

# HOLISTIC MODEL OF NETWORK MANAGEMENT: ACTION RESEARCH IN ELDERLY HEALTH CARE

Work-in-progress paper

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## Abstract

Network management is a topic of increasing interest and scope. Trust and commitment have been identified as basic elements of a functioning network and we know that there are certain factors that cultivate or discourage their existence. Research on network management has offered various but ultimately partial theoretical and practical contributions. Our aim is to look at network management from a more holistic perspective, bringing together the relevant but scattered viewpoints and contributions. We use action research to look at what managers (can) do to manage a network. Our empirical focus is on elderly care in the Finnish context, which limits the scope of generality of the results.

## INTRODUCTION

Network management is a topic of increasing interest and scope (Ritter, Wilkinson & Johnston, 2004; Järvensivu & Möller, 2009; Hibbert, Huxham & Ring 2008), also in the field of health care (Provan & Milward, 1995; Provan, Isett & Milward, 2004; Nykänen, Järvensivu & Möller, 2009). Trust and commitment have been identified as basic elements of a functioning network – which makes them key elements for network management – and we know that there are certain factors (shared values, communication, etc.) that cultivate or discourage their existence (Morgan & Hunt 1994).

Hibbert et al. (2008) recently offered a review of the various contributions that inter-organizational management research has to offer. They argue that the field has much to offer, but the contributions are scattered and we lack a comprehensive management theory for inter-organizational networks. We need research that looks at inter-organizational management from a more holistic perspective, bringing together the relevant but scattered viewpoints and contributions. Our aim in this study is to follow this path.

We ask a simple question: what should a manager do to improve the efficacy of a network? Our aim is therefore to formulate a holistic model of network management that managers can follow to improve the effectiveness and efficiency of a network. We use action research as well as existing network theory as background information. Although we search for a model of network management, we maintain the understanding that the phenomenon of networking is inherently complex and networking situations are idiosyncratic (Hibbert et al. 2008). Our empirical focus is on elderly care in the Finnish context, which limits the scope of generality of the results.

## NETWORK MANAGEMENT

Inter-organizational relationship management is a rich field of research covering a wide range of theoretical disciplines and empirical contexts (Ritter et al 2004; Järvensivu & Möller, 2009; Hibbert et al 2008; Provan & Milward, 1995; Provan et al 2004). Järvensivu and Möller (2009) recently introduced a metatheory of network management, with the aim to provide a framework for a more comprehensive research in this field. They identified four contingent layers of network management research: socio-economic context, functions, tasks, and roles. While this metatheory helps us to locate our study in a wider metatheoretical framework – our study focuses mainly on the tasks of network management – the metatheory remains at a rather conceptual level.

In a recent broad review of inter-organizational collaborative management, Hibbert et al. (2008) approach network management from a more pragmatic perspective, much in line with our research aim. They identify a range of theoretical viewpoints applied in inter-organizational management research: practice oriented micro-level research applying psychology, sociology, economics, political science/public administration; structurally oriented macro-scale research applying economics, social network theories, political science and institutional theory; and process oriented intermediate scale, empirically grounded research with a focus on life-cycle, trust, and cooperative processes. These studies and perspectives have provided a range of insights that Hibbert et al. (2008) categorize into six different categories (see Table 1).

<b>Categories that help to conceptualize the nature of collaboration and identify management challenges</b>		<b>Categories that offer prescriptions or responses to management challenges</b>	
Category	Examples	Category	Examples
Category I: Life-cycle, stages, and phases	Phases such as problem setting, selection, direction setting, getting engaged, learning to collaborate, structuring, stabilization, dissolution.	Category IV: Competencies, behaviors, and tasks	Network building capabilities; activities such as consensus building and problem solving
Category II: Analytical conceptualizations: typologies, models, and diagnostics	Network typologies with different categorizing variables, such as hierarchical levels, and degree of risk or trust	Category V: Guidelines and process steps	Descriptions of best practices, contingencies of best practices, steps of effective networking
Category III: Success and failure factors	Lists of success factors promoting or inhibiting networking success, measurements using single or multiple criteria	Category VI: Tools and facilitation	Techniques for categories IV and V, such as project management techniques and group work facilitation

Table 1: Categories of inter-organizational management studies (adapted from Hibbert et al. 2008).

Hibbert et al. (2008) stress the impreciseness of the categorization – the categories are not precisely defined, and are over-lapping and non-exhaustive. The categorization is nevertheless useful because it provides an overview of the range of the research contributions in the field. It creates a helicopter perspective over the array of tasks that a network manager can face.

The categorization actually points, Hibbert et al. (2008) continue, toward a seventh category of network management: a summarizing category that looks at the six partial categories as

one network management framework that can be characterized as being 'holistic'. This holistic framework is neither fixed nor precise. Hibbert et al. (2008) explicitly state that this holistic approach "makes a fundamental assumption that collaboration is too complex and idiosyncratic for precise prescriptive remedies" (ibid p. 405). It is useful precisely because it provides the network manager with a general typology of research contributions that can be used as "handles for reflective practice" (ibid p. 405).

Trust and commitment have been identified as *the* basic elements of a functioning network (as exemplified by Morgan & Hunt 1994b). Trust has direct benefits related to communication, conflict management, negotiation processes, satisfaction, and individual and unit level performance (McEvily, Perrone & Zaheer 2003). It induces positive interpretations of other's behavior, resulting in improved cooperation (McEvily et al. 2003). The lack of trust induces concealment and distortion of information, increases the likelihood of misunderstanding and misinterpretation, and results in the lack of open discussion (Zand 1972).

Trust evolves over time between actors (Inkpen & Currall 2004; McEvily et al 2003) and increases the likelihood of commitment in joint activities (Håkansson & Snehota 1995). Both trust and commitment grow over time as the actors learn to know each other and create shared values (Dwyer et al 1987; Hunt & Morgan 1994a). At the beginning of a relationship trust and collaborative objectives create the climate for and shapes interaction between the partners, while later in the relationship learning and trust co-evolve (Inkpen & Currall 2004; Laaksonen et al. 2008). As trust increases, so does the willingness to take risk and commit to collaboration. Commitment makes people more willing to invest their time, effort, and attention to collaboration (McEvily et al. 2003).

The management of a network is not something that is done by 'managers' only (Järvensivu & Möller 2009). Rather, we see that the tasks that any or all network members perform in order to increase the level of trust and commitment or improve the functioning of a network in some other way, are network management activities. In other words, all actors in a network perform network management tasks. There can be a "network manager," but the creation of trust and other managerial functions can also be performed by others. In our perspective network management is something that people do. It is what a network manager or participant does that counts, not what their titles are.

## **METHODOLOGY: ACTION RESEARCH IN THE ELDERLY HEALTH CARE CONTEXT**

Our goal is to understand the patterns of managerial work required to manage a network. We chose action research as our method, as it is well suited to address this type of research goals (McNiff 1995; Drummond & Themessl-Huber 2007). Action research is a social process, and as such it includes empowering the researched, reflecting on social issues, and reacting to challenges that threaten the change process (Gummesson 1991). Novelty, provocative new theories, innovative concepts, and relation to critical research are the potential contributions of action research to traditional research (Gustavsen 2008).

The context of this study is elderly health care in two cities in Finland. Health care as a field includes many aspects (health care, social care, informal care), different types of experts (physicians, nurses, informal caretakers, managers), and various levels (primary, secondary and tertiary care). This complexity of actor linkages and resource bonds makes the field a rich area for network management studies. However, these networks are particular kind. The Finnish health care is organized according to the Nordic model. The responsibility for organizing health care rests on the municipalities. Although the services may be provided by the private market, most of the services are produced by the municipalities. The fact that the responsibility of organization rests on the municipalities and they provide the services by

themselves means that the context is hierarchical. This imposes some restrictions on the functioning of (trust-based) networking, as we shall see.

In spring 2008 we started a two and half year project on improving the functioning of elderly care networks in two cities in Finland. In collaboration with the cities we have organized in total more than 40 workshops in five different development networks, the number of workshop participants ranging from about ten to a hundred. The aim of the workshops has been to develop both service quality and network functioning in the field of elderly care in these cities. Theory is an integral part of action research (Gummesson 1991; White 2004; Turnbull 2002) – so we brought our theoretical ideas into the workshops, and later on reflected on what we new learned in terms of theory. In relation to the workshops we collected and analyzed various forms of data, including field notes, researchers' diaries, and transcribed focus group interviews.

### **RESULTS: NETWORK MANAGEMENT MODEL**

Our action research study of the management of a number of networks has resulted in a holistic model of network management, depicted in Figure 1 and Table 2. This model outlines the managerial activities required in improving the functioning of a network. It is an ideal representation of an optimal progress of network management – a simplification. In reality we witness complexities and dynamics that the model cannot fully neither portray nor predict. The model incorporates the six categories of network management introduced by Hibbert et al. (2008). Firstly, it conceptualizes network management into phases (Category I: Life-cycle, stages, and phases). Secondly, the model focuses on analyzing the beginning situation of the network in terms of an empirically grounded typology (Category II: Analytical conceptualizations) and looks at the outcomes of the network in each phase (Category III: Success and failure factors). Thirdly, the model prescribes competencies, behaviors, tasks, guidelines, steps, and tools and techniques to seize opportunities and tackle challenges (Categories IV, V and VI).

The model is iterative; it includes frequent back-and-forth loops. Moreover, it is important to note that the model downplays the complexity and dynamics of networking. In reality the network that is being managed is permeable. The network gains and loses members, and it is embedded in a network of networks and may include sub-networks within it. In short, the network is in many ways in constant flux. What the network manager can do is to evaluate the network at a certain situation, and use the insight gained from the model to adapt to opportunities and challenges proactively or reactively (Hibbert et al. 2008).

The model has four or five phases, depending on how one likes to think of the model. Firstly, a manager (or managers), is faced with a challenge, but are not fully aware of the network that may exist and help to resolve the challenge. In the following phases the network is gathered together, goals and networking means are agreed upon, and fruitful collaboration is facilitated. In the final phase the network participants may reflect upon the process, learn from their experiences, and use the gained network management competence to further support problem-solving in the network and the wider 'network of networks'.

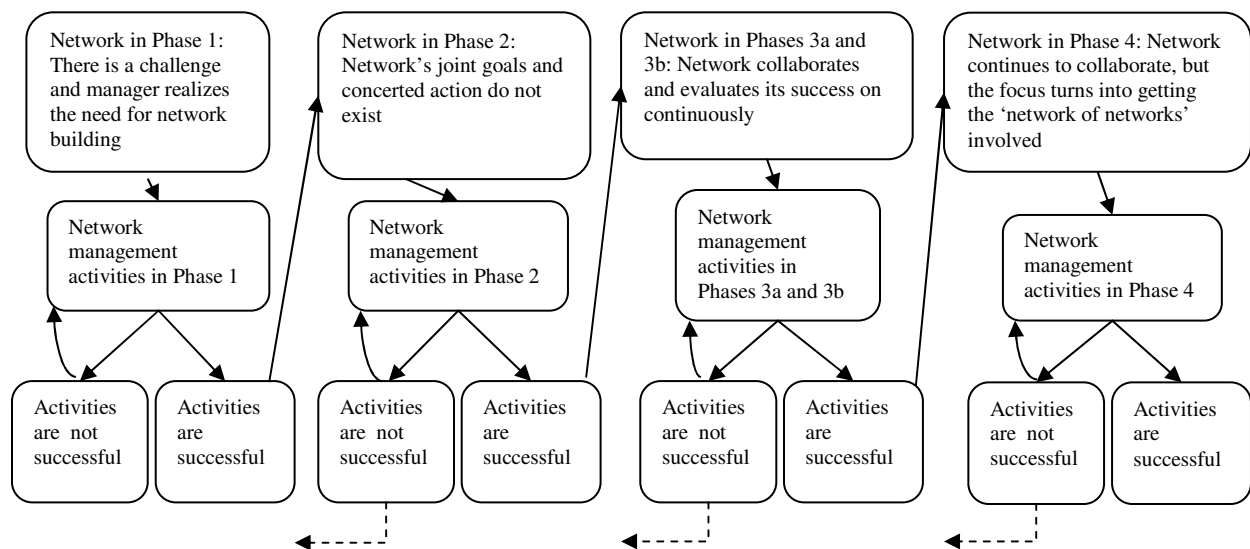


Figure 1: General model of network development through network management activities

The model is created with *a* network in mind. As the network is being managed, boundaries (of membership, of understanding joint goals, etc) are inevitably created. Even though boundaries are created, the network never lives in isolation, but is embedded in a network of networks. In our context the network of networks is the overall health care mix, or the service production system, which in Finland is fairly hierarchical due to the strong role of the municipality. If at any point the manager or the network faces a situation that there are significant problems in network functionality such that requires a substantial change in the network or its boundaries (if the membership changes significantly, if an external shock changes the network's goals, etc), from the viewpoint of the model a 'new' network is created, and one may need to start over from the beginning or from an earlier phase.

In each phase of the model there is a beginning situation and outcomes that are wanted, which require certain managerial actions. This situation–activities–outcomes typology of the model and its detailed elements (i.e. the specific rows) derive from both theory (Hibbert et al. 2008) and our empirical analysis. Many of the elements of the model (rows in Table 2) are fairly self-evident from the viewpoint of network theory, but a few may require further explanation. 'Evaluating, planning, and doing' are activities that follow a general process of network development derived from our empirical analysis. In terms of outcomes we could have chosen elements from a range of success factors, but chose to limit the analysis to trust and commitment as they are commonly referred to as the cornerstones of a functioning relationship (e.g. Morgan & Hunt 1994).

Phase 1 of the model focuses on the starting situation where a manager has identified a need for networking, or has a challenge to solve, are realizes that a network is needed to solve the challenge. In such a situation, as one network member described, "*you have a task, problem, an issue to solve, then you should think what [resources] and who do you need to solve the challenge.*" Identifying the key knowledge and knowhow needed and interviewing key people related to the challenge at hand are key steps in this phase. Typical mistakes are to fail to identify the key people and to rely only on one's own knowledge of the situation. Trust and commitment are built on the manager's reputation and involving key experts in the assessment of the situation.

Phase 2 focuses on the first network discussions to frame the goals, scope, structure, and means of the network. Key tasks are to familiarize members to each other and each other's needs: "*At first everyone was driving their own unit's issues before we found this common viewpoint. In the workshop we started to think about our current situation and the challenges*

*we had, and we seemed to have the same idea that something needs to be done. From this we got the first [joint] ideas [for development]. It took as a few more workshops to find these joint goals that we have now.*" The first meeting(s) require careful coordination, facilitation and motivation, so that all the relevant people are invited and committed to participate and contribute.

The third phase (Phases 3a and 3b) builds on the initial framing of goals and means through a systematic process of collaborative evaluation, planning, and doing. It may take while for the process to kick in: *"In the first workshops people were asking where the concrete results are. It was slow to go forward in such a big group. First issues were quite abstract – people do not know each other and come from different units. It is admirable how the people got over the uncertainty [of the beginning] – no one leaves and says that this is not gonna work. But after a year of work I have understood that networking is a process – it is not daunting anymore."* Key challenges are to coordinate and facilitate recurrent networking forums, respond to member turnover (familiarizing new members, motivating participation), and keeping up and giving place to productive discussion instead of unproductive debate. It is important to note that evaluation, planning and doing need to be adapted to a network mode of operation instead of using them in any hierarchical sense (e.g. Järvensivu & Möller 2009). In other words, the network participants need to be empowered to do the tasks together so that evaluation or plans are not imposed on the network. Commitment builds gradually as members come to know and learn to trust each other. Commitment is helped also by agreeing upon evaluation criteria and performing the evaluation together and discussing results openly: *"The results motivate us, the value we produce for the end-client and how one's own working improves."*

Phase 4 is about spreading out the invented solution as well as the gained networking competence wider in the 'network of networks'. The success of the development network is ultimately determined by whether or not the 'network of networks' adopts the solution. Spreading the networking competence can be a significant part of this dissemination process: *"We should take it [networking] in the structures and development processes, so that this is the way we do things around here. That it is part of our mission or way of operating. Networking should be included in our job descriptions – this is part of the job that we invest time for networking."* The 'network of networks' will trust and adopt the solution more easily if the network has a good reputation of success and is able to provide evidence of the value of the solution.

As we have stressed throughout, the model should not be taken as a straightforward prescription of how the network *ought* to evolve. Rather, the network manager can use the model to assess the situation of the network ('At what phase is the network currently?') and seek ways to address the opportunities and challenges ahead ('If the network is at this phase, what should we do next?').

## **DISCUSSION AND CONCLUSIONS**

The key contribution of this study is the holistic network management model depicted in Figure 1 and Table 2. We show how earlier contributions – categorizable into at least six different and partial perspectives as shown by Hibbert et al. (2008) – can be put into practice within one holistic framework.

We believe that our model has both theoretical and practical contributions. The theoretical implications can be divided in two. Firstly, the practice of network management can now be understood as a holistic 'whole'. Our model brings together such complex concepts as trust, commitment, and management tasks, but does not reduce any of these into a particular and thus inevitably partial 'variable' of network success as previous research has tended to do. It

is not any single element that counts, but the comprehensiveness and adaptability of the 'whole'.

Secondly, we ultimately show the impreciseness of attempts to reduce network management practice into particular theoretical conceptualizations (phase models, success factors, managerial steps, etc) because none of these alone is able to capture the complexities and dynamics of reality. Any complete theory of network management has to account for the need to look at the reality simultaneously from several angles. This is also a limitation to the model depicted in this paper – we may have omitted a perspective or two.

In terms of managerial relevance, we hope to have provided a model that is not only comprehensible but also practically useful. The model is meant to be comprehensive, but at the same time accentuates the need to adapt it to any situation that the network manager (or participant) faces. In such a short paper it is not possible to provide details of each of the elements of the model, but despite being fairly general we hope that the model points the way forward also in its details.

Our empirical material is limited to a number of development networks in the field of elderly health care in Finland. We need careful theoretical review as well as more empirical evidence to assess how widely, e.g. in which type of networks and networking situations, the model is applicable.

	<i>Phase 1: manager's first steps</i>	<i>Phase 2: network agrees on its goals and means</i>	<i>Phase 3a: collaboration for solving the challenge</i>	<i>Phase 3b: evaluation of collaboration and the solution</i>	<i>Phase 4: spreading the solution in the 'network of networks'</i>
<b>Network phase</b>	There is a challenge and the manager realizes that (s)he needs a network to solve it	People do not know each other; Initial trust exists, but this is not enough; Joint goals and concerted action do not exist; Motivating productive communication; Potentially dysfunctional network	Improving and maintaining the level of trust and commitment; Motivating and facilitating productive collaboration; Responding to member turnover; Facilitating network's communication with other networks;	Network is collaborating; There is a need to evaluate the progress of collaboration and if goals are met	The 'network of networks' is aware of the on-going development, but the solutions are not yet spread into the 'network of networks'
Source of legitimacy	Managers own drive toward efficacy; manager's mandate	Managers' and key actors' drive toward efficacy; manager's mandate	Network's "letter of intent"; agreed responsibilities and roles; managers' drive toward efficacy	Network's detailed plans; agreed responsibilities and roles; managers' drive toward efficacy	Reputation, networking success
Key responsible actors	Manager and potentially some key people that the managers involves in the beginning	Manager and the invited group of people	All members of the network; Network manager(s), facilitator, secretary may form a "core group" for coordination and facilitation	All members of the network; Possibly a sub-group responsible for evaluation and disseminating the evaluation results	Manager, optimally all members of the original network, key gatekeepers from the 'network of networks'
Relation to 'network of networks' (including hierarchy)	Position in the 'network of networks' determines who are the key actors. The position is determined by knowledge, knowhow, hierarchical position, etc.	Position in the 'network of networks' determines who become the network members. The position is determined by knowledge, knowhow, hierarchical position, etc.	The network is at least partly bounded by the 'network of networks'. For instance, the resources and goals of the network may be defined hierarchically	'Network of networks' may influence what the key indicators of success are	Final success depends on if the 'network of networks' adopts the solution



Activities					
Evaluating – what does the network need to evaluate	Required knowledge and knowhow to solve the challenge	<ul style="list-style-type: none"> <li>- Re-evaluation of required knowledge and knowhow</li> <li>- Re-evaluation of key actors</li> <li>- Required structures, resources, and means of networking</li> </ul>	Re-evaluation of action plan: <ul style="list-style-type: none"> <li>- Is network meeting its goals?</li> <li>- Is network functioning as planned?</li> <li>- Need to change goals/plans?</li> <li>- Relationship to ‘network of networks’?</li> </ul>	(see Phase 3a)	What is the situation with the ‘network of networks’?
Planning – what plans are needed	<ul style="list-style-type: none"> <li>- Plan of bringing together the required knowledge and knowhow (i.e. plan of the first meeting of the network)</li> </ul>	Network’s basic planning: <ul style="list-style-type: none"> <li>- Goal-setting for the network: what does the network aim to solve?</li> <li>- Network membership</li> <li>- Means of networking: how does the network operate?</li> </ul>	Development plan (scheduling, roles, responsibilities, meetings and workshops, etc) to solve the challenge	<ul style="list-style-type: none"> <li>- Plan of how to collect the information for evaluation</li> <li>- Plan of how to process evaluative information</li> <li>- Plan of how to take evaluation into action</li> </ul>	Plan of spreading networking knowledge and the solutions that have been created
Doing – how are the plans realized; means of organizing and mobilizing people to collaborate	<ul style="list-style-type: none"> <li>- Discussions with key actors</li> <li>- Choosing actors (that have the required knowledge and knowhow) to be invited to the first network meeting</li> <li>- Inviting and motivating actors to the first network meeting</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinating and facilitating the first meeting and if needed a few iterative workshops</li> <li>- Inviting and motivating the needed meeting members; e.g. snow-ball sampling</li> </ul> At the meetings: <ul style="list-style-type: none"> <li>- Presentations by each person, unit and organization: expertise, goals, needs, problems</li> <li>- Discussing the network-level challenge</li> <li>- Agreeing on the members and means of networking</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinating and facilitating recurrent collaboration forums for evaluation, planning, doing and controlling</li> <li>- Different types of forums for innovation, problem-solving, decision making, open and honest discussion, etc</li> <li>- Coordinating and facilitating communication; both within the network and with the ‘network of networks’</li> <li>- Responding to member turnover: familiarizing new members</li> <li>- Empowering the actors</li> </ul>	<ul style="list-style-type: none"> <li>- Planning and agreeing together on evaluation</li> <li>- Setting up information collection; e.g. intranet</li> <li>- Coordinating and facilitating evaluation forums</li> <li>- Empowering evaluation by each member</li> </ul>	Organizing workshops in the ‘network of networks’; Setting up information sharing forums

<b>Outcomes</b>	Manager has a vision of the network that is needed; Manager understands what and who are required to start up the network; First meeting is planned	Network members know each other and start to understand each others' needs; Network has agreed on joint goals, and means of networking to solve to goals; Network structure in terms of key actors is stabilized ("right" people are involved)	Network operates on a high level of trust and commitment; Challenges are solved innovatively	Network collects and processes evaluative information together	The solution to the challenge and networking knowledge are spreading in the 'network of networks'
Key objects of trust (what needs to be trusted)	Manager (as an expert, manager, leader, etc); Importance and solvability of the challenge; Relevant actors are known and have been interviewed	Manager and key invited people; Importance of the challenge; Solvability of the challenge by this network;	Network's trust in itself; Networking in general and the chosen action plan as the right means to solve the challenge	Network's trust in itself; Networking in general and the chosen action plan as the right means to solve the challenge	The original network; Gatekeepers; Positive value of the solution to the 'network of networks'
Key indicators of lack of commitment	Key actors do not get involved in the discussions	The invited people do not participate	Agreed responsibilities and roles are not taken	Agreed responsibilities and roles are not taken	'Network of network' participates in the spreading process
Key sources of trust and commitment	Reputation of the manager; Relevant actors' expertise; Motivation by influential actors	Knowing each other; Empowerment in goal and mean setting	Knowing each other; Trusting action generates more trusting action; Empowerment in development	Empowering network to create and execute the evaluation plan; Openness in discussing results	Reputation of the network and gatekeepers; Evidence of the positive value of the solution ; Openness

Table 2: Holistic model of network management

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