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Journal of Purchasing & Supply Management

journal homepage: www.elsevier.com/locate/pursup

Building trust in construction partnering projects: An exploratory case-study

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ARTICLE INFO

Article history:

Received 3 July 2009

Received in revised form

16 November 2010

Accepted 24 November 2010

Available online 7 December 2010

Keywords:

Trust

Alliance contract

Case study

ABSTRACT

This paper generates insights into the establishment and maintenance of cooperative, trusting relationships in partnering projects between client and contractor organizations. For this purpose we first explore the concept of trust, and review the literature on trust in inter-organizational relationships. We describe how trust is related to risk, control and performance, and how initial conditions and expectations may lead to positive cycles of increasing trust or, in contrast, to negative cycles of decreasing trust. We confront this stylized theoretical description of inter-organizational trust dynamics with rich data from a project alliance in railroad construction in the Netherlands. We conclude that the initial conditions of this project alliance were conducive to trust, both in terms of opportunities and incentives. However, virtuous trust dynamics do not develop automatically, in particular in the construction industry that has a heritage of adversarial relationships between clients and contractors. The organizations in our case study took some deliberate actions to overcome these adversarial relations, like selection of key employees, increasing informal interactions between these employees and stimulating openness and transparency.

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1. Introduction

Relationships between principal and contractor organizations in construction projects are often adversarial. This is true of relationships governed by a traditional contract, but also of more modern contractual forms, like design-build (Latham, 1994; Egan, 1998; Byggkommissionen, 2002; PSIBouw, 2003). Development of relationships of trust between client and contractor seems to be difficult. In the project-based setting of the construction industry business partners lack the time to engage in lengthy interaction processes that contribute to the development of trust in more enduring organizational forms (Dainty et al., 2001). As a result independent organizations that are relative strangers to each other have to engage in construction projects that are often characterized by high complexity, uncertainty and risk. In that light it is maybe not surprising that the interaction processes between client and contractor organizations are often conflict-ridden, leading to unsatisfactory outcomes of construction projects (Chan et al., 2004).

It is often assumed that more cooperation between client and contractor will improve the performance of construction projects (Back and Sanders, 1996; Dainty et al., 2001; Li et al., 2000). In this regard, the use of partnering approaches is increasingly advocated – especially for high risk, complex construction projects – since several studies have shown that these types of partnering

arrangements can create more cooperative, trusting relationships (Larson, 1995; Bennett and Jayes, 1995, 1998). However, other scholars have stressed that not all partnering projects perform well, and that there are no quick fixes that guarantee success (Bresnen and Marshall, 2000a, 2000b, 2000c). These observations suggest that the mechanisms involved in establishing and maintaining trusting, cooperative relationships between clients and contractors in the construction industry are complex and difficult to manage purposefully (Kadefors, 2004).

In this project-based industry, temporary relationships between organizations are established for a clear purpose: the realization of a project within a well-defined period of time. To realize a project a diversity of skills and functions from a range of organizations are brought together. Project success strongly depends on a tight and coordinated coupling of the activities of all these participants. As organizations in a project-based industry collaborate in ever-changing temporary combinations, the issue of developing trust assumes a special significance. It is questionable if trusting, cooperative relationships can be intentionally shaped in one-off partnering projects, or whether partnering success requires an industry-wide process of cultural change that can only develop over a longer period of time (Bresnen, 2007). As it is, partners in a construction process are likely to import into the partnering project expectations built up in previous projects, mostly with traditional or design-build contracts (Meyerson et al., 1996; Laan, 2008). Based on many studies of the construction industry, these expectations based on previous experiences are not likely to be very conducive to the development of trust between client and contractor organizations (Chan et al., 2004; Humphreys et al., 2003).

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In this paper, we aim to generate insights into the process of establishing and maintaining cooperative, trusting relationships in partnering projects. In looking at this issue we specifically focus on the project-alliance form of contract. This type of arrangement aligns the incentives of client and contractor organizations by sharing the benefits of effective project implementation, and the assumption is that in this way the negative relational dynamics typical of many more traditional construction projects can be avoided (Dainty et al., 2001). This alignment supports the integration of client and contractor organizations that come together in a construction supply chain. In such a supply chain, cooperation, coordination and collaboration depend on information exchange and trust development (Briscoe et al., 2004). Project alliances are particularly fitting for construction projects and their supply chains characterized by high complexity and risk, where the damage of not effectively managing this complexity and risk can be large, and conversely the benefits of successful project management are substantial (Back and Sanders, 1996; Halman and Braks, 1999).

We see the potential benefits of project alliances as strongly linked to the question of the development of trust between client and contractor. If a trusting relationship develops, communication about risks and possible remedies will be more transparent, management of these risks more effective and project outcomes more favorable. If trust between the two parties remains weak, it will be hard to realize the positive effects envisaged with the project alliance contract. But what exactly is “trust” in this context, which factors promote and impede its development, and how is it related to positive project outcomes? In the next section of the paper we will focus on these questions, and formulate some general expectations regarding factors leading to the development of trust between a client and a contractor engaged in a project alliance. After that, we will discuss a longitudinal case study of one particular project alliance: a major railroad reconstruction project in the Netherlands. Conclusions, limitations and suggestions for future studies are given in the final section.

2. Trust and client–contractor relations in construction projects

In this section we will first examine the concept of trust in general and offer a definition of trust, and next discuss different dimensions and sources of trust. In the subsequent section we will focus on trust in inter-organizational relations.

2.1. The concept of trust

The concept of trust is widely discussed in literature. Rousseau et al. (1998, p. 395) define trust as ‘a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another’. This definition implies that trust is a *state of mind*, not a behavior, but that it may lead to trusting behavior (Nooteboom, 2006). Furthermore, it presupposes a condition of uncertainty which is, as Gambetta (1988, p. 218) observed, central to the notion of trust: ‘[i]t is related to the limits of our capacity ever to achieve full knowledge of others, their motives and their responses to endogenous as well as exogenous changes’. On this basis, many authors have connected trust with the existence of risk (e.g. Gulati, 1995; Nooteboom et al., 1997; Das and Teng, 2001). With regard to this, it has been argued that trust concerns trusting intentions, a *willingness to become vulnerable* to another in a risky situation, as well as trusting beliefs, *the expectation not to be harmed* by the behavior of the other in this risky situation. Both factors are influenced by someone’s own *disposition to trust*, i.e. the assumption that, in general, others are trustworthy (McKnight et al., 1998; McKnight and Chervany, 2006).

Hence the two-sidedness of trust should be recognized. A distinction can be made between *trust* on the part of the trustor, and *trustworthiness* on the side of the trustee’ (see also Bachmann et al., 2001; McEvily et al., 2003; Bijlsma-Frankema and Costa, 2005; Costa and Bijlsma-Frankema, 2007).

By considering trust as a ‘willingness to submit to the risk that things or people may fail us, with the expectation that they will not, or the neglect or lack of awareness of the possibility that they might’, Nooteboom (2002, p. 45) emphasizes that, apart from an expectation that things will not go wrong, *people may simply not think of things going wrong*. He suggests the notion of *trust as a default*: ‘[o]n the basis of available knowledge, routine or instinct (...), one assumes trustworthiness until evidence to the contrary appears (...). In the absence of contrary evidence we do not calculate, but when it arises we might’ (p. 43). Or, in case of mistrust: ‘[w]e assume a lack of trustworthiness, until evidence to the contrary arises’ (p. 45). So, trust can have both *calculative* as well as *non-calculative* elements (e.g. Kramer, 1999; Lindenberg, 2000; Möllering, 2005). The relation between the expectation that things will not go wrong – or the neglect or lack of awareness that things can go wrong – and the possibility that they actually might, has been discussed thoroughly (e.g. Lindenberg, 2000; Nooteboom, 2002; Kramer, 2006). We argue that trust can be considered as an expectation that trustees will not engage in opportunistic behavior, even in the face of opportunities for realizing (short-term) gains by doing so. After all, since uncertainty is a *sine qua non* of trust, trustors by definition face the risk of trustees behaving opportunistically. Accordingly, we follow Nooteboom (2002, p. 48; 2006, p. 252) by defining trust as ‘*an expectation that things or people will not fail us, or the neglect or lack of awareness of the possibility of failure, even if there are perceived opportunities and incentives for it*’.

2.2. Dimensions and sources of trust

Based on this definition we can further distinguish between dimensions and sources of trust. Since trust is defined as an expectation that people, or in the case of this study, organizations, will not fail us it can be questioned whether the one who is trusted is *able to conform* to this expectation. In the literature, this aspect of trust is called *competence trust*, reflecting the level of trust one has in the technical, organizational and managerial competences of a trustee (Klein Woolthuis et al., 2005; Nooteboom, 2006). Smith and Barclay (1997) define competence as the degree to which partners perceive each other as having the skills, abilities and knowledge necessary for effective task performance. According to Sirdeshmukh et al. (2002) the expectation of consistently competent performance from a partner is also a precursor to the development of trust in a variety of business relationship contexts.

The competence aspect of trust can be distinguished from the *intentional* aspect of trust, which refers to the intentions of a partner towards the relationship. Here, the question is whether trustees intend to use their ability to conform to a trustor’s expectations. Intentional trust includes the expectation that a trustee will not behave opportunistically. Opportunism can be perceived to be at intermediate level when there appears to be a lack of dedication to perform to the best of one’s competence. This is the case when a trustee offers too little in terms of effort and attention. Opportunism is perceived as strong, when there appears to be self-interest seeking with guile, implying that a trustee is trying to take excessive advantage from the relationship (Nooteboom, 2002). The opposite of the latter is termed *benevolence* or *goodwill*, which has also been considered as a crucial aspect of trust by many authors (e.g. Geyskens et al., 1998; Mayer et al., 1995; Sako, 2000; Klein Woolthuis et al., 2005). Geyskens et al. (1998), for instance, report that benevolence has a significant

impact on investment in buyer-seller relationships. Selnes and Gonhaug (2000) also note that benevolence is one of the key factors in developing relationships of trust and commitment. Likewise, Aurifeille and Medlin (2009) found that the benevolence dimension of trust was significantly associated with business relationship performance. Therefore, intentional trust can be split into *trust in dedication* and *trust in benevolence*, where 'dedication' stands for the willingness to apply one's capabilities in the relationship (see, e.g., McAllister, 1995)², and benevolence for the willingness to treat the trusting partner well, also under as yet unforeseen circumstances (Aurifeille and Medlin, 2009). In the light of our discussion above, benevolence can also be seen as the absence of opportunism.

In determining where trust comes from, two apparently contradictory theoretical traditions have been discerned. One tradition, favored by micro-economics, sees trust as a calculated risk, presuming that trust is sourced in a rational evaluation, emphasizing the extrinsic value of trust. The other strand is the psychological tradition that sees trust as a presumed other-regard without calculativeness, presuming that trust is sourced in a social orientation towards other people, emphasizing the intrinsic value of trust (e.g. Granovetter, 1985; Rousseau et al., 1998; Kramer, 1999; Nooteboom, 2002; Lindenberg, 2000). We follow Nooteboom, (2002), by simply assuming that, on the side of the trustor, trust has both rational reasons and psychological causes. Rational reasons for trust are based on inferences of someone's trustworthiness, indicating how a trustor should, from a normative standpoint, make decisions about trust (Kramer, 1999). But trust is also based on psychological causes of affect, routine, lack of awareness or neglect of relational risk, which block, affect or enable rational evaluations of trust (Nooteboom, 2002).

Since rational reasons for trust are based on a conscious consideration of someone's reliability, we also need to know what sources of trustworthiness are available on the side of the trustee. Focusing on these sources of trustworthiness, we can ask whether people are competent. We can also ask what will make them dedicated to a relationship and what makes them refrain from opportunism. On the one hand, people can behave in a trustworthy manner because it is in their own interest to do so. With regard to this self-interest, two major sources of trustworthiness can be discerned (Nooteboom, 1996; 2002). First, a limit on opportunities for deviant behavior may bring about trustworthy behavior. Such opportunities can be restricted by contractual obligations or by hierarchical pressure. Second, a limit on incentives to use opportunities for deviant behavior may also result in trustworthy behavior. This refers to a situation where people behave in a trustworthy manner because they are so dependent on a relationship that they will not hazard opportunistic behavior for fear of retaliation. It furthermore includes the protection of one's reputation and the assessment of possible future benefits of present cooperativeness (Nooteboom, 2002).

On the other hand, man is not always self-interested and opportunistic. In business, one also finds honesty, integrity and decency (Klein Woolthuis et al., 2005). So, there are other-directed sources of trustworthiness that go beyond self-interest. Beside rational and extrinsic considerations trustworthiness may also be relational and intrinsically valued, sourced in general social norms and values, or in more-personalized bonds of empathy, identification and routinization (Nooteboom, 2002). This source of trustworthiness refers to a limit on inclinations to use opportunities for deviate behavior.

3. The role of trust in the governance of inter-organizational relationships

In studying trust in inter-organizational relations researchers have focused on the interrelationships between trust and control, connecting both concepts to the levels of risk within, and the actual performance of, inter-organizational relationships (Das and Teng 1998; Nooteboom et al. 1997). Therefore, in this section, we first consider the literature on the relationship between trust and the risks that business partners face, both internal and external to their relationship. Next, it is discussed how trust and formal governance forms employed to exert control over the relationship substitute and/or complement each other in counteracting these risks. Third, we focus on the influence of the performance of the relationship on the levels of trust and governance form. Subsequently, we consider the dynamic mutual influences between all these factors.

When studying trust in an inter-organizational context, we have to acknowledge possible differences between interpersonal and inter-organizational trust. Whereas organizations as such cannot trust, individuals can both trust an organization (as an institution) and the individual managers and employees representing it (Janowicz and Noorderhaven, 2006). Both types of trust are relevant. As a matter of fact, in inter-organizational relations trust in the other organization and trust in its individual representatives is closely related (Zaheer and Harris, 2006), and building up interpersonal trust seems to be an important step towards the development of inter-organizational trust (Zaheer et al., 1998). Interpersonal and inter-organizational trust are related, but distinct concepts (Hagen and Simons, 2003).

When discussing the role of trust in inter-organizational relationships, we need to take into account that trustors face the risk of trustees not being able or not being willing to perform as expected, which can be caused by factors endogenous as well as exogenous to the relationship (Ring and Ven de Ven, 1994). Therefore, in inter-organizational relationships, the risks that organizations face are assumed to be of two primary types: risks internal and external to a relationship. Internal risk has been defined as the probability and consequences of not having satisfactory cooperation (Das and Teng, 2001). It arises from a possible lack of competences and the potential for opportunism on the side of the trustee. External risks arise from those factors that contribute to the possibility and consequences of outcomes of an inter-organizational relationship not being achieved, despite having satisfactory cooperation with organizations (Das and Teng, 2001). Although these factors may directly influence the performance of an inter-organizational relationship, they can also indirectly influence the trustworthiness of organizations since incidents may arise that affect favorable conditions of competence, dedication and benevolence (Lindenberg, 2000).

Second, we should also consider the relationship between trust and control. Both concepts reduce the probability and impact of undesirable outcomes (Möllering, 2005; Long and Sitkin, 2006). Trust has been defined above as a positive expectation regarding the competences or intentions of a partner, whereas control is considered as a more interventionist approach, influencing the behavior of a business partner in such a way that undesirable outcomes are less likely to occur. The concept of control refers to the formal mechanisms of governance employed in the relation, like contracts, arrangements for monitoring, and the exchange of 'hostages' (Nooteboom et al., 1997). This has led to two contradictory views on the relationship between the two concepts: the substitution and the complementarity perspectives (Van de Ven and Ring, 2006; Vlaar et al., 2007; Costa and Bijlsma-Frankema, 2007). The substitution perspective suggests that trust and control are inversely related, implying that more control will result in less trust, and vice versa (Gulati, 1995; Inkpen and Currall, 2004). The

² This dimension also goes by other names, e.g. Aurifeille and Medlin (2009: 9) refer to it as 'credibility' ('a belief that the other firm has the expertise and ability to perform'). We prefer the term 'dedication', as it is also important that the other party is willing to apply his abilities. In the construction literature the use of this term is common (see, e.g., Bresnen and Marshall, 2000c).

complementarity perspective suggests that trust and control are mutually reinforcing in counteracting internal and external risks, implying that greater control will result in more trust (Poppo and Zenger, 2002; Luo, 2002). In the literature two forms of control are discerned: formal and informal (Bijlsma-Frankema et al., 2005). Formal control emphasizes 'the establishment and utilization of formal rules, procedures, and policies to monitor and reward desirable performance' (Das and Teng, 2001, p. 259). Formal control contributes to a limitation of opportunities and incentives to deviate (Nooteboom, 2002). In the event of formal control becoming less applicable and/or effective, informal control has been proposed as an alternative governance mechanism. Das and Teng (2001, p. 259) state that informal control relies above all 'on the establishment of organizational norms, values, culture and the internalization of goals to encourage desirable behavior and outcome'. Hence informal control contributes to a limitation of inclinations to deviate (Nooteboom, 2002).

Thirdly, trust is also related to inter-organizational relationship performance. Trust and control not only influence the performance of an inter-organizational relationship, they are also shaped by it. When their relationship develops over time, organizations update their levels of trust and change the forms of control they have previously adopted (Van de Ven and Ring, 2006; Costa and Bijlsma-Frankema, 2007). These changes are most likely when the performance is considered better or worse than expected (March and Olsen, 1975; Vlaar et al., 2007). Consequently, it has been argued that in studying processes of inter-organizational trust development, we have to consider both the outcomes achieved in a relationship – the objective performance effects – as well as the relational quality underlying these outcomes—the subjective performance effects (Ariño, 2003). In discussing the performance of inter-organizational relationships in terms of objective outcomes, McEvily and Zaheer (2006) state that 'financial outcomes are the most relevant and compelling indicators of inter-organizational relationship performance' (p. 291). Another way of gauging the performance of inter-organizational relationships is completion time, which has been found to be particularly important in relationships that are project-based (Lui and Ngo, 2004). The most commonly used metric to assess the subjective effect on performance of inter-organizational relationships is satisfaction with the relationship. Here we can think of, for instance, mutual adjustment and joint problem solving (Johnston et al., 2004; McEvily and Zaheer, 2006; Sahay, 2003; Six, 2004). Other researchers focus on factors like openness (Zand, 1972), information sharing (Handfield and Bechtel, 2002; Kwon and Suh, 2004) and inter-organizational learning (McAllister, 1995; Janowicz and Noorderhaven, 2006), and the quality of a relationship has also been evaluated in terms of the willingness of business partners to continue doing businesses together in the future (Pavlou, 2002).

The actual performance of the relationship may bring about changes in the level of trust, as well as the forms of control adopted (Ariño, 2003; McEvily and Zaheer, 2006; Costa and Bijlsma-Frankema, 2007). Consequently, the perceptions of risk, internal and external to the relationship, are also subjected to change (Das and Teng, 2001; Nooteboom, 2002; Bijlsma-Frankema and Costa, 2005). Since partner firms are inclined to be more open to expectancy confirmation than to expectancy denial, initial characteristics may have disproportionate effects on the subsequent development of inter-organizational relationships (Weick, 1995; Vlaar et al., 2007). For instance, low levels of trust in the early stages of a relationship lead to high perceived needs for control, which limit the opportunities and incentives for a business partner to deviate, and hence lower the perceived level of risk. However, this can have a negative impact on the performance of a relationship, since the partner firms may become increasingly locked into formalities. If the performance of a relationship is subsequently

considered to be weak, the organizations involved may come to perceive their partner firms as less trustworthy than they originally thought, leading to an increased perception of risk. This may result in an increase in control which, in combination with the perceived weak performance, further diminishes the level of trust initially present in the relationship. It may also work the other way around, so that the behavior of a partner firm is interpreted in such a way that it improves the level of trust present in the early stages of a relationship. Therefore, the initial conditions within an inter-organizational relationship can easily trigger virtuous cycles of trust or vicious cycles of distrust.

To conclude, our exploration of the literature suggests that initial levels of perceived risk, trust and formal control, expressed in the governance mechanism employed, are strongly interrelated. Initial trust influences both the governance of an inter-organizational relation and its performance (Gulati, 1995; Gulati and Nickerson, 2008). The governance form in turn influences both the outcomes of the relationship and the formation or deterioration of trust (Gulati and Nickerson, 2008). Relationship performance, finally, also influences both trust and changes in formal governance (Bercovitz et al., 2006). Moreover, all these mutual influences are dynamic. As the project evolves, parties become aware of (intermediary) outcomes, which may lead to perceptions of lower risk, increased trust and more relaxed control, but also to higher perceived risk, more stringent control and reduced trust. Moreover, the literature suggests that the trust–control configuration is influenced by risk perceptions based on expectations and experiences, and that through a dynamics of low trust, stringent control and disappointing intermediate outcomes, initial expectations may become self-fulfilling prophecies. In the next section of the paper we will look at a project alliance to see if we can identify the trust dynamics that we have described in a stylized form above. We are particularly interested in how the dynamic interrelations between perceived risk, trust, control and (intermediary) performance play out in practice, as this particular governance form carries the promise of leading to a more collaborative relationship between the client and the contractor organizations (Bresnen and Marshall, 2002). This analysis will allow us to determine whether and under what conditions the project alliance as a governance form helps to promote virtuous cycles of trust development between the client and the contractor organizations.

4. Method

To generate insights into the dynamics of trust development in a project alliance, we conducted a longitudinal case study. Many scholars have advocated using longitudinal process studies to uncover the processes of inter-organizational trust development. For instance, Van de Ven and Ring (2006, p. 154) state that 'we have very little evidence about the dynamics of trust. Longitudinal research is required to observe how and why processes of trust develop over time'. Since we wanted to know how and why the processes of inter-organizational trust in a project alliance develop over time, the research strategy of a longitudinal case study is a very suitable (Swanson and Holton, 2005). It allows us to study 'a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident' (Yin, 2003, p.2), as is the case when the inter-relationships between trust, risk, control and performance in the governance of inter-organizational relationships in the construction industry are object of study.

In identifying factors involved in the development of inter-organizational trust in the project alliance, we used a protocol based on our reading of the literature on risk, trust, control and performance (see Appendix). We first focused on the perceptions of

Table 1
Overview of interviews.

Interviewee	Organization	Function	Round 1	Round 2	Round 3
1	Client	AMT, alliance manager	X	X	X
2	Client	AMT, external relations	X	X	X
3	Contractor	AMT, construction manager	X	X	X
4	Contractor	AMT, design manager	X		
5	Independent	AMT, design manager			X
6	Contractor	ASC	X	X	
7	Contractor	ASC	X	X	
8	Client	ASC	X		X
9	Client	ASC	X		
10	Client	ASC		X	
11	Contractor	ASC		X	X
12	Contractor	ASC		X	
13	Client	ASC		X	
14	Contractor	ASC			X
15	Contractor	Project leader construction	X		
16	Client	Controller		X	
17	Independent	Advisor		X	
18	Client	Administrator		X	
19	Contractor	Project leader construction		X	
20	Contractor	Project leader construction		X	
			9	14	7

the client and contractor organizations to see whether the initial conditions of the project in terms of perceived risks, both internal and external to the relationship, were conducive to trust. We also looked at the adopted the governance form, formal and informal forms of control, to see whether these complemented, or substituted for, the levels of trust initially present in the project. In later interviews we also considered the influence of the project's performance, both in terms of outcomes achieved as well as the relational quality underlying these outcomes, on the dynamics of trust between the organizations involved. Our first interviews took place early in the execution/construction phase ($T=0$). This was our first opportunity, because the project partners did not want us to be involved in the negotiation/procurement phase. However, by asking our informants about how they had perceived the negotiation/procurement processes, and by focusing on the arrangements that the principal and contractor organizations had committed themselves to, we were able to acquire a picture of this phase as well ($T<0$). In order to see how and why trust between project partners develops over time, we interviewed the informants for a second time six months later, i.e., in the autumn of 2007 ($T=1$). In this second series of interviews we also looked at the project's future prospects ($T>1$). We interviewed the informants for the third time, when the project had made another 6 months of progress ($T=2$). Here, our focus was at the same themes.

In the three rounds we performed a total 30 in-depth, face-to-face interviews with key informants of our case study, a €40 million rail construction project in the Netherlands. The interviewees were members of the alliance steering committee (ASC), the alliance management team (AMT), two bodies especially established for the project, or other key employees involved in the alliance (for an overview of interviewees, see Table 1).

The ASC met on a regular basis and was responsible for supervising the AMT and monitoring the overall performance of the project, whereas the AMT was entrusted with day-to-day project management. The ASC consisted of two representatives from the client organization and two from the contractor organization. The AMT was appointed by the ASC, and consisted also of four people, each with a particular field of expertise. The alliance manager was a representative of the client organization and assigned the overall management of the project. He was responsible for coordinating the day-to-day activities of the alliance management team. In this particular project the alliance manager happened to be also the

contract manager on behalf of the client, hence he was playing a double role and acted in a certain sense as his own supervisor. The design manager was a representative of the contractor organization and oversaw the design process, i.e., he supervised a design firm making the detailed project design. The construction manager was also a representative of the contractor organization and focused on controlling the process and product performance during the construction processes. Finally, a fourth manager was again a representative of the principal and responsible for obtaining all the construction licenses required, and managing relationships with stakeholders like the municipality and local residents.

We selected the interviewees with the aim of obtaining the most authoritative and insightful viewpoints with regard to the processes of inter-organizational trust development in our case project. Each interview lasted 60–90 min and was semi-structured in that we used flexible interview guides that were tailored to the specific roles of the ASC and AMT members. All interviews were recorded and transcribed in order to facilitate detailed and systematic analysis. The three interview rounds generated a rich but still manageable amount of textual data (450 pages). We read the transcripts numerous times, identifying and labeling passages that related to the themes we had previously identified, so that we became fully immersed in the data (Swanson and Holton, 2005). This process of breaking up and labeling data into general categories can be thought of as a data reduction process, but it also opens up the data since it increased our understanding and interpretation of what exactly was going on in our case project. By clustering the labeled passages and by looking for patterns emerging in the data, we subsequently moved to the interpretative mode (Miles and Huberman, 1994). Here, we integrated our findings by focusing on how and why the governance-related factors of trust, risk, control and performance related to each other as the project progressed. In doing so we moved from a simple case description into an exploration of the underlying mechanisms through which the processes of inter-organizational trust develop over time.

5. Results

In this section, we first give a description of our case project. After that we analyze factors that influence the processes of

inter-organizational trust development between the principal and contractor organization in this project alliance form of contract.

5.1. Case description

Our case study project concerns a €40 million rail construction project in the Netherlands. The project concerns doubling the number of tracks in the domain of a medium-sized city over a total length of about 5 km. Further, a station will be rebuilt and a new one will be added. The project also involves constructing a rail crossing auto tunnel, a bus tunnel, a pedestrian underpass, a large cycle shed and an underpass for cyclists. The case description below is based on our interviews plus some key documents, including the project plan and the alliance contract.

The client organization (“Client”), is responsible for developing and maintaining the rail infrastructure in the Netherlands, and is financed by the Dutch Ministry of Transport, Public Works and Water Management. Until the 2000s, Client usually followed the traditional procurement route. However, contracts where the principal completely specifies the project design and the contractor is responsible only for constructing the defined project, are becoming less common. They are often now replaced by a form of design-build arrangement, where the principal organization puts the functional specifications of a project out to tender. The contractor organization then becomes responsible for specifying the project design as well as for subsequently constructing the project. Consequently, the overall costs are expected to be lower.

However, in many design-build projects Client faces problems that complicate the relationship with contractors. Especially with complex projects and if there are substantial project risks, not really controllable by either the principal or the contractor organization, relationships easily become frustrated by disputes and process delays. Therefore, in case of such complex projects, Client increasingly advocates for partnering types of arrangement. A form of contract that in this regard has been developed recently is the project alliance, in which the relation between the principal and contractor organization is expected to be smoothed by the creation of a common interest.

In the first instance, Client decided to put the rail construction project out to tender as a design-build contract. After evaluating the submitted bids, the contract was awarded to a general partnership between three construction firms (“Contractor”). However, since the project dissects the centre of a city, it became increasingly clear that the project risks were high and hardly controllable by one of the project partners. Therefore, Contractor suggested converting the initial design-build contract into a project alliance form of contract. Client agreed, and both organizations entered into an alliance contract and a construction contract. The alliance contract described the joint tasks, responsibilities and accountabilities of both partners, while the construction contract described the construction activities to be performed by the three construction firms. The alliance contract contained arrangements with respect to (1) design activities, (2) control activities and (3) activities with regard to managing the alliance budget. In terms of design activities, the alliance was responsible for converting the construction firms’ submitted project design into a definitive project design. So, the alliance had to provide the construction firms the correct drawings in a timely manner. In this way the alliance acted as the delegated principal for the project. Furthermore, the relationship between the alliance and the construction firms, as described by the construction contract, can be seen as a traditional principal–contractor type of relationship since the alliance had become responsible for supervising construction activities. Hence the alliance had to control the three construction firms’ products and processes in order to ensure that the quality delivered corresponded with the norms and specifications agreed.

The alliance was financed by an alliance fund made up of Client’s and Contractor’s design and management budgets, as well as their risk budgets. The alliance’s design and management costs, as well as emerging risks, had to be paid out of this fund. However, the fund could be boosted by savings resulting from optimizing the project design. At the end of the project, any positive or negative outcome of the alliance fund – i.e. the budget leftovers and the realized design optimizations – would be shared 50/50 between Client and Contractor. So, their common interest was to set up a lean project organization, to strive for design optimizations and to tackle emerging risks in close cooperation, in order to end up with a positive balance in the alliance fund.

5.2. Case analysis

We now move to the question how and why inter-organizational trust between Client and Contractor developed over time in our case project. In describing this we will also comment on the differences between the dynamics of trust as seen in this project alliance and the patterns of behavior between principal and contractor organizations often found in both traditional and design-build types of arrangement, as expressed by our interviewees. It is important to note that these comparisons are not ours, but those of our interviewees, and constitute the mental background against which they tried to make sense of what happened in the project alliance. In quoting from specific interviews, we will identify whether the interviewee is from the Client or the Contractor organization.

5.2.1. Initial conditions

First, our focus is on the question whether the initial conditions of the project alliance, in terms of the risks faced by Client and Contractor, were conducive to trust. In many traditional contracts principals struggle with adequately conditioning projects since they have to provide contractor organizations on time with a project design and with the licenses required to construct the project. At the same time, contractors, due to a low bid, often adopt an opportunistic, mistake-hiding, quality-shirking, extra work-claiming strategy, so that the principal organization usually faces most of the project’s risks. In traditional contracts the contractor has the exclusive right to carry out any additional work necessary due to design changes and contractual omissions on cost-reimbursable term. As a representative from Contractor stated: *“If we come across failures in project specifications, we will claim for the extra work immediately. Accordingly, if three projects are put to tender, and we are only able to bid for one, we will choose the project with the best claim potential”*. Consequently, in starting up traditional projects, legitimate levels of distrust regarding the intentions of contractor organizations, in terms of benevolence and dedication, can be justified by the principal, while there are also good reasons for contractors to question the principal organization’s competences in preparing the project for construction.

Conversely, in contract design-build forms the contractor organizations become responsible for the project design and the construction licenses, and this puts a limit on their opportunities and incentives to make claims against the principal organization. A manager from Contractor: *“If we gain a €100 million design-build contract, and our bid was miscalculated by 10%, we lose €10 million. In a traditional type of arrangement, our bid would have been €95 million (...), but we would have put in claims for extra work to compensate. Thus, in a design-build situation, our profit slips away. Because of this, we easily end up in an atmosphere of charging for each nut and bolt. Not because we want to, but we simply have to do it”*. Since the principal has no interest in allowing contractors to deviate from the prescribed norms and specifications, the contractors now face most

of the project risks. Consequently, in starting up design-build projects, there are legitimate reasons for contractors to doubt the dedication and benevolence of the principal organization, while the competences of contractor organizations in preparing the project for construction may be questioned by the principal. These problems become more prominent when the project partners face risks that are hard for either of them to control.

A project alliance can be attractive since in this type of arrangement both the principal and the contractor are responsible for conditioning the project, and they also have incentives to counteract manifesting risks cooperatively, rather than standing up against each other. In this regard, a Client interviewee stated: *“An alliance concerns the deal breakers for a construction firm, with risks that may provoke the failure of a design-build project, but risks that we can control neither in a traditional project”*. Or, in the words of a Contractor representative: *“A project alliance is about hard to control risks. If you allocate these risks to one of the project partners involved, the relationship may become confrontational”*. For an alliance to be effective in achieving risk sharing, the alliance fund has to be of sufficient size: *“If the financial volume of the alliance fund is too small, none of the project partners will really go for it”* (Client). Or, as a Contractor interviewee stated: *“All the project partners have to benefit from doing things together (...). There has to be a common interest, so that if a project partner screws up the project he also spoils it for himself”*.

In order to create an alliance fund, both principal and contractor organizations have to be open about their risk, design and management budgets during the negotiation processes. In the words of a Client representative: *“You have to be willing to keep your cards not too close to your chest (...). In an alliance, the project partners have to ask themselves: ‘What are the risks that threaten us?’ All participants have to put their budgets on the table, so that they can agree on the amount of money they have to keep in reserve for countering future problems”*. Usually, in traditional and design-build forms of contract, construction firms offer a fixed price, composed of the estimated building costs of a project, increased by a general cost percentage, a risk percentage and a profit percentage, decreased by any reduction offered in price. A Contractor interviewee: *“In traditional and design-build projects, we hypothesize on the most positive scenario. Subsequently, we face a lot of discussion when problems arise and the progress of the project becomes frustrated. Now, (...) we were able to conclude a well-balanced contract”*. So, we can conclude that, compared to traditional and design-build forms of contract, in a project alliance type of arrangement the initial conditions of an inter-organizational relationship between a principal and contractor organization are indeed more conducive to trust.

5.2.2. Working in a project alliance

We also look at the adopted forms of control to see whether these complement, or substitute for, the trust initially present in the project alliance. Our data show that in this project alliance, although there were opportunities for the contract partners to deviate from what was agreed upon, establishing and maintaining cooperative relationships seemed to be far more important. After all, since the project partners have to construct the project cooperatively, the potential costs of putting their relationship at risk outweigh any short-term advantage of acting in a distrustful manner. In the words of a Client representative: *“In an alliance, the challenge for project partners is to adopt an attitude of collaboration, far more than playing games. If one of us runs into trouble, we have to help each other to find a solution. Since we have a common interest, we simply cannot pressurize our relationship”*. Or, as a Contractor interviewee put it: *“We cannot cheat, since that would be counter-productive. We have to be able to look each other full in the face”*.

However, our data also show that this is not something that principal and contractor organizations do without reservations, especially since their employees may import behaviors from traditional and design-build types of arrangement with which they are more familiar. A Client interviewee: *“Not all our people can work in an alliance, and the same is true for the employees of the construction firms involved. You might ask yourself whether very experienced project managers, well-seasoned in playing games, are the most appropriate team members to work with”*. Selection of the right employees for the project alliance is important, but not sufficient: *“It is a difficult task to get the people involved to think in the appropriate way”* (Contractor), and: *“It is not only important to select the right employees; you also have to pay attention to the ways these people work together”* (Client). So, it might be that people employed in a project alliance type of arrangement need to “unlearn” behaviors usually demonstrated within traditional and design-build forms of contract. When successful, this leads to a different interaction pattern between the parties: *“One of the things I like most is that we can deal with each other more as equals. The principal comes out of his ivory tower and the contractor is no longer the oaf doing the dirty job”* (Contractor). Or, in the words of a Client representative: *“In many projects, the relationship between principal and contractor organizations is a hierarchical one. In an alliance, we are able to create a level of equivalence”*. Looking at what happened in the project alliance we studied we can conclude that for trusting, cooperative relationships to develop, client and contractor organizations have to staff the project appropriately. The employees selected also should be able to work in a risk-sharing, non-hierarchical environment. In the project alliance studied one AMT member proved not to be able to make this switch, and had to be replaced: *“it’s no coincidence that [an AMT member from Contractor] isn’t here anymore. He couldn’t make the switch”* (Contractor).

5.2.3. Trust development mechanisms

The literature on trust dynamics suggests that relation performance in a project influences the level of trust between the organizations involved and may lead to changes in the form or level of control adopted (Bercovitz et al., 2006; Kumar and Nti, 1998). In the project alliance we studied it was not so much the performance of the project, in terms of budget and planning outcomes, but rather the relational quality underlying the performance that contributed to the development of trust.³ This relational quality is influenced by the behaviors of the representatives of the allying organizations. Whereas in many traditional and design-build types of arrangement either the principal or the contractor organization tends to refrain from action when it comes to counteracting manifesting risks, in an alliance the efforts demonstrated with respect to such events serve as an important source of trust. As a Contractor interviewee stated: *“Will the project partners do their best, especially if we face problems, or is one of them inclined to lean back, as we see in many traditional and design-build projects?”*. Or, as a Client representative put it: *“It is important that we take steps together, not only with regard to the processes of obtaining licenses and converting the submitted project design into a definitive one, but also regarding the problems we face in constructing the project. All project partners have to show their dedication and benevolence. If we now face a problem (...), we both have advantage from solving it adequately”*. However, our data also show that the project partners have to be open about relevant issues while conditioning and constructing the project, which is not something

³ We have to take into account that we did not study the project during its entire life cycle. Hence it is possible that towards the end of a project the expected ultimate outcomes assume more importance (see the discussion of limitations in the Conclusions section).

that always comes naturally in the construction industry. *“It is not something that we do without reservations, since the relationship between principal and contractor organizations is usually tense”* (Contractor). Therefore, for trust to arise, project partners have to show that they are actually aiming for optimizing the alliance, rather than striving for their own interests. After all, by demonstrating loyalty to the project, client and contractor organizations may reduce possible goal incongruities between the project partners, and, in doing so, invite their project partners to likewise respond: *“For trust to arise, you have to take a vulnerable position yourself first, so that your project partners can subsequently demonstrate their trustworthiness by not abusing your openness”* (Client). In the words of a Contractor interviewee: *“In fact, it is a matter of just doing it. Be honest and stay away from playing games. If your project partner does the same, then you create the feeling of really doing it together”*.

5.2.4. A virtuous cycle of trust development

In our analysis of the interviews of the second and third round we also looked whether we could discern signs of a virtuous cycle of trust development in the alliance. This was indeed the case. In many interviews respondents reflected on the gradual increase of the quality of the interpersonal relationships within the alliance. *“The team that now works together for one-and-a-half year is becoming more and more tightly-knit”* (Client). *“You drink a cup of coffee together and before you know you start discussing things. It’s very special. I see it almost as normal now, but if other people come here they say I don’t understand a thing about this all”* (Contractor). An important observation seems to be that the better relationship is not the result of pushing aside thorny issues. Quite the contrary: openly discussing problems increases trust: *“You need to see how your opponent, your opponent of the past, operates. That is what makes trust grow, seeing what position people take”* (Client). Subsequently the improved relationship makes it easier to discuss new problems: *“You know each other longer, so you more dare to tackle each other about things”* (Client). *“Two weeks ago we as the AMT spent an entire morning just talking about what has gone wrong [...] Often you don’t take the time to express these things to each other”* (Contractor).

Two factors are mentioned repeatedly in the interviews in connection to the development of trust: co-location and transparency. Being located together in a common site office was instrumental for the frequent informal interaction that led to trust development. Initially the members of the AMT met once every two weeks in the old station building that was to be replaced in the project. *“Like that, you’re no team. Far from it [...] then in March we moved to this site office and everything went better”* (Client). The importance of this common location was also demonstrated in a different way, when a few representatives of a contractor from outside of the alliance were housed in the same site office. *“What you notice is that we have a common enemy. We have a few people from [a contractor not included in the alliance] here in the office, and they want coffee, they want this and they want that, and all of a sudden you have something like we-from-the-alliance against them”* (Client).

With regard to transparency, in contrast to the situation in a traditional construction project the client and the contractor have a shared administrative system, in which all events are recorded. *“The experience with the alliance has taught us that it is very important to have transparency concerning everything that happens”* (Contractor). This took some time to get used to, as in traditional projects information is guarded as a strategic resource. *“In the beginning I thought: I want to have a drawer that can be locked. To have the idea that they cannot mess with your files. [...] now I don’t even know if my drawer can be locked”* (Client).

All in all we think there are clear signs of a positive cycle of trust dynamics in the alliance studied. This was not only the case at the level of the AMT (as evident from the quotes above), but also at the level of the ASC. *“My trust in these parties and in the alliance as a good approach has increased”* (Client, final interview), and *“Man is a social being. You have to pay attention to that [...] the trust has to grow. Traditionally this is not happening enough”* (Contractor, final interview). Problems and potential conflicts have been treated in an open way from the beginning, leading to a climate where it gradually became more easy to have this type of discussions, and in the third round of interviews interviewees spontaneously referred to deliberate problem solving sessions, like the interviewee from the Contractor who mentioned that the AMT spent a morning discussing what had gone wrong. A representative of the Client stated: *“We are coaching each other, more or less. We get to know each other better and better”*.

6. Conclusion

In this paper we focus on the dynamics of trust development, in the context of inter-organizational control and allocation of risk. We also look whether increased trust leads to better project outcomes. Our case study of a project alliance confirms our expectation that if the initial conditions of an inter-organizational relationship lead to the sharing of risk and create opportunities for shared gains, this is indeed conducive for the development of trust. Our case also suggests that such a virtuous cycle of trust development between client and contractor leads to better problem solving and hence to better project outcomes. Although the project we studied was not finished at the time of writing this paper, there are clear indications that working in an alliance form has had a positive effect on the expected project outcomes. This is reflected in interviews both at the level of the AMT and the ASC, and from both the side of the Client and the Contractor: *“we have a number of risks [...] but we still facing a positive result”* (AMT, Client); *“[expectations regarding the outcome of the project] are good. The alliance will score positively” [...] The risks that exist are controllable. [...] We definitely expect a positive result from the alliance”* (ASC, Contractor).

6.1. Contributions

Our case study largely reflects the expectations regarding factors involved in processes of inter-organizational trust development based on the literature. We also came across two related findings that deepen our insights into the intricacies of trust dynamics. These findings pertain to the interweaving of interpersonal and inter-organizational trust, and to the specific mechanisms leading to trust in a project alliance.

A striking observation when going through our interviews is that our respondents hardly seem to make a distinction between trust at the interpersonal and the inter-organizational level. Most of the time, if we asked a question regarding trust, the respondent answered referring to interpersonal trust. Even if we pressed for a reflection at the organizational level, the interviewees tended to revert to the personal level, which apparently is much more concrete to them. The following interview excerpt illustrates this: *“[question: From what does trust depend?] Very important is the integrity of the people. [question: Of the people or of the company?] The culture of a company depends on people. [...] And that is very important within the government, too. Who is the one managing a process? I can easily mention three projects where it would absolutely be possible [to work in an alliance]. And I can mention three projects where it would not work. And that is really a matter of individuals”* (Contractor).

The strong connection between inter-organizational and interpersonal trust has been recognized in the literature (see, e.g., Zaheer et al., 1998). Our findings seem to go a step further, and suggest that interpersonal trust is constitutive of inter-organizational trust. This is what our interviewees told us, and their insistence was reminiscent of what Sydow (1998: 47) notes in passing: 'If the "chemistry doesn't fit" among the acting persons, as we were told again and again in the insurance industry, the constitution of interorganizational trust is unlikely'. For individuals acting on behalf of their organization in a project alliance, good interpersonal relations and trust are key to the development of inter-organizational trust.

This brings us to our second finding, regarding the mechanisms leading to interpersonal trust. Our data suggest that a project alliance type of project can be seen as a means to strengthen the calculative sources of inter-organizational trust, by providing a better alignment of incentives than traditional or design-build contracts. However, even under these conditions it is far from automatic that trust will develop in virtuous cycles. Although the project alliance provided the parties in our case with a good start, we found that at several junctures they had to exert close control over their relationship in order to avoid deterioration. Hence, partnering arrangements such as project alliances are no panacea for the bad relationships between clients and contractors endemic to the construction industry. Our interviewees noted that employees seasoned in more adversarial types of projects may be unable to shift to the cooperative mode necessary to make a project alliance successful, and one of the AMT members in the case we studied had to be replaced exactly for this reason. This suggests that the psychological sources of trust are also important. In this context our interviewees note that co-location, enabling frequent and informal interactions is very important, as well as transparency and keeping a common project record and administration. In our case these conditions were met, and we witnessed initial openness and problem-solving attitudes leading to increased trust, which made it easier to tackle new problems, and so on. Hence our case study indicates that for virtuous cycles of trust to develop, organizations should adopt an attitude reflecting dedication and benevolence, especially when it comes to counteracting risks and solving problems that may threaten project outcomes particularly relevant to their project partners. After all, by demonstrating relationship-preserving behavior, representatives of the principal and contractor organizations are signaling that they are unlikely to give in to any temptation to deviate and, in doing so, invite their project partners to respond likewise.

6.2. Limitations

Although this research generates important insights in how client and contractor organizations can establish and maintain cooperative, trusting relationships in partnering projects, we made a number of choices that impose some limitations to our study. Since we opted for depth over breadth, we have only studied processes of inter-organizational trust development in a single project alliance. Consequently, our study is inevitably limited to the context of this partnering type of arrangement, and to a certain extent also to the context in which this project was located, the Netherlands and the particular conditions of the project. Therefore, we have to be careful in generalizing our findings. Furthermore we have chosen to focus on the client-contractor interface, and the inclusion of other relevant organizations, such as subcontractors, might bring additional issues to light that are also important in establishing and maintaining cooperative, trusting relationships in partnering projects. We also have to be aware of the fact that we have focused on something that fundamentally is a process phenomenon. However, since we only asked respondents to reflect on factors involved in the dynamics of inter-organizational trust at three points in time, recollection and memory imperfections may

have introduced bias. These periodic interviews may be insufficiently fine-grained to capture trust-related group dynamics.

6.3. Suggestions for future studies

Our suggestions for further research follow from the limitations mentioned above. An initial research direction could be to examine processes of trust development, and in particular the constitution of inter-organizational trust through interpersonal trust, in other types of construction projects, governed by partnering as well as by more traditional contracts. The focus of such studies could be on the ways in which virtuous and vicious cycles of trust are stimulated and/or broken – in terms of interventions that organizations can make use of – since this could further advance our understanding of the processes of inter-organizational trust development. Further, we suggest investigating the extent to which the findings of our study hold in different institutional environments. Here we are not only thinking of principal and contractor organizations operating in different legal regimes within a single country. It would also be relevant to conduct international comparative studies, since the relationships we have depicted in our theoretical framework are contingent on a broader context of laws, customs and perceptions that organizations, in general, hold regarding the trustworthiness of their project partners. A final research direction that can be suggested is to examine in more depth the dynamics of trust within the team responsible for conducting partnering projects. Here, we suggest adoption of an intra-organizational perspective rather than an inter-organizational one. After all, since there are quite a number of partnering projects that still go wrong, principal and contractor organizations always face the threat that a cooperative team will turn into a competitive one. Therefore, the question arises under what conditions individuals will commit to a team, and when the potential gains from exploiting trust are perceived to be large enough for team members to defect. Our case study suggests that the personality of the team members and opportunities for intensive interaction (co-location) are important factors. Based on our experiences we think that this type of research question could be best tackled with participatory observation.

Finally, it can be concluded that our study demonstrated how the project alliance contractual form can provide an ex ante foundation for trust development between the client and the contractor organizations. However, our study also showed that for positive trust dynamics to unfold parties need to manage their relationship carefully.

Appendix. Case study protocol

Question 1

What role do you have within the project? What are your tasks, responsibilities and accountabilities? What kind of position do you hold within your organization? How did you become involved in the project?

Question 2

Why do you make use of an alliance form of contract? Have you experience with other partnering types of arrangement? On what aspects does an alliance differ from traditional and design-build forms of contract? What are the limiting conditions for making an alliance work?

Question 3

Can you describe the project's progress? How does the project perform, in terms of budget, planning and quality outcomes? How is the monitoring system organized? Which performance threatening risks is it important to concentrate on? How do you deal with any problems that arise?

Question 4

Can you describe the relationship with your project partners? To what extent have they adopted a dedicated and benevolent attitude? Are you satisfied with the cooperativeness shown? What are important, relational quality threatening, risks? What means have you invested in the relationship with your project partners?

Question 5

Do you trust your project partners? What is your trust based on? Have your project partners the right competences at their disposal? Do you expect them to make use of any opportunities to deviate? What are the incentives for them to behave opportunistically? Are they inclined to deviate from what you agreed upon?

Question 6

What do you expect regarding the project's prospects in terms of budget, planning and quality outcomes? How do you expect the relationship with your project partners to develop? What are the potential bottlenecks, with respect to both the project's performance and the relational quality underlying this performance?

Question 7

Is there any information you want to share, that we did not ask for?

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