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Why don't all high-trust networks achieve strong network benefits? A case-based exploration of cooperation in Norwegian SME networks

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ABSTRACT

This paper explores the interactions between three focal constructs: network trust, network cooperation and network benefits. While positive interactions between these constructs are generally recognised, a deeper understanding is needed why high trust does not always coincide with high levels of cooperation and benefits in networks. Based on qualitative and survey data gathered from three Norwegian small and medium-sized enterprise (SME) networks, this paper contributes to the process theory of inter-organisational relationships by showing how network trust, cooperation and benefits interact in various ways in ongoing networks, leading to a more nuanced understanding of the relative and changing impact of each of the three focal constructs on the other constructs. In particular, trust facilitates cooperative initiatives that promise real network benefits which subsequently reinforce trust, especially when network members are smaller firms and the network has many members.

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1. Introduction: same level of trust, different level of network performance?

This paper asks why inter-organisational networks with similarly high levels of trust do not necessarily produce the same level of network benefits. This question is posed against the background of a general agreement in the literature that trust is a mechanism that enables networks (Adler, 2001; Calton & Lad, 1995; Powell, 1990; Ring & VanDe Ven, 1992) and makes them more effective, efficient, flexible, innovative and, at the same time, durable (e.g. Sako, 1998; Zaheer, McEvily, & Perrone, 1998). The main recognised downsides of trust concern the complacency and inflexibility from a surfeit of trust as well as the resources needed to build and maintain trust in networks (e.g. Kern, 1998). Thus, in a simplified model, it can be assumed that the level of trust within a network bears an inverted curvilinear relationship with network outcomes (e.g. Uzzi, 1997; Wicks, Berman, & Jones,

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1999). However, around such a curve, empirical cases will be scattered so that there are networks with higher or lower levels of benefits than other networks that have a similar level of trust; and there will be networks with similar levels of benefits although their trust levels differ. Hence, a deeper understanding is required to understand these differences and to identify mechanisms by which trust is related to outcomes in various ways.

In the following, we conceptualise attitudinal, behavioural and functional elements of trust in inter-organisational networks based on prior literature. We describe how we gathered data on three Norwegian small and medium-sized enterprise (SME) networks and present each case in terms of trust levels, behaviours of network participants and perceived network benefits. Our subsequent cross-case analysis reveals several different dynamics, including also the role of network benefits themselves as drivers of trust and cooperation. The larger picture that emerges shows an ongoing process of multi-directional interactions between trusting attitudes, cooperative behaviours and perceived benefits. Our core contribution is to move beyond a simple causal chain from trust to cooperation to benefits towards a process view that allows for various interactions between the main elements of the model.

2. Literature review and conceptual framework

Not least because trust has been identified as characteristic for network forms of governance in organisation theory (Hatak & Roessl, 2010), much research has been conducted to explore and confirm the effects of trust on network performance (Rus, 2005; Zaheer et al., 1998). We summarise some of the main insights of this literature here as a general point of reference. In a comprehensive review, Brass, Galaskiewicz, Greve, and Tsai (2004) identify trust as an important antecedent of inter-organisational network formation, while networks are shown to have many positive effects on innovation and performance, though with various qualifications.

More specifically for SME networks, trust is essential for them to become productive and to function according to their innovative potential (Keeble, 2000; Pittaway, Robertson, Munir, Denyer, & Neely, 2004). Trust is required in the face of relational uncertainty and vulnerability (cf. e.g. Möllering, 2006, p. 3) as is the case in cooperative projects within networks where partners might behave opportunistically or take advantage of each other.

Much research shows trust to be positively correlated with cooperation and reduced conflict levels, leading to more cooperative negotiation behaviours and more integrative negotiation outcomes in interpersonal and intergroup negotiations (Lewicki, Saunders, Barry, & Minton, 2003; Ross & LaCroix, 1996). Moreover, trust reduces control and coordination costs (e.g. Cummings & Bromiley, 1996; Dyer & Chu, 2003; Gulati, 1995), and influences knowledge sharing (Mooradian, Renzl, & Matzler, 2006), as it plays an important role in both sharing and absorbing knowledge (Krogh, Ichijo, & Nonaka, 2000). Trust also increases the likelihood that knowledge acquired from a colleague is sufficiently understood and absorbed, so that it can be utilised by someone else (Abrams, Cross, Lesser, & Levin, 2003).

Clearly, prior literature has already acknowledged that the positive effects of trust may be dependent on a number of other factors. For example, Yamagishi, Kanazawa, Mashima, and Terai (2005) show that, especially in early phases of a relationship, cooperation drives trust and not the other way around. Hence, a high level of network trust that enables network benefits may depend on cooperation in a phase when trust is not yet fully

established. Thus, while leading theorists agree that there is a connection between trust-building and cooperation, they also suggest that the causal direction between them may vary (Dirks & Ferrin, 2002; Hardin, 2002; Macy & Sato, 2002; Ross & LaCroix, 1996).

The idea that trust is an important determinant of cooperation has been around for a long time and was expressed, for example, in the title of Gambetta's (1988) seminal volume on *Trust: Making and breaking co-operative relations*. Here, among the early game theorists, we find yet another model of the relationship between trust and cooperation: rather than defining trust as an attitude distinct from cooperation as a behaviour, the early game theorists operationalised trust as cooperation, that is, in behavioural terms, and then interpreted the emergence of cooperative behaviour as a manifestation of trust (Bigley & Pearce, 1998; Kee & Knox, 1970). Within this tradition, Axelrod (1984) claims that cooperative behaviours, when reciprocated, tend to spiral into ever higher levels of cooperation. Finally, if cooperative behaviour can be established early, parties tend to lock into this behaviour (Pilisuk & Skolnick, 1968). Other authors, however, have pointed out that cooperation is not necessarily a sign of trust. For example, Luhmann (1979) describes power as a functional equivalent to trust in social interaction and Ripperger (1998) argues that cooperation may take place involuntarily or for reasons other than the level of trust between the parties (cf. also Yamagishi et al., 2005).

In experimental research, when cooperative behaviour is measured separately from trusting attitudes, there are some inconsistent findings as to whether trust promotes cooperation or the other way around (e.g. Yamagishi et al., 2005). In one of the most common trust models by for example, Mayer, Davis, and Schoorman (1995), trustworthiness perceptions are distinguished from, and supposed to precede, risk-taking behaviour, but there is also a feedback loop from the outcomes of such behaviours to future trustworthiness perceptions. Hence, trust as an attitude and cooperation as a behaviour should not be confounded and it needs to be investigated further how they are related.

Trust in regional Norwegian SME networks has been studied before. So far, the main emphasis of this research has been the more pragmatic question of how to build or enhance trust in such networks. A main result of these studies has been that structured, facilitated dialogues are conducive to trust. For instance, the method of network reflection has the capacity to increase different types of interpersonal trust in networks (Gausdal, 2012). Furthermore, Network IGP (individual, group and plenary reflection) is a method that can be facilitated from the outside to build trustful relationships and enhance the transfer of tacit knowledge, especially during the emergence stage of an innovative SME network (Gausdal, 2013). Finally, prior work has established that researchers can directly facilitate processes with a capacity to build two types of trust in different phases of network development, both characteristic-based and process-based trust (Gausdal & Hildrum, 2012). These studies constitute mostly micro-level, in-depth single case studies on facilitation of collaboration at network events and trust-building methods (Gausdal, 2012, 2013; Gausdal & Hildrum, 2012). There is, however, a lack of studies on the benefits of network trust, and the dynamics of network trust, network cooperation and network benefits, which we address with this paper.

While we acknowledge the insights from previous studies, we argue that research on trust in networks needs to explore more thoroughly how certain levels of trust are reached, how they correspond to cooperative behaviour and how both are connected to various benefits among network members. Put simply, it is not clear which elements

of the basic model – network trust, network cooperation and network benefits – should be designated as dependent or independent variables. More research is needed on how they interact dynamically. Moreover, both network research (Hoang & Antoncic, 2003) and trust research (Möllering, 2013) call for more longitudinal and process-orientated work on how networks and trust develop as network members interact more or less cooperatively (e.g. Ring & Van De Ven, 1994).

For the purposes of this study, we define trust mainly in attitudinal terms as ‘the expectation held by one firm that another will not exploit its vulnerabilities when faced with the opportunity to do so’ (Krishnan, Martin, & Noorderhaven, 2006, p. 895). Network trust is understood in this study as a network-level category perceived by network members (i.e. firms), represented by individuals. This means that we do not consider primarily how strongly a member trusts specific other members (in the sense of firms or persons), but how strong they perceive trust to be *in general* among network member firms (see also Section 3).

We define cooperation as ‘to act with another or others for a common purpose and for common benefit’ (Norman, 1997). In a network, cooperation can take various forms, like sharing knowledge or contributing to network meetings. We also consider the absence of cooperation as well as non-cooperative or competitive behaviours. Again, we conceptualise cooperation at the network level but through the eyes of network participants. In other words, we do not ask how often individual members cooperate: we rather aim to assess the general level of cooperative activity within the network.

Finally, the category of network benefits is deliberately kept broad in this study in order to allow for a range of benefits that may be relevant to network members, for example cost savings, innovation, market access or reputational gains. Like trust and cooperation, we view network benefits mainly from the members’ perspective, but still as a network-level construct, as we sought to measure the level of network benefits for the network as a whole, rather than for individual members, including the advantages drawn from network-level outcomes such as the network’s good reputation. In this way, we gauge how beneficial network membership is generally perceived to be.

Figure 1 is a graphic representation of the triangular framework of potential interactions between our three main constructs: network trust, network cooperation and network benefits. As simple as the framework may be, it captures various possible sequences and circular relationships among the three constructs and can thus usefully guide an empirical exploration of ongoing complex interactions as inter-firm networks emerge, grow, sustain themselves and decline (Menzel & Fornahl, 2009).

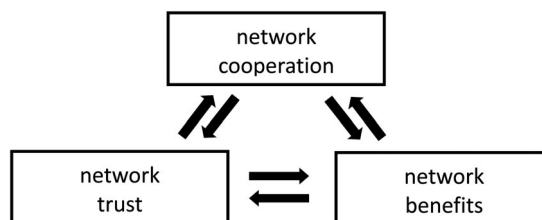


Figure 1. Framework of interactions between trust, cooperation and benefits.

3. Method: comparative multiple case study

Although the main constructs of our framework are well established in the literature, we choose the exploratory method of comparative case study with longitudinal data collection, because the dynamic and various interactions between the constructs are complex and not very well understood so far (Yin, 2003). Data collection took place in the following three Norwegian regional SME networks from their foundation in 2006–2007 to 2012: *The health technology network* (HN), *The maritime engineering network* (MN) and *The water cleansing technology network* (WN). All the three networks are located 50–120 km south-west of Oslo. They were initiated in 2006–2007 as part of Programme for Regional R&D and Innovation (VRI), a publicly funded programme for regional innovation (funded by the Norwegian Research Council and the local county authorities). They are more or less in the same stage of their development, having survived past their emergence and initial growth phase. They were still developing in 2012, the main temporal reference point of our study.

SME networks, constructed from the outside as policy instruments to enhance an industry, like the three case networks, constitute an interesting context for trust research. Such network organisations are loosely coupled (Orton & Weick, 1990), have no real hierarchy, have no formal power to keep the firms as members nor to activate them, and participation is voluntary. Moreover, being active in the network is something the firm representatives do for additional business. These contextual characteristics make trust a critical factor for the networks, which makes them particularly interesting for trust research. Moreover, insights from this field may also be applicable to other fields with similar characteristics involving collaboration or alliances between independent agents.

The three networks were selected for comparison in this article based on the authors' familiarity with the networks and, in particular, the prior impression that all three of them are high-trust networks, but that they nevertheless differ in producing network benefits for their members. This matches the specific aim of this study to contribute to an explanation of performance differences between networks with similarly high levels of trust as stated in Section 1.

Methods of data collection included qualitative interviews, participant observation, document analysis and surveys. Table 1 lists the types of data and collection methods

Table 1. Overview of data sources.

Network	Data type	Details
Health technology	Observation	135 hours in total at network meetings, workshops, seminars and innovation lunches and facilitation of three events (one network meeting and two workshops) from 2008 to 2012
	Document	Minutes, reports and strategy documents
	Interview	5 individual interviews from 2008 to 2011, group interview with the board in 2011
	Survey	Questionnaire, $n = 8$ (66.7%) in 2012
Maritime engineering	Observation	64 hours in total at network and board meetings, seminars and 'students nights' at the regional University College from 2008 to 2012
	Document	Minutes and strategy documents
	Interview	3 individual interviews from 2009 to 2011, group interview with the board in 2011
	Survey	Questionnaire, $n = 4$ (80%) in 2012
Water technology	Observation	540 hours in total at team, network and board meetings and facilitation of several events
	Document	Minutes, reports, strategy documents, applications (ARENA) and newsletters
	Interview	8 in-depth interviews and 22 telephone interviews in 2008–2010
	Survey	Questionnaire, $n = 21$ (58.3%) in 2012

for each network. As stated in the conceptualisation above, we used network participants as informants whose perceptions of the network were interpreted as network-level constructs. This is most explicit in the survey we conducted in 2012 which asked respondents to rate, for example, network trust via the item 'Firms in the network trust each other'. Questions on network benefits were also phrased to capture general benefits to the members at the network level, for example, 'I experience that participation in the network contributes to better regional cooperation in the industry'. We coded and analysed all data with the primary aim of describing and comparing the networks as such, while the comparison of member firms and representatives within each network was mostly ignored.

A particular challenge for the data analysis was the abundance of observations, field notes, network documentation, interview transcripts and survey data collected. Our strategy for handling this was, on the one hand, to let the two researchers who actually worked with the three networks to develop rich narratives for each of them, and then to have the third author probe and challenge these narratives with a view to clarifying and refining them. On the other hand, we used standardised instruments across the three cases, especially the interview guides used in 2011 when all the network boards were interviewed, and the survey in 2012 that was sent to all the network members. The survey consisted of both open and closed questions that the three authors coded and analysed jointly. The overall response rate to the survey was 63.5% ($n = 33$) ranging from 80% in MN, to 66.7% in HN and 58.3% in WN. Because of the different sizes of the networks, WN actually had the most respondents ($n = 21$), HN the second most ($n = 8$) and MN the fewest ($n = 4$). For the case description, we refer to simple statistics such as counts and average ratings obtained with SPSS software which we used as triggers for the interpretation of our rich qualitative material. Hence, the following case descriptions are the basis for analysing the potential interactions between the main constructs in our framework: network trust, network cooperation and network benefits.

4. Findings: trust, cooperation and benefits in three SME networks

In this section, we first present network data and characteristics in [Table 2](#), followed by some general findings from the 2012 survey and descriptions of the three networks

Table 2. Network data and characteristics.

Network/characteristics	Health technology network (HN)	MN	Water technology network (WN)
Initiated year	2006	2007	2007
Main aim	Research-based innovation projects	Recruitment, R&D cooperation with the university and increased innovation	Recruitment and increased innovation
Number of members	12	5	36
Firm size micro 1–10, small 10–50, medium 50–250 and large >250 (EU classification)	Mostly micro and some small	Mostly medium sized and one large	Mostly small, some medium sized and a few micro
Value chain structure	Vertical and horizontal	Horizontal	Horizontal and vertical
Member representatives' dominant background	Managers, CEOs, engineers	Middle managers, HR	Managers, CEOs, engineers
Level of network activity	High	Low	High

individually before we report the cross-case analysis with a view to the specific relationships between our constructs that could be discovered.

As Table 2 shows, all networks are of a similar age and all aim to increase innovation. Still, the networks differ in other of their aims, as well as in network size, firm size, value chain structure, background of the members' representatives and level of network activity. Regarding the networks' aims, HN and MN also aim to increase R&D cooperation, while MN and WN also aim to increase recruitment. Regarding firm size, HN consists of 12 very small firms, WN of 36 somewhat larger firms, while MN consists of three medium-sized firms and one large firm. Regarding value chain structure, HN and WN members constitute a mix of horizontal and vertical value chains, while MN members all occupy the same level in the value chain. The dominant background for the member representatives in HN and WN is management – and CEO-level combined with engineering competence, while MN is dominated by middle managers with Human Resource (HR) competence. HN and WN are considered to have a high level of network activity, while the activity level in MN is considered to be low.

As a first overall finding, all three networks are high-trust networks, as intended by our case selection. On a seven-point scale (7 = completely agree), respondents in all three networks express strong agreement with the statements 'Firms in the network trust each other' and 'Firms trust each other more now than three years ago' (see Table 3). In addition to the high level of trust at the time of the survey in 2012, that is, about five years after the networks had been established, the respondents also express that trust has increased during the previous years. Note that in HN and MN the respondents display strong agreement with these statements on average, and no one disagrees with any of the two statements. This is slightly different in WN, the largest network out of the three, with both a lower average agreement, and a noteworthy minority of respondents disagreeing with the two statements. The average trust score for WN is 0.84 scale points lower than HN and 0.71 points lower than MN on a seven-point scale. The fact that WN has a *relatively* low level of trust in comparison to the other two networks gives us an opportunity to check whether lower trust is actually associated with less network cooperation and/or network benefits. Nevertheless, with average values from 5.29 to 6.13 (relative to the statement 'Firms in the network trust each other') all the networks are still characterised as high-trust networks.

Table 4 gives an overview of the benefits of network participation as perceived by our respondents. Similar to Table 3, averages are calculated based on seven-point scales of agreement related to various benefits being realised. We also report unweighted overall averages for each benefit and for each network in order to facilitate comparison. WN

Table 3. Distribution and average level of trust and trust development in the three networks.

Question/network and scale	1	2	3	4	5	6	7	Avg
'Firms in the network trust each other'								
Health network					2	3	3	6.13
Maritime network					1	2	1	6.00
Water network			2	2	5	12		5.29
'Firms trust each other more now than three years ago'								
Health network						6	7	6.63
Maritime network						2	1	6.33
Water network		1	1	2	2	4	8	5.72

Note: 1 = Completely disagree; 4 = Neither agree nor disagree; 7 = Completely agree.

Table 4. Benefits of network participation for the firms.

I experience that participation in the network contributes to:	Health network	Maritime network	Water network	Avg.
Building local and regional networks	5.75	6.00	6.65	6.13
Better regional cooperation in the industry	5.25	6.00	6.40	5.88
The firm is cooperating more with the educational institutions	5.38	6.50	5.75	5.88
Increased focus on the industry from media and governmental institutions	5.75	5.75	6.00	5.83
The firm gets access to new and important knowledge	6.13	5.00	5.80	5.64
Recruitment to the firm	4.75	6.25	5.30	5.43
The firm can solve its challenges in a better way	5.50	5.50	4.95	5.32
Increased creativity in the firm	5.63	3.75	5.15	4.84
Product development in the firm	5.25	4.00	5.25	4.83
Increased self-confidence in the firm	4.75	4.25	5.00	4.67
The firm is getting access to new markets	5.50	3.50	4.95	4.65
Increased optimism in the firm	4.63	4.25	5.00	4.63
Cost reduction for the firm	4.00	3.00	3.80	3.60
Average	5.25	4.90	5.38	5.18

respondents here grant the highest total average score (5.38), thus, the members of this network seem to be more satisfied with the outcome of their network. The network benefit that receives the highest scores in all three networks is that the network helps 'building local and regional networks'. The findings will now be described for each network individually and then in comparison.

4.1. Health technology network

HN is an interdisciplinary network of 12 partners from academia, public sector and industry, mainly micro-firms. From the beginning, the high level of heterogeneity between the network members represented a challenge to the network, both relating to cultural differences and trust. As one firm representative expressed:

It was very disturbing to be together with the municipality, ergo representatives from a demanding customer. Moreover, suddenly someone from the university was sitting there. What on earth? What are we actually a part of?

Furthermore:

We are not really on the same planet as academia. I do not always understand what they want, it is completely different.

Nevertheless, joint projects were soon made to form the basis of the network. There is also a common agreement that research-driven innovation should form the core of the network's activity. The partners, moreover, have systematically been identifying their common unique knowledge, as well as defining common goals and strategies through a series of foresight workshops, innovation lunches and network meetings. In 2012, they also established a joint marketing organisation. Our observations and secondary data, thus, show that HN is characterised by a high level of activities and events.

According to the network manager, 'An "insane" [i.e. significant] trust-capital has now developed among the participants'. Trust also came up spontaneously as a topic in the board interview, revealing how the board members viewed trust as essential to the success of the network, illustrated by this quotation:

The trust we have developed allows us to 'open up' the technology process. I work in an IT firm and we take special care to protect such things, but here it is possible to 'open up' and cooperate more than usual.

Considering the results of the 2012 survey, all respondents agree – mostly 'strongly' or even 'completely' – that firms in the network trust each other and that this trust has increased over the past three years (see Table 3). When asked to explain this, respondents mention network meetings and interactive workshops as trust-building occasions. They also point at cooperation and rapport in general as leading to increased trust, just as much as they point at trust as promoting cooperation and sharing (e.g. of knowledge). Concerning possible factors that hinder trust, HN respondents mention conflicts, competition and transgressions.

Regarding the network benefits measured through the 2012 survey, HN respondents rate them highly on average (see Table 4). The highest scores are granted to access to new and important knowledge, increased creativity and access to new markets as well as increasing attention from media and government. Benefits receiving lower scores are, for instance, reduced costs. On the open survey question on other network benefits, several firms point at funding of R&D projects as a significant benefit. Or they emphasise, again, access to new and important knowledge. Our observations and secondary data show that several joint R&D projects have been realised in the network. For instance, in 2010 the network succeeded in funding 'Senior citizen housing for the future', a joint Private Public Partnership involving eight participating firms and one municipality. Moreover, several new products and joint solutions were developed. The network activities also led to three new firms being created, one being a joint branding, marketing and sales firms for the network members. The collaboration between the regional university and the firms also increased significantly. In 2012, a new Health Science Center at the university was partly furnished with products from the network firms. This Center also serves as a training and research lab for students and firms, and as a show room for the firms. Furthermore, a new study programme in Health Technology has been developed. Firm representatives give guest lectures at the university, and as one of them expressed in a workshop in September 2010, 'The University distinguishes itself by its willingness to make use of technology and demonstrates a desire to change'. The HN network, thus, creates value and contributes to innovation for its members by opening a new market (municipalities), by new ways of utilising R&D in product development, by cooperating with new actors, by promoting joint development of new products and by contributing to the creation of new firms (Gausdal & Nilsen, 2011).

To sum up, HN can be described as a network scoring high in all the dimensions explored in this paper: trust, cooperation and benefits. The main explanation for this positive outcome, given by our respondents in the network, is the cooperation that has been taking place at network meetings, and the rapport this has produced.

4.2. Maritime engineering network

MN counts five partners: three medium-sized firms and one large firm in the field of energy and maritime engineering, and the regional university. Explicitly stated aims of the

network include (1) recruitment, (2) initiating research in cooperation with the regional university college, (3) strengthening the attractiveness of the network, (4) increasing the network's innovation rate, (5) network-building and (6) organising forums for meetings. So far, however, the network has pursued few of these goals. Our observations and secondary data show that its members have primarily cooperated in the fields of recruitment and HR Management. From 2009 to 2011 the network organised a joint HR team to organise these activities. Member representatives also met in regular network board meetings. Apart from this, the network in general is characterised by a relatively low level of activities and events. Despite some initiatives and attempts, no joint technical or commercial projects have been established. According to the chairman of the board: 'On the technical side, no cooperation projects are yet established'. Some R&D projects have received funding through the network's VRI connection, but none of these involve collaboration among the firms. In general, thus, the level of network activity is low compared to the other two networks presented in this paper.

Nevertheless, the network members mostly express satisfaction with the network. This satisfaction, however, is mostly described in general terms, and without reference to more specific aspects of the functioning of the network. An exception is the improved relation to the regional university, which has also led to improved recruitment of qualified employees to the member firms.

Trust came up spontaneously in the board interview, revealing how the board members viewed trust as essential to the network's functioning:

When you work together over a long time, and learn to know each other in different situations, then you trust each other. You can't just push a button and say 'Hi, tomorrow we are going to play together'. It's not how it works. The fact that we have these common (HR and board) meetings, gives us more knowledge of each other both as persons and as firms.

According to the 2012 survey, the network members have a high level of trust in each other. They also trust each other more than three years ago (Table 2). The positive level of trust is explained in general by cooperation and rapport, even if, compared to the other networks, there is less cooperation going on in the MN network. Competition and conflict are deemed by the network members to be detrimental to trust. Regarding network benefits (Table 3), MN respondents value especially that they can link up with the regional university. According to the chairman of the board: 'The ongoing dialogue with the regional university has, from my point of view, been very important'. This dialogue has resulted in 'piping' becoming a new subject for the engineering students at the university. The contact with the university also helps the member firms recruit qualified employees. The network members do not, however, perceive that the network produces cost reductions, increased creativity or access to new markets.

On the open survey question on other network benefits, several firms again point at the contact with the regional university. Others emphasise that their cooperation within the HR field had improved the quality of their HR management. Moreover, the network has resulted in an improved reputation of the industry.

Overall, although this network was formed also to promote innovation, it mainly promotes HR management and recruitment. It is characterised by a high level of trust, combined with a relatively low level of cooperation.

4.3. Water technology network (WN)

WN has 36 partners covering the whole value chain from sub-suppliers to systems suppliers, consultants, R&D institutions, end-users and customers related to water cleansing technology. The industry partners consist mainly of small and medium-sized firms. The network's stated primary aims are to increase the value creation of its members and to strengthen their market position nationally and globally. From its foundation, the main challenges for its members have been (1) lack of competent labour, (2) low level of technological innovation, (3) competition from foreign markets and (4) low interest in the political and public national debates for the needs of the industry. The network has three active teams, each dedicated to activities that are central to its members, and is characterised by a high level of activities and events. For instance, a series of innovation workshops organised for the network members have resulted in a number of joint innovation projects between one or more members and regional R&D institutions.

According to one of the CEOs and board members:

Trust is the keyword. The road to achieving such a high level of trust among us, allowing us to share business ideas and future plans, has been long. In WN we trust that what we tell each other will not be misused. We can therefore utilize each other's competence without negative implications for the firms. This level of trust is the most important result of WN.

The 2012 survey, based on responses from 21 network members, shows that a majority of participants agree that network members trust each other. Twelve respondents agree strongly with this. Thus, like HN and MN, WN can be described as a high-trust network (Table 3). However, there are also four respondents who do not agree or disagree, indicating that the network does have some trust challenges. On the question of whether trust has increased during the last years, most respondents agree strongly or completely, indicating that these trust troubles may have been even more severe earlier. However, a number of respondents disagree also at this point, indicating that they may have perceived the trust level within the network as low, both earlier and presently. Even if we still consider the network as being high in trust, thus, its trust level is relatively lower than the two other networks based on the 2012 survey results.

When asked how trust is built or enhanced in WN, respondents point at meetings and workshops, and also cooperation, rapport and sharing of information and knowledge as significant. At the same time, and in return, trust is granted significance for enabling knowledge and information sharing. According to WN respondents, competition and transgressions are detrimental to trust and also, notably, management problems related to the facilitation of some network events. One network member states the point like this in the 2012 survey:

The facilitators at the meetings are not aware of how far people take the mutual processes, which affect the business area between the member enterprises.

Regarding network benefits, the survey shows that WN respondents recognise a number of positive network outcomes, especially, better cooperation in the industry, attention from media and government, and access to educational institutions and new knowledge. On the open survey question on other network benefits, several firms answer improved reputation. Others point at organisational development, internationalisation, updated information about the industry and recruitment.

Our observations and secondary data show that the WN network is organising several events every year, for example, workshops for network-based innovation brokering (Svare & Gausdal, 2015), innovation conferences, professional trips, student nights and joint international conference participation and stands. The network has three active teams, Global Relations, Innovation and Competence, and a weekly newsletter. Eighteen joint R&D projects were funded from 2009 to 2012, for example, a project involving two competing firms along with a public drinking water plant and a university, resulting in an improved purification processes at the drinking water plant, combining two technologies (UV-light and marble sand). Three other joint R&D projects involve micro- and nanotechnology, an enabling technology introduced at network events, and new to the industry. The network activities have also resulted in a new course subject at the regional university, joint campaigns towards public authorities and at least one new firm.

Overall, WN is an active, cooperative and successful network, albeit with some problems of trust among network members.

5. Discussion

5.1. Interactions between constructs based on case comparison

Based on the above case descriptions, we do not see just one pattern of interaction between the constructs studied in this paper – network trust, network cooperation and network benefits – but several. They support apparently inconsistent, though ultimately complementary, accounts of how the constructs interact. The different patterns can be made sense of from a contextualised and dynamic process perspective (Sections 5.2 and 5.3). In this subsection, we present some summary points based on a comparison of the cases, which will then be used as the ground for the subsequent theory development:

First, *trust alone is not able to explain the variation in cooperation and network benefits*, as the MN example shows. Although members of this network agree strongly that firms in the network trust each other and that the trust has increased in recent years, the MN respondents have the lowest average score on network benefits. In contrast, in HN, high trust is combined with a higher level of network benefits. Finally, WN has a somewhat lower level of trust, combined with the highest output of network benefits. Though our quantitative measurements cannot support statistical testing, when using them together with qualitative background data, it is clear that for our three networks, the level of both perceived and actual benefits cannot be predicted by trust alone. Note that MN has the lowest level of benefits as well as the lowest level of cooperative activity. This suggests that network benefits depend on cooperation rather than on trust.

Second, *trust is (still) a driver of cooperation*, at least in the eyes of the respondents from HN and WN who say that trust is important for the good functioning of the network in terms of cooperation in general and knowledge sharing in particular. Hence, in these two networks, but not in MN, the cooperative efforts that apparently produce many network benefits seem to be enabled by trust. This confirms the established (ideal) sequence of trusting attitudes triggering trusting behaviours with desirable outcomes, but it is not clear if trust *causes*, or merely *facilitates*, cooperation.

Third, *cooperation reinforces trust*, as can be seen once again from HN and WN. In these networks, as already noted, cooperation goes along with strong network benefits – but

also with high, and increasing, levels of trust. Interestingly, in answering our question of what promotes trust within the network, cooperation is mentioned by respondents from all three networks. Hence, cooperation seems to drive both trust and benefits.

Fourth, *trust challenges and conflicts do not always destroy collaboration and network benefits*, as can be seen in particular from the case of WN where competitive behaviour and transgressions may have caused a somewhat reduced level of trust. As we noted already, in WN, the average rating of network benefits is nevertheless the highest. Here we may also add as a hypothesis that trust challenges have perhaps not only negative impacts: it may also be that the underlying events may become a source of collective learning, and as a reminder of how essential trust and cooperation really are. If so, a trust challenge at some point in time may actually induce the network to invest even more in trust-building activities than before, for example by organising more meetings and workshops.

5.2. Theory development I: the relationship between trust and cooperation

In order to theorise the insights from the three cases, it is necessary to look more closely at the relationship between trust and cooperation. Even if one sometimes may get the impression that there is a direct causal connection between trust and cooperation, it would probably be more correct to look at trust as a positive precondition for trust rather than a cause. That, at least, would be the case if we look at situations where little cooperation has yet occurred, so that the potential recursive loop between trust and collaboration has not yet been activated. That is, if we look at the moment in which cooperation is initiated, trust may affect such initiatives positively in the sense that high levels of trust increase the probability of such initiatives taking place, while low levels of trust, or distrust, have the opposite effect. Note, though, that the initiative itself will typically have its cause somewhere else, that is, not in trust as such, but in a shared vision of a cooperative project or endeavour where both (or all) parties will benefit. Such visions, again, should have some objective correlate in some real potential for joint benefits that go beyond the intangible benefit of trusting each other.

If we now look at our three networks with this perspective in mind, we notice that the members' needs vary systematically between the networks, due to systematic differences between their respective members. MN's members are all larger firms, each having resources to innovate individually, without the help of others. HN and WN, on the other hand, consist mostly of smaller enterprises, who, due to their limited resources, need cooperation with others to a much larger extent in order to innovate, and this they also seem to realise. When they meet in the network, thus, they meet with a mind-set that is far more open to cooperation related to innovation than the members of MN. Generally, thus, networks with smaller firms have stronger incentives to initiate cooperation, given a sufficient level of trust among them.

Notice also that WN has a much larger number of members than MN. This may also be a factor in explaining the higher level of cooperation and benefits in WN: as the number of members increases, so does the probability that a member meets another member with complementary resources with whom they may join forces in a common innovation project, such as when two firms combined two existing water cleansing technologies and jointly created a new, improved technology. The larger number of members in WN

may, on the other hand, also be part of the explanation of why this network has higher levels of conflict. With more members and more going on, the potential for disagreement and conflict among some of the members also increases.

It is also interesting to note that the networks differ regarding their value chain structure. While HN and WN are constructed of a mix of vertical and horizontal value chains, which means a mix of suppliers, customers and competitors, MN is constructed of competitors only. Several studies have recognised that relationships between competitors may constitute the most advantageous relationships of all, where competitors both compete and cooperate with each other in the so-called *coopetition*, to build such relationships is really a complex task (Bengtsson & Kock, 2000; Nalebuff & Brandenburger, 1996). Our findings therefore indicate that cooperative initiatives are more likely to occur in networks with a mix of vertical and horizontal value chain members than in networks with horizontal value chain members only.

A further extension of the above theoretical arguments concerns knowledge. Those forming visions for cooperative projects must have some knowledge of the field encompassing the projects. In this respect, it is interesting to note that in MN, for some reason, those representing the members in the network mostly had a background in HR. Hence, it is no wonder that the projects they envisioned and initiated mostly had to do with HR-related challenges, such as recruitment. In HN and WN, on the other hand, those representing the members were mostly managers who were close to the core productive activities of their firms and held extensive knowledge of the technical challenges relating to innovation. To generalise, cooperative initiatives that may be started under conditions of sufficient trust and produce network benefits depend on the type of knowledge and complementarity of interests held by the firms' representatives.

Introducing another, related theoretical perspective that we can further develop with our cases, let us consider that trust is more or less context- and task-specific (e.g. Mayer et al., 1995). Thus, even if in MN the members reported a high and increasing level of trust, we cannot know for sure whether it was a kind of trust that was restricted to HR topics or one that extended into the technological domain as well where joint technical innovation projects were to be formed. Unfortunately, our questions (both in the survey and in the interviews) were not designed to discover if this was the case or not. Still, we may speculate that cooperative initiatives are more likely to emerge in those domains where specific trust exists, that is, relating to different functional areas or common issue fields.

These are the main comparative insights from the three network cases. Overall, we see that network trust, cooperation and benefits interact positively but networks can also be successful when levels of trust or cooperation are relatively low, either temporarily (see WN) or because collaboration is low or non-existing (see MN). Still, HN represents the most positive scenario of mutually reinforcing trust, cooperation and benefits.

5.3. Theory development II: dynamic interaction of network trust, cooperation and benefits

The previous section highlighted some contextualised, but also rather generic, relationships between our main constructs. From a process perspective, the findings enable us furthermore to theorise, and make sense in practice, on how trust, cooperation and benefits

drive each other dynamically in various ways within inter-organisational networks. Moreover, we see how networks will undergo idiosyncratic dynamics depending, for example, on whether the network benefits sought actually require substantial levels of cooperation, or whether network benefits are needed to build trust in the first place as a condition that facilitates further cooperative initiatives, as discussed above.

Although few would argue against feedback loops and interdependent constructs, it is still common to ask questions like 'Does trust matter?' (Zaheer et al., 1998) and to study either the antecedents or consequences of trust in networks, or to conceptualise mainly one direction of causality without acknowledging the way in which consequences become antecedents or behaviours produce attitudes. Our case studies explored trust, cooperation and benefits as entangled constructs and we have applied them to explain each other according to different conditions and developments in each of our cases.

Importantly, we contribute empirical insights towards a dynamic theory of interaction between network constructs such as trust, cooperation and various outcomes, thereby extending prior models such as Ring and Van De Ven (1994). This process view in trust research (Möllering, 2013) does not negate the findings of more static models that express significant correlations between trust and performance (e.g. Sako, 1998), but it does challenge the notion of one-way causality that is still very common. Even the direction of causality thus becomes matter of specific conditions that may evolve along with the network. Thus, our framework sensitises for analytical shifts required to understand network development over time and it cautions against simple predictions. In our minds, this makes the model more meaningful for network management, too, where the main concerns do not revolve around plotting a nice trajectory of increasing trust and performance, but to make sense of the challenges ahead in the next phase of network development. Our findings illustrate the variety of experiences in different networks in this regard.

5.4. Limitations and further research

Further research can build on our framework and findings by studying other networks of a similar or different kind. With more cases to compare, the multi-directional interactions between network trust, cooperation and benefits can be substantiated and refined. This may also help to overcome one of the limitations of our study, which is that we deliberately included cases from only one country and with a strong level of network trust. Given that Norway is a high-trust society overall (Newton, 2001), our specific findings may not be generalisable to low-trust societies and low-trust networks, yet the main constructs and relationships of the framework can be applied in such contexts, too, yielding additional insights for the overall theory of trust in networks.

Although our comparative case study approach is already more complex than earlier studies of trust in Norwegian SME networks (Gausdal, 2012, 2013, 2016; Gausdal & Hildrum, 2012), another limitation of our study is that the three networks, while all based in Norway not far from Oslo, still differed in terms of their size, industry and setup. We have interpreted to some extent how these factors might explain the differences in trust, cooperation and benefits that we found, but it would be desirable to study several networks of similar size in similar contexts in order to differentiate, for example, size and industry effects from the dynamics of trust and cooperation.

Our analysis relied upon various data sources but many of our interpretations were triggered by the results of a survey of respondents who represented the network member organisations and who reported their subjective attitudes regarding trust, cooperation and benefits in the network. While we acknowledge the general difficulties in using such data, our approach can be justified nevertheless, because the respondents do act on behalf of their organisations and their perceptions shape how they interact with other representatives and, not least, what kind of cooperative initiatives are undertaken. We used other data sources as much as possible to verify any claims made, for example, about cooperation or specific benefits, but this could certainly be improved in future studies by collecting less subjectively biased data more systematically.

6. Conclusion: trust is part of a process

It was already evident before this study that trust alone is not enough for networks to achieve the benefits desired by their members. We also knew before that a trusting attitude only has consequences when it is put into action (i.e. cooperation). Then again, some authors already pointed out before that trust may follow from cooperation as such and from the benefits of cooperation (e.g. Yamagishi et al., 2005). With our comparative case analysis we contribute towards a theory of trust in networks that does not clarify if trust is a dependent or independent variable but captures trust as one element in ongoing inter-organisational processes. We highlight trust's role as a precondition rather than a cause of cooperation, but we also substantiate and revive process models of trust in inter-organisational relationships of the kind proposed a long time ago (Nooteboom, 1996; Ring, 1997; Ring & van de Ven, 1994) and recently called for again, for example by Möllering (2013).

The main comparative insights from the three network cases also include the influence of different network qualities on network benefits. Networks with smaller member firms seem to have stronger incentives to initiate cooperation, given a sufficient level of trust among them. Moreover, as the number of network members increases, so does the probability that a member meets another member with complementary resources with whom they may join forces in a common innovation project. However, with more members and activities, the potential for disagreement and conflict among some of the members also increases. Cooperative initiatives seem to be more likely to occur in networks with a mix of vertical and horizontal value chain members than horizontal value chain members only. Such initiatives also seem to depend on the type of knowledge and complementarity of interests held by the firms' representatives. We also speculate that cooperative initiatives are more likely to emerge in those domains where specific trust exists, that is, relating to different functional areas or common issue fields. Overall, the initiation of cooperative initiatives to produce network benefits under conditions of sufficient trust seems also to be influenced by firm size, network size, value chain structure, type of knowledge and complementarity of interests, and specific trust. When trying to understand the relationship between trust, cooperation and network benefits, a contextualised and dynamic view is required in order to disentangle apparently contradictory effects and to recognise trust as a facilitator and outcome of network activities.

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References

- Abrams, L. C., Cross, R., Lesser, E., & Levin, D. Z. (2003). Nurturing interpersonal trust in knowledge-sharing networks. *Academy of Management Executive*, 17(4), 64–77.
- Adler, P. S. (2001). Market, hierarchy, and trust: The knowledge economy and the future of capitalism. *Organization Science*, 12(2), 215–234.
- Axelrod, R. (1984). *The evolution of cooperation*. New York, NY: Basic books.
- Bengtsson, M., & Kock, S. (2000). “Coopetition” in business networks – to cooperate and compete simultaneously. *Industrial Marketing Management*, 29(5), 411–426.
- Bigley, G. A., & Pearce, J. L. (1998). Straining for shared meaning in organization science: Problems of trust and distrust. *Academy of Management Review*, 23(3), 405–421.
- Brass, D. J., Galaskiewicz, J., Greve, H. R., & Tsai, W. P. (2004). Taking stock of networks and organizations: A multilevel perspective. *Academy of Management Journal*, 47(6), 795–817.
- Calton, J. M., & Lad, L. J. (1995). Social contracting as a trust-building process of network governance. *Business Ethics Quarterly*, 5(2), 271–295.
- Cummings, L. L., & Bromiley, P. (1996). The organizational trust inventory (OTI). Development and validation. In R. M. Kramer & T. R. Tyler (Eds.), *Trust in organizations: Frontiers of theory and research* (pp. 302–330). Thousand Oaks, CA: Sage.

- Dirks, K. T., & Ferrin, D. (2002). The role of trust in organizational setting. *Organization Science*, 12, 450–467.
- Dyer, J. H., & Chu, W. (2003). The role of trustworthiness in reducing transaction costs and improving performance: Empirical evidence from the United States, Japan, and Korea. *Organization Science*, 14(1), 57–68.
- Gambetta, D. (1988). *Trust: Making and breaking cooperative relations*. Oxford: Basil Blackwell.
- Gausdal, A. H. (2012). Trust-building processes in the context of networks. *Journal of Trust Research*, 2(1), 7–30.
- Gausdal, A. H. (2013). Methods for developing innovative SME networks. *Journal of the Knowledge Economy*, 25(1), 15–38.
- Gausdal, A. H. (2016). Trust-building in networks as practical social learning processes. In S. Jagd & L. Fuglsang (Eds.), *Trust, organizations and social interaction. Studying trust as process within and between organizations* (pp. 125–145). Cheltenham: Edward Elgar.
- Gausdal, A. H., & Hildrum, J. (2012). Facilitating trust building in networks: A study from the water technology industry. *Systemic Practice and Action Research*, 25(1), 15–38.
- Gausdal, A. H., & Nilsen, E. R. (2011). Orchestrating innovative SME networks. *The case of 'HealthInnovation'*. *Journal of the Knowledge Economy*, 2(4), 586–600.
- Gulati, R. (1995). Does familiarity breed trust – The implications of repeated ties for contractual choice in alliances. *Academy of Management Journal*, 38(1), 85–112.
- Hardin, R. (2002). *Trust and trustworthiness*. New York, NY: Russel Sage Foundation.
- Hatak, I., & Roessl, D. (2010). Trust within interfirm cooperation: A conceptualization. *Our Economy*, 56 (5–6), 3–10.
- Hoang, H., & Antoncic, B. (2003). Network-based research in entrepreneurship – A critical review. *Journal of Business Venturing*, 18(2), 165–187.
- Kee, H. W., & Knox, R. E. (1970). Conceptual and methodological considerations in the study of trust and suspicion. *The Journal of Conflict Resolution*, 14(3), 357–366.
- Keeble, D. (2000). Collective learning processes in European high-technology milieux. In D. Keeble & F. Wilkinson (Eds.), *High-technology clusters, networking and collective learning in Europe* (pp. 199–229). Aldershot: Ashgate.
- Kern, H. (1998). Lack of trust, surfeit of trust: Some causes of the innovation crisis in German industry. In C. Lane & R. Bachmann (Eds.), *Trust within and between organizations: Conceptual issues and empirical applications* (pp. 203–213). New York, NY: Oxford University press.
- Krishnan, R., Martin, X., & Noorderhaven, N. G. (2006). When trust matter to alliance performance. *Academy of Management Journal*, 49(5), 894–917.
- Krogh, G. v., Ichijo, K., & Nonaka, I. (2000). *Enabling knowledge creation: How to unlock the mystery of tacit knowledge and release the power of innovation*. Oxford: Oxford University Press.
- Lewicki, R. J., Saunders, D., Barry, B., & Minton, J. (2003). *Essentials of negotiation*. New York, NY: McGraw-Hill/Irwin.
- Luhmann, N. (1979). *Trust and power*. Chichester: John Wiley.
- Macy, M. W., & Sato, Y. (2002). Trust, cooperation, and market formation in the U.S. and Japan. *Proceedings of the National Academy of Sciences of the United States of America*, 99(3), 7214–7220.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, 20(3), 709–734.
- Menzel, M. P., & Fornahl, D. (2009). Cluster life cycles – Dimensions and rationales of cluster evolution. *Industrial and Corporate Change*, 19(1), 205–238.
- Mooradian, T., Renzl, B., & Matzler, K. (2006). Who trusts? Personality, trust and knowledge sharing. *Management Learning*, 37(4), 523–540.
- Möllering, G. (2006). *Trust: Reason, routine, reflexivity*. Oxford: Elsevier.
- Möllering, G. (2013). Process views of trusting and crises. In R. Bachmann & A. Zaheer (Eds.), *Handbook of advances in trust research* (pp. 285–305). Cheltenham: Edward Elgar.
- Nalebuff, B. J., & Brandenburger, A. (1996). *Co-opetition*. London: HarperCollins.
- Newton, K. (2001). Trust, social capital, civil society, and democracy. *International Political Science Review*, 22(2), 201–214.

- Nooteboom, B. (1996). Trust, opportunism and governance: A process and control model. *Organization Studies*, 17(6), 985–1010.
- Norman, T. J. (1997). *Motivation-based direction of planning attention in agents with goal autonomy* (PhD), University College London, London.
- Orton, J. D., & Weick, K. E. (1990). Loosely coupled systems – A reconceptualization. *Academy of Management Review*, 15(2), 203–223.
- Pilisuk, M., & Skolnick, P. (1968). Inducing trust: A test of the good proposal. *Journal of Personality and Social Psychology*, 8, 121–133.
- Pittaway, L., Robertson, M., Munir, K., Denyer, D., & Neely, A. (2004). Networking and innovation: A systematic review of the evidence. *International Journal of Management Reviews*, 5–6(3–4), 137–168.
- Powell, W. W. (1990). Neither market nor hierarchy: Networks forms of organization. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 12, pp. 295–336). Greenwich, CT: JAI Press.
- Ring, P. S. (1997). Transacting in the state of Union: A case study of exchange governed by convergent interests. *Journal of Management Studies*, 34, 1–25.
- Ring, P. S., & van de Ven, A. H. (1992). Structuring cooperative relationships between organizations. *Strategic Management Journal*, 13(7), 483–498.
- Ring, P. S., & van de Ven, A. H. (1994). Developmental processes of cooperative interorganizational relationships. *Academy of Management Review*, 19(1), 90–118.
- Ripperger, T. (1998). *Ökonomik des Vertrauens: Analyse eines Organisationsprinzips*. Tübingen: Mohr Siebeck.
- Ross, W. H., & LaCroix, J. (1996). Multiple meanings of trust in negotiation theory and research: A literature review and integrative model. *The International Journal of Conflict Management*, 7(4), 314–360.
- Rus, A. (2005). Trust and performance: Institutional, interpersonal and network trust. In K. Bijlsma-Frankema & R. K. Woolthuis (Eds.), *Trust under pressure: Empirical investigations of trust and trust building in uncertain circumstances* (pp. 80–104). Cheltenham: Edward Elgar.
- Sako, M. (1998). Does trust improve business performance? In C. Lane & R. Bachmann (Eds.), *Trust within and between organizations: Conceptual issues and empirical applications* (pp. 88–117). New York, NY: Oxford University Press.
- Svare, H., & Gausdal, A. H. (2015). Strengthening regional innovation systems by network-based innovation brokering. *Entrepreneurship and Regional Development*, 27(9–10), 619–643.
- Uzzi, B. (1997). Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative Science Quarterly*, 42(1), 35–67.
- Wicks, A. C., Berman, S. L., & Jones, T. M. (1999). The structure of optimal trust: Moral and strategic implications. *Academy of Management Review*, 24(1), 99–116.
- Yamagishi, T., Kanazawa, S., Mashima, R., & Terai, S. (2005). Separating trust from cooperation in a dynamic relationship: Prisoner's dilemma with variable dependence. *Rationality and Society*, 17(3), 275–308.
- Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage.
- Zaheer, A., McEvily, B., & Perrone, V. (1998). Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. *Organization Science*, 9(2), 141–159.