

# **Social Capital in Value Creation in Temporal Networks**

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## **ABSTRACT OF WORKING PAPER**

This exploratory research will try to further the understanding of:

**How does the firm use social capital for value creation in emerging temporal network projects?**

The structure of this preliminary research is comprised of a limited initial review of the literature and of a collaborative pilot study of a single firm.

This paper looks at an individual firm's approach to strategically using social capital for value creation. The firm applies four levels of social capital for value creation: the individual, the project, the firm, and the network.

The subsequent exploratory research will continue to propose a preliminary framework as a conceptual model of an emerging temporal network project. The subsequent empirical investigation will be carried out through two rounds of semi-structured in depth interviews of a single project. The empirical data will be developed from an emerging intentionally formed temporal network, for value creation, in mobile electronic commerce/e-business. The analysis of the empirical data will be used to re-evaluate and modify the preliminary framework, and the results will be presented as a modified conceptual framework. Finally, a refined framework for further study will be presented.

### **Key Words**

Alliances, Networks, Value Creating Networks, Temporal Networks, Inter-organizational Relationships, Project Relationships, Social Capital, Visioning and Sensemaking

## THE PHENOMENA

The complex nature of solutions in the technology intensive industries requires firms to cooperate through inter-organizational relationships in order to develop standards or to develop their own technologies that can create value (Möller and Halinen, 1999:414). For example, The Blue Tooth Project was an intentionally formed project, where many firms, from several industries, cooperated to develop short-range digital communications protocols to be utilized, originally between household appliances, by a single microchip. The subsequent blue tooth technology, conceptually, has a wide range of possible future applications beyond the commercial scope of the original blue tooth project. However, with the blue tooth technology now developed, some of the firms may, or may not, continue to collaborate on further projects. The relative success of the blue tooth project was based on the value created by the emergent technology, regardless of the ongoing nature of the relationships, within the value creation network. The blue tooth project is an example of a temporal network for value creation.

In Finland, Nokia and Sonera are both utilizing extended value creation networks for product and service enhancement. These inter-organizational relationships allow these firms to go further or deeper in the value creation process, as part of a network, than they could be expect to go on their own, and still limit their overhead risk with respect to incremental personnel costs. Small firms, in exchange for sharing their conceptual insights for new opportunities to create value, share the larger firms capabilities, market access, and implied legitimisation provided by collaboration.

Usually, firms utilize partner firms from previous projects, or seek recommendations from previous partners to locate suitable new partnerships. It is in this context, of potential partner identification, that social capital becomes very relevant. This paper looks at an individual firm's approach to strategically using social capital for value creation in an emerging temporal network. This working paper uses four levels of social capital for value creation: the individual, the project, the firm, and the network.

**Working definition: Social Capital is an aggregate of potential resources that can be developed through building of trust and reciprocity from previous interactions in social relationships and it is seen through anticipated or implied access to those social resources due to the prior membership in the social networks.**

**Working definition: A Temporal Network for Value Creation is an intentionally formed network of actors, collaborating on a project, for the expressed intent of creating value through their collaborative efforts, for a specified purpose, limited to a specified duration of time, and with limited expectations that the relationship needs to continue beyond the scope of the project, in order to be deemed a successful relationship.**

## THE LITERATURE

The literature around managing relationships for value creation has been developed from a variety of different perspectives. Each of these academic perspectives describes the process of building and managing a relationship as a process. The IMP research tradition focuses on the actor and the activities as they attempt to create resources. The collaboration literature looks at the relationship as a form of expanded capacity and therefore additional resources. The project literature is more concerned with the successful management of a short duration relationship and marshalling the resources for a specified objective. The strategy literature focuses on the incremental capacity and compatibilities of the partner firm as a strategic resource for the firm. The knowledge literature focuses on the learning process from collaborative relationships. And, the value creation literature is building purposeful resources in a collaborative relationship beyond the scope of the individual firm.

Value creation literature includes aspects of the other research traditions, so they are included in introductory form only. It is in the building upon previous research that provides the development of academic thought and therefore the research traditions. Each of these traditions shares the issue of resource development through collaborative efforts, but they focus on different aspects of the process and the respective vocabulary is therefore similar, but distinct.

| IMP                      | Collaboration             | Projects                     | Strategy                    | Knowledge                  | Value Creation           |
|--------------------------|---------------------------|------------------------------|-----------------------------|----------------------------|--------------------------|
| Håkansson (1982, 1989)   | Lorange and Roos (1993)   | Lockyer and Gordon (1996)    | Nadler and Tushman (1997)   | Nonaka and Takeuchi (1995) | Biemans (1992)           |
| Möller and Wilson (1995) | Hargrove (1998)           | D'Herbement and César (1998) | Chandler et. al. (1998)     | Tissen et. al. (1998)      | Parolini (1999)          |
| Ford (1997)              | Doz and Hamel (1998)      | Räsänen (1999)               | Kay (2000)                  | Zack (1999)                | Bovet and Martha (2000)  |
| Ekambram (2001)          | Child and Faulkner (1998) |                              | Faulkner and De Rond (2000) | Nonaka and Teece (2001)    | Möller and Rajala (2001) |
| Mäkinen (2001)           |                           |                              | Kuvaas (2002)               |                            |                          |

The literature on collaborative value creation can be organized, as above, but due to the limitations of space, this working paper, will use only selected IMP literature and selected social capital literature as a theoretical base.

The early Industrial Marketing and Purchasing Group (IMP) literature has described innovation relationships on a dyadic level (Ford, 1997, 1998; Möller and Wilson, 1995; Wilson, 1994) and it assumes that a successful relationship should have the

goal of being an on going relationship (Håkansson, 1982) and should be managed accordingly. More recently, IMP research includes the management of different aspects of projects in networks, the integral elements of opportunity and partner identification with respect to time, and as value creation networks, as focal nets. For example: Focusing on learning from projects relationships as a unique experience (Ekambaram, 2001) provides two dimensions of learning from within a project and beyond a project from a systems perspective. “Knowing new patterns of casual relationships can be seen as a process of sense making (Ekambaram, 2001:3)” The use of the project as a starting point for further developments in the relationship is taken up by (Bengtson et. al., 2001:2), as they focus on the “Business-relationship aftermath stage in situations when relationships, that were designed to end at a specific time, continue to exist.”

Johnsen and Ford, (2001) provide a conceptual framework for managing collaborative innovation in networks as eight processes: Uniting, timing, mobilizing, communicating, exchanging knowledge, exchanging human resources, and synchronizing. Uniting as an activity refers to identification and selection of potential actors. Timing refers to the decision at which stage and how early in the project to involve the key actors. Mobilizing focuses on the motivation processes around risk and benefits in formulation of project objectives. Communicating was viewed through the processes of communication and how it reflected the complexity of the network. Exchanging knowledge refers to the technical specifications and drawings as well as market knowledge. Exchanging human resources refers to the building of the project team. Synchronizing concerns activities around adaptation and alignment of systems and procedures. The dimension of Uniting and the dimension of Timing (Johnsen and Ford, 2001) would be related to Visioning (Möller and Halinen, 1999), Sensemaking (Weick, 1995), and Environmental monitoring (Kuvaas, 2002). The dimension of timing directly supports the concept of temporal network projects for value creation.

In describing the process of network formation, Mäkinen (2001) provides four phases (1) the awareness phase, (2) the formation phase (the identification, the negotiating phase and the launching/establishing phase), (3) the growth phase and (4) the stabilisation phase (Mäkinen, 2001:1). Her analysis of emerging and formation of issue-based networks in the pharmaceutical industry provides a base for expanding research into the issue-based emergence and formation of networks in the telecommunications industry. The dimensions of the awareness phase and the formation phase are relevant in the information availability and the information processing capabilities of managers involved in internal and external environmental scanning (Kuvaas, 2002) and environmental scanning vs. environmental monitoring (Kuvaas and Grønhaug, working paper) as strategic sensemaking (Weick, 1995) These phases can be used to support the concept of temporal networks. The activities of managers, in selectively focusing on particular opportunities for value creation, in emergent temporal networks, are strategic in nature.

This research extends the “the need for more flexible and often temporary types of organizational structures in high-technology companies has resulted in an increasing

use of teams and project groups employing special know-how and expertise in carrying out marketing activities. These form partly planned and partly informal intra-corporation networks” (Möller and Rajala, 1999:521). Extending Möller and Rajala, this paper focuses on the very early phase of the marketing activities of the firm. It is by observing the intentional strategic choices a firm makes during the emergent phase of the of a value creation project, that this research attempts to understand how the individuals of the firm apply the concepts of Visioning (Möller and Halinen, 1999:417) Sensemaking (Weick, 1995) and Social Capital (Coleman, 1990; Pfeffer and Salancik 1987; Gulati, 1998; Gulati and Zajac 2000). It is the strategic choices of the individuals and how they attempt to use social capital in order to position the firm within an emerging temporal network project, for value creation, that is of focal interest.

This research builds on the concepts of value creating networks (Parolini, 1999:61; Möller and Halinen, 1999:414) not the digital supply chain definition of a value net offered by (Bovet and Martha, 2000:2). Möller and Halinen offered a four Levels of Network Management (Möller and Halinen, 1999:416-417): Level One - Industries as Networks, including the constructs of Actors, Resources, and Activities, Level Two - Firm in a Network and Network Positions as focal net that describes the context of actors, Level Three – Managing Relationship Portfolios, the firm as a nexus of resources, capabilities and activities, and Level Four – Managing the Exchange Relationship as a dyadic exchange. This paper focuses on the concepts of network visioning capabilities as part of network management capabilities (Möller and Halinen, 1999:417) and the portfolio management capabilities (Möller and Halinen, 1999:418) although it approaches the data in reverse order from the model. This change of perspective in the model is necessary because, this research emphasizes the strategic choices of the individual actors and their activities as they create strategic actions through social capital to build temporary nets for value creation and not the network view of their actions.

## **Processes**

For the issues of measurement and analysing the effects and value of different actions in business relationships and its effects on a portfolio of relationships (Ford and McDowell, 1999:430-433) as network dimensions will be used as foundation for measurement. Ford and McDowell present a model for understanding “Valuing the Effect of Relationship Actions”, Level 1, Effects in the Relationship, relates to the transactions that will unfold as a consequence of the decision; Level 2, Effects on the Relationship, effects the changes in the state of the relationship; Level 3, Effects on a Portfolio, wider effects on the other relationships, both direct and indirect, conscious and unconscious; Level 4, Effects on a Network, effects on a wider network, may take a considerable time to become apparent (Ford and McDowell, 1999:430-433). The Level of Effects model can be used to help structure the valuation concepts from the same focal levels as the Möller and Halinen (1999) model for managing “Business Relationships and Networks”. They continue to discuss value as a “composite concept” that is “perceptual in nature”, therefore provides a base as an

approach to establishing dimensions for understanding value of business relationships.

The Ford and McDowell approach to value measurement as dimensions, follows the same structural approach as the model offered by Möller and Halinen, (1999) and furthermore, they will support the concept of Sensemaking, (Weick, 1995), it can therefore be argued, that the “perceptual nature of value” offered by Ford and McDowell supports the theoretical approach to measuring value utilized in this research.

The concepts of efficiency and effectiveness were introduced by (Thick, A. in Pfeffer and Salancik, 1978) to help to provide an approach to evaluation of a relationship. His concept of efficiency refers to the input and the output of a process with respect to how something is completed and effectiveness is looking at the output with respect to the worth of the output according to the market price. Effectiveness through social capital is the ability to achieve the goal or make the deal. Efficiency refers to the relative cost of achieving the goal or making the deal. If a person is perceived to have limited social capital but is able to achieve the goal or get the deal, they would be deemed as efficient. If the person with potentially a large amount of social capital were not able to make a deal, then they would be deemed as inefficient. This precept give rise the perception of what is social capital with respect to efficiency and effectiveness. Social capital is not rendered as value until it is executed, either efficiently or effectively, and it maybe as much a question of the relative perception of who actually has social capital, or who simply is perceived as to have social capital. It is the individual level of

However, in this research, efficiency is used more as a financial valuation with respect to profitability and effectiveness is used more in the soft values sense of the relationship dynamics. The concepts of efficiency, the usual financial determination of measuring value in business relationship, and the concept of effectiveness, the softer social capital value of a relationship, helps to provide a method of describing strategic choices of the individual during the sensemaking process. Because the “perceptual nature of value”, during the emerging phase of a relationship, is so critical in determining how the individual make sense of how to prioritise the value creation potential of a relationship.

## **RESEARCH GAP**

Active environmental monitoring and strategic choices made by individuals when they intentionally creating relationship using social capital can partially be observed in the complex nature of their behavioural processes. However, those choices embed the individual in relationships and therefore their choices need to be regarded as strategic. “They may choose to anticipate such concerns and proactively initiate selective network contacts that enhance performance capabilities. Thus, by examining the specific way in which social networks may constrain a firm’s future actions and channel opportunities, firms themselves can begin to take a more

forward-looking stance in the new ties they enter.” (Gulati and Zajac in Faulkner and De Rond, 2000:368)

Gulati and Zajac argue that alliance research needs to go beyond considering the alliances as dyadic exchanges, and should also pay more attention to the fact that key precursors, processes, and outcomes associated with alliances can be shaped by social networks which embed most firms (Faulkner and De Rond, 2000:366). However, because research into cooperative strategy has been primarily concerned with dyadic relationships or alliances, it has failed to examine the formation, governance structures, dynamics evolution, performance and performance consequences as a function of the larger social network in which the relationship is embedded, to which it contributes, and which renders it social capital (Gulati, 1998).

It is this limitation in the previous research in the intentional use of social capital in strategically forming temporal network projects, to create value, which provides a research gap for further study:

**How does the firm use social capital for value creation in emerging temporal network projects?**

## **EMPIRICAL CASE – PILOT STUDY**

The empirical data for the pilot study has been developed in cooperation with a small entrepreneurial firm that was established in August 2000, in Tampere, Finland. The firm provides tools and content packages for the mobile phone users to create and share their own personal content with their electronic community. They focus on software-oriented concepts for technology offerings. The pilot firm focuses on providing large-scale proposals for new concepts for content development for mobile interactive media. They would like to have four-to-five key customers, like Nokia. At the time the researcher became involved with the firm they were struggling with the problem of offering more than conceptualisation to the client, “which means we would need to be on the development side of the projects as well”.

The company was initially established by strategically combining the professional skills and the personal networks of the eight founding members. The members were selected, not because of their professional skill set to produce the required core competencies, but because they knew who could provide those services from their personal network. Because they had personal access to a wide variety of resource networks their combined potential social capital was part of the business logic in founding the firm. Once the project specific resource could be identified, the founding members would be expected to utilize their social capital to bring the required resources to the project. The founding members all have extensive professional experience and previous personal experience working together in another context over a number of years. Access to the case firm was provided to the researcher because the researcher also shared a previous professional relationship with several of the founding members.

## **Methodology and Data Collection**

The longitudinal pilot study began in January 2001. The interviews originally were simple discussions provide an overview of the direction of the firm. In April 2001, the interviews were tape recorded and partially transcribed to provide a research trail. The focus of the semi-structured interviews attempted to identify changes in the strategies of the firm. To date (04 November, 2001) there have been four-two-hour interviews with a single member of the firm and one two-hour interview that included a second member of the founding team. Hand written notes were made to help in structuring the data. These semi-structured in-depth interviews continue to focus on how the founding members identify the process and the priorities of the firm as they attempted to develop business opportunities and supporting networks as strategy. These interviews occurred on the premises of the firm, so that informal observation also could be conducted. Documents of the firms were used to help triangulate data. During October 2001, the firm has moved premises to share space with a competitive firm. The researcher is currently attempting to gain access to the second firm to gather supporting data in building the preliminary framework.

All attempts have been made to capture the actor's perceptions as accurately as possible and the resulting data has been validated with the appropriate members of the firm. The researcher accepts full responsibility for errors.

## **INITIAL FINDINGS**

From the pilot study, the preliminary findings of how social capital was strategically applied four levels of social capital for value creation: the individual, the project, the firm, and the network. Because the firm is in the early phase of business development, the project level of analysis is difficult to measure because the efforts for value creation of the firm have been more individual efforts and not so much collaborative in nature. To date, there has been no data collection from actors outside the focal firm to show alternative perceptions of strategic choices made by the focal firm during a project.

### **Social Capital at the Individual Level**

By categorizing the empirical data into the four levels of the valuation model: the individual, the project, the firm, and the network attempts have been made to understand the strategic use of social capital (Coleman, 1990). The founding members of the firm have used social capital (Gulati in Faulkner and De Rond, 2000) in forming the team that has established the firm. These members were selected because of their professional skills and potential to attract potential partners from their social network in order to successfully offer conceptual services to large-scale service providers in the emerging interactive mobile phone technologies.

Because the emerging concepts for the interactive mobile phone technologies require cooperation between a variety of individual firms and technologies it was necessary to be able to use the concepts of Visioning (Möller and Halinen, 1999) and the

Sensemaking (Weick, 1995) identify which professional skills and which personal networks would be most beneficial to the founding team. This business logic was part of the strategy of the firm in the pilot study when determining who would be relevant in recognizing and creating opportunities within their networks. “The social network was a major part of building this team. We were looking for the intellectual capital to led production, plus the social network and status, plus the knowledge of the process.” “The team was selected based on social contacts, and management skills, not production capabilities.” The potential ability to make contacts through social contacts may be a component of attractiveness of the individual in forming the founding team, however, the active and strategic development of those social networks needs to have measurable effect it the firm is to derive benefit from those social networks.

How the individual make sense of their relationships determines how they prioritise them. One manager had a mental model to structure how they categorized their individual relationships as social capital. “I have three reasons for a relationship: 1) physical, 2) financial, and 3) mental. A social network is a choice of intention. A contact may start off as mental relationship and may go to social relationship and then may change to money relationship. The relationships that require social management of the contact in a network contained a mental benefit. A mental benefit could be technical, content or a financial relationship.” This form of mental benefit and categorization is part of the visioning process of the individual to identify and actively manage social capital at the individual level. It is active process of sensemaking of the changes in the benefits and the changes in the landscape that gives rise to emerging opportunities at the level of the individual. This process of evaluating the perceived value of the relationship is consistent with Ford and McDowell’s view “Relationships of low financial significance may be highly valued for their knowledge transfer, reputation, or network-access characteristics. The important consideration for companies is to know what elements of a relationship confer its value and the extent of that value” (1999:431).

In another aspect of using social capital at the level of the individual can be seen in its policy of handling offers to potential clients. “It is a policy of the company that all offers are delivered personally directly to the client in order to avoid any misunderstandings. They (the client) can review the offer on the spot and you get feedback immediately. If email is used, then you do not understand how the other person responds to different language or the way of communicating”. The policy can be seen as deliberate strategic management of the personal relationship and is an important part of reducing communications problems and ensuring that the social capital is enhanced. “Most firms would not make the additional effort of a two-hour train ride to deliver an offer in person to the client’s office.” This strategy is particularly interesting, because the mission of the firm is to support communication through new media. However, the personal touch strategically creates value in social capital. It is part of the strategy of the firm to ensure a personal connection throughout the process of building an emerging relationship.

In August 2001, the firm hired an external sales consultant to teach them all about the sales process in order to adjust the mental models of the founding members to include the sales function as a process in categorizing their current and future contacts. They each started to actively create contacts through the individual networks in order to identify value creation opportunities thru projects that could be developed with actors that were previously outside their social network. This active change in perspective started to change the methods of establishing contacts for value creation opportunities to a much higher level of awareness. The resulting activities of these individual efforts resulted in finding emergent opportunities for making project proposals. This was a substantial change in the approach to finding business opportunities. Previously, a single person was responsible for the sales efforts of the firm. This change in individual financial accountability also made individuals more aware about how opportunities were created, not simply as a response to a request for a bid or proposal. This intentional change in the accountability for business development, forced a change in the visioning process of the individual members of the firm. It decentralized the sales and networking functions throughout the firm and dramatically changed the strategic use of social capital for value creation in strategically created networks. The individuals needed to cold-call people they had no prior relationship with and see if there were opportunities for collaboration. The results of this change in accountability could be measured in both in terms of efficiency of developing revenue and in the effectiveness of the individuals in visioning opportunities the firm could create for value creation at the level of the individual. It also had a positive effect in how the individual felt about being part of the firm by establishing emergent opportunities. At the level of the individual, they were strategically creating project offerings as, emergent opportunities, through intentionally developed temporary networks to create value. Temporal networks can be used to create both efficient and effective value asocial capital at the level of the individual.

**P1: Effectiveness is perceived to be more important than efficiency in creating value as social capital during the emergent phase of a temporal network at the individual level.**

### **Social Capital at the Project Level**

The firm is focusing on identifying partners to work on the projects “Partners are the way to get projects. Sell and market to partners. The target is not the deal, but to think of joint areas of business. Doing some research conversations.” The project also represents a lot of other potential areas for development and it is a clear method for establishing social capital with another firm.

“In today’s fast-moving and competitive environment, capital is only one of the resources that anyone demonstrating a new technology needs to mobilize. Equally important are two other things – context and capabilities. Context relates to concrete product opportunities and knowledge of what to demonstrate and how. ... Capabilities refer to the research infrastructure and the skill required for bringing together enabling technologies and performing

product development efficiently. They include not just R&D but, increasingly, project management skills, ways to integrate marketing and manufacturing considerations, and dealing with a host of suppliers and research partners” (Jolly 1997:124).

It is increasingly the project management skills, within the context of project relationships that create project portfolios. And project portfolios give rise to the issue of temporal relationships, because projects relationships are temporal. This statement follows from the expectation that a project relationship, from the very outset, is expected to terminate and is therefore temporal. The processes of firms entering into and exiting from these temporal networks, as project relationships, and how those transitions affect the relative position of the firms within a network, gives rise to theoretical and managerial interest. It is the use of temporal alliances at the network level that gives rise to the concept of temporal networks.

The process of managing a portfolio of temporal alliances, as projects relationships, with a variety of different firms supports the idea that firms will run into conflict, not only within the specific relationship (dyadic), but also in managing the embeddedness conflict between the strategic interests of the firms at the network level. The very nature of the collaborative interorganizational relationships requires, to some extent, a form of interdependence, but “interdependence has an important impact on the organization ability to achieve a desired outcome for two reasons: first, interdependence varies with the availability of resources relative to the demand for them, and second, interdependence characterizes individuals transacting in the same environment, with the connection being through the flow of transactions. Interdependence can create problems of uncertainty or unpredictability for the organization (Pfeffer and Salancik 1987:42)”.

“The influence of social embeddedness on the formation of new alliances has also been observed at the dyadic level, with a focus of who partners with whom. Results from some recent studies suggest that accumulation of prior alliances between firms creates an important social structural context that influences which pair of firms are likely to tie up with each other.” (Gulati and Zajac, 2000:367; see also, Gulati and Gargiulo, 1999)

These previous experiences with interorganizational relationships are framed in social contacts and are linked directly to the history of experiences for the firms and will shape the future interactions or the willingness of the firms to seek out partnerships and develop interorganizational relationships.

**P2: Effectiveness is perceived to be more embedded than efficiency in creating value as social capital during the emergent phase of a temporal network at the project level.**

## **Social Capital at the Firm Level**

Creating a position in network is a traditional dimension that most people intuitively understand as reputation within the industry. What role and position does the firm enjoy? How do they create opportunities, cooperate with other actors, or change their position in the network. This role is particularly important in the value creation aspect of the network because it directly influences the willingness of other actors to work together, and share their own cultivated image. Choosing the wrong actors in a network can signal the level of the expectations of others in the network. This process of partner identification can greatly influence the type of temporal networks that can be formed simply because the firm is relevant in the other actors environmental scanning of who is doing interesting work or has developed useful solutions in the past. Most small firms try to improve their relative position in the network by partnering with other small actors in an activity that can show their ability to contribute to the process of value creation. These firm trajectories tend to be reinforcing. Positive trajectories led to better social capital for the next round of projects. Negative trajectories can diminish and limit the future options of the firm within the same network. The process of managing the contacts is usually very important and a great deal of academic studies have focused on the level of the firm and its' role in the network or supply chain.

The focal firm in the pilot study is actively managing its contacts. Each Monday during the project meetings these contacts and relationships are discussed. If new social capital is required then contact are developed. "Contacts are important, some are made on purpose, because the person has 'been around for a long time'." The simple statement of having 'been around for a long time' shows the process of longevity as being an important factor of being in an extended focal net. If other actors are not aware of your continued existence then you are not actively considered during the environmental scanning of who is relevant to establish future temporal networks for value creation.

Industry Events or trade shows are another form of confirming longevity in the industry. The face value involved in social capital cannot be underestimated in the network perceptions of the firm. "Events and dropping by are quite useful. Many companies are not doing it, and they lose status and harm their image by not being active in different communities. A person should be assigned lobbying for the business".

**P3: Effectiveness is perceived to be more strategic than efficiency in creating value as social capital during the emergent phase of a temporal network at the firm level.**

## **Social Capital at the Network Level**

The firm is actively looking for opportunities for building the face value as a player in the industry networks. For example, the firm uses conferences as an active method of building social capital in the professional networks. During the 2000 eTampere Conference, the firm divided itself into each of the different working groups in order

to ask questions and create contact throughout the entire group of participants. This strategy has led to the firm being asked to join PCA Infocom Finance Group's Seminar for organizing the new technologies in Finland.

A second example would be that the members of the firm are on Media Tampere and Mind Trek. These two organizations are very influential in the Tampere region for the new media firms and are active based organizations that are specifically designed to promote the latest thinking in the electronic media platforms. The members of the firm joined these two organizations as part of the firm's strategy to be available for building opportunities through the organizations in a larger sense. This was a strategic choice of being active in the very organization that is designed to promote the services that the firm is attempting to deliver through projects with other members of the organization. In effect, they are ensuring that they are in the environmental scanning of the other actors of whom to consider in forming the future project teams.

A third example is worth mentioning because it indicates how building social capital in the network of the firm can be created. During the USIX (User Oriented Information Seminar, 9<sup>th</sup>) steering committee was being formed by TEKs, and FinnPro as a pilot program in Japan to promote a good image of Finnish IT sector to the Japanese. A member of the firm used the trip to Japan as a network opportunity, to spend social time with the other members of the delegation during the trip to Japan. In this role, he was not in the role of a service provider looking for customers, but as a colleague looking for opportunities in Japan. "Not much has actually developed in Japan from the trip, but it was more important that you were there".

**P4: Effectiveness is perceived to be more strategically critical than efficiency in creating value as social capital during the emergent phase of a temporal network at the network level.**

## **CONTRIBUTION**

The research aims to develop concepts for understanding the characteristics of social capital in intentionally forming temporal networks at four levels of abstraction and to begin to discuss tools for management in these temporal networks during the conceptualisation and early commercialisation phases of an inter-organizational project relationship.

I offer the concept of temporal networks to expand the conceptual framework of the IMP research tradition to include the project types of interorganizational relationships for value creation. The research examines the nature of temporal networks, their characteristics and processes through which they are constituted, and the issues temporal networks pose to innovation management.

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*From Idea to Knowledge*