

Networks and networks:
Social network theory vs. the IMP tradition
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A theoretical discussion

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Abstract:

Inter-organisational networks can be analysed from different theoretical perspectives. Two prevalent approaches are social network theory and the IMP approach. The first employs a liberal understanding of inter-organisational networks, including for instance potential partners in the second degree of separation as part of the network of an organisation. The latter is employing a more strict perspective, which focuses on a build-up approach to inter-organisational networks: networks consist of established relationships between the organisations, and the relationships are based on continuous interactions between the organisations. By listing a number of morphological and interactional characteristics of networks it is stated that the IMP approach is excluding some significant aspects of inter-organisational networks. However, due to the analytical advantages of the IMP approach, it is argued that an eclectic approach should be employed.

Keywords: Inter-organisational networks, relationships.

1. INTRODUCTION

Inter-organisational networks are not just inter-organisational networks. Literature shows that the use of the term is by no means monolithic. The understanding and perspectives on networks differ substantially and the theoretical framework provided by these different strings of literature is by no means identical.

The central consideration behind this paper is whether the substantial difference between the various approaches forces researchers of inter-organisational networks to choose one approach and totally ignore the other approaches in their analytical framework. Alternatively, could a more eclectic approach, which includes the strong sides of different approaches, be condensed?

Two approaches to inter-organisational networks which by first sight differ substantially and do not seem compatible are the Industrial Marketing and Purchasing (IMP) Group and the Social Network Theory. The IMP approach, which is presented by some excellent studies by for instance Haakansson, Ford and Ritter (Ford et al. 1998; Ford & Haakansson 2005; Gemünden, Ritter, & Heydebreck 1996; Haakansson 1990; Haakansson & Ostberg 1975; Haakansson & Snehota 1989; Ritter & Gemünden 2003a; Ritter & Gemünden 2003b), describe a perspective on inter-organisational networks that focuses on the immediate and visible characteristics of the relationships between the organisations. On the other hand, the approach of Social Network Theory employs a more subtle and indirect perspective on inter-organisational networks. Researchers employing Social Network Theory are for instance Granovetter, Uzzi, Burt and Powell (Burt 1992; Burt 1980; Granovetter 1973; Granovetter 2001; Owen-Smith & Powell 2004; Powell 1990; Powell, Koput, & Smith-Doerr 1996; Uzzi 1997).

In continuation of the considerations above, the research questions of this paper are:

- *In what ways does the Social Network Theory approach differ from the IMP approach to networks?*
- *Can the two approaches to networks coexist in one, inter-organisational analytical frame?*

2. SOCIAL NETWORK THEORY AND THE IMP APPROACH

This section will present both the Social Network Theory and the IMP approach to inter-organisational networks.

2.1. Social network theory and inter-organisational networks

Since Barnes (1954) introduced the term *social network*, the notion has been described and developed in numerous studies (Bott 1956; 1957;Epstein 1969;Mayer 1961;Udry & Hall 1965). These studies present some of the elements and features of social networks. One of the most comprehensive and systematic discussions of the characteristics of social networks is put forward by James Clyde Mitchell (1978). In his seminal article, Mitchell categorises the characteristics in two: 1) Morphological characteristics, which refer to the relationship or patterning of links in the network in respect to one another, and 2) Interactional characteristics, which refer to the nature of the links themselves. These different characteristics will be described in detail below.

2.1.1. *Morphological characteristics*

The morphological characteristics can be divided into five sub-categories: anchorage, density, reachability and range.

- a) *Anchorage* refers to the person or persons, who initiated the network, and the persons that are or have been member of the network. This demarcation line between the network and the remaining society opens up a number of considerations. Thus it can be questioned whether one can talk of *a* network because this indicates the existence of *a* boundary between the network and the remaining world. This boundary tends to be somewhat arbitrary, especially in inter-organisational settings where the employees of the participating organisations each have their own personal network. If these inter-personal networks are included in the inter-organisational network, the analysis will be extremely

comprehensive and difficult to handle. Mitchell concludes this discussion by stating that a network analysis has to be based on a distinction albeit the arbitrary character of this distinction.

- b) *Reachability* refers to how compact the network is in terms of the steps it takes to get in contact to a person from any given start point. A key term in this regard is the degrees of separation in the network (Barabási 2003): How many links does it take for one person to get to another person in the network?
- c) *Density* is aimed at the dimension that in graph theory is termed completeness. It is an indicator of the rate between actual links between the persons in the network and the total number of potential links. Density should not be confused with reachability: A network, in which 75 percent of the persons know each other first hand but 10 percent can only be contacted through an intermediary link, is rather dense but the reachability is quite low.
- d) *Range* describes the degree to which the links between the participants in the network are crossing social, economic, cultural etc. disparities. A person in contact with 20 other persons in the network with widely differing social backgrounds would have a wider range in the network than a person in contact with 20 persons of the same social background. In this regard, Granovetter's (1973) discussion of the *strength of weak ties* has a major importance. Thus, he describes how weak ties of an individual to for instance other social strata are more important than inter-stratum relations because the individual through the weak ties can access resources to which she could not get access through the strong ties.

2.1.2. *Interactional characteristics*

The interactional characteristics can be divided into five sub-categories: content, directedness, durability, intensity and frequency.

- e) *Content* regards the actual subject of the network: What is the network aimed at?
- f) *Directedness* is aimed at the reciprocity of the relationships in the network. One person might choose another person in the network as her friend without having her choice reciprocated. This makes the relationship a directed one. The nature of a network in which all the relationships are reciprocated is evidently differing from the nature of a network consisting of primarily directed relationships.
- g) *Durability* considers the lifetime of the network. The dynamics of a newly established network will often differ from a network with a long history.
- h) *Intensity* takes into account how committed the participants are to comply with the decisions of the network.
- i) *Frequency* is aimed at how often the participants are in contact with one another.

To sum up the Social Network Theory, the focus is on numerous of different aspects of interpersonal and inter-organisational relations. From the four morphological characteristics it becomes clear that a network is not a manifest and always observable phenomenon. The fact that persons that only know each other through two or more degrees of freedom illuminates that in a network people do not necessarily know each other.

2.2. The IMP aspects of an inter-organisational network

The IMP approach to network is to a large extent based on a build-up perspective on networks and network formation. The founding fathers of the IMP Group (Ford, Gadde, Haakansson,

Lundgren, Snehota, Turnbull, & Wilson 1998) analyse the relation between organisations as consisting of different bricks. On the lowest level, one finds interactions between the organisations. Such interactions are exchange of products, services, money or social “chit-chat”. In other words, interaction includes both inter-personal communication and interaction through delivery of physical products and services, information and payments (Ford & Haakansson 2005). These interactions are regarded as episodes in the total relationship between the organisations, which is the next level of relation between organisations. Thus, the relationship between two organisations consists of the previous episodes and the effect of these episodes on the future ones. The relationships of one organisation are tied up in a complex, interdependent network with a larger number of organisations – the broadest level of relation between organisations (Ritter & Gemünden 2003a). These organisations each have their “own” network, which make the network structure even more complex.

In addition to the build-up perspective, the IMP approach to inter-organisational networks emphasises the history of the relationships between the participating organisations (for instance in terms of trust) and, by this, the dependency on previous experiences (Blois 1999;Huemer 2004).

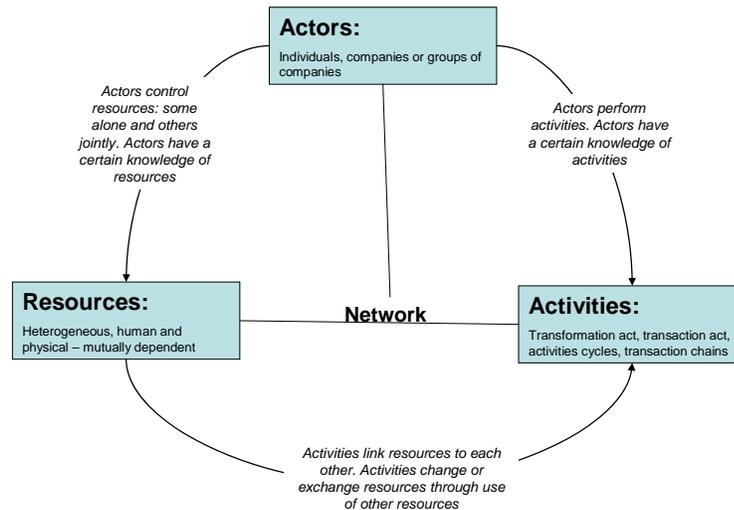
The level of analysis in the IMP approach is on an aggregate, organisational level and not on an inter-personal level. The focus in the build-up perspective is moving from individual relationships towards a wider structure, which can be coined ‘generalised connectedness’ (Haakansson & Snehota 1995). In this perspective one interaction in a relationship is often contingent upon interaction (or lack of interaction) in another relationship (Cook & Emerson 1978).

One of the prominent members of the IMP group, Haakanson, is defining a company and a network as:

A company is defined [...] as an actor that uses different resources to perform activities. It has relationships with a number of other units and these relationships link the company and other units together in a network structure. The relationships act as mechanisms that handle the various kinds of interdependencies generated by the activities and resources of the company being connected to and embedded in the activities and resources of the other actors” (Haakansson 1990) p. 371))

The three components and their relationships are illustrated in figure 1.

Figure 1: Network model (Haakansson 1990: 372)



Haakansson's ARA model of inter-organisational network consists of three characteristics:

1. *Activities:* Which activities are being carried out in the network?
2. *Resources:* Which resources are brought into the network by the different participants?
3. *Actors:* Which organisations and persons are involved in the network?

In the ARA model Haakansson includes the immanent interdependencies between the organisations involved in the network. Activities in two different relationships can complement each other if they are a part of the same activity chain. If not, they can potentially compete each other. Similarly, resources used, accessed or exchanged in one relationship can complement or compete with those used, accessed or exchanged in another relationship in which the organisation participates. And actors can use the existence of complementarity or competitiveness in their relationships in different ways as they interact with each other (Haakansson & Snehota 1989).

To sum up the IMP approach to inter-organisational networks, the focus is on immediate contact between the organisations and the history of the relationships, on which the network is founded. An inter-organisational network is to a large extent something observable and the organisations that participate in the network are as a point of departure very aware that they are a part of the network.

3. DISCUSSION

As it becomes clear in the description of the Social Network Theory and the IMP tradition, the understanding of and perspectives on inter-organisational networks are quite different and, at first sight, incompatible. This section will compare some of the central elements between the two approaches and condense the differences by employing the seminal Powell (1990) article on network, markets and hierarchies.

3.3. Inter-organisational relationships

The Social Network Theory represented by for instance Granovetter (2001), Mitchell (1978), Uzzi (1997) and Burt (1992) is occupying a liberal perspective on inter-organisational networks. Organisations can be embedded in relationships and previous interactions. However, networks can also be based on more transient and loosely coupling between the organisations. The *durability* characteristics described above is merely one aspect out of nine. If an organisation for instance has access to a structural hole through a broker that can link it to an interesting partner, this partner can be regarded as a part of the network of the organisation. In other words, it is not a presumption that the relation between to organisations has a long history (*durability*) as long as some of the other characteristics are present (for instance *reachability* and *range*).

The IMP approach and its prime focus on the build-up process from interactions, through relationships to networks differs from this liberal perception of inter-organisational networks. In this perspective one cannot talk about a network, which builds on relations between organisations that are completely new and perhaps not even established yet.

In the same vein some of the other interactional characteristics of Social Network Theory besides *durability* seem to contrast with the IMP approach. *Directedness* and *intensity* are two examples of characteristics which the IMP approach will most likely see as conditional characteristics rather than ordinal, high-low variables of an inter-organisational network. While Mitchell describes that a network can include directed inter-personal relations, in which one of the persons likes the other while the other dislikes or neglects the first person, the IMP approach represented by for instance Ritter & Gemünden (2003a) presumes reciprocity. If one

organisation has an aversion to another organisation, this will undermine or exclude the possibility of having a relationship and perhaps even interactions with that organisation.

3.4. Perspective on resources in the network

In continuation of the considerations above, the Social Network Theory differs substantially from the IMP tradition in its perception of resources within an inter-organisational network. The IMP tradition has its prime focus on the resources that each organisation brings into the network and the interdependency of these resources. The organisations can access and exploit each other's resources through the network and sum of resources in the network can actually become the most valuable resource that each of the network organisations possess (Haakansson & Snehota 1995). However, in the IMP approach the resources do not tend to be more than the sum of resources brought into the network by each participant.

Social Network Theory perceives the resources of a network as more than the sum of resources and the interdependency of the resources. The synergy between the resources is seen as a prime issue. For instance, Powell et al. (1996) describe how networks can be seen as learning networks in which the locus of innovation is found in fluid and evolving communities of the involved organisations. By the same token Granovetter's perceives weak ties between organisations as a key asset beyond the immediate sum of collective resources in the network. The resources are not just *brought into* the network – they are *generated in* the network.

3.5. Analytical focus

The analytical focus of the IMP approach is somewhat different from the Social Network Theory. While the IMP approach sees the organisation as the unit of analysis, Social Network Theory has a bias towards the inter-personal level. In order to understand the network of an organisation, social network analysis will include both the ego-network of the organisation leaders and other organisation employees, the intra-organisational network and inter-organisational network (Balkundi & Kilduff 2005). The IMP analysis, on the other hand is largely neglecting the inter-personal relationships and merely focusing on the 'generalised connectedness' described in section 2.

3.6. IMP and social networks in the hierarchy-market continuum

To sum up the discussion of the IMP vs. Social Network Theory, Powell (1990) and his description of networks as a third archetype of inter-organisational relation is included. Powell is describing networks as some sort of hybrid between hierarchy and market. As described above the inter-organisational network is not a monolithic term in literature and the Social Network Theory understanding of networks cannot be situated at the same point on the continuum between hierarchy and market as the IMP network understanding. Table 1 sketches how the IMP network approach and the Social Network Theory can be placed in the continuum.

Table 1: Forms of collaboration, derived from (Powell 1990)

	Hierarchy	IMP network approach	Social Network Theory	Market
Communication means	Routines	Direct	Direct and indirect	Prices
Communication density	Frequent	Frequent	Transient and sporadic	Transaction related
Source of resources	Standard operating procedures	Sum of resources in the network, resource interdependency and strong ties	Synergy between resources of the network partners and weak ties	Market dynamics
Methods of conflict resolution	Fiat/supervision	Voice	Exit	Haggling

The table describes how the IMP approach is closer to the hierarchy end of the continuum than the Social Network Theory. The IMP build-up perspective on inter-organisational networks seems to have some similarities to the formalisation and routines of the hierarchy. The prime source of network resource is the fact that the organisations involved are mutually dependent and that the resources of each organisation are interdependent. The IMP network will often be based on strong ties between the organisations involved and the organisations are most likely to communicate quite frequently in order to be able to coordinate common initiatives. Because the organisations involved in the network have often invested a lot of resources into the network in order to establish the strong ties to the other organisations, the participants will most likely

choose to use their voice in case of conflict rather than just exit from the network (Hirschman 1970).

Social Network Theory on the other hand is closer to the market end of the continuum. The community density can be more transient and sporadic than in the IMP network because the network structure does not presume direct and frequent contact. As described above some participants in the network might not even have met but can merely contact each other through structural holes and brokers. Thus the way to communicate can be direct if the relation to a particular organisation in the network is marked by high reachability on the morphological characteristics and high frequency on the interactional characteristics. However, substantial resources can be reached through weak ties and organisations in a higher degree of separation. Because of the transient and indirect nature of the social network, conflict is likely to be answered with an exit strategy from the network (or the participating organisations simply let themselves slip out of the network by not being active in the network). In this regard, the social network will have more similarities with the market logic.

4. CONCLUSION

The description of the IMP tradition versus the Social Network Theory approach to inter-organisational networks illuminates the answer for the first of the two research questions of this paper: *In what ways does the Social Network Theory approach differ from the IMP approach to networks?* The discussion section shows that both the overall understanding and definitions of a network differ between the IMP tradition and the Social Network Theory: The viewpoint on the composition of an inter-organisational network (for instance established relationships vs. structural holes), the perception of resources in the network (interdependency vs. synergy) and the analytical point of departure (exclusive focus on inter-organisational relations vs. a more comprehensive analysis of relations between organisation and surroundings).

The answer of the first research question leads to considerations about the answer for the second research question: *Can the two approaches to networks coexist in one, inter-organisational analytical frame?* As a part of the answer for this question, one could consider whether the IMP approach is outmatched by the Social Network Theory or vice versa. From the Social Network Theoretical perspective it seems like the IMP tradition only drags the tip of the iceberg into the light. By employing the build-up logic of inter-organisational networks, the IMP tradition neglects the fact that one organisation can actually succeed in finding hidden resources in the next degree of separation (for instance through a structural hole). The fact that an organisation can gain substantially by using weak ties instead of merely focusing on the strong ties is not a part of the IMP perception of networks. Furthermore, the IMP tradition tends to miss the powerful argument that the synergy between the resources of each participating organisation is often substantial – and that this synergy is generating resources beyond the sum of resources of each individual organisation.

In other words it could be tempting to exclude the IMP tradition from an analytical framework of inter-organisational networks. However, that is not the conclusion of this paper. The IMP tradition has some considerable advantages compared to the Social Network Theory. Firstly, applying a rigid Social Network Theoretical approach to a large number of organisations in a network poses some analytical challenges that could prove to undermine that practicability of the analysis. If all inter-personal and intra-organisational relations potentially relevant to the inter-organisational network should be scrutinised, the task would be immense in even a limited network with minor organisations. Just mapping social relations of each employee would be a huge task. By the same token, the analytical unit in the IMP approach is more clearly defined since the organisations which are involved in the network can be defined with relative ease: The build-up perspective makes it rather simple to identify the organisations that already have an established relationship with each other. The perception of Social Network Theory which opens up for different degrees of separation and structural holes makes it difficult to define *the* network in a decisive manner (see discussion of anchorage in section 2). Secondly, the IMP approach *is* an inter-organisational analytical framework which deals with managerial, marketing and organisational issues that might not be investigated in a social network theoretical approach, which has an inter-personal point of departure. In order to generate managerial implications from an inter-organisational network analysis, the IMP approach has some obvious advantages compared to the Social Network Theory.

Conclusively, this paper suggests choosing an eclectic approach to inter-organisational networks. This eclectic approach could feasibly employ the morphological and interactional characteristics

of the Social Network Theory and combine it with the analysis demarcation line of the IMP approach.

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