

NETWORK MANAGEMENT AS A WAY TO MANAGE INTELLECTUAL CAPITAL

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Abstract

In order to meet the information and knowledge demands of today's society intellectual capital and social capital in particular have to be fostered and developed. Intellectual assets are knowledge, information, intellectual property and experience, while social capital is embedded in social structures and can be accessed as well as mobilized in purposive actions. Social capital, based on shared norms, values and trust, provokes transparency which improves flow of information and reduces transaction costs and leads to rationalization and therefore increases flexibility, leads to better performance and innovation. As a result are formal as well as informal social networks within a firm a great source for the sharing of information and knowledge. Factors of influence are beside norms and value the social skills of employees or network members, which is called social maturity in holistic management.

As social networks are a source for intellectual as well as social capital, these networks within a firm should be developed, fostered and controlled in order to achieve the best results and not to loose control over them and the roles employees can take within a network. Therefore by literature research common network management models shall be presented and compared to the results of an expert survey with nine Austrian experts in the fields consulting, politics and management, in order to find or adapt a model which is suitable for the management of formal as well as informal networks within a company. The model has to fulfil the criteria of being practical and suitable for the development and fostering of intellectual capital within a firm.

After introducing intellectual capital, social capital and social networks the principles for working with and in social networks will be discussed. Afterwards common network management models and network governance models will be presented, followed by the results of the expert survey. Based on the theoretical and empirical analysis a discussion about the presented models and how they could be adapted will follow. The aim of the study is to propose a network management model which can be used for managing social networks within a firm with small additional expenses in order to achieve the best effects from intellectual capital.

***Key words:** intellectual capital, social capital, social networks, trust, network management, network governance.*

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1 INTRODUCTION

1.1 Holistic Aspects of Management

Management is a function as well as an institution within a company whose tasks and duties is the coordination, structuring, planning, organizing, leading and control. In general operational and strategic management are distinguished. Strategic management determines the direction of the company by setting up the strategies and providing the general basis for fulfilling them. Operative management deals with the concrete actions of realizing strategies (Staeble 1992).

Holistic Management Theory goes beyond this basic understanding of management. The management unit as a whole is performing the management functions planning, organizing and control influences the members of the management objective units. These objective units can be teams, organizations, stakeholders or networks in general¹. The management subject who is an individual, team leader or top manager in an organization is basically an individual who manages his working tasks and personal life. Therefore the personal qualities play a vivid role beside the professional ability and practical skills. The degree of these qualities builds the level of social maturity. "Social maturity is the conscious or unconscious maintenance of basic human behavioural principles which build the totality of the personality", Porvazník (2008). Aspects of social maturity are attitudes, social responsibility, ethical standards, obligation, sensitivity and self-improvement. The quality of a person, the personality traits, are divided into volition qualities, the power of a person to be active, the human-wide qualities, which express the person's relationship to the world in general and other people around them, the differentiation and creative qualities, temperament qualities and somatic qualities, which express the physical qualities of a person (Porvazník 2008). The most important social skills in a work place with social networks seem to be social perception (the ability to gauge current moods of others), impression management (the ability to change one's appearance and image), persuasion and influence, social adaptability (the ability to adjust to a wide range of social situations) and emotional intelligence (the ability to regulate one's own emotions) (Beugelsdijk and Van Schaik 2005). Beside the unwritten laws in networks such as trust, tolerance, discretion, respect, fairness and cooperativeness (Friedschröder 2005), communication skills, the ability to motivate employees, team and network members and the competence to create solidarity in a team or network are crucial (Porvaznik 2008). Not only the networking abilities of a single management unit have impact on the success, but moreover the networking ability of an organization as a whole makes a contribution. The processes, information systems, organizational structure and culture have influence on the ability of an organization to cooperate with other organizations in a way that added value emerges out of this relation (Payer 2002). All these aspects and characteristics play a crucial role in social networks as well as for the achievement of intellectual capital in a firm. The Organization for economic co-operation and development (OECD 2006) highlighted that the ability to create an economic value from intellectual assets is highly contingent on the management capabilities of individual firms.

1.2 Intellectual Capital

The importance of information and knowledge rises in nowadays society. Attempts for naming the society reach from information- over knowledge to network-society (Castells

¹ Strictly speaking is every team, department or group of stakeholder a social network.

2000). Intellectual assets such as knowledge, information, intellectual property and experience became a strategic factor in the value creation of a firm (Stewart 1997, OECD 2007). Human capital is considered as being part of the intellectual capital theory, which is described as all individual knowledge, skills, talents and abilities of the individual company's employee (Edvinsson and Malone 1997; Kaplan and Norton 2006). In the same context with intellectual capital is knowledge management, which is related to activities like creation, coordination and usage of knowledge with the aim of turning individual knowledge into organizational knowledge. Hereby the tacit as well as explicit knowledge is important for the company. Though neither initiatives on knowledge databases or network systems nor initiatives to provoke knowledge sharing with incentive rewards has been really satisfactory. As studies proved social capital contributes to knowledge sharing (Chow and Chan 2008), which is a chance to connect several things in order to achieve an added value. Social Capital, which is defined as the outcomes for individuals from networks with shared norms, values, and understandings that facilitate co-operation within and among groups (OECD 2000) can be used to manage intellectual capital.

Social Capital is a resource embedded in social structure, which can be accessed as well as mobilized in purposive actions. Beside the relations, social capital is composed of norms, value and expectancies, which can be written as well as unwritten and have explicit or implicit sanctions of these norms and values. The functions of social capital are on one hand transparency, which improves flow of information and reduces transaction costs and on the other hand rationalization, which reduces uncertainty, increases flexibility and leads to better performance and innovation (Halpern 2005, Beugeldijk and Van Schaik 2005). The most important factor of influence on social capital is trust, as social capital arises from the prevalence of trust in a society or in certain parts of it (Fukuyama 1995). Trust is the expectation of a partner's reliability with regard to his obligations, predictability of behavior, and fairness in actions and negotiations while always faced with the possibility of behaving opportunistically (Beugeldijk and Van Schaik 2005).

Some theories put in question if social capital or social networks are first. In this paper, it will be assumed that networks are the origin of social capital, which is based on trust and norms and can improve the efficiency of coordinated actions (Robinson et al. 2002).

1.3 Social Networks

To form social networks is a human need and ability; from early on in childhood, we are members of networks like family, school classes, sport clubs and many more. This seems to be far away from the network definition of social network analysis, where networks are described as a defined sum of nodes or elements and the sum of the edges/ties between them (Jansen 2006). Nodes are the individuals, such as persons, corporate stakeholder, companies, ministerial accounts or countries. Other authors define social networks as a defined set of persons, and the linkages between them (Tichy et al. 2001). Further more networks are a set of relations, which differ in aim and duration.

Various ways of distinguishing social networks exist. Basically a social network can be formal, e.g. a sports club; or informal, e.g. a group of friends. The difference between them is unproblematic, formal networks are networks whose members are listed in a certain way and the question about being a member of the network is easy, because the network borders are clearly defined. From a sports club, you can make a list of members and it is easy to differentiate who is a part of the network and who is not. For the informal network of friends this is not that easy to tell, who belongs to the group and who does not. These informal

networks are classified into “communication and influence” and “exchange and negotiation” networks irrespective of their actual topic (Jansen 2006). Informal networks are a powerful source of horizontal collaboration within a company as well as outside. These ad-hoc networks connect around shared interests and knowledge and build a huge gateway for information and knowledge, which should be considered by the company. However the management of these networks is problematic as it is claimed that informal networks cannot be managed directly, but indirectly by establishing formal networks in order to enforce and cultivate informal networks (Bryan et al. 2007).

A company’s network can be further distinguished into intra-organisational and inter-organisational networks. Intra-organisational networks are the relations between employees, while inter-organisational networks form relations to shareholder, supplier, costumer, competitors and any other possible stakeholder as for instance regulatory authorities. Inter-organisational networks can be further distinguished into local/global, simple/complex, obligatory/promotional/, open/closed, symmetric/asymmetric networks (Sydow 2006). Moreover social networks can be divided into open and closed networks. Within open networks, which are heterogeneous, not all members know each other. Closed networks illustrate an exclusive and homogeneous network, where all members know each other (Antcliff et al. 2007).

Clusters are another type of network, which occur or are aimed at building and more often these days in economics. On one hand these clusters occur in area networks, which are more densely connected to each other (Rosen 2000). On the other hand local clusters are defined as geographically concentrated firms of different sizes, horizontally and/or vertically linked and operating in the same line of business (OECD 2000).

Networking must be a year-round priority for a company and their management, as the goal has to be the creation of stable long-term relationships. In order to achieve benefits out of a network investments have to be done in advance. Strategies have to be developed, but also opportunities taken when they arise. Following up calls, thank you notes, business lunches as well as forwarding of interesting newspaper clippings should be standard business behaviour for expanding a professional network (Messmer 2002).

The effects of social networks lie in the economies of scale (synergy effects) as well as in the economies of scope, which are more focused on quality and innovation and therefore primary target of many companies. Another advantage of social network lies in the transaction-cost theory, which says that the costs for coordination and transaction can be reduced due to social networks. Transaction costs such as costs for search and information, bargaining, policing and enforcement, can be limited with the help of social networks due to trust, proximity, reciprocity and social responsibility (Payer 2002).

2 OBJECTIVE AND METHODOLOGY

The aim of this paper is to analyze network management models proposed and described in scientific literature, in order to find or create a model which is suitable for the management of formal as well as informal networks within a company. The model has to fulfil the criteria of being practical and suitable for the development and fostering of intellectual capital within a firm.

The discussion will be based on literature research principles for working with and in social networks, before common network management models and network governance models will be introduced. Afterwards the results of the expert survey, held in spring 2008, which was conducted by nine Austrian Strategic Networking experts, will be presented. These experts

were chosen due to their different system access opinions on Strategic Networking. The interviewees were selected from consulting, political and industrial sectors. The duration of each interview was about 45 minutes and has been recorded and transliterated word by word. The findings were evaluated by using qualitative content analysis with a category systems derived from the theoretic part based on scientific literature studies (Mayring 2000).

Based on the theoretical findings and the empirical data from the interviews, a network management model which can be used for managing social networks within a firm in order to achieve the best intellectual capital results, shall be identified or created. The ways of measuring intellectual or social capital are kept apart in this study as the focus is on the practical usability of the network management tool.

3 MANAGING NETWORKS

3.1 Emerging of Networks

Formal as well as informal networks are both strong factors of influence for a company's success and their usage clearly shows various advantages, as they are a basis for innovation, communication and collective support. Nevertheless social networks can build a market entry barrier for firms outside the network. Moreover the barrier to growth for firms with too strong informal networks has to be taken into account and prevented by attentive network analysis and network management (Fuller-Love 2009).

In order to achieve the best results and prevent disadvantages, certain conditions have to be fulfilled in a social network. The network members have to compliment each other in their interests and expectations, which will have to be coordinated. Moreover the forms and methods of working as well as the infrastructure of a network have to be suitable for the aim of the network. The most important and underlying principles in networks are the norms, values, agreements and trust (Becker et al. 2005). The emerging of trust, the expectations of regular, honest and cooperative behaviour (Fukuyama 1995), requires goodwill, competence and behavioural reliability. Trust influences the ability to innovate and to adapt the quality of network flows for materials, information and human communication. High trust enables all process types to operate more efficiently in a self-reinforcing manner. A network member has to be able to build authentic trust, the skill of handling relationships, which is one of three types of trust, beside simple trust in friendships and blind trust to superiors. Authentic trust can be learned by building and assessing self-confidence, self-trust in their own skills, knowledge, abilities and moods (Dervitsiotis 2006).

An important benefit from social networks for the creation of intellectual capital is knowledge sharing, which can be achieved and fostered by social networks. In order to boost this behaviour a clear mission and goal has to be developed by management. At the same time social networks that share these goals have to be established, as they significantly contribute to attitudes toward knowledge sharing and the intention to share knowledge within the organization (Chow and Chan 2008). Problems in traditional strategies towards knowledge management often occur due to high complexity and efforts, which make knowledge management too time-consuming for employees. Group cohesion, trust, fault tolerance, open mindedness, responsibility and employee-orientation of the management are factors which on the one hand facilitate the emerging of networks and on the other hand support knowledge sharing (Killich and Kopp 2005).

A new approach for fostering networks that comes from the UK is employee volunteering, which brings together employees and provides possibilities for building relationships and at the same time enhances the society in the form of Corporate Social Responsibility. Team

challenges, team assignments, mentoring, e-mentoring are all volunteering programs besides individual role volunteering. The relationships emerging from employee volunteering systems are symbiotic in the sense that each actor invests some intangible (reputation, knowledge) or tangible (finance, material) resources and therefore make collective endeavours possible. Benefits for employees are knowledge sharing, new skills, new perspectives on their own business and inner satisfaction. Benefits for the companies are publicity, a positive reputation as being socially responsible and an increase in motivation and cohesion of their workforce (Muthuri et al. 2009). According to the actor-network theory the emerging of social networks takes place in four steps, the four moments of translation. The first step is *problematization*, when certain problems are defined and examined by means of resolving them. Afterwards *interesement*, the moment of persuasion comes up and in the moment of *enrolment* human and non-human actors taking specific roles and responsibilities for the development of the solution. The last step is the moment of *mobilization* where actors and resources are mobilized to ensure that the networks achieve its objectives and sustains the commitment and energy of its members (Callon 1986, 1991 and Latour 1987 in Alferoff and Knights 2009). Market drivers for network formation are technological changes, new ways of communication and information processing technology, globalization in general with the emergence of Internet, deregulation, opening of national markets, global reporting and therefore the changing of customer needs and the appearance of fragmented markets. Another reason is the increasing information intensity and importance of knowledge in today's society. Typical industry patters, which favour emerging of networks, are outsourcing, standardization initiatives and co-operation (Riemer and Klein 2006). The attempts to manage the emerging social networks will be discussed in the next chapter.

3.2 Management of Networks

'Equal', the programs for development partnerships of the European social fund for fighting discrimination, realizes its projects within networks. Therefore networks emerge due to definition of the team, the operative and transnational partners and the coordinative centre. The experience of these programs was that a competent network management is necessary, though the classical hierarchical organizational principals are not applicable. Therefore they established a guideline of tasks and questions for the network management. Network management is in charge of choosing the right network members, ensuring knowledge transfer and target orientation and acting as a moderator and promoter within the team and as a communicator outside of the network. Furthermore the questions about joint products, their rights, quality and target groups as well as operational and organizational matters have to be discussed (Hellmann-Flocken and Unger 2005).

3.2.1 Seven Phases of Network Development

Howaldt and Ellerkmann (2005) provide a guidance compendium and divide the development of networks into seven phases:

- 1.) Idea and impulse: At the beginning there are one or more promoters, who have an idea, get together and join forces due to competitive or time pressure. Important at this step is to ensure time, financial and social resources.
- 2.) Design of the partnership: Partners have to be selected according to their target, their strength and willingness to cooperate. Communication at this step is the most important tool. Another important duty at this time is the coverage of the project in financial means.

- 3.) Constitution of the network: In this step the identity, organisational structure and form of business has to be established.
- 4.) Working phase: In this phase the actual work on the target of the project is done, the working forms, products and services can vary, though the existence of trust has to be ensured all the time in order to make costs and risks bearable.
- 5.) Evaluation of the project: The performance of the project has to be monitored and evaluated continuously.
- 6.) Metamorphoses: The organisation of the network can change and transform into a legal corporation, franchise cooperation or other form of enterprise.
- 7.) Conclusion: If the target of the cooperation is reached, it has to be documented and should end formally with letters, meetings etc.

3.2.2 From Sydow and Windeler to Strategic Networking

One of the most famous network management theories is the one by Sydow and Windeler (2001). In order to manage the complexity of networks they propose four additional functions to the traditional management: Selection, Regulation, Allocation and Evaluation. Figure 1 shows the cycle of these four tasks.

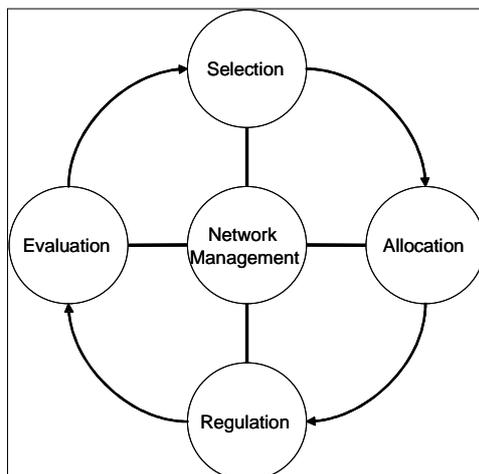


Figure 1: Strategic Management of networks
Sydow, 2006, p.409

Even though different from other network management attempts in the expression, the tasks are similar. In the first step of *selection*, the network members and organisations are being selected. Furthermore the role of network members for example as boundary spanners is defined and agreements on objectives concluded. During the step of *allocation* the tasks and resources in the network have to be coordinated and the scope of alliance defined. Coordinating committees, controlling and conflict resolutions are part of the *regulation* process, where formal and informal norms are established. In the final step of *evaluation* achievements of the network as well as its relations have to be coordinated. The four network management function are recursive related to each other, they are recurring and not singular in order to fight the controversies in the network, like trust and control, cooperation and concurrency, formality and informality, flexibility and stability, market and hierarchy (Sydow 2006; Payer 2002). Compared to the model of Howaldt and Ellerkmann (2005) the step of idea, metamorphoses and conclusion is not mentioned in the model by Sydow and Windeler (2001).

Strategic Networking adapts the model of Sydow and Windeler and puts the target in the centre followed by network analysis as can be seen in Figure 2. Strategic Networking is the strategic and target-oriented analysis, development, fostering and control of (inter- as well as intraorganisational) networks on the basis of trust, with the intention to reach certain (organisational) goals (Eckenhofner 2008).

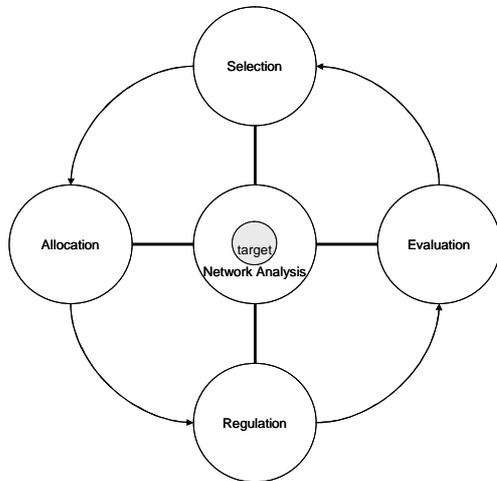


Figure 2: Strategic Networking
Source: Sydow, 2006, p.409, mod.

The core of Strategic Networking is a certain strategic target. This target could be a new market, a new customer or the implementation of a new product. On the basis of a network analysis, which should be done during each step of the network management, the characteristics of the network could be modified so that the goal could be reached. The network analysis helps to visualize the network and achieve knowledge about the company's network while being focused on the target all the time (Eckenhofner 2008).

3.2.3 Network Management Framework

A rather holistic concept is the network management framework by Riemer and Klein (2006), which combines the network view, the firm's view on network management, the network environment view and the network management mode.

a.) Network View:

The network life cycle emphasises the ongoing dynamic of network developments and divides the phases initiation, configuration, implementation, transformation and eventually dissolution. The phase of *initiation* is the entrepreneurial stage where the first ideas are gathered, partners selected and therefore boundaries loosely defined. In the step of *configuration* the network business model is further shaped in the means of exchange relations, governance model, social integration, values and network identity. In the phase of *implementation* specific roles are assigned to the network members and the network strategy has to be aligned with the daily business operations. Furthermore the information flow has to be adjusted. In the phase of *stabilization* the different interests among the partners in the network have to be aligned and social integration facilitated in order to avoid underorganisation of the network. In the following step of *transformation* the networks often develop from small groups to bigger networks and personal relationships turns into an institutionalised relationship. In cases where the network goal is reached or the interests are divergent a *dissolution* phase might take place.

Network Management areas within the network view:

- Network strategy: Finding of network mission, positioning, resources and business model of the network.
- Network organisation: Managing of the network structure with its tasks, roles, linkages and processes, the network behaviour and its people, social ties, interactions and capabilities as well as the network policies, governance, rules, norms, values, culture and identity of the network.
- Network information management: Coordination of the activities and resource sharing between the network participants with the help of information systems and its infrastructure.

b.) Firm View:

As the results and the quality of network operations depend on the network as well as the individual firm, the intra-firms structures have to be aligned to external network requirements in the three domains strategy, organisation and technology.

- Strategy: The firm has to position itself strategically in the market in order to ensure an advantageous competitive position with access to superior resources which should be extended with the help of the network.
- Organisation: The firm has to design appropriate organisational structures that ensure efficiency, flexibility and sustainability.
- Technology: Information systems provide opportunities for firms to set up business models and to act flexible. These technologies enable firms and networks to collaborate more easily in networks.

c.) Network Environment View:

As networks also affect the markets and industries around them, they are affected as well by their environment. General factors such as consumer behaviour, market rules, technological changes, typical industry pattern and specific regional conditions such as institutional policies have an impact on the emerging of network.

d.) Network management mode:

The network management mode includes four interdependent functions, which aim to ensure the networks success while facing the limits of managerial control in boundary management, creating potentials and improvisation in networks.

- Designing governance structures: Roles, responsibilities, mechanisms for conflict resolution and property rights have to be designed.
- Coordinating exchanges: Network management has to ensure the balance of incentives, contributions and returns.
- Fostering social integration: An environment of dense and rich communication supports the development of social relationships and the emergence of trust.
- Facilitating shared visions and values: From a shared strategy starting shared values have to be spread and a common identity established in order to permit the identification of the network members with the network and to ensure trust.

3.3 Governance of Networks

In firms, governance is focused on the role of board of directors in representing and protecting the interests of shareholders. In non-profit organizations governance is about representing and protecting the interests of community members, while funding and oversight roles of

government agencies is the role of governance in public management. In the case of firms board members have a legal obligation to perform their duties and being liable if the organization engages in illegal or irresponsible behaviour (Provan and Kenis 2005; Deutscher Corporate Governance Kodex 2008). The legal duty is not valid for social networks as they are not legal entities though there are a number of factors of influence, which lead to the necessity of governance in networks. A higher number of network participants leads to complexity and makes governance desirable as the needs and activities in the network must be accommodated and coordinated. Task decomposability, shared tasks in a network, also provokes the need for governance. Another condition for emergence of governance form is the shared competencies of the organizations or network members of a network in order to coordinate tasks according to competencies. Provan and Kenis (2005) see a minimal influence of trust on the form of governance, while the influence of trust on the effectiveness of governance is high. Network effectiveness is defined by Provan and Kenis (2005, 2007) as the attainment of positive network-level outcomes that could not normally be achieved by individual organizational participants acting independently. Network goal consensus as well as network governance are seen as crucial for dealing with the tensions existing in a network. Provan and Kenis (2005, 2007) proposed four forms of network governance and each form enables to deal with a different network tension better.

- Participant-Governed Networks: This is the simplest form of network governance without a separate and unique governance entity. The governance needs the involvement and commitment of all and is done through regular meetings. This form of governance shows a symmetrical allocation of power, high flexibility and provides a high density of trust relations especially in smaller networks.
- Lead Organization Governed Networks: In this form the governance is done by a lead organization, for example in a buyer-supplier network, or in horizontal multilateral networks. Even though showing networks that are highly centralized and brokered with asymmetrical power, stability is an advantage of this governance form.
- Network Administration Organization (NAO): In this model a separate administrative entity is set up, whose key role is in coordinating and sustaining the network. The NAO is not part of the network like they other forms of governance. The advantage of this form of governance lies in the dealing with the tensions efficiency and inclusiveness, internal and external legitimacy as well as in providing stability especially for networks with a higher number of participants.
- Hybrid Forms of Network Governance: These forms mostly combine self-governed and NAO models, as they facilitate the alignment of roles and responsibilities for each component of the model.

The above-discussed forms of governance partly evolve and partly they are given due to the purpose of the network. Furthermore the form of governance may change as the size of network grows or network tasks are becoming more complex (Provan and Kenis 2007).

4 NETWORK MANAGEMENT IN PRAXIS

In semi-structured interviews nine Austrian experts have been asked about network basics, how they define social networks, why and how they use networks and if they are members of formal networks. They were then asked to give their personal opinions on network development, fostering and management. The last part included questions about the network management in their company, why and how networks are used, how network management is organized and the effects achieved from networking. The average duration of every interview was 45 minutes and every interview has been recorded and transliterated word by word.²

In order to follow a structuring interpretation of qualitative content analysis (Mayring 2000) ten criteria have been defined which built the basis for the analysis. For every criterion different codes (flexible characteristics) have been set and defined.

The criteria and their codes:

- 1.) Reason for network development: Problem, Project, business objectives, information, new position.
- 2.) Target-orientation of network development: strategically, by hazard, both.
- 3.) Approach of network development: direct, indirect using existing contacts, events.
- 4.) (In)formality of network management: formal, informal.
- 5.) Network fostering: personally, by email or phone, both.
- 6.) Should a network manager be established within the company: yes, no.
- 7.) Organization of network management: network manager, databases, internal official meetings, internal informal meetings.
- 8.) Responsibility of network-management: Managers, every employee, project teams.
- 9.) Protection of networks against loss: no protection, intra-organisational networks, data-sheets, and buddy systems.
- 10.) Effects derived from networking: Information advantages, fulfilment of business objectives, efficiency, market position and sales.

As the interviews were held in German, the analysis done in German too and the results then translated to English.

4.1 Emerging of Networks

Reasons for the developing and triggering of a new network were mainly the start of a new project or to reach business objectives. Both answers were given seven times. Another reason for someone to develop his network is a new position or a new job. One expert described in detail, how a manager, which starts in a new region or country, has to develop his network strategically. Surprisingly just two interviewees answered that the need for information is the reason to develop the network while information benefits was one of the most frequent answers for positive networking effects for a company. The other reason, mentioned four times, was the fulfilment of business objectives. Two interviewees mentioned all incensement of efficiency, market position and sales.

² Due to privacy reasons the transcripts of the interviews are not included in the paper.

Another interesting aspect of network development was that no interviewee saw a problem as the starting point for a network, which was described in theory several times as the reason for the emerging of social networks.

Concerning target-orientation of network development, four of the experts answered that they follow the development of their networks, mainly target oriented and develop their networks strategically. The other five answered that they include hazard also in the development of their networks. This means that they basically plan their networks according to their projects and objectives, but do not exclude un-planned spontaneous contacts. They emphasized that by hazard they sometimes get to know interesting and useful contacts and that it is important to “keep one’s eyes peeled” in order not to miss opportunities. Possibilities for the development of networks are direct and indirect over already existing contacts. The results show that both forms are used, though the experts said that they always try to first build a contact over an already existing network and if this fails they try direct ways to establish a contact. Another possibility for developing a network, mentioned twice, is over events. This means to visit a certain event in order to meet a certain person.

It can be summarized that networks are developed partly strategically and partly unconscious and naturally. It is clear that target-orientation and identification with the goal is needed, in order to be able to develop a network, but also to recognize contacts that are met by hazard.

4.2 Network Management

Six respondents emphasized that the management of networks is done on a rather informal level within their company. Six experts do the fostering of the network by means of email, telephone and in person. One interviewee described the problems of network fostering as something which has to be done discreet, on one hand not to lose contact and on the other hand not to annoy the contact. Three experts pointed out that the fostering of networks has to be done personally, by meetings over lunch or coffee, which shows the informal level on which network fostering is done.

While just one person answered that in their company, a network manager or network clearing position does exist, five said that there should be a network manager in a company. A network manager is described as being in charge of connecting people. In the case where one employee needs a certain contact the network manager can check in a network database if the contact exists and which employee is in contact. This network manager would take care that contacts are not overused, before he gives the contact to another person. Unfortunately no one could describe how it works in praxis, as everybody answered that network management is done individually. One expert described the experiences of a project, which was aimed at introducing a network manager, but failed due to fear of losing power.

Network management is organized by contact lists, customer relationship databases and intra-organisational informal meetings, or formal meetings (three answers). Experts described that in regular meetings, as well as before or after meetings, current projects and problems are discussed. Within these discussions automatically people identify who could help in this situation, or who could know someone who could help. Furthermore they mentioned that on an informal basis it is discussed in the company where contacts exist and employees are likely to forward contacts to their colleagues as they take pride in having certain contacts and being able to help someone.

The results show the lack of organization within the networks of companies, but also that intra- as well as inter-organisational networks do not depend on a lot of organisation in order

to work. Moreover it seems that informality is the key to flourishing networks. Experts highlighted the basis of conversation that is needed for the development and management of networks. What needs to be organized within the company is the system of contacts, which is a problematic point. Not everyone is likely to share his outlook-contacts with everyone. Some experts said that it is done in their company, while another said that they couldn't imagine sharing their contacts without being asked specifically for a certain contact. In every case communication between the employees is crucial, as "the knowledge alone that a certain contact exists, does not help at all. You have to know how to deal with this contact."

4.3 Network Governance

Concerning network governance one criterion was the responsibility of network governance. The answers are not unambiguous as four answered that it is the task of the manager, four said every employee is in charge of network governance and three that it is a team responsibility in projects (One expert voted for individual as well as team responsibility). This is problematic, as it seems to be unclear who should manage the networks and who is responsible for it. Every type of network governance makes sense and has its advantages as well as disadvantages, which has been discussed in 3.3; just it has to be clear within the company who is in charge of network governance.

Eight out of nine experts agreed on the protection of networks against loss with the help of intra-organisational networks. The experts expressed that the only simple and useful possibility in order not to lose control over networks or to lose parts of it in case employees retire or leave the company, is with the help of networking within the company. Especially the development and fostering of informal networks by sports associations, informal lunch meetings, regular discussions and evening events about various topics are seen as crucial. One expert answered that it is not necessary to secure networks against loss, as a new employee, which brings new contacts, replaces every leaving employee. Other ones suggested additionally securing networks with data sheets and illustrations. One person suggested Buddy-Systems as ways to diversify a network and to avoid a situation where certain employees are not included in the networks or that they have "contact-monopolies".

The results showed that network governance in organization does not depend on a lot of organization, but responsibilities have to be well defined. Additionally, the securing of networks seems to work out just by the help of networking and communication within company. Though internal communication is not given naturally, but needs organisational support and activities by the management.

5 DISCUSSION

The network management models, which were presented in part 3, seem to be quite different at the first glance, though after analyzing them more precisely they show several similarities. Most of the models do not deal with the network management in general, as speaking about the work within a network, but about the management of the evolvement or emerging of the network. Figure 3 gives an overview of the above mentioned network management models.

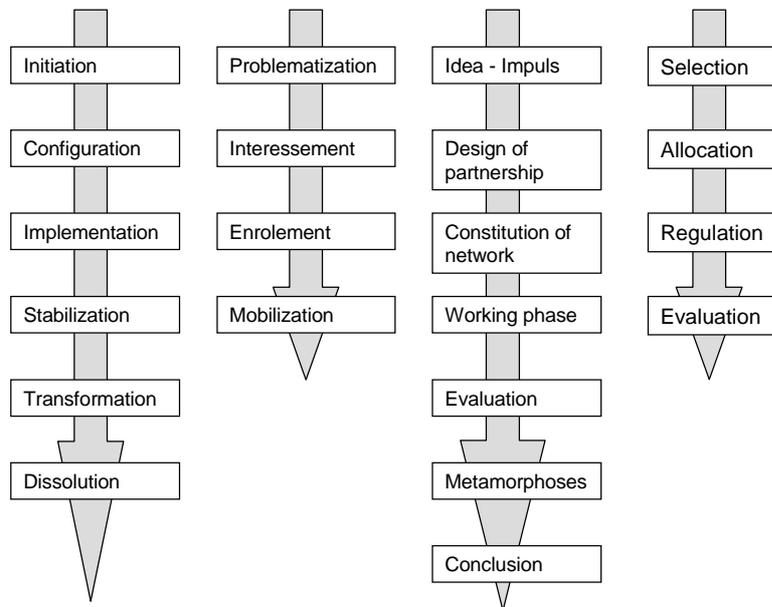


Figure 3: Models describing the evolvement of networks.

Source: Author's own.

Three of the above presented models start with a problem or an idea which is the catalyzator for the emergence of the network. Followed by the choice or selection of the network partners which is similar in all models. In the following step(s) the network is build up, gets shape and an identity where certain norms and rules are valid. Just one model describes actually the phase of working in a network, while all other models already describe transformation, metamorphoses and evaluation. Therefore the network development model in 7 phases by Howaldt and Ellerkmann (2005) describes the evolvement of networks most accurate. Nevertheless this builds a contrast to the results of the expert survey. With the help of the interviews it was shown that on the one hand networks are developed for new projects or business objectives and on the other hand for future purposes without any specific reason. Moreover it seems that the development of networks is done mostly intuitively. Simple analysis and schedules whom to meet are used in order to be prepared for meetings and to have a plan with whom to meet and speak. Though the development of networks, after the first meeting, the designing of relationships works without any guidelines. Therefore it appears that an open guideline for the development is needed, not a tight plan.

It follows that the development of networks is just one of the tasks of network management and that the focus on the actual management of the work within the network should be highlighted in a greater extent. The results of the interviews showed that also the management of networks itself does not need a lot of organisations, but clear rules and responsibilities. The network modes proposed in the network management framework suggests the following tasks: The design of the government structure, the coordination of exchanges, the fostering of social integration, facilitating shared visions and values. The aligning of strategy, organisation

and technology (in the sense of communication and information technology) of the network, the networks members and their organisations shall be proposed as another important network management task. All these duties have to be arranged and done in order to build a functioning network. Especially the fostering of social integration and the facilitation of shared visions and values are crucial for the functioning of the network. As the interviews showed many simple things work out in a network due to communication, therefore the existence of these links and ties has to be assured. Also, the responsibility for network governance and the rules for coordination of exchange have to be clear. The coordination of exchange can be supported by technology and facilitated due to the alignment of strategy and organisation. This is a task which is crucial for inter-organisational networks, but also in larger corporations with diverse organisation is can be necessary.

Therefore the author suggests adapting the existing model of Strategic Networking as it shown in Figure 4:

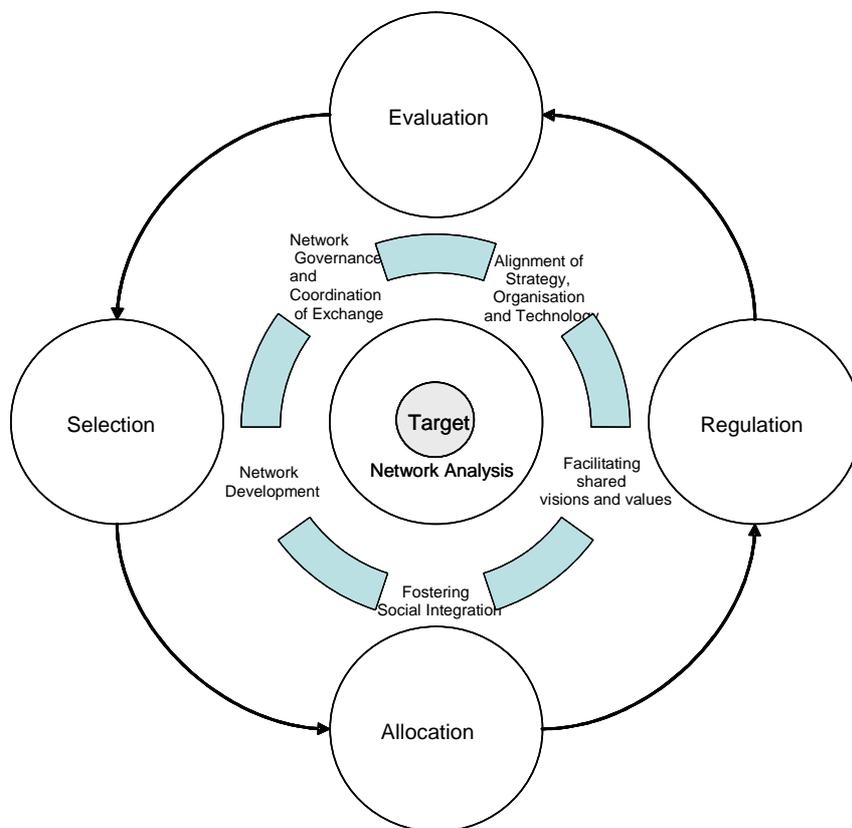


Figure 4: Enhancement of Strategic Networking.

Source: Author's own.

The central point of Strategic Networking is the idea and aim of the network, surrounded by Sydows and Windelers model of network management, which is seen as the management of the network development, an ongoing process in a social network. Another central tool is network analysis, which should be done regularly in order to give an overview the network, the roles and positions of the network members and to visibly mark the areas in which the network has to be developed. The most important tasks for managing the work within the network are network governance and coordination of exchange, alignment of strategy, organisation and technology, facilitating shared visions and values as well as fostering of social integration. These tasks are circular, unsystematic and with reciprocal influence and are therefore located in the inner circle of the model. The network development processes

selection, allocation, regulation and evaluation are also not singular processes but circular as long as the target of the network is valid for all network members. As the expert interviews showed that an accurate model of network development is not necessary, these four steps describing the process of network development, build a loose guideline, but do not prescribe every single step in the network development process. As the network development provides the basic structures of the network, while the network management tasks influence the processes in the networks, they build the outside circle of the model, which symbolizes the framework of the network.

6 CONCLUSION

From the beginning of the short introduction about holistic management and the definition of Intellectual Capital and social networks, common models and guidelines for the management of social networks were introduced. The results of the experts survey with nine Austrian managers were presented in order to combine the findings from literature research and the empirical part for the building of a network management model which is practicable and can be used for the development and fostering of Intellectual Capital in a firm.

Even though the literature about social networks and Intellectual Capital is huge, the literature about network management is minor. The presented models are in most part highly theoretical and seem to be far away from being used in companies. Moreover the presented models deal more with the development of social networks as with the organizational work within networks. Therefore the presented models were adapted and reassembled to a more complex version of the Strategic Networking model.

Self-evidently this model is just a proposal that has to be tested and adapted together with managers, which work in and with networks. Moreover it has to be studied to extend the use of such a model influences the development of Intellectual Capital in a firm. The possibility of developing Intellectual Capital as well as Social Capital with the help of social networks has been stated in scientific literature, though empirical studies are still missing. Therefore this paper represents a starting point in network management in firms with a special focus on intra- as well as inter-organisational networks, but calls for further research.

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