locus of innovation: Networks of learning in biotechnology." *Administrative Science Quarterly* 41(1): 116-145.

Prahalad, C. K. and G. Hamel (1990). "The core competence of the corporation." *Harvard Business Review* May-June(79-91).

Reinartz, W.J. & V. Kumar (2000) 'On the Profitability of Long-Life Customers in a Noncontractual Setting: An Empirical Investigation and Implications for Marketing', *Journal of Marketing*, 64, October, pp. 17-35.

Salancik (1995) 'Book Review of Ronald Burt's Structural Holes: the Social Structure of Competition', *Administrative Science Quarterly*, 40 (2), pp. 343-359.

Sasson, A. (2000). Inter-customer relationships and bank performance: A network perspective, The Norwegian School of Management, BI.

Sheth, Jagdish N. and Parvatiyar Atul (1995), "Relationship Marketing in Consumer Markets: Antecedents and Consequences," *Journal of the Academy of Marketing Science,* 23 (fall), 255-269.

Stabell, C. B. and Ø. D. Fjeldstad (1998). "Configuring value for competitive advantage: On chains, shops, and networks." *Strategic Management Journal* 19: 413-437.

Storbacka, K. (1994) The Nature of Customer Relationship Profitability, Helsingki, Swedish School of Economics/ CERS Centre for service research.

The Economist (2000-10-11)

Thompson, J. D. (1967), *Organisations in Action*, New York: McGraw-Hill.

Tyre, M.J. and von Hippel, E. (1997), 'The Situated Nature of Adaptive Learning in Organizations', *Organization Science*, Vol. 8, No. 1, pp. 71-83.

Uzzi, B. (1997). "Social structure and competition: The paradox of embeddedness." *Administrative Science Quarterly* 42: 35-67.

Uzzi, B. (1999). "Embeddedness in the making of financial capital: How social relations and networks benefit firms seeking financing." *American Sociological Review* 64: 481-505.

Uzzi, B. and J. J. Gillespie (2001). Social embeddedness and corporate finance: The benefits of network transitivity in trade credit financing. Working Paper. The Kellogg Graduate School of Management.

Waluszewski Alexandra (1989), Framväxten av en ny mekanisk massateknik. Diss., Department of Business Studies, Uppsala University, Uppsala, Sweden

Wedin Torkel (2001), Networks and Demand: The Use of Electricity in am Industrial Process, diss. Department of Business Studies, Uppsala University, Uppsala, Sweden

Williamson, O.E. (1985), *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting,* New York: Free Press.