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THE ECONOMICS OF NETWORKING

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Networks are finally accepted as a governance structure of their own. They are not a transitory and unstable form, which eventually will become a hierarchy or a market. In fact, networks seem to be the most important way to organise economic activity within the framework of globalisation, the knowledge society and the deep technological changes taking place. Networks seem to appear whenever turmoil or even chaos prevails. The Network Theory contests classical under-socialised theories by viewing economic and business activity as socially embedded. Business activity is conducted in a co-operative and trustful atmosphere. Writings on the Network Theory, however, tend to be over-socialised. Economic activity is assumed but not explicitly dealt with. This paper aims to discuss classical economic issues (profit, objectives, transaction costs, optimal decision making, uncertainty and risk, innovation etc.) and how the Network Theory accommodates these classical economic and business issues. At the end of the paper, implications for management and research are briefly outlined, indicating that with the Network Theory coming of age, it is essential to more explicitly formulate the theory as an economic theory which strikes a better balance between the economic and the human side.

Introduction

Over the last 10–15 years, the market economies of the world have undergone deep changes. This is reflected in names and concepts such as the Learning Economy, Knowledge Society, the New Economy, the Economy of Alliances or the Network Economy, and the Globalisation of the Economy. The changes indicate that knowledge has become one of the most important competitive parameters; that the Internet and ICT in general have transformed the market economy and its rhythms and structure, and that networks dominate the way economic actors relate to each other and transact. In this paper, focus is on networks as a specific mode of organising economic activity within a market economic framework. According to Dunning (1995), networking or strategic alliances, to use his terminology, is the dominant governance mode in the market economies today.

The strength of the network theory is that it contests conventional economic rationality assumptions underlying, for example, Transaction Cost Theory, Strategic Planning Theory and the classical Transaction Marketing Theory, and replaces these under-socialised theories with an understanding of business activity as socially embedded. The Behavioural Theory of the Firm

(Cyert and March 1963) did this many years ago as relates to organisational behaviour. Now, we also have a theory for external relations with a human face.

However, the present writings on Network Theory have a tendency to be over-socialised and forget that business is first and foremost about money and position. This being so, it is of interest to know how basic and classical economic business issues are resolved if business is conducted and structured according to the network thinking.

The paper comprises five sections. In section 2, the network, as a governance structure, is defined and discussed followed by section 3 where alternative modes of management are presented. Section 4 is the main section of the paper. In this section a number of the classical economic business problems are presented and discussed within a network framework. Finally, in section 5, the implications for management and research are briefly outlined.

1. Network Defined and Networks as a Governance Structure

Does Relationship Matter?

Business is a human activity and as such one could claim that social relations, per definition, matter. Some economic theories, however, ignore social relations. Only cool monetary calculations matter. If the social relations are not ignored, they may enter economic theory as frictions and thus be viewed as disturbances of the working of the market economy.

At the other extreme, social relations may determine economic relations. Cultural values may be so strong that they overrule "normal" economic rationales. For example, According to Islam, interests on loans cannot be collected, i. e. money has no price.

Network Theory holds that social relations matter and that social relations can both constrain and be supportive of economic relations. A social rationale may put constrains on the optimal solutions according to an economic rationale, because the means to be used, e. g. child labour, to reach the optimal level are not socially acceptable. In other cases, the optimal level can be reached only through social relations. For example, a high level of market uncertainty may prevent a transaction to be carried out unless trust between the partners can be established. Figure 1 summarises this discussion of social versus economic rationales.

Networks Defined

A network can be defined as a voluntary co-operation between autonomous actors, who, through on-going interaction, commit themselves and build long-term and trustful relations. The purpose of industrial or economic networks is to get access to resources controlled by other actors. Further characteristics of business networks are that the participants become interdependent and develop a mutual orientation and understanding of each other. In general, networks can only exist in win-win situations. If a member cannot, through voice, benefit from his membership, he or she will exit the network.

In short, a network is an organisational form which creates order and which is characterised by a co-operative and trustful atmosphere.

Networks as Governance Structure

Networks as a governance structure is relatively new in the literature. Traditionally, the dominant literature has distinguished between two governance modes, the market and the hierarchy. This is the case within Microeconomics, the Transaction Cost Theory, the Theory of Internalisation, Dunning's (1995) eclectic Theory of Foreign Direct Investment and Marketing Theory. When these classical theories were contested by the Network Theory, the first reaction was to

	Interplay between economic and social relations	Explanation	Theory
1.	Social relations are determined by economic rationales	Rational Economic Man with no social relations (atomised actors)	Micro Economics
2.	Social relations as frictions in transactions	Rational Economic man is prevented from acting completely rational due to irrational social norms and behaviour Rational Economic Man must overcome non-rational behaviour of others	Transaction Cost Theory (opportunism)
3.	Social and economic relations interact	Social relations support economic relations	Network Theory
4.	Economic Frictions	Economic issues prevent actors to act completely social Social persons must overcome economic problem	
5.	Economic Relations are determined by social relations	Social fundamentalism with no economic rational	Cultural Theory

Figure 1. **Perspectives on Economics, Embedded in Social Relations**

reject the theory. A networks is an unstable form for organising economic activity and it will, it was claimed, be of transitory nature and eventually turn into either a hierarchy or a market solution.

History has proven this to be wrong and both Williamson with his Transaction Costs Theory and Dunning with his Eclectic Paradigm for Foreign Direct Investment have admitted that networks are here to stay, and they have tried to encompass the network mode into their own theories (Dunning 1995).

Powell (1991) and Håkansson and Johanson (1993) have elaborated on the idea of the network as a governance structure of its own. Governance structure is understood as "...the organisational forms and processes through which activities are directed in a field" (Håkansson and Johanson 1993, p. 44).

Figure 2 shows four alternative governance structures based on different internal driving forces (personal interests or common norms) and the basis for the external driving forces (a specific relation to another actor or general relations to all actors).

The actors in networks pursue their own interests (internal force) at the same time as they, externally, have specific relations to other partners, i. e. the partner is identified and concrete.

The market is also characterised by the pursuance of own interests but now the relations are general market relations, i. e. the market is comprised of a set of relatively autonomous actors of equal quality and value.

In the hierarchy, the external relations are also specific, but the internal relations are based on norms or a general organisational culture. Finally, if the internal driving force is based on norms and the external driving force is of a general nature, we have a culture, a clan, or a profession, e. g. the marketing profession.

Thus, the Network Theory has personal interests in common with the market governance structure and specific relations in common with

the hierarchy. In this sense, the network is a blend between the market and the hierarchy and in complete opposition to the culture and profession driven governance structure. Even so, it seems that most researchers approach their study of networks from an organisational point of view and not as a market comprising actors with weak ties.

The four governance forms, identified in Figure 2, are not independent. For example, it is not possible to have markets without companies. In fact, we may say that markets, as a governance structure, do not exist. Only firms exist, and they interact under market conditions. They may also act under network conditions. The firms themselves may be organised as hierarchies or in accordance with a norm dominated profession (see also Douma and Schreuder 1998, 107–110).

2. Networks as Management Mode

While section 2 positioned network as a governance structure of its own, this section will take look at networks as a management mode and compare it to alternative modes of managing.

A distinction can be made between three management modes:

The Planning Man,

The Action Man,

The Networker.

The profiles of these three management approaches are shown in Figure 3. The Planning Man is the closest the management literature gets to the Economic Man from Economics. In line with the strategic planning literature, he analyses the environment to reveal and minimise uncertainties. In this way, the Planning Man sees the environment through reports prepared by business analysts.

The Action Man is on the move and participates directly in market activities. He handles environmental uncertainty by being able to react quickly and swiftly to changes. His organisation has excess capacity so that it can take action when an opportunity arises or a threat has to be met.

The Networker posseses social capital, which makes him / her capable of establishing relations to others. The Networker handles uncertainty by building long-term relations and thus creates an order among the partners constituting the network.

Empirical studies in Denmark (see Table 1 and 2) and Russia have shown that businessmen are predominantly Networkers and secondly Action Men. Planning comes third. However, the business world is not black and white. Managers may use all three ways of handling the environment depending on the characteristics of the manager and the actual situation and context.

		Internal Force is Based on:	
		Interests	Norms
External Force is Based on:	Specific Relations	Network	Hierarchy
	General Relations	Market	Culture, Profession

Source: Håkansson and Johanson (1993, p. 45).

Figure 2. **Classification of Governance Structure**

Approach: Attribute:	Planning	Network	Action-Experience
Characteristics of Managers	• Analytically minded • Order • Control	• Social • Trust • Security	• Action • Independence • Impatience • Intuitive
Business Formula	• Plan and implement • Planned growth	• Search and interact • Emerging development	• Spot and act • Leap frogging in its development
Relation to Environment	• Accept and adapt • Collect information	• Relate and create • Build long-term relations	• Create and impose • Search for opportunities

Source: Popova and Sørensen 2001, p. 43.

Figure 3. **The Planning, the Network and the Action-Experience Approach**

For this reason, researchers should be open-minded when they study firms and managers and how they manage. It is important to have in mind that there is no one best way of managing. Many studies of transition economies violate this open-mindedness. Most assume the Planning Man and try to test how far or close transition managers are from this ideal Western management formula.

Based on this characteristics of networks as a management mode, it is possible to take one step more and outline the human assumptions underlying the Network Theory. In network theory, it all begins with the actors (Håkansson and Johanson 1993, p. 38–40), and the three main human factors or social dimensions of this actor are:

1. Bounded rationality;
2. Co-operative inclinations;
3. Need for and ability to trust.

The networker has limited calculation capacity and language formulation ability and thus limitations in dealing with uncertainty. Thus, the networker is in line with the assumptions underlying, for example, the Behavioural Theory of the Firm and Transaction Costs Economics. However, one may add that the rationality of a network may be less bounded compared to other situations, as the network actors are able to solve problems using the calculation capacity of a multiplicity of people.

The concept of co-operation is a key concept in the network theory. The theory assumes that people are able and willing to co-operate with each other and pursue the fulfilment of the goals of each partner. Co-operation also implies a mutual orientation so that the actors take an interest in the well being of each other and search for solutions, which satisfy both partners.

The theory also assumes trust to be a human quality. "Trust is defined as a willingness to rely on an exchange partner in whom one has confidence" (Moorman, Deshpandé, and Zaltman 1993, p. 82). Trust means that we have certain expectations as to the behaviour of a partner. Trust is not needed in case of complete information and trust is less essential when market transactions are discrete. However, trust is needed and can overcome problems of asymmetric information. The importance of trust is expressed very clearly by Powell (1990): "Trust reduces complex realities far more quickly and economically than prediction, authority or bargaining"

Table 1. **The Orientation of Companies to Planning, Action and Networking (%)**

To what extent do you agree to the following statements:	Agree Completely	Agree Partly	Partly Disagree	Disagree Very Much	Don't Know	No Answer
The Planning Man						
When we want to know more about a market or plan to expand our activities on a market, we prepare a market analysis which we use in our planning	9	57	16	11	2	5
The collection and analysis of information is a core activity in our company	11	55	18	11	0	2
The Action Man						
We put emphasis on visiting the market to form an opinion on what goes on	50	20	20	7	0	2
When new opportunities arise, we pursue them immediately (and vigorously)	34	41	20	2	0	2
The Networker						
We make every effort to establish long-term and personal relations to important actors in our environment	64	25	7	2	0	2
When we want more information about a market, we use our contacts to help us.	41	48	5	2	2	0

Source: Sørensen 2000, p. 112 (Based on 44 companies only)

(p. 273). Trust implies that an actor is willing to make commitments.

Until now, the Network Theory has been presented as if their was only one version of the theory. This is far from the case. For our purpose, it suffices to divide the many versions into two broad positions, inter alias the Structural School and the Process School.

The Structural School views a network more or less as a system of actors. Business reality is objective and focus is on the structure of the network. The actors fight for an influential position in the network structure, i. e. a power game takes place underneath the trustful and co-operative relations. The Structural School has much in common with the strategic planning literature.

The Process School views the network as a social construction, the actors being the constructors. Focus is on the individual actors and his / her understanding of the network, including how the interaction leads to the formation of common values and understandings.

As the Structural School would tend to handle the classical economic issues the same way as more conventional literature, the following discussion in section 4 is, in the main, based on the Process School.

3. Networks and Classical Economic Problems

As indicated, writings on networks tend to be over-socialised. Business and thus economic and financial issues are assumed, but little discus-

Table 2. **Management Style of Russian Managers**

	Statement	5	4	3	2	1
A	Intuition and market experience is more important than market reports and formal planning of sales activities	36	30	22	6	5
B	When a market opportunity arises, we act immediately and do not analyse the opportunity in details	21	29	32	13	5
D	We use formal marketing analysis primarily to confirm our own ideas	22	18	29	18	12
C	Good customer relations are more important than formal marketing plans and strategy	35	31	21	8	5
E	In a turbulent market it is more important to be able to react to market signals than to plan market activities	31	28	24	9	8
F	Market turbulence makes planning difficult	35	21	18	12	14

Source: Popova and Sørensen 2001, p. 52–53.

sed. The under-socialised economic theories, on the other hand, assume the focal actor to be an Economic Man with no social relations influencing his behaviour or if they do, they are considered as frictions that prevent the market from functioning optimally. They are, for example, opportunistic (Transaction Costs Theory); cheating (Information Theory), shirking (Team Production Theory), or lazy (X-Theory of organisational behavior).

The Network Theory assumes economic activity to be socially embedded with the embeddedness characterised by a co-operative spirit and trustful relations between the partners (Sorensen and Popova 2002, p. 7–9). Thus, humans in the Network Theory have a positive connotation.

The classical economic problems to be discussed and related to the Network Theory are: profit, objectives and performance, transaction costs, decision-making, risk and uncertainty, power, control and position, innovation, and concentration and competition. These issues are drawn from Microeconomics, Industrial Organisation, Institutional Economics, and the strategic planning literature.

Profit

The network theory is not, explicitly or implicitly, built on any profit maximisation thesis. In fact, the concept of profit is hardly mentioned and part of the network vocabulary. One may, of course, claim that in business networks, an economic or profit orientation underlies all activities and thus need no mentioning.

Although the theory is not formally build on a profit rationale, profit may, as a resource, become a formal part of the theory. Profit as initially an uncommitted resource can be used to strengthen the position in the network, extend the present relations, or build new ones.

The reason for not discussing profit explicitly in the network literature is that Network Theory is a descriptive theory, which aims to describe and make sense of what business managers do. It is not a normative theory, which provides advice on profit making and how to maximise profit. The cousins of the Network Theory, Relationship Marketing and Customer Relations Management (CRM) Theory, are more inclined to provide recommendations and measure performance in terms of profits. The Network Theory could be labelled "the mother theory" with Relationship Marketing and Customer Relations Management being the executive wings of the theory.

Management by Objectives and Performance

According to conventional business theories, setting objectives and measuring performance is a must for the competent managers. Today, benchmarking and milestones have been popular instruments to formulate objectives and especially to monitor and measure company performance.

Actors in networks are assumed to have intentions and thus actions are assumed to have a purpose. However, the theory does not go byond this generic human quality and specify any specific objectives. The closest the theory comes to a stipulation of objectives is embedded in the very definition of a network, i. e. managers are concerned with building and maintaining long-term relations, the aim being to get access to resources controlled by partners. In this sense, managers may formulate objectives related to entering a particular network and / or obtaining a specific position in a network. However, as the network involves frequent and on-going interaction, new opportunities may be discovered and this may change the objectives.

The dynamics of networks and the fact that there are always two or more partners to take into consideration, have encouraged network theorists to coin and use the term "emerge" when discussing objectives, strategies etc. Objectives and strategies are emerging. They are not discrete decisions coming out of the strategic planning department. This does not mean that managers act irrationally. There are intentions behind all what they do, but it means that they do not follow a strict objectives-plan-implementation formula.

With objectives and strategies emerging, it is more difficult to measure performance and very little research is conducted on how networks perform in any economic sense of the term. Turning again to Relationship Marketing and CRM, performance measurements are more normal. The scattered evidence indicates that the introduction of a CRM-system is complicated and often does not provide the expected benefits to the company. Similarly, the literature on strategic alliances indicate that 50 % or more of the alliances formed fail. Even so, more and more are established.

Costs

Although organisations (hierarchies), according to some authors (Nohria 1992), are and should be viewed as networks, the discussion in this section will be restricted to networks related to external partners (customers, suppliers etc.), i. e. focus is on transaction costs.

The starting point could be the Transaction Costs Theory where four cost categories are identified, i. e. costs of:

1) Searching and identifying a market;
2) Closing a deal;
3) After sales services;
4) Breaking a contract.

These costs are related to the single transaction as it is conceptualised within the framework of the Transaction Marketing Theory.

In Network Theory, three broad categories of costs are identified, i. e. costs of building relationships, costs of maintaining relationships and costs of terminating a relationship, e. g. switching costs. Relationship Marketing literature claims that it is very costly to build a customer compared to maintaining one. For this reason, the concept of the value of the customer over the customer life cycle is introduced and used as a method to calculate and forecast sales and costs.

Related to the four cost categories of the Transaction Cost Theory, the customer search costs are not eliminated when building networks. In fact, the search costs for a single customer, now appearing as costs of building long-term relations, may be higher as it takes time and resources (often high level management resources) to create trust and build long-term relations. However, total search costs are expected to be lower, as the customer renewal rate is lowered.

Costs of closing a deal are expected to be lower, as the partners know each other and have on-going transactions. After sales service costs may be lower, but may also be higher. Good after-sales-service (see also section on innovation) is one of the main motivations for entering a network. As the partners know each other well, however, the services may be more to the point (no waste), and as service is rendered continuously, rational service systems may be built.

The cost of breaching a contract, hopefully, will go down. The partners have intensive knowledge of each other and, thus, expectations are well-known. However, the high failure rate of strategic alliances may indicate high cost associated with the exit of an alliance.

In conclusion, the traditional market research department or unit as well as the legal department can be reduced, if not eliminated, when moving from Transaction Marketing to Network Marketing (Kuada and Sørensen 1997).

Allocation of Resources

How are resources allocated within a network framework? The core of the Network Theory is that firms build networks to get access to resources controlled by other partners. Thus, resources are exchanged as in the case of markets. The individual exchanges are considered events and the isolated events are of less interest to the networker and the network researchers. Through the numerous events, the partners acquire knowledge of each other, and they start developing resources together. Thus, the network processes are allocation processes as well as resource development processes, i. e., the classical distinction in Economics between allocation of resources and growth / development of resources cannot be upheld in the Network Theory. How the allocation and development of resources are decided upon is the topic for the following section.

Decision Making

Classical Transaction Marketing thinking is historically and scientifically rooted in Microeconomics (price) and Chamberlain's (1948) work on Monopolistic Competition (product differentiation; advertising). Rasmussen (1966) was one of the first scientists to explicitly model a Marketing Theory based on Microeconomics. He used the term Marketing Parameter Theory. A less popular book by Lilien, Kotler and Moorthy (1992) also presented the numerous attempts to make marketing theory a decision theory, calculating the optimal value of each of the marketing parameters. However, the less elegant, but more flexible 4P-approach has dominated when it comes to marketing management and not marketing economics.

The question in this paper is not to discuss marketing economics versus marketing management, but to discuss how, if at all, network thinking will change marketing decisions. Will, for example, the price be the same under net-

work conditions as under transaction marketing conditions? In general, we may ask if the marketing parameters will change priority and if the outcome will be different when we use a Network Theory versus the Transaction Marketing Theory.

In general, the difference in decision making within a network framework compared to a transaction-marketing framework is as follows:

First of all, the marketing parameters, within the Network Theory, will be part of a continuous interaction process and not discrete event as in the Transaction Marketing Theory. That is to say, the decisions emerge as part of the interaction rather than as cool calculations made by the specialists in the Marketing Department.

Secondly, the outcome must benefit both parties. Networks are based on a win-win formula and not, a Win-Loose one as in Transaction Marketing. If a partner does not benefit from the partnership, he will stop his voice option and use the exit option. The mutual orientation in networks aims to assure that all partners benefit.

Thirdly, as the partners have intensive knowledge of each other, it is not possible to practice "hidden information and actions" as in the Information Theory (Douma and Schreuder 1998). For example, the basic cost structures will be known and thus, the price may emerge as part of the activities and functions performed, rather than taking place as a separate negotiation activity.

In general, in a network perspective, decisions will emerge rather than be discrete calculations and an outcome based on negotiation skills, although such skills, taking the form of social capital, will also be important.

While decisions made within a network framework may be different from decisions within Transaction Marketing Theory, the decision making mode of networks seems more in line with the Behavioral Theory of the Firm. In that case the meaning of "emerging decisions" can be more precisely formulated as decisions based on bounded rationality, a search in the nearby surroundings (read: among network members) and on satisfactory rather than an optimal solution.

Business Risks and Uncertainty

How are uncertainty and business risks handled under network conditions? Are networks able to reduce uncertainty and thus risks to a lesser or larger extent than other governance modes? In particular, is networking for risk averters, risk takers or risk neutral businessmen?

The dominant mode in the literature to reduce risk is through strategic planning. Strategic planning – the Porter way – has its starting point in the environment (demand, supply, competition, distribution etc.) and a company formulates its strategy by adapting it to the "model" of the environment. Thus, uncertainty is reduced through planning (Planning Man). The Action Man reduces uncertainty and thus risks by "being there" and by active participation. He has the capacity to act on even weak market signals indicating an opportunity or threat. The Action Man makes sure that he always has some spare capacity or excess capabilities in order to be able to act on opportunities, which may arise all of a sudden.

Turning to the networker, she / he deals with the environment by forming close relations to other partners. Inside the network, there is order, i. e. the partners trust each other (even if information is asymmetric); the partners know the expectations of each other, and the demand / supply issues are discussed at regular intervals, so that the network partners can plan their activities. Adjustments to the plan are made through daily interaction. Thus, in a network perspective, isolating the network from the rest of the business world reduces uncertainty. It is not a total isolation. As will be documented later, networks are also open, and potential partners are waiting

on the outskirts of the network to enter in case an existing partner shows certain weaknesses.

Power, Control and Position

The concept of power plays a crucial role in a number of business theories. Industrial organisation talks about power, e. g. monopoly power in the form of concentration rates (Ferguson and Ferguson 1994). Porter (1980) builds on the concept of power in his five forces model, where he talks about power relations between customers and suppliers. Going back in history, the distribution channel literature in the 1960's and 1970's extensively discussed, who had the power in the channel. Gereffi (1994) takes up this idea, on a global level, in his studies of the customer or the producer driven global commodity chains. Finally, the power concept is embedded in, for example, the Structure-Conduct-Performance paradigm from Industrial Organisation, where the structure of the industry determines the conduct or behaviour of the companies (Ferguson and Ferguson 1994).

Power is defined as the ability to make people comply with own ideas against their will. As a network, as defined in this paper, is based on voluntary co-operation and a win-win situation, the concept of power does not seem to be an appropriate concept to include in the network vocabulary. At least, there is a limit to how much power can be exercised before we may no longer speak of networks, but must refer to one of the alternative governance structures shown in Figure 2.

Although the overall atmosphere in a network is one of co-operation, a power game does take place. Companies, for example, fight for position in the network. It is attractive to be in the "middle" of the network and thus receive all information at an early stage. This gives the possibility of identifying new opportunities and benefits from first-mover-advantages.

Grabher (1993) formulates the power game as follows: "it is inaccurate and misleading to characterise networks solely in terms of harmonious collaboration and concord.... Each contact in a network relation can be a source of conflict as well as of concurrence"(p. 11).

To strike the balance between power and co-operation, the power concept may be included in the network theory by saying that "network participants exercise power, but limited so" – the limit being the point where a partner has no benefits from his network participation and thus prefers to use his exit option.

New Business Opportunities and Innovation

More than ever is it essential for companies to innovate and spot new business opportunities. The Knowledge Based Society puts emphasis on innovations as the primary competitive tool. Information technology, as the most generic new technology ever seen, is just one of a series of new technologies, others being medico-technology, biotechnology, nano-technology, new materials technology etc.

What role do networks play in the Knowledge Based Society?

Networks as such do not develop any new technologies. A network is an organisational form – a governance structure, which may be used as the organisational frame within which technological development activities can take place.

Generally speaking, if chaos and turmoil prevail, we expect to see more networks being established (Sørensen and Popova 2002). The present technological situation combined with the globalisation process may be labelled chaotic. The all-of-a-sudden release of the Internet for commercial purposes in 1995 is an excellent example of chaos which even resulted in the proclamation of "The New Economy" and the coming of "The Alliance Economy" (Dunning 1995).

Turmoil means uncertainty and imperfections in the normal working of one or more aspects of the market economy. Networks seem to be an appropriate response to such turmoil. They provide what is needed to overcome the turmoil, including the most direct face-to-face contact, the continuous interaction, the trust, and the intensive exchange of knowledge.

To this can be added that a specific company cannot be in the forefront and be competent in all new technologies. It will need the support, the resources, from outside. Such new technologies can hardly be acquired on the market for two reasons: the market for new technology is complex, intransparent and with asymmetric information. Secondly, the companies will need the new technologies to be adapted to their own resource base. This will require the development of specific assets, which can only take place under some kind of network conditions.

The innovation aspect of networks has yet another dimension. The close interaction between partners and the deep knowledge they have about each other make the relationship into what we may call "an interorganisational innovation laboratory". Problems will be exposed and partners asked to contribute to their solution. In this way, networks can be very dynamic instruments for generating competitive advantages. However, networks may also turn rigid. Over time, the partners will develop routines and interorganisational systems, which improve operational efficiency. When this happens, the potential double loop learning may vanish and be replaced by single loop learning ( ) and the innovative potentials or strenght of weak ties (Granovetter 1973) will be replaced by strong ties. Reflections on what and why the actors do what they do will be replaced by simple adaptation.

Competition, Barriers to Entry and Concentration

Competition is a cornerstone of the market economy. It aims to assure dynamism and checks and balances so that unjust exploitation does not take place. To some extent, competition is eliminated when networks are formed and too much networking, especially among competitors, may give rise to worries among the guardians of competition and the anti-monopoly authorities. The long-term relations, which characterise the networks, make it difficult for competitors to enter and penetrate an existing network and the more and the stronger the bonds between partners, the more difficult it is for competitors to penetrate and become members of a network.

In general, as networks blur the borders between companies, both vertically and horizontally, it becomes much more complex to analyse the competitive situation and determine whether we have a "workable competition" or competition has been constrained too much.

Countervailing forces to this development exist. Non-members form their own networks and thus competition takes place at the network level rather than the company level.

Furthermore, while networks may constrain competition in the short-run, it should be remembered that a company choose the network solution in order to stay flexible and innovative. The company may therefore not be interested in building very strong ties, as the rigidity which follows may make the network less dynamic.

4. Management and Research Implications

Management Implications

A researcher does not need to conduct many open-ended interviews with managers before realising that networking and networks play an important

role in the daily business life of firms. Powell (1991) explained the reason: "Trust reduces complex realities far more quickly and economically than prediction, authority or bargaining" (p. 273). Furthermore, especially the literature on Customer Relations Management (CRM) and Relationship Marketing, have pointed out that it is less costly to maintain a customer compared to developing a customer (Egan 2001). The life value of a customer is thus the relevant basis for calculating and forecasting sales.

This implies that all managers ought to have basic training in how to build, maintain and dissolve networks (Ford 1997 and 1998).

Does this mean that strategic planning "the Porter way" or "according to the Ressource Based View of the Firm" should be abandoned or are the Network Theory and the Strategic Planning Theory complementary? As indicated in section 3, no simple answer can be given. If emphasis is on *planning* and rigid implementation of the plans, strategic planning is not appropriate if companies are deeply involved in networks. According to the network theory, strategies emerge as a consequence of interaction. They cannot be planned in isolated company planning labs. If, on the other hand, strategic planning is more in line with strategic management and emphasis, thus, on *strategy*, then the two approaches may go hand-in-hand. In the latter case, strategic planning assumes that the strategy is built on mutual orientation, win-win, trust etc.

As indicated earlier, networking may be the best solution if turmoil and chaos prevail, i. e. under a high degree of uncertainty. In this context, it is not possible to plan. The managers need to be close to the market and participate, on a daily basis, in the activities. Networks are able to create some order in the chaos and they are flexible enough to adjust to changes from outside as well as be an instrument to form business reality.

In conclusion, students should have courses and managers ought to be trained in the formation and management of networks, not as the only and best solution under all contingencies, but as an important way to manage a company, in particular when one or more parts of the market are in turmoil.

Research Implications

Network Theory has emerged over the last 20–30 years. Even so, it is still an under researched field in the sense that there is still much to be learned. With its academic and paradigmatic position assured, time has come to go beyond the demonstration, that economic activity is socially embedded and take up, among others, the following research areas:

1. The Economics of Networks. There is a need to analyse the economic implications of networking in more details than it was possible in this article.
2. A firm can be viewed as a set of networks. The literature often treats the firm as a member of only one network, but depending on the agenda of the company, it will be member of different networks for different purposes.
3. The management of networks. More normative research on how to build, maintain and dissolve networks is needed.
4. The competitive implications, including barriers to entry, concentration issues etc.

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TINKLIŠKUMO TEORIJOS EKONOMINIAI ASPEKTAI

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Santrauka

Straipsnyje nagrinėjama tinkliškumo teorija ir praktiniai jos taikymo aspektai. Autorius pateikia teorinius apibendrinimus apie tai, kad tinklai nėra trumpalaikė tinkliškumo teorijos išraiškos forma, kuri ateityje gali virsti kokia nors hierarchija ar rinka. Tinklai taps viena svarbiausių ekonominės veiklos organizavimo formų pasauliniu mastu, o tai lems integravimąsi į žinių visuomenę ir didelius technologinius pokyčius. Tinkliškumo teorija konkuruoja su kitomis socialinėmis teorijomis, kadangi ekonominė ir verslo veikla, numatoma, bus socialinio įsikūnijimo išraiška. Šio straipsnio tikslas – parodyti, kaip tinkliškumo teorija aprėpia klasikinių ekonominių kategorijų (pelno, sandorių, kaštų, sprendimų optimizavimo, rizikos ir neužtikrintumo, inovacijų ir kt.) sprendimus.