Virtual organizations as temporary organizational networks: boundary blurring, dilemmas, career characteristics and leadership

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Abstract

The present study investigated the virtual organization model from a relational constructionist perspective. Since the beginning of the nineties, virtual organizations are applauded as the most economically efficient organizational structure to confront the challenges of increasing global competition and environmental complexity. However, when looking at this new organizational activity from a relational constructionist perspective, several critical questions and dilemmas emerge that go unnoticed in the literature. At the same time, in real life 'Open Innovation' cases, the possibilities and boundaries of virtual organizing are also becoming clearer. Compared to classical organizing, virtual organizing makes different demands on managing interdependencies, collaboration, communication, leadership and evaluation, decision making, loyalty and identification with the company. This article inquires into processes and effects of boundary blurring; dilemmas and challenges concerning trust, loyalty and identity/identification; critical career elements and inclusion/exclusion mechanisms; and the role of the leader/facilitator as convener. The main purpose is to develop a new research agenda by raising specific questions concerning the relational side of virtual organizing and related new forms of organization.

Keywords: virtual organizations, temporary ICT mediated networks, relational constructionism, boundary blurring, dilemmas, career characteristics, leadership

Introduction

The past twenty years a lot of books and articles have been written about the rise of virtual organizations as temporary organizational networks facilitated by information and communication technology (ICT) (e.g., Davidow & Malone, 1992; Byrne et al., 1993; Goldman et al., 1995; Ashkenas et al., 1995; Chesbrough & Teece, 1996; Mowshowitz, 1997, 2002; Loebbecke & Jelassi, 1997; Venkatraman & Henderson, 1998; Warner & Witzel, 2003; Anand & Daft, 2007; Ahmed & Sharma, 2008; Pedersen & Nagengast, 2008). The main factors that explain the birth of such network forms are changing environmental and market conditions and innovative technology applications (e.g., Chesbrough & Teece, 1996; Mowshowitz, 1997, 2002; Anand & Daft, 2007). At the end of the nineties, it was rather difficult to find real life published cases of virtual organizing. What prevailed was business and management rhetoric, based on some spectacular high tech situations or Silicon Valley practices, in which the virtual organization was pushed forward as the organizational concept of the future. In project driven organizations, people could apparently enact a series of career ideals such as far-reaching flexibility, employability, temporariness, empowerment and autonomy (Taillieu, 2002). This way, market and innovation opportunities could be met.

A new constellation of the organization of the future becomes visible: an organization characterized by a relative absence of standard location and time bounded interaction between persons, groups and other organizations; a shift from internal towards inter-organizational processes; and a continuous switching of inclusion and exclusion of persons and resources that blurs the boundaries between separate organizations (e.g.,

Ashkenas et al., 1995; Chesbrough & Teece, 1996; Mowshowitz, 2002; Pedersen & Nagengast, 2008). This new organizational reality becomes technically possible through ICT. However, soon the question arises: how far stretching are the relational human possibilities and boundaries? From a relational constructionist perspective (e.g., Gergen, 1994; Bouwen & Hosking, 2000; Hosking, 2006; Lambrechts et al., in press) – which considers social reality as continually in the making through mutual negotiation of meaning, and mutual enactment of relationships between actors – several questions and dilemmas emerge that go unnoticed in the literature.

At the same time, in real life cases the relational possibilities and boundaries of virtual organizing are also becoming clearer. Especially experiences with 'Open Innovation' (Chesbrough, 2003; Chesbrough et al., 2006), where internal and external resources are combined both for the development (and launching) of new technologies and products, are illustrative. Compared to classical organizing, virtual organizing makes different demands on managing interdependencies, collaboration, communication, leadership and evaluation, decision making, loyalty and identification with the company.

This article addresses these issues and especially focuses on (1) processes and effects of boundary blurring, (2) dilemmas and challenges concerning trust, loyalty and identity/identification, (3) critical career elements, and (4) the role of the leader/facilitator of a virtual organization. The main purpose of the authors is to develop a new research agenda by raising specific questions concerning the relational side of virtual organizing and related new forms of organizing.

A different kind of organizing: Temporary networks facilitated by ICT

Through increasing pressure of global competition a lot of organizations change their structure. They become flatter and cooperate more and more in value chains (Taillieu et al., 2007). They outsource their non-core activities and evolve towards smaller, more agile companies. Decisions are made locally in result oriented units (Anand & Daft, 2007). Increasingly, companies (suppliers, customers and even competitors) join together in temporary networks facilitated by ICT. ICT lowers transaction costs. By sharing competencies, knowledge and costs in a competency network (Zimmerman, 1997), companies can get to new markets and exploit innovation opportunities which they cannot realize as individual players. The collaborative network disintegrates when the collective ambition and goals are realized. Coupling and decoupling is a continuous process. Figure 1 depicts such a competency network formed by various companies.

INSERT FIGURE 1 ABOUT HERE

Compared with more traditional ways of organizing, collaboration in networks offers several advantages in a turbulent and complex environment that is characterized by high uncertainty and ambiguity. Networks possess higher adaptation capabilities (e.g, Weick, 1979, 1995; Goldman et al., 1995; Anand & Daft, 2007). Through the increased competition and globalization, there are more alternatives to choose from to enact a particular business relationship. In terms of the lowest transaction costs in a given situation, the most efficient relationship is selected and retained. The standards of the internet enlarge variation because companies can technically collaborate more easily. The more parties in the network, the more variation and the higher the capacity to adapt. Through ICT companies can select partners more easily, often and faster, and thus

'switch' relationships with higher flexibility (Mowshowitz, 1997). To realize a shared ambition and common goals, some relationships are temporary reinforced and others are put in stand by. Several relational issues arise: what is the organizing principle of these virtual collaborative forms? How is it possible to make switches in human relationships in a high quality way? Which mechanisms are involved in this switching activity?

These collaborative forms in networks imply that it is not sufficient anymore to think in terms of 'inside' and 'outside', or 'suppliers' and 'buyers'. A classical organization chart is not helpful anymore. Boundaries become blurred which makes this form of organizing hard to imagine in traditional terms. The capability to reframe existing organizational realities (Watzlawick et al., 1974) is therefore of crucial importance to find and develop new (virtual) forms of organizing. Our imagination is called upon to envision new images of organizing (Morgan, 1997). How these new organizational realities are called – virtual organizations, imaginary organizations or boundaryless organizations – isn't the real issue. Essentially the focus is on how people collaborate on a temporary basis in networks to reach a common goal, and on the underlying relational processes of organizing that characterize these temporary 'interlocks' (e.g., Weick, 1979).

Examples of virtual organizations from 'Open Innovation'

Compared to ten years ago, concrete examples of virtual organizations are now available. These examples touch upon a variety of relational and psychological themes and challenges. Especially experiences in settings of 'Open Innovation' are illustrative (e.g., Chesbrough, 2003; Chesbrough et al., 2006; MacCormack et al., 2007), and there is currently a lot of management and scholarly attention for this concept. Chesbrough

(2006, p. 1), who coined the concept, defines Open Innovation as "the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation respectively". Chesbrough (2003) emphasizes that a shift is occurring from a closed towards an open innovation model. This shift is illustrated in Figure 2.

INSERT FIGURE 2 ABOUT HERE

In the past, a company did research mainly in its own laboratories. It developed a product on its own and produced this product in the factory. The sales force of the company took care of distribution. At present, these functions are more outsourced through joint ventures, alliances and subcontracting. Enterprises evolve towards virtual organizations that are open for innovation outside the classical niche (Chesbrough in Brockmans, 2006, p. 69). Organizational boundaries thus become blurred.

In a recent interview in the influential Belgian economic magazine *Trends*, Chesbrough quotes William Joy, the Organization & Development manager of Sun Microsystems, to answer the question 'what can open innovation be?' (Chesbrough in Brockmans, 2006, p. 71, translated from Dutch):

> Not all smart people in Sun's sector are working at Sun. Sun coordinates a part of his activities through the market, where free actors convene to purchase and sell each other's goods. Such a virtual network of enterprises and individuals around the core company offers the possibility to answer swiftly to new tendencies, because external co-workers are stimulated differently. A virtual organization uses market oriented stimuli such as bonuses or options in shares and finds more quickly technical adaptations or sale channels. This way, each individual in the process has an incentive to act as an entrepreneur within the network and to give 100%. It is often a case of trial and error before the best solutions emerge, but by all means, that hasn't got to harm the own organization. This way the organization combines the efficiency of the

market in the development, production, commercializing, distributing, supporting and maintaining of goods and services in a way that can not be duplicated by a fully integrated company.

Apparently this way of working has proven very effective for Sun Microsystems as it is still practiced and promoted many years after it was introduced (Quinn, 1992).

A well-known example of Open Innovation resulted from the collaboration between Philips and Douwe Egberts. Both companies chose the structure of a virtual organization, resulting in the development and marketing of the Philips Senseo coffee machine. A more recent example is the development of the Beertender achieved through collaboration between Heineken and Krups. From experiences with 'Open Innovation' however, it has also become clear that a virtual organizational form isn't suited for each type of innovation. Scholars make a distinction between autonomous and systemic innovations (Chresbrough & Teece, 1996; Chesbrough in Brockmans, 2006).

Autonomous innovations are innovations that can be implemented independently from other innovations. An example is a new type of cylinder or turbo charger for an engine (Chesbrough & Teece, 1996). This innovation can be developed without developing an entirely new engine. If the innovation is autonomous, a decentralized virtual organization can pretty well manage product development and commercialization. The information needed to implement an autonomous innovation is mostly publicly known and in some cases even codable in industrial standards. Given so, information can be easily copied and passed on across organizational boundaries (Teece, 2003; Chesbrough in Brockmans, 2006).

In contrast, other innovations are systemic by nature. The advantages of the innovation can only be realized in concordance with other, complementary innovations.

Senseo and Beertender are already mentioned as examples. Another good example of a systemic innovation is the instant photography of Polaroid (Chesbrough & Teece, 1996; Teece, 2003). For this product, both new film technology and new camera technology had to be developed. Other examples of systemic innovations are electronic funds transfer, front wheel drive, and the jet airliner which required new stress-resistant airframes (Teece, 2003, p. 161).

Systemic innovations require a lot of coordination and then it seems that the model of virtual organizing is much less applicable. A well-documented example of a failed attempt to enact a systemic innovation is the extension of the A380 by Airbus (MacCormack et al., 2007, p. 15, italics added):

> Airbus' German and French partners chose to work with different versions of Dassault Systems' CATIA design software. But design information in the older system was not translated accurately into the new one, which held the "master" version. Without a physical mock-up, these problems remained hidden throughout the project. The result: 300 miles of wiring, 100.000 wires and 40.000 connectors that did not fit, leading to a 2-year production delay at a cost of $6bn. Yet the cause of Airbus's problems was *not* in choosing different software versions; rather it lay in *the lack of an effective process for dealing with the problems* this created.

A hidden software problem resulted in serious coordination problems between the various parties. The parts that were produced in France didn't fit with those from Germany, and the virtual organization failed.

A systemic innovation implies that during the whole realization, from idea till final deliverable, information is shared and mutual adaptations are implemented in a very closely coordinated manner. This is inherent to systemic innovations; for autonomous innovations this close interdependence is not necessary. Thus, the major distinction

between the two innovation types relates to the amount and quality of coordination that is required (Teece, 2003). To implement a systemic innovation, open information exchange is vital. Possibly, this is easier to accomplish within the boundaries of one organization instead of in a virtual collaborative network. Moreover, in the case of systemic innovations, the knowledge is often implicit knowledge (Nonaka, 1994). By implicit knowledge we mean knowledge that is embedded in the individuals, community of practices and enterprises and is only passed on adequately by means of high quality participation and socialization processes (Wenger, 1998).

From the experiences with systemic innovation it seems that virtual organizations fail if there is a need for a lot of high quality coordination between the different parties in the organization network. At such a moment, various psychological and relational aspects that play an important part in virtual organizing emerge more clearly: (1) processes and effects of boundary blurring, (2) dilemmas and challenges concerning trust, loyalty and identity/identification, (3) critical career elements and (4) the role of the leader/facilitator. These aspects are discussed successively.

Processes and effects of boundary blurring

Boundaries are necessary: they set people, processes and production apart in a healthy manner. They keep things clear and distinguished. Without boundaries, an organization would cease to exist (Ashkenas et al., 1995). Hence, when moving to ICT facilitated networks, boundaries cannot simply be removed. Instead, Ashkenas et al. (1995) suggest that boundaries can be made more permeable in a virtual organization. However, an important management and research question then becomes: how can managers determine how permeable boundaries should be and where to put them?

Hirschhorn and Gilmore (1992) argue that virtual organizations or 'boundaryless organizations' are far from boundaryless. Especially, four boundaries are important in a virtual organizing setting: the authority boundary, the task boundary, the political boundary and the identity boundary. These are boundaries that are not visible in an organization chart but are 'situated' in the heads of managers and employees (Hirschhorn & Gilmore, 1992). They constantly have to be actualized in the relationships that are being developed between a manager and his superiors, subordinates and equals. Each relational boundary can be recognized by the feelings it evokes. In every work experience these four boundaries are interwoven and interact dynamically. Table 1 portrays the boundaries in terms of core questions, necessary tensions and characterizing feelings.

INSERT TABLE 1 ABOUT HERE

Firstly, the authority boundary psychologically establishes *who's in charge of what*. Necessary tensions are: "How to lead but still be open to criticism?", "How to follow but still challenge your superior?" When people effectively work together on this boundary, feelings of openness and trust dominate. Subordinates have space to take initiative and leaders feel supported and challenged. Feelings of distrust, rigidity, passivity and rebellion take over when collaboration on the authority boundary isn't working.

Secondly, the task boundary psychologically determines *who does what*. Tensions are: "How to be depended on others you do not control?", "How to specialize but still understand other people's job and respect it?" When task relationships with co-workers are good, people feel proud of their job and are comfortable with their dependency on others. They trust their own and others' competencies. When a work group encounters

problems in defining the task, in distributing responsibilities, and in assigning resources, individual members begin to feel uncertain, anxious and incompetent. They are no longer able to perform their work and sometimes even feel ashamed of their job.

Thirdly, the political boundary psychologically determines territories of power: *what's in it for us and what's not.* Necessary tensions are: "How to defend your interests without undermining the whole?", "How to differentiate between win-win and win-lose situations?" At their political boundary, people are confronted with the challenge to protect their own interests without damaging the efficiency and coherence of the organization as a whole. When groups in an organization do this effectively, people will most of the time feel empowered. Employees believe they are treated fairly and rewarded according to their contribution. But when political relationships are becoming sour, feelings of powerlessness dominate. Members of a work group can feel not appreciated, underrepresented in important decisions, or can even experience a feeling of exploitation: "We are only pawns in a game of which we don't know the rules".

Fourthly, the identity boundary psychologically establishes *who does and who does not belong to our group.* Necessary tensions are: "How to feel pride without devaluating others?", "How to be loyal without excluding outsiders?" People can be loyal to their own group, be proud to belong to it and still show healthy respect for others. But when this 'team spirit' is accompanied by contempt and distrust for others who do not share the same values or experiences, the identity boundary can tear relationships apart.

In these four psychological boundaries, the constructs of trust, loyalty and identity appear manifold. Exactly these constructs can explain why people, who work together in temporary collaborative networks facilitated by ICT, are confronted with and struggle

with different relational dilemmas. These dilemmas are the subject of the following discussion.

Explicating dilemmas concerning trust, loyalty and identity

New technologies create a lot of possibilities. However, people have to make the temporary network into a coherent and meaningful whole. This cohesion can be described more accurately with concepts such as trust, loyalty and identity.

Successful collaborating in networks strongly depends on the presence or absence of trust among the participants from different organizations. After all, trust seems to be a crucial building block for parties who have little common history and want to start to collaborate. Immediately the paradox becomes very clear: to trust each other with a minimum amount of information. Through ICT, it is possible to exchange information quickly, but people have to be motivated to share relevant, and sometimes delicate or even painful information.

Loyalty and trust are two concepts often associated with each other. However, there is an important difference between the two. Loyalty has to be understood as being faithful to an engagement or commitment: "Because I have made an engagement to do something (not to do something), I do (don't do) it". But being loyal to someone doesn't mean I trust him/her. In network-like structures the complexity of collaboration can be partly reduced by making use of juridical contracts in which everyone's responsibilities and qualifications are clearly established. The question is whether such a contract offers, apart from the reduction of complexity, a basis for creating loyalty and trust too. Surely one might say that building in certainty by means of a contract is exactly an indication of distrust.

There are mainly two complementary forms of trust that can be enacted in temporary collaborative networks: swift trust and institutional trust.

Swift trust is an impersonal or depersonalized form of trust associated with temporary systems. Examples are movie and theatre crews, cockpit crews, surgeons, a quick combination of actors for an emergency intervention. Swift trust is for the most part based on action, competence, education and training as a professional (Meyerson et al., 1996). Every professional is expected to have the competencies needed and to take on responsibility in his/her functional area. This forms the basis upon which professionals can trust each other without shared experience. Indeed, there is less time in temporary systems for a more gradual development of interpersonal trust based on cognition, and later, on affection. Swift trust does not develop but rather exists immediately in a temporary group or totally doesn't. It is a form of trust that is imported into a temporary group out of different contexts and is moderated by the culture and personality of the participating parties. This type of trust is maintained by pro-active, enthusiastic and stimulating behavior around a common goal. Yet, the participants continually question this image of trust for its validity and legitimacy.

A second form of trust, institutional trust, can facilitate the formation and the evolution of temporary collaboration networks. Partners trust each other because they trust an institution (e.g., well-respected company, university, government body) that brought them together: "I trust X who told me Y is to be trusted". That's why the reputation of this institution is important. The parties involved suppose there has been an intense selection to come to collaboration: they assume that reputations and organizational cultures have been checked and compared by the institution to obtain a

working whole. Institutional trust can facilitate the development of other forms of trust (among which swift trust) because there already is a base (of trust) to start from. But institutional trust can also work inhibiting because of the ability of the institution to sanction and because of contracts that have to be met rigorously (Rousseau et al., 1998). However, to date it is not clear how trust formation (swift/institutional) actually works in contexts of virtual organizing. Therefore, an interesting research topic might be to study the concrete relational practices (Lambrechts et al., in press) – i.e., task-oriented interactions with relational qualities – that people enact to facilitate the trust developing process in virtual collaborative organization networks.

Having introduced the concepts of trust, identity and loyalty, we will now address three relational dilemmas that people have to (learn to) manage when they collaborate in temporary networks facilitated by ICT.

Managing interdependencies: Tightly coupled versus loosely coupled

In a network where constant reconfigurations are manifold according to the project, the development and maintenance of good relationships with (potential) collaboration partners is becoming ever more important. Consequently, an important organizational skill concerns finding common ground between the different (interests of the) parties (e.g., Gray, 1989; Schruijer et al., 1998). An interesting management and research topic that emerges is how parties of a temporary collaboration network can generate just enough cohesion to function as a meaningful whole. Which minimal criteria must be in place to insure that the network doesn't fall apart all together?

Schein (1985) describes a few criteria a group (of individuals or organizations) has to meet to be able to function as a meaningful, coherent social system. The process of

becoming a group is characterized by the growth and the maintenance of the relationships between collaborating individuals or organizations and the actual realization of their goal(s). According to Schein (1985), the culture of a group will emerge from the shared processing of two sorts of problems: external adaptation and internal integration problems. External adaptation problems have to do with the primary task and mission of the group: "What is the reason to be for our group?" Internal integration problems deal with the (in)ability to work as a group: "Which processes facilitate cohesion, how can a group build and maintain itself?" Both kind of problems and the mechanisms to solve them are very closely linked (see also Sips & Bouwen, 1999).

To deal with external adaptation and internal integration problems, networks can be "tightly coupled *versus* loosely coupled". Tightly coupled systems are characterized by responsiveness among components without distinctiveness. If there is both distinctiveness and responsiveness, the system is loosely coupled (Orton & Weick, 1990, p. 205). Hence, a first dilemma emerges: how tight does the network have to become in order to reach common ground to work cooperatively as a social system? The difficulty is that by the time the necessary cohesion is reached, the "reason to be" of the temporary network can be over. The essence of a temporary collaborative network precisely exists in forming quickly using the market opportunity, disbanding and recombining in a new temporary constellation. Because the individual organizations (cultures) collaborate in a network, they will continually adapt to each other. In a collaborative network, people have to co-create a shared culture very quickly.

In order to come to crucial information exchange and reach enough depth to develop specific network competencies for the project at hand, the amount of

interdependence between the parties needs to be carefully chosen and managed. An important question then becomes: how can parties manage their interdependencies successfully, taken into account the necessary relational processing that takes time and maintenance?

Opportunistic shallow interaction without engagement versus open, deepening interaction with commitment

Relational constructionists do not consider organizations as 'entities' but rather as ongoing joint projects of relational negotiation (Hosking, 2004, Lambrechts et al., in press). Consequently, the quality of the interactions and relationships among the network participants is constitutive for the quality of the resulting network, and will determine its innovative and learning capacity. This relational quality can be assessed in terms of the extent to which open, two-sided, testable and contradictable communication is present (Argyris, 2002; Argyris & Schön, 1996; Bouwen, 1998; Bouwen & Taillieu, 2004; Lambrechts et al., in press). Hence, the relational quality has to be evaluated reciprocally by all parties involved on a permanent basis. A second dilemma emerges: how can a high quality of interactions and relationships, which is necessary for learning to take place, be enacted and maintained in a network characterized by high temporariness and 'swift' switching of parties? An additional challenge is the geographical dispersion of the participating parties. Parties are compelled to communicate mainly electronically, and in some cases they never meet each other face-to-face. Handy (1995, p. 46) informs us that trust implies personal contact: "Trust needs touch". How can a mutual basis for trust be created without 'touching'?

Continuity and stability versus dynamics of multiple memberships

According to the relational constructionist perspective (Gergen, 1994; Bouwen & Hosking, 2000; Hosking, 2006), changing means questioning and reframing the mutually created meaning construction and developed relationships. The continuously changing composition of temporary collaborative networks implies a permanent social re-construction through a negotiation process. A third dilemma that emerges is: continuity and stability in network membership versus frequent entrance and exit of multiple memberships. How can this social re-construction be sufficiently negotiated when parties so easily and frequently switch? The negotiation of different parties to arrive at a shared perspective costs a lot of time. This doesn't seem to be in line with the temporary nature and dynamism of a network. New constructions can easily be created in technical terms. However, the issue arises if the underlying negotiation process and social repositions can be enacted with the same swiftness without losing quality of interacting and relationships.

The three dilemmas discussed are closely linked and call for relational construction rules concerning the construction of a temporary collaboration network. We suggest that a network leader/convener can support and facilitate these processes. A possible competency profile of such a convener will be developed later. First important identity and identification issues are addressed as they are a recurrent theme in the identified dilemmas.

Identity and identification

In a temporary collaborative network many boundaries are crossed. This always implies identity changes. Four issues arise and are dealt with in succession.

Conditions nurturing the emergence of a temporary network identity

Albert and Whetten (1985 in Gioia, 1998) talk about three essential conditions that have to be fulfilled to be able to speak of an organization identity: centrality, distinctness and continuity. Applied to a temporary collaborative network this means that a network identity is that what organization members see as central to the network. In most collaborative network settings this is the "reason to be" – often defined as a shared opportunity or problem: "Alone we cannot use the market opportunity/solve the problem, together we can". The distinguishing feature of a network is the specific collection of competencies of the partners that can be linked. As a result, the potential to react fast to opportunities is much higher than in a traditional organization.

Concerning the continuity there is a clear problem with ICT mediated networks. The network is quickly formed to disappear again when the objectives are reached, and reconfigures easily to make the most out of a new opportunity. Hence, usually the connection between past and future is weak or even non-existent. The question then becomes whether the two first elements of organization identity – centrality and distinctness – are sufficient conditions to build a network identity that is strong enough to handle conflicts and to stress interdependencies simultaneously: a network identity which members can minimally identify with. If the identity appears not strong enough, we suggest that one or more network conveners can help manage the conflicts and interdependencies, and provide a frame to co-create a more shared perspective.

The influence of network membership on the individual organizations' identities

The individual organizations that are part of the network open their boundaries to other companies (to a certain extent). According to Kanter et al. (1992), changes at the boundaries of an organization – by relating to external parties – are always linked to internal changes in coordination, structure, role patterns, power dynamics and behavior. Shifts in power by participating in a network cannot be underestimated. Subtle identity changes and role shifts can appear. Representatives of the individual organizations in a network often receive more power in their own home organization because of their additional role. Participating organizations are continuously challenged to manage their mutual interdependencies successfully. This is not evident considering the specific culture and identity of every organization (Roose, Taillieu & Sips, 2001). Maybe, an important role of the network leader/convener is the creation of conditions so that people can co-create a shared script to deal with this diversity of cultures and identities?

Identifying with the network: Mechanisms

Because network members have to commit themselves to a common goal, a motivational problem may occur. Collaborating members generally identify with their home organizations, which can reduce the effort and motivation towards the common goal of the network (Van Aken, 1998). If the network identity isn't strong enough, it will become very hard for members to identify with the network and, consequently, to feel motivated to make an effort for the whole. The same phenomenon also arises within an organization where members identify more with their own division (for example production, R&D, marketing) than with the whole of the organization.

A form of identification that can emerge in a network is called apathetic identification (Ducherich et al., 1998). This implies the risk that individuals cannot define themselves in terms of the network identity (low identification), nor in terms of their distinctiveness from the network (low de-identification). The motivation to be part of a network can be very low indeed because there is always the home organization identity to fall back on. Yet, it is important to note that low performance in the network can also harm the reputation of the home organization (and the person representing the company). Hence, member organizations may change their representation or correct a representative's behavior. Accordingly, an interesting hypothesis is that the degree of membership to the home organization can be a function of performance in the network. However, motivation can also be very high when the temporary network is seen as an opportunity to undertake action that one wouldn't dare to take alone because of the risk. Therefore, it may be important to make the temporary offer both challenging and safe enough for potential participants. The question then becomes: how to make the temporary collaboration opportunity at the same time safe ànd challenging enough?

Together with apathetic identification, also under-identification can occur (Ducherich et al., 1998). The member knows that the membership to the network is only temporary. In a way, it can happen that he/she protects him-/herself psychologically by not committing to or identifying strongly with the temporary constellation. This can have negative effects on the results of the network.

Simultaneous inclusion in different networks: Effects on the identity of an individual

Boundary blurring constantly raises a question: "Who am I, and where do I belong to?" Searching the answer for this question is an extra source of stress. Careers are

no longer characterized by job certainty or lifelong work engagements linked to one organization. The present-day psychological contract between employer and employee shifts – because of the temporary nature of assignments and the increase of project-like work – from a relational towards a transactional contract. In a relational contract, co-workers identify with the organization through internal promotion, mentoring and socialization. They link a part of their identity to 'their' organization by internalizing the organization values (Mirvis & Hall, 1994). People with a "we"-feeling towards their organization will answer the question: "What do you do?" with: "I work for company X". However, in a transactional contract, identity develops more around competencies of the person (Mirvis & Hall, 1994). The answer to "What do you do?" will be "I do Y".

Because people build their identity throughout the whole of their lives, and will probably start taking part in several temporary networks, more and more people will give the latter answer. In the contemporary knowledge society, companies will increasingly make a shift to becoming professional organizations where professionals are loyal to their own competencies. People will ask themselves the following question: "Where can I best use and develop my competencies?" In response to this question people choose their networks. The binding factors between the network and the network participant could very well be relational process characteristics: "I always do interesting and challenging things in an environment full of variation". The permeability of boundaries (see supra) can give people the psychological liberty to explore new identities and thus to construct a richer ego.

But for some people (e.g., those who do not have the choice), periodic and unpredictable changes in their job status and degree of membership will create confusion

and uncertainty. In addition, constantly changing assignments, and working in different or changing teams can build up even more stress. Fragmentation and a loss of identity can be the consequence. Where is the "breaking point"? When will the answer to the question "What do you do?" turn from "I do all kinds of things" into "I do so much things that I don't know anymore what I'm really doing".

This phenomenon is similar to what Gergen (2000) states in *The Saturated Self: Dilemmas of Identity in Contemporary Life*. In the post-modern society, people are becoming increasingly fragmented. In a documentary about Silicon Valley it became clear how many people used their competencies in simultaneous networks. Apart from success stories – associated with career ideals such as high flexibility, employability, empowerment, self-steering and more autonomy – there were huge problems with stress and burnout, often because of unidirectional transactional contracts. The question that emerges is: how can people still find their 'core' in an increasingly fragmented way of organizing where switching and simultaneity is the rule? This leads us to a closer examination of the various wished for career elements within virtual collaborative networks, and the possible effects of these career ideals on the people involved.

Critical career elements in ICT enabled temporary collaborative networks

In a review of various publications, Taillieu (2002) portrays an image of the (ideal) critical career ingredients within virtual organizations. High flexibility, more autonomy, temporariness and the ad-hoc character are revealed in the following dimensions of work in collaborative networks.

<u>Discrete exchange versus reciprocal loyalty contract</u>

With discrete exchange the company obtains certain productivity and the employee receives work experience. It is a short-term exchange: the reward is explicitly linked to performance, based on market prizes, for the duration of the project, with the possibility of revision depending on internal and external circumstances. This is clearly different from the traditional exchange of work certainty for employee loyalty.

<u>Focus on professional development versus focus on the employer</u>

Growth in professional development implies that the enterprise invests in efficient performance while the employee acquires additional skills and competencies. Performance in the current job leads to new expertise. The focus is mainly on evolution in the profession. Development of professional capability and knowledge go beyond the needs of the company. Training determines increasingly the choice of projects. Since professionals change network constellations swiftly, externally appreciated professional capability becomes more important than internal organizational knowledge.

<u>Organization-empowerment versus top-down steering</u>

The empowerment principle implies dropping corporate strategic dictates towards organizational units. Co-workers are stimulated to participate in strategic activities. They are personally responsible for value creation and get the freedom to develop own markets. Renewal, alliances, spin-offs are encouraged.

<u>Regional interest versus the bastion concept</u>

The regional advantage model assumes a shared understanding and acceptance of collaborative advantage in clusters of cooperating companies, founding and switching of alliances in regional market processes, exchange of information and coaching across the

boundaries of the own organization, swiftly foregrounding and backgrounding project teams and organizations. This is clearly in contrast with the reticence and discouragement of contact with other companies in the old organization paradigm.

Project commitment versus organization commitment

This principle entails the shared commitment of employee and employer concerning the successful fulfillment of projects. The company wishes projects succeeded on time and up to standard; the co-worker searches for the experience and the visible reputation of successful work. Good results predominate keeping the team together, which is dissolved as the project is concluded. Financial rewards and acknowledgement are depending on the achieved result.

Taillieu (2002) justly states that this career model makes very high demands on both organization and co-worker. Employability seems only reserved for co-workers with a lot of self-confidence, or born entrepreneurs (see the quote of William Joy, Sun Microsystems), who are young and ambitious and are working in a strong market domain.

But what about those who cannot follow? The virtual organization model seems to be a model that is highly selective and can possibly exclude a lot of people from employment and can lead to less well-being. Hence, the question "who is included and who is excluded" in this organizing model, and "how do these including/excluding mechanisms work", is very crucial for the management and research of ICT enabled temporary collaborative networks.

Taillieu (2002) warns for a destructive self-reinforcing cycle. Especially with older, less schooled, and more dependency minded co-workers, employability can lead to

a feeling of job uncertainty (see also in the identity section). This feeling can cause less well-being, more burn-out and stress symptoms, an increased feeling of anxiety and frustration, less work enthusiasm, a weakened tie with the organization and more dependency on the manager's judgment.

If organizations want to work within a virtual organization model, they have to take up responsibility accordingly. They need to invest, as part of their psychological contract with their employees, in (1) developing the professional maturity level of co-workers, (2) working on certainty through relationship networks aiming at raising self-confidence, (3) developing the capacity to be self-steering and self-controlling, (4) offering internal and external job information systems and (5) the development of transparent evaluation systems.

Also, the company has to take measures to counteract potential problems concerning (1) conflicting interests between company goals and individual employability, (2) decreasing loyalty resulting in loss of clients, (3) loosing organizational learning capacity and decreasing quality and development of core competencies, and (4) the emergence of a class distinction between more permanent and temporary co-workers. These problems make high demands on managers. They are challenged to foresee content changes in the work and at the same time give their co-workers opportunities to retrain, develop or adapt (Taillieu, 2002).

The competency profile of the network leader/convener

In the preceding paragraphs, the role of the leader of a temporary network has repeatedly been touched upon. As there is a producer in the theatre and movie world, and as there is a head contractor in the building industry, there is a person or organization that

brings the parties together and facilitates the process to reach a common goal in the network. It's the role of this convener (Schein, 1985, p.70) – mostly a facilitating and moderating leader – to create conditions that allow the involved parties not to lose sight of their "reason to be" and to collaborate on a shared task. Another term used for this convener role is a transaction or net broker (e.g., Franke & Hickmann, 1999). He/she acts as a facilitator and catalyst that helps enterprises to set up strategic partnerships, to organize network activities and to identify new business opportunities. Whatever the name may be, the leader of a temporary collaborative network ideally possesses a number of competencies that are specific to a convener. These competencies are more clearly identified in the multi-party literature (Gray, 1989; Schruijer et al., 1998; Sips, 2007). The relational boundaries which have to be co-managed by the convener are indicated.

The convener has to make the parties aware of their 'scripts' – for an important part determined by their own organizational culture and identity. These can then be openly discussed, accepted or rejected by the parties (cf. managing the task boundary). On the one hand he/she can create conditions that allow parties to swiftly co-create a new script together without having to give up their home values and identities in the process. An intuitively easy but hard to realize solution could be that the convener brings together similar organizational cultures. On the other hand, the convener can – through his/her experience – suggest a 'basic script' of how the collaboration must take place. This can then be deliberated by the potential collaboration parties. The parties can then fill in this basic script with more detail and the convener can facilitate this process if necessary.

This way of working partly meets the danger and consequences of under-identification. Jazz musicians brought together by coincidence can play magnificent

music in a nick of time. At first sight, it seems as if they operate in complete freedom and can see each other even blindfolded. However, there are minimal rules (script) in this freedom on which they can count and fall back while playing (Kamoche & Pina e Cunha, 2001). And when they play, there's a lot of interaction too, they constantly look at each other. In this way they can produce several variations on themes already played before, and organize for new sounds and combinations in an automatically created but carefully designed space to improvise.

The convener also sees to it that the inevitable power differences between the collaborating parties are neutralized so they cannot dominate the problem formulation and solution process (cf. managing the political and authority boundary). Creating process conditions can facilitate this (e.g., Schruijer et al., 1998; Bouwen & Taillieu, 2004). Parties have to acknowledge each other reciprocally, realize that there is more needed than only the pursuit of their own interests and show mutual respect (cf. managing the identity boundary). The convener can help them in this endeavor.

If coalitions are formed, they may not interfere with the interests of the whole network. Therefore, the convener is best viewed as someone neutral or as someone who is serving an overarching interest that transcends the interests of the parties. Often, the easiest way to arrive at the so necessary trust is when the convener is connected to the reputation of an institution (cf. institutional trust). Anxieties, uncertainties and tensions partly caused by the frequent shift of enterprises in the network can be contained by the convener and can be passed on in an acceptable and workable format to the parties involved. Once this kind of buffering has taken place, the partners in the network can process information about the new situation by themselves and act upon it in a suitable

manner.

The convener also facilitates the co-creation of a minimal structure (e.g., Kamoche & Pina e Cunha, 2001) in which organizational learning – two-sided and open communication, mutual testing of information, bilateral definition of the task, open confrontation and tolerance for mistakes – becomes possible (e.g., Argyris & Schön, 1996; Argyris, 2002). In doing so, regression of the ego is limited in service of the group. Lowering capacities or holding back competencies can be useful for a party to integrate in a network but is best restricted because the best competencies have to be used in short term.

It is important that the parties stay focused on the collaboration goal (cf. managing the task boundary). The convener can see to it that not one party dominates (cf. managing the political boundary). That's why communication and conflict handling competencies are so important. The convener typically calls attention to the construction of ground rules that are to be used when the parties interact (Gray, 1989; Schruijer et al., 1998; Bouwen & Taillieu, 2004). Formulating such ground rules is a shared task for the whole of the network when they first start working, but it is the convener who makes sure that this topic is discussed and that the rules become somehow formalized.

Classical concepts of leadership do not apply to the convener role. As there is no clear organizational chart, position power becomes less important. Typical for the temporary network is that it is based on voluntary collaboration, which implies that there are no hierarchical relations through which authority can be used. Also technical expertise will not necessarily contribute to the convener's function or may even be counterproductive for acceptation by the network members. Input on the content is often

not valued or is seen as a political move to the advantage of some parties over others (Schruijer et al., 1998). Process directivity however, is likely to be beneficial to the advancement of the collaboration in the network. Therefore, the role of the convener is more that of the process consultant (Schein, 1999), who works on the conditions in which the different stakeholders can work together.

The question still remains if this competence profile of the convener of a virtual organization, which is developed mainly from multi-party literature, is extensive enough to deal with the very complex processes and issues identified. Therefore, further empirical study is needed in which the proposed competence profile is further tested and extended.

Conclusions

The ambition of this contribution was to evoke management and research questions concerning the inter-human or relational side of virtual organizing – questions that aren't raised clearly in existing literature. Since the beginning of the nineties till the present, virtual organizations – as temporary organizational networks facilitated by ICT – have been pushed forward with a lot of enthusiasm as the most economically efficient organizational structure to handle the challenges associated with the ever-increasing pressure of global competition and environmental complexity.

This excitement clearly needs to be tempered because a lot of questions and dilemmas arise when looking at this new organizational activity from a relational perspective. It is made clear that choosing a virtual organization model can not be a quick and obvious choice. It is an option with possibly far-reaching consequences, both for the organization and the co-worker. After all, in this model people are confronted with the

management of various boundaries concerning authority, task, politics and identity.

Co-workers participating in collaborative networks are confronted with diverse dilemmas regarding trust, loyalty and identity/identification, and they are challenged to handle these tensions in a healthy manner. The psychological contract between organization and co-worker changes drastically. People are expected to incorporate in a 'problem free' way a number of career ideals such as far-stretching flexibility, employability, more autonomy, empowerment and entrepreneurial drive. Accordingly, a main finding is that the virtual organization model can possibly exclude a lot of people. Especially the older, less schooled, and more dependency minded co-workers seem very vulnerable in this model. Therefore, it is argued that the including and excluding mechanisms that are at play deserve much more research, management and policy attention.

The kind of leadership that these networks ask for, is not the classical 'manager type' leader but rather a process facilitator. This convener supports people in co-creating the network together by stimulating 'shared leadership' and high quality interactions so that the parties experience enough psychological ownership of the network. This way a virtual organization can become a real 'learning network'.

During this contribution a lot of questions have emerged. Taken together, these questions form a new and exciting research agenda on the relational dynamics and challenges concerning virtual organizations and associated new forms of organizing. The readers are invited to join the research and practice conversation and to co-develop knowledge about a topic that has not received the attention it deserves. There seems to be an underdeveloped research area for those who feel addressed.

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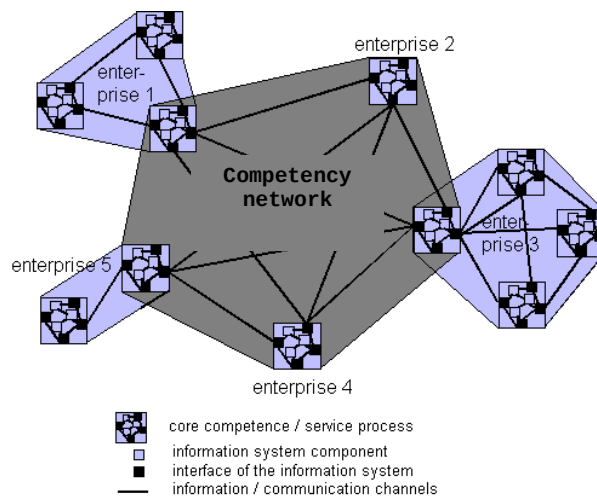
Figure 1. Competency network as an integration of core competences (adapted from Zimmermann, 1997).
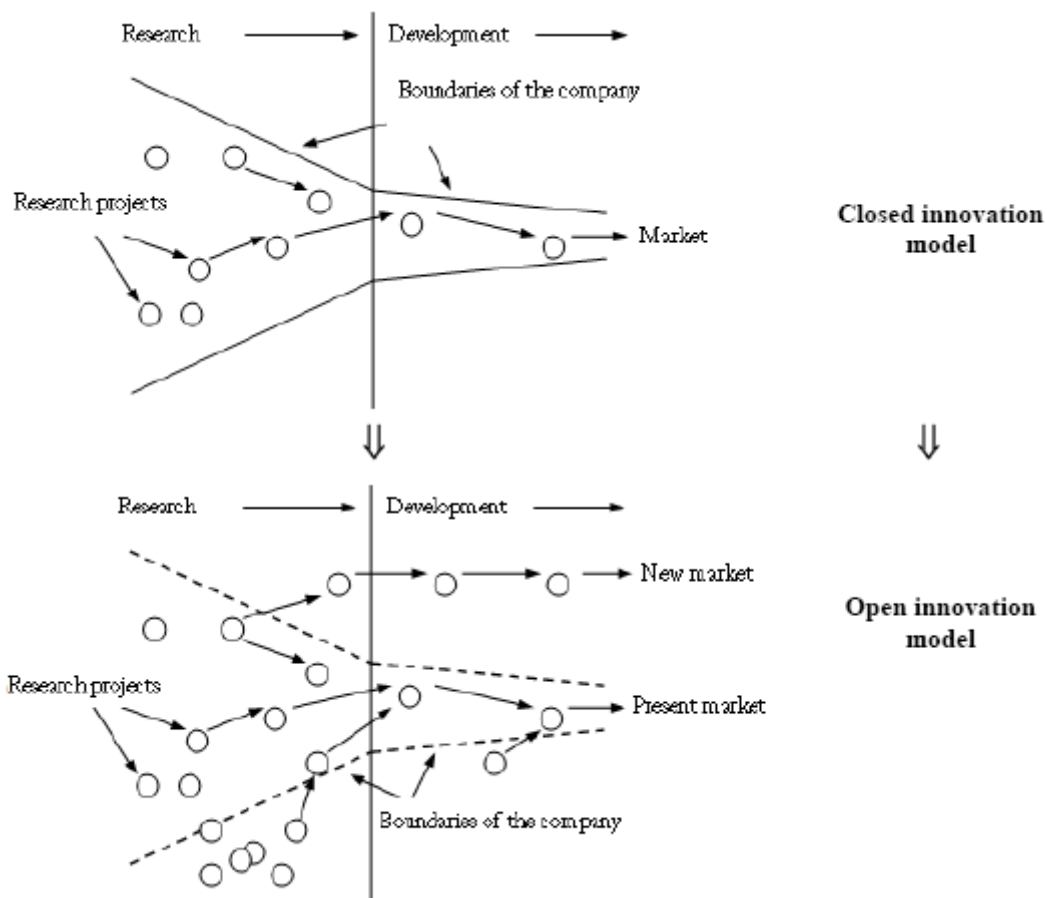
Figure 2. Shift from a closed towards an open innovation model (based on Chesbrough, 2003).

Table 1. The four relational boundaries of the virtual organization
(after Hirschhorn & Gilmore, 1992).

Core questions	Necessary tensions	Characterizing feelings
"Who's in charge of what?" AUTHORITY BOUNDARY	How to lead and stay open for criticism? How to follow and challenge your leader?	Trust Openness Rigidity Rebellion Passiveness
"Who does what?" TASK BOUNDARY	How to be dependent on others who you do not control? How to specialize and understand the job of others?	Trust Competency Pride Anxiety Incompetence Shame
"What's in it for us?" POLITICAL BOUNDARY	How to defend ones own interests without undermining the larger organization? How to differentiate between win-win and win-lose situations?	Empowerment Honesty Powerlessness Exploitation
"Who is, and who isn't, us?" IDENTITY BOUNDARY	How to feel pride without devaluating others? How to stay loyal without undermining outsiders?	Pride Loyalty Tolerance Distrust Denigration