1. Introduction

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INTRODUCTION

Much has been written about trust (for a survey, see Nooteboom, 2002). However, there is a relative neglect of systematic empirical study. There is also a lack of detailed analysis of trust processes on the micro-micro level of people within organizations. This includes trust in teams or ‘communities of practice’, and trust between staff and management. This volume addresses the combination of those two gaps: it focuses on trust processes between people, with an emphasis on empirical studies. After four conceptual chapters that lay some conceptual foundations, there are five empirical chapters.

The volume takes an interdisciplinary approach, with contributions from economists, sociologists, social psychologists and business scholars. This is needed to take into account both rational foundations and psychological causes of trust. Trust encompasses rational evaluation, but this is subject to cognitive limitations, and social–psychological phenomena play an important role. In particular, the question is how people attribute motives and competencies to people on the basis of observed behaviour, and how this affects their trust and their conduct. That theme pervades the present volume. In this introductory chapter we summarize some fundamentals about trust and we indicate the content and connections between the chapters. There are different *definitions* of trust in the literature. Trust entails multiple *objects*, or things one can have trust in. One important question concerns the relation between personal and organizational trust. One can have trust in different *aspects* of behaviour, and trust may vary with the *conditions* of behaviour. Trust has a variety of *foundations* and *sources*. The development of trust is related to *learning*, and for this we need a theory of knowledge.

This chapter proceeds as follows. First we sketch a theory of knowledge, and implications for organizations, taken from Nooteboom (1992, 2000). Next, we specify a definition of trust, possible objects of trust, relevant aspects of behaviour, foundations and sources, and conditions for trust. We discuss the notion of reciprocity and give a few comments on the process of trust development. Finally we sketch the content of this volume.

KNOWLEDGE

For knowledge, we employ a social constructivist, interactionist view. The term ‘knowledge’ here is a broad one, including perception, understanding, value judgments and even emotions. We adopt the view that it is difficult to separate reason and emotions (Polanyi, 1962; Merleau-Ponty, 1964; Damasio, 1995; Hendriks-Jansen, 1996; Lakoff and Johnson, 1999). Emotions can trigger reason, or reflexes, and reason is often emotion-laden. People perceive, interpret and evaluate the world according to mental categories (or frames or mental models) that they develop in interaction with their physical, social/institutional environment. This entails perception, interpretation and evaluation being contingent upon the institutional environment. Thus people are influenced in their thinking by prevailing norms. Later, we will show that this yields one source of trustworthiness, in ‘institutions-based trust’. The constructivist, interactionist view also implies that to some extent knowledge, in the broad sense, is path-dependent and idiosyncratic. Different people see the world differently to the extent that they have developed in different social and physical surroundings and have not interacted with each other. In other words, environment and past experience determine ‘absorptive capacity’ (Cohen and Levinthal, 1990). As people interact, and share experience, they may develop shared mental frames, which yields a basis for ‘identification-based trust’. This will be taken up in more detail by Bart Nooteboom, in Chapter 2.

As discussed in Nooteboom (1992), an implication of this view of knowledge for the theory of the firm is that, in order to achieve a specific joint goal, the categories of thought of the people involved must be aligned to some extent. Different people have a greater or lesser ‘cognitive distance’ between them (Nooteboom, 1992, 1999). In view of this, organizations need to reduce cognitive distance, that is, achieve a sufficient alignment of mental frames, to understand each other, utilize complementary capabilities, achieve a common goal and have trust. This yields the notion of organization as a ‘focusing device’. That connects with the idea, in the organization literature, that the crux of the firm is to serve as a ‘sense-making system’ (Weick, 1979, 1995), ‘system of shared meaning’ (Smircich, 1983) or ‘interpretation systems’ (Choo, 1998). One interpretation of entrepreneurship, which links with Schumpeter’s notion of the entrepreneur as a charismatic figure, is that it is his central task to achieve this: to align perceptions, understandings and goals.

Within the wider institutional environment, organizations constitute more specialized institutional arrangements, and develop their own specialized semiotic niches: cognitive frames, language, symbols, metaphors, myths and rituals. This is what we call organizational culture. Organiza-

tional culture differs between organizations to the extent that they have accumulated different experiences, in different industries, technologies and markets. Note that alignment of cognitive frames in the firm need not entail full identity. As discussed in Nooteboom (1999), there is a trade-off between cognitive distance, needed for variety and novelty of cognition, and cognitive proximity, needed for mutual understanding. In fact, different people in a firm will to a greater or lesser extent introduce elements of novelty from their outside lives and experience, and this is a source of both innovation and error, of both learning and conflict.

A second implication of this theory of knowledge is that, as a result of the need to achieve a focus, there is a risk of myopia: relevant threats and opportunities to the firm are not perceived. To compensate for this, people and firms need complementary sources of outside intelligence, to utilize 'external economy of cognitive scope' (Nooteboom, 1992). Here again the trade-off arises between cognitive distance, for the sake of novelty, and cognitive proximity, for the sake of understanding and utilization of complementarity.

A large cognitive distance has the merit of novelty but the problem of comprehensibility. Effectiveness of learning by interaction can be construed as the product of the two, which yields an optimal cognitive distance (Nooteboom, 1999). However, one can increase absorptive capacity to deal with larger cognitive distance. For example, if knowledge is codifiable, absorptive capacity can be built and maintained by R&D in the areas of the partner's activity. This explains the empirical phenomenon that, when firms outsource activities, their R&D does not necessarily go down (Granstrand *et al.*, 1997). On the other hand, when knowledge is tacit, one will need prolonged intensive interaction to achieve mutual understanding.

DEFINITION OF TRUST

A pervasive notion in the literature is that trust is associated with dependence and risk: the trustor depends on something or someone (the trustee or object of trust), and there is a possibility that expectations or hopes will not be satisfied, and that 'things will go wrong'. Yet one expects that 'things will go all right'.

A central issue is whether trust can be based only on power, control or 'deterrence' of the trustee, including legal and hierarchical coercion as well as control by incentives and dependence. Transaction cost economics (TCE) claims this, and denies the viability of trust that goes beyond 'calculative self-interest' (Williamson, 1993). Other authors feel that deterrence is foreign to the notion of trust, and that 'genuine' trust is based on other,

more social and personal foundations of trustworthiness. Maguire *et al.* (2001, p. 286) claimed that, if we do not include the latter, we conflate trust and power. Many authors claim that trust can go beyond control, on the basis of 'goodwill' or 'benevolence', resulting from loyalty or altruism, without necessarily becoming blind or unconditional (Das and Teng, 1998; Lane and Bachmann, 2000; Maguire *et al.*, 2001; see also the special issue of *Organization Studies* on 'Trust and control in organizational relations', 22/2, 2001). Therefore trust has been defined as the expectation that a partner will not engage in opportunistic behaviour, even in the face of countervailing short-term opportunities and incentives (Bradach and Eccles, 1984; Chiles and McMackin, 1996; Nooteboom, 1996). Several authors suggest that goodwill does not operate independently from self-interest or control. Bachmann (in Lane and Bachmann, 2000, p. 303) proposed that trust is a hybrid phenomenon, including both calculation and goodwill. In Chapter 4 of this volume, Reinhard Bachmann continues the discussion on the relationship between trust and power.

To clarify the issue of trust and control, we adopt the convention proposed by Nooteboom (2002) of using the term 'reliance' and 'reliability' for trust and trustworthiness in the wide sense, based on all possible sources of trustworthiness, including deterrence on the basis of coercion and self-interested incentives. The term 'assurance' is used for self-interested sources of trustworthiness, and the term 'real' trust, or 'trust in the strong sense', is used for sources that go beyond calculative self-interest. In other words, we trust someone, in the strong sense, if we expect him not to be opportunistic even if he has both the opportunity and the incentive to do so.

That does not imply that real trust is blind and unconditional. There are generally limits to trustworthiness and trust. While trust is not always calculative, it is constrained by possibilities of opportunism (Pettit, 1995). Even the most loyal, committed and dedicated of people may succumb to the temptation of golden opportunities or pressures of survival. Firms may be subject to competitive pressure to such an extent that they cannot afford to accept any sacrifice for the sake of loyalty. Generally, however, there is some limit within which people and firms may be worthy of real trust (Pettit, 1995; Nooteboom, 2002). This is related to the notions of 'exit' and 'voice' (Hirschman, 1970). In an exit stance concerning relations, one will break relations as soon as one is not satisfied and a more profitable alternative is available. In a voice stance, one will not turn away as soon as that is profitable, but announce one's dissatisfaction, and aim to solve problems jointly. However, voice is bounded by the possibility of exit if persistent efforts to discuss and solve problems fail.

One way to model trustworthiness is in terms of a limited resistance to temptation towards opportunism. This may be modelled as a threshold for

defection: one does not opportunistically defect until the advantage one can gain with it exceeds the threshold. This threshold may depend on the wider cultural environment, the narrower cultural environment of a firm one works for, personal upbringing and genetic endowment. The threshold is likely to adapt as a function of experience. Trust may then be modelled as based on a perception of such a (limited) constraint of a partner's opportunism. That perception may entail tacit rather than explicit knowledge. It will become routinized, based on experience, and may sink from 'focal' to 'subsidiary awareness' (Polanyi, 1962). Within that limit one can economize on contracting. When temptations are perceived that may be too large, or unexpected behaviour is perceived, trust can make way for calculation. Relational risk is shifted from subsidiary to focal awareness. So even though trust is and should be constrained, since indeed unconditional trust is unwise, within the margin of perceived or assumed trustworthiness it can save on contracting.

Summing up, we generally do not trust different people equally, we may trust a person in some respects, but not in others, and we often trust people in some conditions but not in others. Trust generally has its limits because trustworthiness generally has its limits.

OBJECTS OF TRUST

One can trust material objects, empirical regularities or laws of nature, people, authorities, organizations, institutions and higher powers. Trust in people or organizations is called 'behavioural trust'. Like people, organizations can be the object of trust, in both their competence and their intentions. We can trust an organization to behave responsibly, regarding its stakeholders and the environment. Of course an organization itself does not have an intention, but it has interests and can try to regulate the intentions of its workers to serve those interests. The perceived interests of the organization are in turn the result of perceptions and communication of the people in the organization. One's trust in an individual may be based on one's trust in the organization he belongs to. Trust in an organization can be based on trust in the people in it. It can be affected by corporate communication, which aims to project a certain image.

Trust in people and trust in organizations are connected by the functions and positions people have and the roles they play in their organizations (Ring and van de Ven, 1994). For personal trust to be transferred to the organization, trustworthy individuals must be backed up by their authority, position and their bosses. Also, vice versa, for organizational trust to be transferred to individuals, the people involved should implement organizational

interests and rules of trustworthy conduct. The question is how that works: on the basis of managerial control, incentives, inspirational leadership or intrinsic motivation? In Chapter 7, Deanne den Hartog takes up the effects of different kinds of leadership.

As in the case of people, trustworthiness of organizations depends on survival conditions. For example, to survive it must guard its reputation for quality and its brand names. Such safeguards depend on industry conditions, such as the effectiveness and importance of reputation mechanisms, and the intensity of price competition. The importance of reputation depends on the ability of users to judge quality prior to consumption. Clearly, a firm that is under great pressure to make all the profit it can get and to cut costs where it can, as a matter of sheer survival, can afford less goodwill or benevolence, at the sacrifice of profit, than a firm that is not under such pressure. This yields differences, especially between industries.

Summing up, in dealing with organizations one has to consider the basis for reliability of both the people one is dealing with and the organization. What mix of foundations of trust is there on the different levels, of people and organization, and how consistent are they; that is, to what extent do they support or compensate for each other? Structure of ownership and control, organizational culture and procedures for guiding, supporting, motivating and controlling people in their organizational roles have a crucial mediating role here, and become part of the basis for organizational trust.

ASPECTS OF TRUST

Behavioural trust, in people and organizations, has a variety of aspects: trust in competence, intentions and honesty or truthfulness. Competence trust refers to technical, cognitive and communicative competencies. At the firm level it includes technological, innovative, commercial, organizational and managerial competence, and access to resources. Intentional trust refers to the intentions of a partner towards the relationship, particularly the absence of opportunism. Opportunism can have a passive and an active form. The passive form entails lack of dedication or effort to perform to the best of one's competence. Dedication entails active participation, attention and abstention from free-riding. In Chapter 7, Deanne den Hartog uses the term 'consistency'. The active form of opportunism entails the 'interest seeking with guile' proposed in TCE, with lying, stealing and cheating to expropriate advantage from a partner. The term 'opportunism' is reserved for the latter. Absence of such opportunism is called 'benevolence' or 'goodwill'. Thus intentional trust has two dimensions: trust in dedication and trust in benevolence.

Trust, being associated with risk of things going wrong, is challenged when things do go wrong, or when ‘trouble’ arises, as Frédérique Six discusses in Chapter 10. This does not necessarily entail a breakdown of trust. The question to be asked is why things went wrong. This could be due to outside accidents beyond anyone’s control, a mistake, lack of competence, lack of effort, or opportunism. How does one assess what is the case? What motive and competence will one infer and attribute to the trustee, and what implications for action will one derive? An opportunistic partner will not admit his opportunistic motive, and will claim ‘force majeure’, if he can get away with that. This yields an argument for openness in trust relations: it may be better to admit a mistake, and timely so, in order to have the best chance of redressing it, than to run the risk of one’s action being seen as a sign of opportunism (Nooteboom, 2002).

Here, in inference, attribution and decision, social psychology plays a crucial role. As argued by Siegwart Lindenberg, in Chapter 3, trust depends on how the situation is mentally ‘framed’. As set out also by Lindenberg, and investigated empirically in Chapter 9 by Rafael Wittek, and in Chapter 10 by Frédérique Six, inferences, attributions and response are sensitive to ‘relational signalling’. When people encounter trouble, they give cues and generate responses by the way in which they enact and express their discontent. Is it aimed directly at the trustee, indirectly at colleagues or the boss, and is it done publicly or in private?

CONDITIONS OF TRUST

Trust is contingent upon both the trustee and conditions. In other words, one will trust different trustees differently, and a given trustee according to conditions: trust is a four-place predicate: someone (trustor) trusts something or someone (trustee) with respect to something (competence, intentions), depending on the conditions (Nooteboom, 2002). All chapters in this volume consider the identity of the trustor, differentiation between trustees, aspects of both competence and intentions, and the conditions for trust, such as task and organizational context.

Trust depends on outside conditions and on inside conditions. In evolutionary terms, outside institutions constitute the selection environment of firms. That includes markets, legal systems, customs and norms of conduct. In Chapter 5, Henk de Vos and Rudi Wielers look at the viability of trustworthiness in terms of its survival in competition with a cheating strategy.

The main focus of this volume is on inside conditions. The evolutionary approach of Chapter 5 may apply also here, to the extent that we can see the organization as an arena of survival for its members, in a struggle between

trust and cheating. Other inside conditions are the type of tasks, organizational structure (such as team structure), type of leadership, culture, processes of interaction and patterns of communication. In Chapter 6, Ana Cristina Costa looks at the effects of team composition, task characteristics and organizational context on trust within teams. In Chapter 7, Deanne den Hartog's examination of different types of leadership includes a study on trust that people have in specific others, generalized others and leaders in the organization. In Chapter 8, Nathalie Lazaric looks at the need for trust in the elicitation of knowledge in expert systems. In Chapter 9, Rafael Wittek looks at the relationship between norm violations (including trust violations) and sanctioning behaviour, which includes patterns and types of communication ('relational signalling'). Related to this, in Chapter 10, Frédérique Six looks at the way in which people deal with trust and trouble, depending on the type of trouble, sanctioning behaviour and organizational conditions such as socialization during entry to the firm.

FOUNDATIONS AND SOURCES OF TRUST

The difference between foundations and sources of trust intended here is that the first refers to rational reasons for trust and the latter to psychological causes. All chapters in this volume allow for both the rational foundations and the psychological sources of trust. Rational trust entails an assessment of a partner's trustworthiness, based on direct evidence or reputation, with an attribution of his competence and his intentions to conform to agreements, depending on conditions. In 'calculus-based' trust, trustworthiness is based on calculated self-interest, and trust is based on control or 'deterrence' of unreliable behaviour by enforcement of authority or contract, or incentives of self-interest.

The literature recognizes the notion of 'identification-based trust' (Lewicki and Bunker, 1996). It entails mutual assimilation of mental categories. Short of identification, there may be empathy: the ability to place oneself in a partner's position, without sharing his cognitive framework. There is also a notion of 'affect- or emotion-based trust'. This seems closely related to identification-based trust and, to a lesser extent, empathy. Identification may go so far that one is not able or willing to consider the possibility of untrustworthiness. This may include cognitive dissonance: one does not want to face evidence of untrustworthiness because it conflicts with deep-seated convictions or feelings.

There is also a notion of 'routinized trust' (Nooteboom, 1996, 2002). This is a combination of rational foundation and psychological cause. Here one assumes trustworthiness, often tacitly, because that assumption never

yielded adverse effects (concerning a certain trustee, under certain conditions). That is the rational part. Long ago, Herbert Simon indicated that routines are rational in view of bounded cognitive capacity, to make attention free for new conditions that require attention. Here the possibility of untrustworthiness has subsided to ‘subsidiary awareness’ (Polanyi, 1962). Extraordinary events may trigger a shift back from subsidiary to ‘focal’ awareness, where calculation may set in. Emotions of fear or indignation serve to yield such a trigger (Simon, 1983). That is the psychological part. In empathy-based, identification-based and routinized trust, trust often has not only extrinsic, instrumental value, but also intrinsic value: one prefers to act on the basis of trust.

Table 1.1 Sources of intentional reliability

	Macro	Micro
Egotistic	sanctions from some authority (the law, god, Leviathan, dictator, patriarch, organization), contractual obligation	material advantage or self-interest: shadow of the future, reputation, hostages
Altruistic	ethics: values, social norms of proper conduct, moral obligation, sense of duty	bonds of friendship, kinship; routines, habituation

Source: Nooteboom (2002), adapted from Williams (1988).

Table 1.1 gives a survey of different sources of intentional reliability, including self-interest as well as sources going beyond that. It is taken from Nooteboom (2002), where it was in turn adapted from Williams (1988). Williams distinguished between ‘macro’ sources, which apply generally and impersonally, apart from any specific exchange relation. They arise from the ‘institutional environment’ of laws, norms, values, standards and agencies for their enforcement. They are also called sources of ‘thin’ trust. The ‘micro’ sources arise in specific relations, and are therefore personalized. They are also called sources of ‘thick’ trust. Williams further distinguished between self-interest and altruism as a source of cooperation. Taken together, in a two-by-two matrix, this yields four sources of intentional reliability. The ‘altruistic’ sources go beyond self-interested behaviour, in the form of established, socially inculcated norms and values (macro), and identification, affect and routines developed in specific relations (micro). These ‘altruistic’ sources provide the basis for trust in the strong sense, or ‘real’ trust. In other words, Table 1.1 reflects the widespread view, discussed

earlier, that trust in the wide sense of reliance includes elements of control, here along the row of self-interest, including both legal coercion and control by incentives and dependence, as well as elements that go beyond control, as a basis for 'goodwill' or 'benevolence'. The distinction between egotistic and altruistic sources is related to the distinction between what Lindenberg (2000) called a 'gain frame' and a 'normative' frame.

The table recognizes institutional systems as a basis for reliance, in the form of hierarchy and legal systems supporting laws and litigation (first row, first column), and norms of behaviour (second row, first column). This is 'institutions-based trust', which requires that we trust those institutions to support sources of trustworthiness of people and organizations. In the second row, right column we go beyond 'macro' norms of behaviour that are imposed or absorbed in socialization from the institutional environment, to include 'micro' empathy, identification, affect and routinization, embedded and developed in specific relations. In other words, next to an institutional level there is an interpersonal level (Bachmann, 2000, p. 307). The distinction between macro and micro sources is also known as the distinction between 'universalistic' or 'generalized' sources and 'particularistic' sources, made by Deutsch (1973, p. 55), and between impersonal and personalized sources, made by Shapiro (1987). This distinction goes back to the work of Parsons. Social norms and moral obligations, including a sense of duty, following Parsons and Durkheim, were proposed more recently by Bradach and Eccles (1984), Zucker (1986) and Dore (1983), among others. Fukuyama (1995) employed the term 'spontaneous sociability'. Calculation of self-interest includes reputation (Weigelt and Camerer, 1988) and the assessment of future benefits of present cooperativeness ('shadow of the future'), as has been recognized by many (Telser, 1980; Axelrod, 1984; Hill, 1990; Heide and Meiner, 1992; Parkhe, 1993). A taxonomy that is similar in some respects to that of Williams was later proposed by Chiles and McMackin (1996). It included social norms, moral obligations, social embeddedness, sense of duty, rational self-interest and reputation. Some of these elements were added to the original taxonomy proposed by Williams.

Related to the sources of reliability there are sources of reliance. These are specified in Table 1.2. Rational foundations of reliance entail an assessment of the sources of reliability. Here we find the duality of (formal) control, in creating reliability on the basis of contracts, supervision, rewards and incentives, and trust that goes beyond that, on the basis of norms, values or bonding that arise within a relation.

An important condition for reliance to arise is of course the need for it. That increases with the need to collaborate: the more people are indispensable to each other, the more urgent it is to trust each other and find or

Table 1.2 Sources of reliance

	Macro	Micro
Control	contracts, supervision	partner's dependence on value, hostages, reputation
Trust (in strong sense)	norms, values, habits	routinization, empathy, identification, friendship

Source: Nooteboom (2002).

develop a basis for doing so. Ana Cristina Costa, in Chapter 6, takes up this and other aspects of tasks and team composition, and their influence on trust. In Chapter 7, Deanne den Hartog establishes a link between styles of leadership and calculus-based versus identification-based trust. However, she finds that different styles of leadership may include both elements, of incentives and intrinsic motivation, with different emphases.

RECIPROCITY

The matrix in Table 1.1 may suggest a hard, clear separation between the cells, while this is not in fact there. As Bachmann (2000, p. 307) phrased it, they are loosely coupled. There are connections between them, with intermediate, mixed forms. The observance of social norms of behaviour may be part of a pursuit of social recognition, which may be seen as part of self-interest. The intrinsic value of trust-based relations may be seen as part of self-interest, and it may be connected with both the social recognition just indicated, and the disposition to be loyal to friends, which is here rendered as part of affect-based altruistic motives.

In sociology, there is an extensive literature on reciprocity and the giving of gifts. For a recent discussion, see Vandavelde (2000). Reciprocity may be seen as an intermediate form between self-interest and altruism. It has been characterized as short-term altruism for long-term self-interest (Putnam, 2000, p. 134). In economic exchange, there is a principle of strict 'quid pro quo', where reciprocity in exchange is either immediate or contractually guaranteed, with an attempt to specify future conditions and procedures. In the social giving of gifts, reciprocity is not immediate, not specified or guaranteed, and cannot be demanded. Such demand would invalidate its social function, which is to bond a relationship. Immediate reciprocation would signal that the recipient declines to engage in a relationship. Nevertheless, the gift establishes an informal, non-strict obligation to reciprocate, in due

time and measure. In view of this, the giver is expected to soften the obligation, by belittling his gift when he is thanked ('you are welcome', 'my pleasure', 'pas de quoi'). It is important to maintain reciprocation as a free choice, and avoid any impression of manipulation, compulsion or intent to purchase obligation. In social reciprocity, giving must remain spontaneous, surprising and imperfectly predictable. Nevertheless, gift giving with this type of reciprocity often serves our self-interest. It fosters good reputation, gratitude and return gifts. As Vandeveld (2000, p. 15) formulated it: 'The logic of the gift thus can be reduced neither to disinterestedness or altruism, nor to strict, calculative egotism. Something of both motivations inheres, or even better: the logic of the gift is situated beyond the opposition between egotism and altruism.'

In Table 1.1, social reciprocity may be situated in between the rows of self-interest and altruism. Gift giving can be used for manipulation, imposing a claim for something in return. However, though unusual, gifts or sacrifices *can* be completely disinterested or altruistic, without an expectation of or even wish for reciprocity. Then they fall squarely in the lower row. A form of extreme altruism is friendly reciprocation to a hostile action ('turn the other cheek'; cf. Vandeveld, 2000). In Chapter 5, Henk de Vos and Rudi Wielers take up the notion of reciprocity as a basis for relationships, in competition with a cheating strategy.

THE PROCESS OF TRUST

As suggested at the beginning, more research is needed on the process of trust: how it builds up and breaks down in interaction between people. That is the focus of this volume. In Chapter 2, Bart Nooteboom gives a survey of the literature on the trust process. There are important links between trust and learning. As suggested before, trust is subject to learning, in the sense that one needs time and experience to understand people's competencies and intentions and to identify with them. Also, vice versa, learning requires trust. This is reflected indirectly in Chapter 6, where Ana Cristina Costa finds that within teams uncertainty in the form of task ambiguity does not have a negative effect on trust, as predicted by transaction cost economics, but a positive one. This is in accordance with the theoretical claim that under uncertainty there is increased need for others, who offer complementary competence and knowledge (Nooteboom, 1992).

Trust and trustworthiness can go too far. Unlimited loyalty might yield rigidities ('inertia') in innovation. Relations need to last sufficiently long for investments that are dedicated to the relation to be recouped, including the build-up of mutual understanding and trust. But if they last too long and

become too exclusive, this may yield an obstacle to learning and innovation, which require a variety of experience. This point also comes up indirectly in Chapter 8, where Nathalie Lazaric finds that, after the codification of expert knowledge in an expert system, measures have to be taken to keep the system open to new experience from practice. That is also needed to maintain the motivation of practitioners.

Thus, for the sake of innovation and learning, conflicts may be needed and relationships may have to end. Conflicts *per se* need not indicate or cause a breakdown of trust. Much depends on what sanctioning mechanisms are used in cases of norm violation. This includes the ‘relational signalling’ related to the choice of how and to whom to voice the conflict and its relation to the severity of the violation. Rafael Wittek, in Chapter 9, studies this. When relationships have to end, to prevent inertia or deadlock, there is a voice mode of ending the relationships, by announcing the intention to exit and offer help to other partners to prepare for it and find alternatives (Nooteboom, 1999). The possibility that conflict can yield learning and deepen trust, and that there can be collaboration even in conflict, arises empirically in the work of Frédérique Six, in Chapter 10.

ACKNOWLEDGMENTS

We would like to thank all the participants in the seminar ‘trust and trouble’, held in May 2001 at the Erasmus University in Rotterdam, for their useful comments and suggestions to the papers which have nearly all found their way into this volume. They also made significant contributions to the discussion of avenues for further research as presented in the final chapter.

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