

Networks, NetWorks, NETWorks, NETWORKS

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ABSTRACT

Business networks are having different characteristics and building blocs when looked upon from diverse perspectives. In this paper the aim is to highlight some aspects of the multi-faceted nature of business networks in marketing between industrial companies especially. A model is used as a base for discussing different networks in business settings. Thereafter some implications for research and practice is put forth.

1. INTRODUCTION

Many times when reading about business networks one does reflect about the complexity of the term 'networks' in business. The term is used in a many ways and in many contexts today within marketing science not to mention other social sciences. This holds when we look at different approaches where network terms are used as core concepts in trying to highlight how networks affect business encounters. Technological networks (Håkansson 1987, 1989), infrastuctural networks (Hallén 1992), regional networks (Christensen et.al. 1990, Dicken 1992), industrial networks (e.g. Hägg & Johanson 1982, Ford 1990, Forsgren & Johanson 1992) and strategic networks (Jarillo 1993) are examples of diverse streams of research all closely related to studies about business networks from specific angles and perspectives. In a sense I think one sees at different sides of a dice when using these various concepts about networks. On the other hand one is probably missing the point about understanding the whole *and* its parts in a coherent manner when specifying a certain perspective in this way. I try to look at these different approaches to networks and at the end to build a tentative model about how research could (or if it could) be affected by such a total view. The paper starts by looking briefly at these above mentioned approaches concerning business (or industrial) networks and their core constituents. Thereafter an examination and analysis is made dealing with different network types used in the literature concerning business networks in business-to-business settings. A model dealing with the embedded nature of networks is thereafter presented and finally comments about research methods is made based on the foregoing discussion. The paper is heavily based on a conceptual discussion and empirical examples are given briefly as illustrations. I use mainly the European and especially Nordic research in this paper as a base.

2. THEORETICAL PERSPECTIVES ON BUSINESS NETWORKS

Theory about marketing in the form of relationships and networks is forming the core paradigm in the field of today. However networks are not easily grasped entities or realities surrounding the business community.

Johanson and Forsgren (1992) are inclined to view business networks as their own entity not connected to other forms of networks:

"Business networks differ from social networks and from networks in general - by being coupled to business activities" (Forsgren & Johanson 1992, 5.)

In being symphatetic in general to the authors' writing about networks I am still strongly inclined to believe that business networks are in fact very closely also a part of social

networks. This concerns also relations to other kinds of networks. When focusing on one type of networks these are here seen as a special kind of socially embedded networks formed by key actor relationships. These key actors are forming the hub and the relationships to other actors and network members form the spokes in a network.(see fig. 1.)

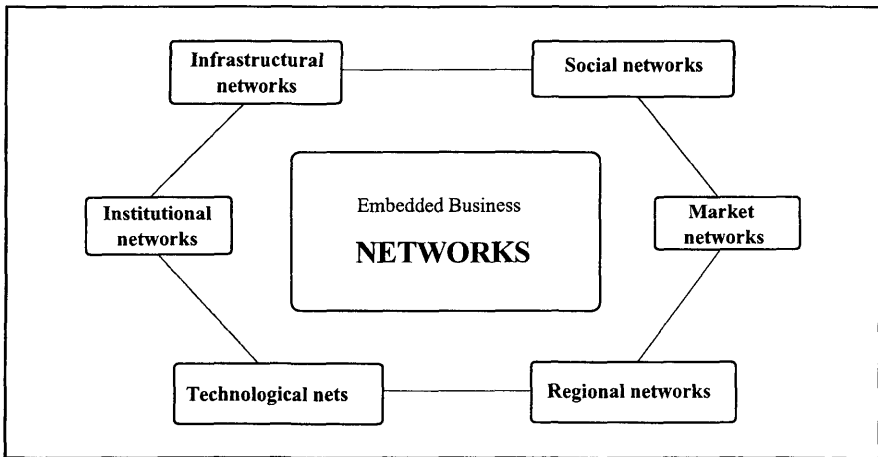


Fig. 1. - Different Types of Networks Coupled to Business Activities
Source: Based on Törnroos 1995

In order to understand how business networks work one has to gain insights about the social setting - for example cultural and social processes - that guide and explain e.g. how trust and commitment among business actors has been materialised. Therefore we cannot avoid e.g. social networks in business network research. In fact social networks are always embedded into business networks. Business networks are interconnected activities performed by business actors in order to reach business objectives (Hägg & Johanson [eds]. (1982). Performing activities forming activity links and chains which tie the actors together form the basic principle explaining the core role of actors, activities and resources (Håkansson & Johanson 1985). Business networks are here the main type of networks we are interested in, that is the "hub" referred to above. This main focal business net is, however, also embedded into other structures and networks in society (and often also *vice versa*). Institutional actors i.e. political or related actors at the local, regional and national levels are important. This is also the case, for example in Europe today, when the actors at the Union level have important functions. Connecting resources

with the business interests of the firm is very clearly manifested through lobbying and can be seen as a part of business as well. In this way these different types of networks become - directly or indirectly - a part of the business network (cp. Hallén 1992 and the dimension below concerning infrastructural networks).

The model presented above is based on those networks which are coupled mainly to business activities and have close connections to these. In telling this one has still to remember that also business networks vary and change over time, space and in different contexts (e.g. industry, competitive situations and so forth). The different network types are hereafter evaluated in how they can exert an influence on business networks and how they can be seen as embedded into these. The presentation related to the model starts from the 'smallest' but in many ways from the most important 'network type', that is the social relationships.

2.1. Social Networks

Social interaction and communication is of paramount importance when dealing with different network types and actors connected to business. This is, almost without exception, the case when dealing with socially constructed phenomena in society. New types of actors emerge (in a faster pace than before, it seems, in many cases) having an important role to play in today's business nets. Environmental groups, new consumer groups, deviating social groups, private entrepreneurs and relationships between large and small firms in the production network are some examples of social (or closely social-bound) networks affecting a business. Also complex relationships between different types of networks exist (see section 3 below). Social networks are always present when transferring value in the form of knowledge, technology and other skills within the business network. This is especially important when dealing with critical incidents and change processes in networks) decision makers are always human. The social organisation and social processes together with communication forms the social setting and influences strongly the development of the network. (cp. Granovetter 1973, Scott 1990). Social networks are dealing with the interconnected exchange relationships which exist between the socially embedded actors in business networks. In this sense the concepts of culture (in international encounters especially) as well as how to create trust, commitment and a favourable atmosphere are basically social constructs concerning business networks. Trust is the combined sum of socially developed ties between individuals through experience and business histories. It is enhanced and created by social interaction. Managers doing business are transferring trust into the organisation and between organisations. Commitment can be said to be a result of trust as well. Another perspective is that commitment is seen as a internal promise to "go for" certain actions in connection with one (or more) business counterparts for joint action (or

enhancing/delivering goods, services, technology, management know-how and the like). Commitment also means to tie oneself up with specific business counterparts and exclude, in many cases, others. Atmosphere is seen as the social "feeling" which is created by business interaction between the dyadic counterparts in industrial business markets - at a certain point in time (Håkansson 1982). This can be understood as the joint term denoting the "state of trust and commitment" and social understanding or social cohesion between the actors in a business network at one point in time. In this sense the social networks lie in the heart of business networks. Understanding the social behaviour of business actors is a core perspective in business networks. The role of *representation* might be added as well (Halinen & Törnroos [forthcoming].) This concept relates to the role played by certain persons/actors in a business setting, e.g. within a specific type of industry. Certain key persons are representing a specific firm and in some cases also are top managers within a certain industry and "represent" strongly the know-how, image and skills acquired through earlier bonding and commitment.

2.2. Networks and Technology

The role of technological aspects in business marketing is seen as crucial in many studies. In the business networks stream of research the two books written and edited by Håkansson are well known (Håkansson (ed.) 1987, Håkansson 1989). Technology forms one basic competitive edge in many industries and can be materialised through intensive co-operation between firms possessing various heterogeneous skills and competencies which are interconnected through technological interaction. In certain fields technological co-operation is especially important (high-tech, computing, electronics, and so on). Connecting heterogeneous skills and competencies can be self-enforced or enhanced by various means by institutional actors. Creation of industrial estates and technopoles as well as forming entities between universities and business firms exemplify this. Technological value creation and the use of new and "edge technologies" both in process, product and market(ing) terms is a strong force in networking. It creates also strong bonding and mutual dependence in some cases. Technology seems also to be strongly interlinked to specific areas/regions where the innovations emanate from (see section below).

2.3. Geographical and Infrastructural Networks

Geographical (or regional, spatial) networks look at how business networks are located in different places and in relation to each other and how this location affects business interaction and its international and regional setting. Araujo and Easton use the notion of

"networks in economic geography" (Araujo and Easton 1996). To my mind the notion "Corporate geography" is in this specific context a more appropriate term to study this specific phenomenon concerning business network location of corporations. Networks do not exist without their spatial context and it can be argued that space and location means a great deal for business success in contemporary marketing and internationalisation of the firm (Conti 1993, Maskell 1990). Recent developments in Eastern Europe and in Pacific Asia clearly demonstrate the need to be located actively in growing markets in order to tap diverse forms of resources and new and emerging and in many cases expanding markets. Contacts through networks of interpersonal relationships both at the political as well as the individual firm level is crucial in order to survive both in e.g. Eastern and Central Europe as well as in China and the Pacific of today. In the literature in economic and corporate geography the regional networks have been dealt with in a many-sided way. One aspect has been the success of regional business networks in certain specific areas (The so called 'Third Italy', the Rhône-Alps region, Baden-Württemberg, Route 128 and Silicon Valley in the USA and e.g. the Johore Triangle around Singapore and the Special Economic Zones in the coastal China). Ann Markusen (1997) names these as being "Sticky Places in Slippery Space".

The success in many cases can be explained by regionally specific cultural ways of creating successful networks of relationships between companies in business. Producer-subcontractor relationships, the use of new technology and using the cultural base in the region in accomplishing successful business systems (cp. Whitley 1989, Whitley 1992)

Another perspective put forth by the regional network research has been the use of flexible modes of production. In doing this the change from economies of scale has been replaced by focusing on the use of economies of scope. This mode of production which has made it possible to flexibly and quickly respond and tailor-make the specific tastes and changes in consumers and buyers specific needs. (Christensen *et.al.* 1990, Dicken 1992, Piore & Sabel 1984).

Third, the role of new technology is seen in this research to be of critical importance in being able to; (i) transmit and transform the needs and desires into the production plants and vice-versa, and (ii) to be able to process the production and logistics to the market efficiently. This has been named the "flexibility debate" or the "new industrial districts" discussion within corporate geography.

A fourth perspective is the global-local interface which has been explained as a reason for being able to efficiently combine the interdependence between the global and the local. The (national level seems in many ways to be of minor importance today in many parts of the world). The rise of regional economic couplings and regional markets on the supranational level form one aspect of the "regionalisation" of the business environment. The other consequence of the "borderlessness" within the borders of the EU, for example, has been the rise of local economics and networks between business partners in the value chain (Ohmae 1995).

An additional aspect has been the vertical disintegration of MNCs which has created more locally and regionally based business networks between large and smaller corporations (cp. Castells, 1996, Harvey 1996 in order to look more in detail into these developments within the field of geography). The line of inquiry into business networks within corporate geography is taking mostly their studies to understand *production* over space and how production is organised in the regime called "flexible accumulation". Many theoretical constructs and aspects are in many writings taken from a structuralist framework and vocabulary.

Infrastructural networks is a more tricky issue and the concept clearly relates to the aforementioned regional networks. Hallén (1992, p. 77-79) postulates that infrastructural networks are contact networks formed mainly through personal access which can be used for diverse business uses. He does not discuss the regional or spatial networks which also can in one sense be defined as infrastructural networks and forming a web of actors and institutions and built environments for business purposes. We can therefore say that there exist personal infrastructural networks as well as physico-geographical infrastructural networks which both are used as integral parts of business in a "networking" sense.

2.4. Institutional and Political Networks

Institutional networks are embedded into business networks as well. Social-institutional actors form the web of relationships to handle in order to do business. In some points in time (e.g. in doing major investments) these actors are forming core players coupled with business interests. In dealing with these social assets as well as communicative and economic skills are needed in order to reach common objectives. Institutional networks are closely related to social networks, because they form an social network of their own. "Social networks are interpersonal communication structures that lies in the heart of all kinds of human-made networks" (Scott 1991, Ch. 1). Networks in business do not diverge from this fact, that they are social and "Man made" to their nature, to a great extent. In this specific case the connected institutional actors have specific configurations. Political actors (locally, regionally, nationally and supra-nationally [e.g. the EU]), environmental groups, communication and media as well as core business actors in the web are interconnected and play - in specific cases - different roles, directly or indirectly, within a specific business context at a specific time. This is just to name a few socially functioning players in a hypothetical sense. The Greenpeace' campaign against't the Finnish forest industry in the 1990s form a good example. Lobbying in Brussels is another and having close links to political groups on the local level is well known.

2.5. Networks, NeTwOrKs, NETworks....

Araujo and Easton (1996) are also taking the discussion about research approaches into networks to the fore. Their aim is to try to make an overview of different research approaches to networks in the economic and social sciences. They are dealing with the approaches into networks in trying to build an taxonomy by looking at how networks have been used in the different approaches presented.

Their approach is more an overview not looking specifically at business networks and how they are related to the other networks existing simultaneously in conjunction with business networks. The nested and embedded relationships which exist as a reality and interdependently with each other is the focus of this paper. This is the reason why the headline is created here the way it is. Business networks are not solely "business" but coupled to social, technological, geographical, infrastructural and institutional networks in international marketing networks, for example, in a specific way. In another temporal (and spatial) sense one can add that the composition of the embedded nature of a business network varies - at seemingly faster rate than before due to technological change and internationalization and new forms of competition.

One is inclined in this context to strongly support the powerful but complex concept of embeddedness in trying to come to terms with business networks and other forms of networks directly or indirectly being a part of the business net (Granovetter 1973, 1985). How embeddedness works in a specific business context in time and space and related to the existing networks should highlight the diverse role and interconnectedness of networks for business success. Indirect and direct network links to the different kinds of existing networks could be one key to grasp embeddedness.

Networks can be seen to have *structural* as well as *social* (and/or cultural) aspects existing as important parts of networks. Temporality should be one key issue in being able to trace the processual nature of business networks and change (as well as stability). Historical, present and future temporal modes should be taken into account when doing research and in order to understand the evolution of networks and e.g. how trust and commitment has been manifested in business networks.

The structural aspects are easily traceable and more straightforwardly understood aspects of business networks. The social aspects are to a larger extent invisible and traceable through qualitative understanding by the researcher in specific network settings. Trustbuilding, atmosphere, relation-bound investments, personal bonds etc. are important parts explaining the existence of networks but still needs elaborate measures and understanding in order to be researchable.

Different kinds of relationships in business networks exist often simultaneously. The relationship concept has a crucial role to play, and is in turn multifunctional. The relationship concept is an important issue of its own (see e.g. Holmlund & Törnroos 1996).

3. A MODEL OF EMBEDDED NETWORK RELATIONSHIPS

Taking the embedded nature of relationships as a starting point when studying networks one could discuss the existence of social relationships within a business network as one important part of a business network. Institutional and political relations, regional and locational aspects and infrastructural contacts as well as technologically based actors forming a web of relationships in a business setting all play their role in a business network. Using the perspective as indicated by Forsgren and Johanson would still mean that the interconnectedness between different types of networks within the business setting prevail and is, directly or sometimes indirectly, a part of the business network (see fig 2.)

This model puts forth the networks within and between different kind of actors embedded into business networks in various ways. In this conceptual paper the empirical content is not yet put forth. It surely is also a complex task to perform.

Examples can be given where these modelled network structures come into play more or less overlapping in real-life business contexts. The following example comes from a Nordic business entry and development in Estonia recently.

When Western business took off in Eastern Europe after 1989, the largest Finnish brewery Hartwall together with the Swedish Brewery Pripps (Procordia) took over Saku breweries in Estonia. In this specific case one could see clearly the interdependence and the existence of different kinds of networks in relation to the core business network. Institutional and political actors in Estonia were decisive at the startup-phase. Technology and core competence as well as managerial skills were also present when the old technology from the Helsinki brewery was set up at the plant in Tallinn. Regional and locational networks were established as the new brewery was set up and new markets were found. (Transports, marketing nets, logistical issues were part of this establishing phase of different networks). This short story tells about the existence of different kinds of networks in the entry process. In fact it also tells a lot more. It tells about the temporal perspective and change in networks. At some points in time certain actors are more important than others in a network (e.g. political actors in the EU or Eastern Europe or

other "institutional actors" in the Pacific who act as gatekeepers for business at the first entry phase). In another situation the technological actors might be in the fore, e.g. within the case of building a new market for mobile phones in China, for example. In some cases the institutional and political nets lose their importance and other more business-related networks come into playing the major role in networks. Due to changes in the macro-environment and through new legislation etc. these actors can again get a core position directly or indirectly for the business.

To sum up. Business networks are embedded into political networks, social networks and to infrastructural nets. Depending on the situation social networks representing one or a few or all these network actors are a part of business networks and influence directly or indirectly their power through strong or weak ties, depending on the situation.

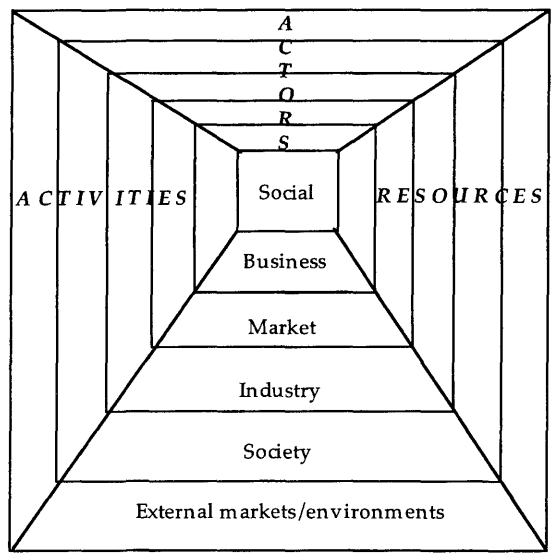


Fig. 2. The Pyramid of Relations Between the Social Actors and Other Settings in Business Network Relationships

The pyramid aims at showing the top and core role played by individual decision makers and groups forming the "top" and core of all types of socially constructed networks and their embeddedness. Where all stand is finally the human and physical environment with all its collective and combined resources. The base in the pyramid is located "further away" from the actual business deals/decisions and form one type of setting and a

'possibility structure' for the actor firms (Strandvik & Törnroos [forthcoming]). Possibility structures are seen as those possibilities a firm is perceiving as possible contacts in relation to their business at a certain moment. One could say it is their 'mental map' concerning in seeing the landscape of potential business partners. This pyramid extends the notion of networks as an "opportunity space" where actors, activities and resources are said to exist in a multi-layered existence.

4. SOME METHODOLOGICAL QUESTIONS AND PROBLEMS

Methods in dealing with both embeddedness and change as well as delimiting a study concerning industrial or business networks is a tricky issue. Some main points derived from the previous discussion is commented here.

The first problem concerns stability and change aspects in business networks. In order to come to terms with change and processes - that is how networks change over time has to take into consideration longitudinal methods and methods that can cope with change and evolution (processual analysis). This means that the research also takes a long time and accordingly needs a lot of investments from the researchers.

Second. The role of temporality is further complex, because both historical and situational factors as well as future expectations often affect relationships in business networks. This means consequently that the research should be made taking different temporalities into consideration when doing research and gathering, and analysing data (Halinén & Törnroos 1995).

The role of embeddedness is a problem as well. In a research setting dealing with core actors in a business network many actors can be seen to be embedded and affecting a business network at different times and in different ways. These interconnections and changes and influential persons and/or groups can in some cases be a problematic issue to tackle and delimit however carefully you try to delimit your study. Delimitation is important but difficult in networks research because everything is so much interconnected, and it can sometimes be difficult to separate effects by just not noting them!

Trying to give a holistic view of how the embedded nature of different actors is affecting the development of a business network is problematic as indicated above. This forms one methodological obstacle as well. This is the case especially in extensive studies among many business enterprises and actors. This kind of a holistic study could be made only within a limited number of cases.

These form some very crude problem-areas in a methodological sense. There are many more, which deserve a more thorough analysis separately.

5. CONCLUSIONS

Forsgren & Johanson distinguish business networks from social nets (Forsgren & Johanson p. 5) and from strategic networks (op. cit. p. 7.) In this paper this is disputed on the grounds of the existence of embeddedness and connections between these different network structures as indicated in fig. 1. Also in reality one can find good examples of how these networks are seen as a part of business networks directly or indirectly.

Theoretically we might need a more solid conceptual ground and holistic models to deal with the embedded nature of business relationships and networks (Halinen & Törnroos [forthcoming]). Methodologically the change and development phases should be highlighted in order to get a clear picture of existing different networks and actors having an indirect and direct impact on the business network. This means having a close access to the companies studied and their range of relationships to the different actors.

It has been said that the borders between regions, nation-states and between organisations are more elusive today than during the sixties and seventies (Ohmae 1995). This has many reasons. One being the end of the cold war. Other is the new regionalisation of the world economy to the Triad. Another feature is the new international interdependence. The role of the new information technology and the formation of "global villages" is another dimension. The rise of regional economies and couplings is an additional outcome of recent business and structuring of business in certain "sticky" places especially. The role of the environmental perspectives should either be forgotten. This relates to the "environment" in the pyramid model above. Environment can be seen as being located in many parts of the pyramid creating an "opportunity structure" to be seen and handled in its own right.

Business is ultimately embedded in the constitutions of societies where the firm operates - an into larger entities like the EU, for example. In the second perspective firms are embedded into their business, markets, industry and competition. The opportunities are mainly located in the region(s) where the networks operate and function. Additionally networks are embedded in the social geography of the core business actors within the context where a firm is operating. This forms the intra-micro perspective where trust, commitment and atmosphere and the final decisions are made within business and other forms of networks. In the international marketplace the cultural aspects come into the

fore as decisive in order to be connected to and manage business in the Pacific Asia, Eastern Europe or NIEs in Latin America, for example. The ultimate role is centered around the decision making managers. They cannot escape the cultural heritage and organisation of their societies - and their networks. This is mainly the case within a specific market where strongly culturally based business systems prevail (Whitley 1989, 1992). Concerning networks and culture see Sandström 1992, Törnroos & Möller 1993, esp. pp 114-119.) The hypothesis here being the fact that core actors and their representational role and access to strategic resources forms the hub of the management of relationships (Fig. 3).

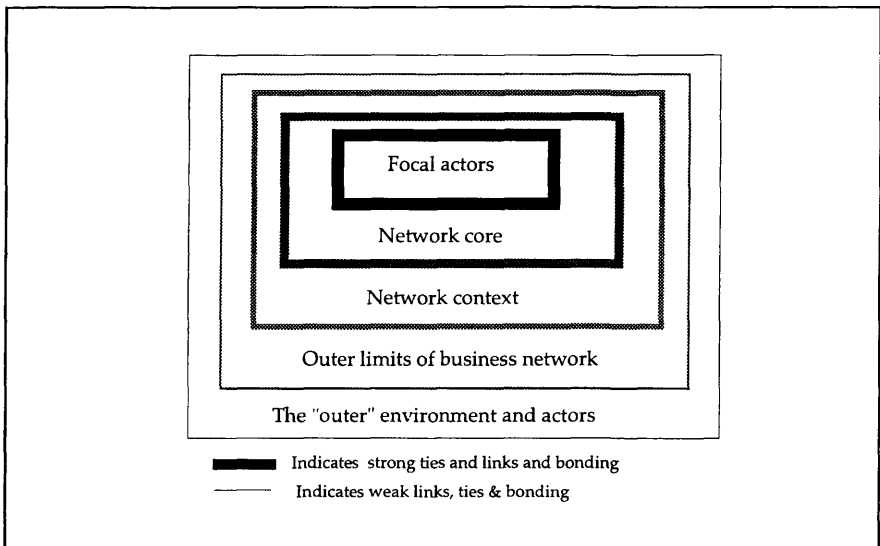


Fig. 3. A Representation of Network Embeddedness

In connection to the model and previous discussion following points are finally put forth:

1. the networks inner circle - at a certain point in time is constituted of the core actors. These form the decisions mutually in order to start, maintain, enhance or possibly to terminate relationships. These core actors vary depending on the situation, the specific problem to be handled, and so on.
2. The network core is defined in the model as the existence of other core actors (individuals and departments within the interconnected companies)

3. The network context is defined here as the industry and market where the actors in the interconnected network operate (competitors, distributors, service organisations and possible institutional actors) connected to the focal business network in question.

4. The "outer limits" constitute of identifiable actors who are outside the core business but parts of the industrial and market organisations who can indirectly, and in some cases directly influence the other inner network members and their activities. Organisations and groups like *Greenpeace*, industry organisations, trade unions, consumer groups, political organisations and the like who are in the "fringe" of the interconnected business network are indicated here.

5. The ultimate environment is defined here as the other environment which lies "outside" the business networks and is seen as mainly secondary for the actors in the business network.

This model indicates that the "weak links" as presented in the model as the fringe networking landscapes, in fact are the keys in many cases to innovation and change in creating new products and/or services.

REFERENCES

- Castells, Manuel (1996) *The Rise of the Network Society*. Blackwell Publishers, Cambridge, Mass.
- Christensen Poul-Rind *et.al.* (1990) Firms in Network: Concepts, Spatial Impacts and Policy Implications. In Illeris Sven & Leif Jacobsen (Eds.), *NORDREFO 1990:1 Networks and Regional Development*. pp. 11-58.
- Conti, Sergio (1993) The Network Perspective in Industrial Geography: Towards a Model, *Geografiska Annaler Series B•Human Geography*, Vol. 75 No. 3. pp. 115-130.
- Dicken, Peter (1992) *The Global Shift. Internationalization of economic activity*, Paul Chapman Publishing, London.
- Forsgren, Mats & Jan Johanson (1992) Managing Internationalization in Business Networks. In *Managing Networks in International Business*, Ed. by Mats Forsgren & Jan Johanson. Gordon & Breach, Amsterdam, pp. 1-18.
- Granovetter, Mark (1973) The Strength of Weak Ties. *American Journal of Sociology*, 78 (6), 1360-1381.
- Granovetter, Mark (1985) Economic Action and Social Structure: The Problem of Embeddedness, *American Journal of Sociology*, 91, 481-510.
- Halinen, Aino & J-Å Törnroos (1995) The Meaning of Time in the Study of Industrial Buyer-Seller Relationships. In: *Business Marketing: An Interaction and Network Approach*. Ed. by Kristian E. Möller & David T. Wilson, Kluwer Academic Publishing Co., USA. pp. 493- 529.
- Halinen, Aino & Jan-Åke Törnroos (1997) The Role of Embeddedness in the Evolution of Business Networks. Forthcoming in; *Scandinavian Journal of Management*.(in press).
- Hallén, Lars (1992) Infrastructural Networks in International Business. In *Managing Networks in International Business*, Ed. by Mats Forsgren & Jan Johanson. Gordon & Breach, Philadelphia, pp. 77-92.
- Hamel, Gary & C. K. Prahalad (1994) *Competing for the Future*,. Harvard University Press. N.Y.

Harvey, David (1996) *Justice, Nature and the Geography of Difference*. Blackwell Publishers, Cambridge. Mass.

Holmlund, Maria & Jan-Åke Törnroos (1997) What are Relationships in Business Networks?. Forthcoming in *Management Decision*, (in press).

Håkansson, Håkan (ed.) (1982) *International marketing and purchasing of industrial goods - an interaction approach*, John Wiley & Sons, Chichester.

Håkansson, Håkan (ed.) (1987) *Industrial technological development - a network approach*, Croom Helm, London.

Håkansson, Håkan (1989) *Corporate technological behaviour. Co-operation and networks*, Routledge & Co. London.

Håkansson, Håkan and Johanson, Jan (1985) *A model of industrial networks*. Working Paper, Department of Business Administration, University of Uppsala.

Hägg, Ingemund & Jan Johanson (eds.) (1982) *Företag i nätverk*, SNS Förlag, Stockholm.

Jarillo, Carlos J. (1993) *Strategic Networks. Creating the Borderless Organization*. Butterworth-Heinemann Ltd, Oxford.

Maskell, Peder (1990) Netværksbegrepet i økonomisk geografi. *Nordisk Samhällsgeografisk Tidskrift* Nummer 12, pp. 3-12.

Scott, Allen J. (1990) *Flexible Production Systems and Regional Development. The Rise of New Industrial Spaces in United States and Western Europe*. Illeris, Sven & Leif Jacobsen (Eds.) *NORDREFO 1990:1 Networks and Regional Development*, pp. 59-77.

Scott, John (1992) *Social Network Analysis. A Handbook*. Sage Publications, London.

Strandvik, Tore & Jan-Åke Törnroos (1997) "Discovering Relationscapes - Extending the Horizon of Relationship Strategies in Marketing" Paper to be presented at the AMA Conference in Dublin, June 12-15th, Dublin Ireland.

Törnroos, Jan-Åke (1995) *Business Development in Estonia - A Network Approach*. Skrifter utgivna av Svenska handelshögskolan, Meddelanden (300) 1995.

Törnroos, Jan-Åke & Kristian K. E. K. Möller (1993) The cultural factor and the formation of international business relationships in industrial markets, In Advances in International Marketing, "Industrial Networks", Ed. by D. Deo Sharma, JAI Press, Vol. 5, Greenwich, Conn. pp. 107-121.

Whitley, Richard (ed.) (1989) European Business Systems. Firms and Markets in their National Contexts. Sage Publications, Guildford & Kings Lynn.

Whitley, Richard (1992) Business systems in East-Asia. Firms Markets and Societies. Sage Publications, Bristol.

