

MODES OF TRUST PRODUCTION IN PROJECT-BASED INDUSTRIES

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ABSTRACT

Appropriate levels of trust may have important benefits for inter-organizational cooperation. In the construction industry, concerns are often raised that higher levels of trust would improve performance. In this paper, we review literature on trust to identify key modes of trust production in this project-based industry. Trust is a complex and multidimensional construct, involving conscious calculation as well as emotions and intuition. Processes on the individual, organizational and societal levels interact in shaping trust. Further, since trust is strongly related to interaction between individuals, organizational processes primarily serving purposes of communication and coordination also influence trust. In construction, the temporary and unique project organizations entail high needs for information processing. Extensive industry-level standardization of roles and procurement routes has been developed, while the amount of face-to-face mutual adjustment is kept down. We conclude that trust production in construction is characterized by a strong emphasis on institutional trust (thin trust), while relational trust (thick trust) is neglected. In this weak trust context contracts influence trust negatively, since changes tend to produce tensions. To improve collaboration, more resources need to be spent on project-level communication. Also, industry level standardization should be better adapted to goals of flexibility and joint explorative learning.

1. INTRODUCTION

The last two decades, interorganizational trust has become a critical construct in socio-economic research as well as in organizational practice (Rousseau *et al*, 1998; Bachmann, 2001; McEvily *et al*, 2003). Because neither formal contracts nor informal agreements suffice to ensure an effective relationship between partners, the threat of partner opportunism turns trust into a central notion for business relationships, acting as a key coordinating mechanism of participants' actions (Cruz and Costa-Silva, 2004).

However, research on interorganizational trust appears to be full of paradoxes (Nooiteboom, 2006). For instance, trust can be based on contracts and control, but can also rely on affection and norms of reciprocity and fairness, in which case

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formalized control sometimes may hamper trust. There is a tendency to have a picture of trust as always being good, going together with the absence of conflict. However, although trust may reduce transaction and agency costs (Becerra and Gupta, 1999), one may also trust mistakenly. And trust may enable openness and flexibility, but can also be so strong that it limits the variety of business relations needed for learning and innovation (Nooteboom, 2002).

Furthermore, trust does not only arise in direct interaction in specific exchange relationships, but is also influenced by more general contextual characteristics. The contracting environment, involving legal and educational institutions as well as ethical norms and other cultural aspects, interacts with formal contracts and the behaviour of individuals in shaping trust development in a specific relationship.

In the construction industry trust is often considered to be too scarce, resulting in inefficiencies and conservatism. The purpose of this paper is to identify the major modes of trust production in construction as well as their causes. We assume a multilevel approach, focussing on the interaction between institutional and relationship-specific foundations of trust. More specifically, we discuss how mechanisms to solve problems of information-processing and coordination affect the development of inter-organizational trust. First, we outline main points in literature on trust development in order to identify relevant forms of trust and processes of trust production. Then, we review literature specific on trust and contract and briefly discuss the relationship between organizational structure and needs for information processing. Subsequently we identify central characteristics of the construction industry and discuss their relationship to derived modes of trust production.

2. LITERATURE REVIEW

2. 1 Forms of trust and modes of trust production

The growing amount of trust literature clearly demonstrates that there are different forms of trust, linked with different processes of trust production. Economists (e.g. Williamson, 1993) tend to view trust as calculative, while social scientists (e.g. Granovetter, 1985) emphasize the social embedded character of trust, shaped by interpersonal relationships. Bachmann (1998) furthermore notes that the analysis of interorganizational trust has to be connected with understanding the role of the institutional framework in which business relations are embedded (see also Möllering, 2006). Arrighetti *et al* (1997) refers to the 'contractual environment', meaning the 'broad normative frame of laws, customs and assumptions within which inter-firm relationships are embedded'. This institutional trust includes prevailing notions of what constitutes ethical behavior in business relations. Institutional factors such as culture, education bodies and legal systems can act as broad supports for the critical mass of trust within an exchange relationship that sustains further risk taking and trusting behavior (Gulati, 1995; Sitkin, 1995). Rousseau (1998) suggests that trust can be considered as a meso concept, integrating micro psychological processes with macro level institutional arrangements. Another important classification pertains to the object of trust. Competence trust refers to the trust one has in for instance the technical and organizational competences of a partner, while intentional trust refers to the trust one has in the intentions of a partner towards the relationship, particularly in refraining from opportunism (Klein Woolthuis et al., 2005).

Moving to the relationship level, much research emphasize that in trust development, rational, calculus-based considerations interact with more intuitive, psychological processes (Nootboom, 2002; Möllering, 2001; Rousseau et al., 1998) la of trust. A rational assessment of someone's trustworthiness implies a conscious evaluation of the trustee's objective self-interest and competences. Trust develops or breaks down in finding out how far trustworthiness goes (Sako, 2000; Lewicki and Bunker, 1996). When people meet first and no relational experience has taken place before, initial levels of trust - or ex ante trust - will be based on institutions-based trust in combination with an assessment of the other's interests - as determined by for instance dependency and prospects of short term gains or future exchange, and his opportunities for actions - as determined by for instance contractual arrangements. Nootboom (2002) states that people in this phase of a relationship will actively look for sources of trustworthiness of their partners (see also Williams, 1988 and Lindenberg, 2000). Because these sources are impersonal, not yet involving direct personal interaction and experience, this form of trust is called 'thin' trust.

When interorganizational relationships develop and interaction between individuals becomes at the heart of the trust development process, such calculus-based trust (Rousseau et al., 1997) can be extended with or replaced by a form of trust that has been labeled as relational trust (Rousseau *et al*, 1998), process based trust (Zucker, 1986) or affect-based trust (McAllister, 1995). It implies that feelings of personal attachment and tacit mutual understanding will arise and influence actions taken (Ring and Van de Ven, 1994). Foundations of such benevolence or goodwill trust tare perceptions of empathy, openness, loyalty and dedication (Mayer *et al*, 1995; Klein Woolthuis et. al, 2005). Nootboom (2002, p 48), defines 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". Thus, this form of trust requires that trustworthiness goes beyond what can be prescribed in a formal contract. It is personalized and arises within a specific exchange relationship, and is often seen as a more 'thick' or 'strong' kind of trust.

For the purpose of this paper, we make a distinction between trust that arises from direct, personal interaction and trust that is based on indirect and impersonal sources. In line with Rousseau (1998), we state that the development of both rational *and* relational forms of trust is influenced by formal and informal institutions on a society level, an industry level and an interorganizational relationship level (see also Zucker, 1986).

2.2 Trust, contract and control

For an effective interorganizational relationship performance, partner firms need to manage emerging risks and uncertainty adequately by understanding the conjoint roles of trust and control (Das and Teng, 2001). Economists tend to focus on calculus-based trust and thus presume contractual safeguards and related formal control activities as conditional to trust (Williamson, 1985, 1993). However, as indicated by the definition by Nootboom (2002) quoted above, the relationship between trust and control is ambiguous and complex (Bradach and Eccles, 1989; Klein Woolthuis et al., 2005; Long and Sitkin, 2006), and although collaboration may be induced by contracts, strong forms of trust have been found to require evidence that a person (or organization) chooses to collaborate despite incentives to pursue

self-interest at the trustor's expense (Malhotra and Murnighan, 2002). As a consequence, trust and control may be seen as substitutes where high trust allows for (or requires) limited formal control (see also Knights *et al.*, 2001, and Das and Teng, 2001). However, empirical research has shown that contracts and other aspects of formal control may strengthen trust, and thus that trust and control should be viewed as complementary constructs (Zaheer & Venkatraman, 1995; Poppo and Zenger, 2002; Vlaar *et al.*, 2006).

Both trust and control reduce the perceived probability of undesirable outcomes. Trust entails a positive expectation about a partner's competences and/or intentions, leading to a lowered risk perception, while distrust induces negative expectations regarding another's conduct, leading to vigilance, suspicion and so to a heightened risk perception (Sitkin and Roth, 1993; Vlaar *et al.*, 2006). In contrast, control is an interventionist approach and leads to lower risk perception by actively limiting and/or influencing the behavior of a partner (Das and Teng, 2001). Das and Teng (2001) suggest that in interorganizational cooperation there is the risk of a partner not cooperating satisfactorily (relational risk) in addition to the risk of unsatisfactory cooperation performance (performance risk). Relational risk has to do with the intentions and integrity of a partner, particularly in refraining from opportunism, while performance risk is about the sense of confidence one has that a partner is capable of accomplishing given tasks (Nooteboom, 2002; Klein Woolthuis *et al.*, 2005).

During cooperation, intentional trust reduces the perceived level of relational risk, while a firm's competence trust in a partner firm will reduce its perceived performance risk (Das and Teng, 2001). Both types of risk can be actively restrained by formal, measure-based control and informal, value-based control (Eisenhardt, 1985). Formal control is about establishing and utilizing contracts, formal procedures and monitoring policies. It is aimed at limiting relational risk (by mitigating opportunities and incentives for opportunism (by contracts) in order to acquire evidence of intentions) and performance risk (by monitoring the outcomes of activities in order to acquire evidence of competence) (Nooteboom, 2002). Informal control is about purposefully establishing norms, values and routines, to reduce discrepancies in goal preferences and inclinations towards opportunism (both critical for a satisfactory relationship performance). Consequentially, informal control reduces relational risk through the establishment of shared values. Performance risk is also reduced, because a shared understanding encourages partner firms to establish reasonable and achievable goals (Das and Teng, 2001).

An important aspect regarding the ambiguous trust-control/contract relationship, concerns the level of the business relationship. In practice, inter-firm relations consist of a number of ties between individuals at different levels in the organizations. In some cases, organization level trust is very weak, and relationships may then follow individuals when they change employer. Boundary-spanners such as sales people may pursue personal goals in the relationship with customers, and also develop loyalties to their exchange partners that may override those to their organization (Bradach and Eccles, 1989). Thus, trust may vary considerably between different levels in an inter-organizational relationship.

2.3 Trust and information processing

In much of the literature on trust and contract, contracts are seen mainly as devices to reduce the risk for opportunistic behavior. However, contracts are also key tools for communication, coordination and sense making. For example, Vlaar et al. (2006) emphasize that contracts and other types of formalization are important to focus partners' attention and increase their knowledge of the agreement, thus promoting a shared understanding that both coordinates action and supports trust. Conversely, we may ask how systems developed to serve needs of coordination and information processing influence partner trust.

Albeit in an intra-organizational setting, Madhok (2006) distinguishes between two types of management activities (or costs): costs for measures taken primarily to mitigate opportunism and costs related to measures to organize information processing and knowledge management. These activities can be distinct, but may also be either complementary or supplementary, much in the same way as the relationship between trust and control described above. To identify organizational activities and structures related to information processing we may use the conceptual framework of contingency theory (Thompson, 1967; Galbraith, 1973), where the need for communication and coordination is seen as the main determinant of organizational structures. Depending on the type of interdependence between activities, planning, hierarchy, mutual adjustment and standardization may be used as coordinating mechanisms. Mintzberg (1983) identifies three types of standardization.

1. Standardization of work processes, used to control behavior in routine situations;
2. Standardization of output, applicable when the results of the work can be specified;
3. Standardization of skills and knowledge, used when neither work processes nor output can be specified in advance. Then, authority may be delegated to individuals on the basis of their expertise, skills and often also a value orientation acquired by socialization into a professional community.

When activities are mutually interdependent, there is a need for information exchange during their execution. Such mutual adjustment is costly and therefore used only when it is absolutely necessary. To economize on information processing, a firm may develop company specific routines and roles. However, standardization is also prominent on a society level, and systems that produce institutions-based trust may originally have been developed for purposes of coordination.

2.4 Theoretical conclusion

From our overview of literature on trust development, it appears that generally three forms of trust can be distinguished: rational trust (based on a conscious evaluation of the other's trustworthiness), relational trust (based on feelings of personal attachment and tacit mutual understanding) and institutional trust (based on formal and informal institutions). Trust can be aimed at the competences and intentions of a partner. To understand trust production and trust problems in a specific context such as the construction industry, we need to consider all three types of trust, as well as

how processes of trust production on individual, company and industry level interact. Moreover, we have taken into account how these forms of trust are related to different types of risk (relational risk and performance risk) and how they cohere with a more actively restraining risk approach, i.e. formal and informal control. The starting point of the discussion in this paper is that the organization of the construction industry is fundamentally shaped by the nature of its outputs, and that organizational structures developed to solve problems of coordination also shape conditions for trust production.

3. TRUST IN CONSTRUCTION

3.1 Causes of project-based organizing in construction

The complexity and immobility of buildings has profound implications both for how the construction industry is organized and for the relationships between the principal actors. Buildings (and civil works) are distinct from most other products in that they are *technical monopolies*, meaning that once a building occupies a piece of land it can not be replaced without huge costs. It is not possible to simply return a faulty building to the producer/contractor, and some defects may be hidden and/or irremediable once put in place. This irreversibility makes the client very vulnerable to design deviations and quality defects.

Further, despite effort to increase pre-fabrication, all buildings are inevitably to some extent unique prototypes. Most buildings are composed of a combination of site production and standardized components, which are manufactured in a factory and assembled on site. The construction industry operates by *temporary multi-organizations* (Cherns and Bryant, 1984), composed of a number of specialized units, generally related to a system (heating, structure, cladding, restaurant, etc) or, especially in the case of consultants, to a functional competence (aesthetics, management, fire safety, drilling, acoustics). The organization becomes more complex as the complexity of the building increases. However, the degree of specialization is dependent on local market conditions: densely populated growth areas will sustain a much more specialized industry than more remote locations, where companies need to be more general. Except for very large and specialized building works, construction is a local service industry.

Thus, the immobility and complexity of buildings are two factors that both have important organizational implications. Immobility leads to site-specific, unique products and organizations, in turn resulting in high levels of uncertainty and high needs for inter-organizational communication. It should be noted that although various project based industries share a temporary orientation, there are also considerable differences between them. The immobility aspect distinguishes construction from other project-based industries.

3.2 Trust, contract and control

Transaction cost analysis based on transaction frequency, asset specificity and uncertainty clearly demonstrates why costs for setting up and managing project-based contracts are high in construction (Winch, 1989). The industry is often mentioned as an example of a context with a hybrid governance structure, either

because of long-term relationships between actors (Eccles, 1981; Bradach and Eccles, 1989) or because contracts incorporate important hierarchical aspects (Stinchcombe, 1985; Bradach and Eccles, 1989). Such hierarchical elements are client control/inspection of site activities and, perhaps most important for trust, the exclusive right a contractor has to carry out additional work, due to changes and contractual omissions, on cost-reimbursable terms. This is seen by Stinchcombe (1985) as a concession that the client has to make in return for the contractor's obligation to adapt to the client's changing preferences and other contingencies.

The monopoly position of the contractor in pricing change work creates room for opportunistic strategies, especially in combination with procurement auctions with price as the main choice criterion. Then, a contractor may put in a low bid and expect to compensate this with income from claims for extra work. Another option is to shirk on quality, given the possibilities to hide work and to substitute high quality materials for cheaper, lower quality. Also "honest" contractors are affected by this opportunism option, since they compete for contracts on a price basis.

This issue has implications for both calculus-based trust and relational trust. First, because of the opportunities that the contractor has to take advantage of the situation, a "rational" client often adopts a defense strategy, based on monitoring and close analysis of all claims (although large and regular clients may count on reputation effects moderating opportunism). As for contractors, there are rational reasons for them to question the competence of especially the design team but also of the client, who have collaborated in producing the contract specifications. Thus, for both sides a certain level of distrust and opportunism can be defended on calculus-based grounds. On the other hand, uncertainty and uniqueness calls for collaborative solving of upcoming problems, and a bad relational climate may then be costly.

Moreover, as stated in the section on trust and control, intuitive psychological rules of reciprocity implies that distrust tends to start a vicious circle and become a self-fulfilling prophecy. This implies that a contractor who is closely monitored by a suspicious client may perceive an opportunistic claims' strategy as expected by the client. Furthermore, a suspicious attitude will make the client more inclined to interpret all contractor suggestions as self-interested rather than motivated by a concern for the project that signals trustworthiness. Thus, calculus-based defense strategies will easily produce behaviors that are not compatible with requirements of goodwill, benevolence and loyalty that characterize developments of relational trust.

This is not so much of a problem in relatively standard contexts, where specifications are simple, changes not many and norms of quality undisputed. When change negotiations are few and cause little conflict, the traditional contracts are functional. Both trust and quality/efficiency ambitions then tend to be institutionalized on a moderate level, not requiring too much contract management. A design-build approach may further economize on transaction costs, since the number of negotiations is lower when specifications pertain to systems and functions while detailed design is a contractor responsibility.

When uncertainty and uniqueness increases, however, traditional contracting becomes more risky. With detailed but less complete specifications and more frequent changes, interaction is dominated by negative issues. Claims' considerations may strongly influence both parties' strategies. If uncertainty is moderate, a design-build approach may reduce the number of relationship-threatening discussions, but

the client's possibilities to influence quality in details is reduced when risk is transferred to the contractor. With still higher levels of complexity and uncertainty, a partnering contract on cost-reimbursable terms becomes more attractive. In this case, management strategies will focus on building trust and enabling knowledge sharing rather than on mitigating opportunism. However, there are trust problems also in this case, mainly in relation to the contractor's motivation to keep costs down. Thus, more control of norms and values is required, and transaction costs for monitoring relational risks are replaced by costs for establishing relational trust and systems for joint cost/quality management.

3.3 Trust and information processing

In this section, we will further elaborate on how information-processing and knowledge management aspects more generally impact on the development of trust and collaboration in construction. In an industry where firms regularly form temporary constellations, it is obvious that industry-level standardization is more powerful than firm-level standardization when it comes to reducing needs for coordination. Accordingly, we find a variety of industry-level standards in construction, pertaining to organizational aspects as well as to physical artifacts. For building components, national and international norming bodies provide important output standardization. On the organizational side, there are standard contract agreements that regulate responsibilities as well as how to handle contingencies and specify requirements. Following Vlaar (2006) and Arrighetti et al. (1997), standard contracts may be conducive to trust in that they increase the confidence in contracting as an organizing principle and a belief that the contractual terms are fair. This is a likely effect of standard contracts also in construction.

Further, strong expectations of knowledge and attitudes are tied to the various actors in the field, often based on a combination of cultural and formal characteristics. Both individuals and firms may be subject of certification and accreditation, performed by independent institutions. Especially consultants, but to some extent also craftsmen and contractors, are trusted because of their specialist knowledge and professional/crafts ethics. Thus, since standardized processes and roles provide both predictability and legitimacy, the same system that economizes on transaction costs also functions as an important source of institutions-based ex ante trust. However, we should also mention prejudice between different categories of participants, or institutions-based distrust, perhaps most pronounced in the case of architect-contractor relationships.

This standardization of roles is a fundamental organizing principle in the construction industry. Although each project organization is unique in terms of the competences and specific companies involved, there is a limited set of organizational models (procurement routes) and only some competence combinations available on the market. Companies are designed to fit into specific "slots" in the project organizations, and individuals and firms to a great extent perform similar tasks in all projects. An important function of this industry level standardization of roles, knowledge and responsibilities is to reduce the need for communication and negotiation between parties. Although construction firms are decentralized, the freedom of the project organizations is strongly constrained by contextual factors (Bresnen et al, 2004).

There are implications of the standardization of roles also for relational trust. In the traditional procurement route (and, to a lesser extent, in design-build options), the project is divided into distinct phases where the output takes the form of documents (brief, drawings and specifications). As mentioned above, changes and additions after the contract is signed are expensive. Consequently, project control is strongly directed towards minimizing changes, aiming at producing documents that are as flawless as possible. This has as a side-effect that participants in different project phases have little contact, and that the interaction that occurs tends to be conflict oriented. Although trust does not always arise in interpersonal relationships, relationships without any interaction and communication will hardly bring about more robust forms of trust. Thus, that a construction project is sub-divided into phases and standardized work packages also has implications for the opportunities that different participants have to build relational trust. In general, participants active in different phases will have little contact. However, standardization also reduces the need for communication within phases. When a specialist consultant or contractor is brought into a project, there is seldom an organized introduction or team building session; the new team member is expected to know what to do and start to perform immediately. Levels of interaction also vary between different participants within a phase, depending on scheduling and the size and importance of their contribution.

A related aspect, which partly overlaps with the phase effects, is how geographical movements in space affect spontaneous trust building. Co-location of teams often brings about strong interpersonal trust and efficient work practice (Scarborough et al., 2004), but this is only possible in larger projects. Instead, most design interaction takes place in scheduled meetings and there is little room for spontaneous socializing between individuals from different firms. This contrasts strongly with the construction phase, during which the construction site is the principal physical hub and meeting location. Here, the building contractor, as a main contractor and coordinator, is the key actor who has opportunities to build relations with other contractors as well as the client representative and other site visitors. Site level trust may moderate distrust on higher organizational levels and is often considered indispensable to efficient problem-solving. However, the result may also be compromises where, although not necessarily intentionally, the interests of consultants, users or even the own company are overlooked. Thus, patterns of interaction contribute to the development of both loyalties and distrust.

4. CONCLUSIONS

The starting point of our discussion was that the products of the construction industry – the buildings - are the roots of the project-based organization of the industry. To handle vast amounts of uncertainty and save on transaction costs in this context, extensive formal and informal industry-level standardization has been developed. This system for knowledge management and information processing strongly favors exploitation of knowledge before exploration (March, 1991), and thus has implications for the propensity for innovation. However, there are consequences also for trust building and collaboration. We may conclude that trust production in construction is characterized by a strong emphasis on institutional trust.

Such strong industry standardization to economize on communication and mutual adjustment means a reliance on weak forms of trust, while the development of relational trust is hampered. Although standard contracts might reduce the needs for

contract parties to communicate (Vlaar, 2006), in construction standardization of roles is perhaps a more important cause of absent joint sense-making across organizational boundaries. Relational management is underdeveloped compared to opportunism management. Left unmanaged, building of relational trust is limited to spontaneous socializing in the interaction that is brought about by the production system, mainly taking place on the construction site. Inter-organizational relationships are multilevel, and in client-contractor relationships and contractor-subcontractor relations – relationships that are low trust on an organizational level due to contract characteristics – may be high trust on site level due to interaction effects between individuals. In consultant–contractor relations, on the other hand, contract effects combine with absent interaction to produce distrust. There is reason to be more attentive to how such spontaneous, emergent trust building influences project outcomes.

As for the debated relationship between trust and contract, contracts may seem to be responsible for much of the distrust in construction. However, at a closer look it is not the contracts per se that are problematic, but rather that there are uncertainties that are hard to solve by contracts only. Clauses are introduced to handle change management, but changes remain important sources of conflict. More detailed contracts may counteract trust, but primarily so when uncertainty is high and changes frequent. However, using less detailed contracts entail trust problems related to quality. Since there are no calculus-based solutions to the contracting problems of construction, a transition to more open and flexible contracts requires an approach where relationship and knowledge management takes prominence of opportunism control.

However, this implies that more resources have to be invested in expensive project-level communication, partly related to unlearning of institutionalized behaviors developed in a traditional weak trust context. Prevailing institutionalized coordination mechanisms seem increasingly outdated when requirements for flexibility raise, and perhaps buildings and construction project organizations have already become too complex to handle with a weak trust approach. Also, new information-processing technology presents new opportunities. Thus, we could ask what industry level standardization could serve the needs for efficient coordination and institutions-based trust, but is better adapted to goals of flexibility and explorative learning.

5. REFERENCES

- Arrighetti, A., Bachmann, R. and Deakin, S. (1997), Contract law, social norms and inter-firm cooperation, *Cambridge Journal of Economics*, **21**, pp171-195.
- Bachmann, R. (1998), Conclusion: trust – conceptual aspects of a complex phenomenon, In: C. Lane and R. Bachmann (eds.), *Trust within and between organizations*, 298-322, Oxford University Press
- Bachmann, R., Knights, D. and Sydow, J. (2001), Editorial: Trust and control in organization relations, *Organization Studies*, **22**(3), 1-4.
- Becerra, M. and Gupta, A. (2003), Perceived trustworthiness within the organization: the moderating impact of communication frequency on trustor and trustee effects, *Organization Science*, **14**(1), 32-44.
- Bresnen, M., Goussevskaia, A. and Swan, J. (2004) Embedding New Management Knowledge in Project-Based Organizations, *Organization Studies*, **25**(9), 1535-1555.

- Eccles, R. (1981) The Quasifirm in the Construction Industry, *Journal of Economic Behavior and Organization*, **2**, 335-357.
- Bradach J.L. and Eccles, R.G. (1989), Markets versus hierarchies: from ideal types to plural forms, In: W.R. Scott (ed.), *Annual review of sociology*, **15**, 97-118.
- Cherns, A. B. and Bryant, D. T. (1984) Studying the client's role in construction management, *Construction Management and Economics*, **2**, 177-84.
- Cruz, J.G. and Costa-Silva, S. (2004), Trust: theoretical framework and underlying disciplines, conceptualization, antecedents and consequences, *Paper for the EURAM conference*.
- Das, T.K. and Teng, B.S. (2001), Trust, control and risk in strategic alliances: an integrated framework, *Organization Studies*, **22**(2), 251-283.
- Eisenhardt, K.M. (1985), Control: organizational and economic approaches, *Management Science*, **31**, 134-149.
- Galbraith, J. (1973) *Designing Complex Organizations*. Reading (MA): Addison-Wesley.
- Granovetter, M.S. (1985), Economic action and social structure: A theory of Embeddedness, *American Journal of Sociology*, **91**, 481-510.
- Gulati, R. (1995), Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances, *Academy of Management Journal*, **30**(1), 85-112.
- Klein Woolthuis, R., Hillebrand, B. and Nootboom, B. (2005), Trust, contract and relationship development, *Organization Studies*, **26**(6), 813-840.
- Knights, D., Noble, F. Vurdubakis T. and Willmott H. (2001) Chasing shadows: control, virtuality and the production of trust, *Organization studies*, **22**(2), 311-336.
- Lewicki, R.J. and Bunker, B.B. (1996), Developing and maintaining trust in work relationships, In: R.M. Kramer and T.R. Tyler (eds.), *Trust in organizations: frontiers of theory and research*, Thousand Oaks: Sage, 114-139.
- Lindenberg, S. (2000), It takes both trust and lack of mistrust: the working of cooperation and relational signaling in contractual relationships, *Journal of management and governance*, **4**, 11-33.
- Long, C.P. and Sitkin, S.B. (2006), Trust in the balance: how managers integrate trust-building and task-control, In: Bachmann, R. and A. Zaheer (eds.), *Handbook of Trust Research*, Cheltenham: Edward Elgar, 87-106.
- Madhok, A. (2006), Opportunism, trust and knowledge: the management of firm value and the value of firm management, In: Bachmann, R. and A. Zaheer (eds.), *Handbook of Trust Research*, Cheltenham: Edward Elgar, 107-123.
- Malhotra, D. and Murnighan, J. K. (2002) The Effects of Contracts on Interpersonal Trust. *Administrative Science Quarterly*, **47**, 34-559.
- March, J. G. (1991) Exploration and Exploitation in Organizational Learning. *Organization Science*, **2**(1), 71-87.
- Mayer, R.C., Davis, J.H. and Schoorman, F.D. (1995), An integrative model of organizational trust, *Academy of Management Review*, **20**, 709-734.
- McAllister, D.J. (1995), Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations, *Academy of Management Journal*, **38**(1), 24-59.
- McEvily, B., Perrone, V. and Zaheer, A. (2003), Trust as an organizing principle, *Organization Science*, **14**(1), 91-103.
- Mintzberg, H. (1983) *Structure in Fives. Designing Effective Organizations*, Englewood Cliffs: Prentice-Hall.
- Möllering, G. (2001), The nature of trust: from George Simmel to a theory of expectation, interpretation and suspension, *Sociology*, **35**(2), 403-420.

- Møllering, G. (2006), Trust, institutions, agency: towards a neoinstitutional theory of trust, In: Bachmann, R. and A. Zaheer (eds.), *Handbook of Trust Research*, Cheltenham: Edward Elgar, 355-376.
- Nooteboom, B. (2002) *Trust*. Cheltenham: Edward Elgar.
- Nooteboom, B. (2006), Forms, sources and processes of trust, In: Bachmann, R. and A. Zaheer (eds.), *Handbook of Trust Research*, Cheltenham: Edward Elgar, 247-264.
- Nooteboom, B. (2006), *Trust: forms, foundations, functions, failures and figures*, Cheltenham: Edward Elgar.
- Poppo, L. and Zenger, T. (2002), Do formal contracts and relational governance function as substitutes of complements? *Strategic Management Journal*, **23**, 707-725.
- Ring, P.S. and Ven de Ven, A.H. (1994), Developmental processes of cooperative interorganizational relationships, *Academy of Management Review*, **19**, 90-118.
- Rousseau, D., Sitkin, S., Burt, R. and Camerer, C. (1998), Not so different after all: A cross discipline view of trust, *Academy of Management Review*, **23**(3), 393-404.
- Sako, M. (2000), Does trust improve business performance?, In: C. Lane and R. Bachmann (eds.), *Trust within and between organizations*, Oxford University Press, 88-117.
- Scarborough, H., Swan, J., Laurent, S., Bresnen, M., Edelman, L. and Newell, S. (2004) Project-Based Learning and the Role of Learning Boundaries, *Organization Studies*, **25**(9), 1579-1600.
- Sitkin, S. B. and Roth, N. (1993), Explaining the limited effectiveness of legalistic 'remedies' for trust/distrust, *Organization Science*, **4**(3), 367-392.
- Sitkin, S.B. (1995), On the positive effect of legalization on trust, *Research on negotiations on organizations*, **5**, 185-217.
- Stinchcombe, A. L. (1985) Contracts as Hierarchical Documents. In: Stinchcombe, A. and Heimer, C. *Organization Theory and Project Management. Administering Uncertainty in Norwegian Offshore Oil*. Bergen: Norwegian University Press.
- Thompson, J. D. (1967) *Organizations in Action*. New York: McGraw-Hill.
- Vlaar, P.W.K., Van den Bosch, F. and Volberda, H.W. (2006), On the evolution of trust, distrust and formal coordination and control in interorganizational relationships: towards an integrative framework, Forthcoming in *Group & Organization Management*.
- Winch, G. (1989) The construction firm and the construction project: a transaction cost approach. *Construction Management and Economics*. **7**, 331-345.
- Williams, B. (1988), Formal structures and social reality, in D. Gambetta (ed.), *Trust: making and breaking of cooperative relations*, Oxford: Blackwell, 3-13.
- Williamson, O.E. (1985), The economic institutions of capitalism: firms, markets, relational contracting, New York: The Free Press.
- Williamson, O.E. (1993), Calculativeness, trust, and economic organization, *Journal of Law and Economics*, **36**, 453-486.
- Zaheer A. and Venkatraman, N. (1995), Relational governance as an interorganizational strategy: An empirical test of the role of trust in economic exchange, *Strategic Management Journal*, 373-392.
- Zucker, L.G. (1986), Production of trust: institutional sources of economic structure, In: Barry, Staw and Cummings, *Research in Organizational Behaviour*, **8**, 53-111.