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Published in:
Review of Political Economy

Publication date:
1994

Citation for published version (APA):
Noorderhaven, N. G. (1994). Transaction cost analysis and the explanation of hybrid vertical inter-firm relations. *Review of Political Economy*, *6*(1), 19-36.

Review of Political Economy, 6.1(1994), pp 19–36

Transaction cost analysis and the explanation of hybrid vertical inter-firm relations

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Transaction cost economics (TCE), which originally focused on the analysis of markets and hierarchies as alternative mechanisms in the governance of transactions, has lately been geared to the explanation of hybrid vertical relations between firms i.e., neither market nor hierarchy. A careful analysis of the application of TCE to hybrid vertical inter-firm relations shows that the hypothesized relationship between characteristics of transactions and the occurrence of hybrid relations is largely borne out by empirical research. However, by concentrating on the rational utilization of private ordering schemes, TCE fails to give a satisfactory account of the basis underlying hybrid relations and is incapable of explaining developments over time within these relations. Alternative and supplementary approaches are identified, elements of which could be incorporated into TCE in order to strengthen the explanatory power of the theory in these two respects.

I Introduction

1 Significance of the subject

Transaction relationships between firms can take the form of a series of transactions between autonomous parties or, alternatively, of mutual adjustment under common ownership and management. In the first case the relationship bears the characteristics of a 'market relationship', and in the second case those of a 'hierarchical relationship' (Williamson, 1975). As a third possibility, the relationship can be neither market nor hierarchy, but a hybrid of both. In this case the relationship is steadier than the typical market relationship, and at the same time less tight than the relationship between parts of one and the same firm (Williamson, 1991).

Hybrid inter-firm relations form a wide class. Consequently, there is an extensive literature dealing with these phenomena (for an overview, see Borys and Jemison, 1989; Grandori and Soda, 1991; and Powell, 1990). In

* Helpful comments of an anonymous referee are gratefully acknowledged, as well as the valuable assistance of Yvonne Stassen.

this article I will confine myself to vertical relationships between firms i.e., relationships between firms buying and selling intermediate goods and services.

There are two reasons for focusing on these hybrid vertical inter-firm relationships. In the first place hybrid vertical relations are becoming a more salient feature of the structure of industries (Piore and Sabel, 1984). As the pace of technological and market changes accelerates, hybrid vertical relations better enable firms to acquire the relevant information, to limit risks, and to speed up the development of new products and services (Håkansson, 1982; 1989; Semlinger, 1991).

The second reason to focus on hybrid vertical inter-firm relationships is the fact that their growing practical importance has pressed transaction cost analysts to incorporate this case of relationships into their explanatory framework (Williamson, 1985: 399).[1] Formerly, a dichotomy of markets and hierarchies was assumed in TCE. This simple framework has been stretched in order to accommodate hybrid relations, but in the process some of the seams of the theory seem to have come apart. Thus the impetus behind the writing of this article was formed by doubts concerning the adequacy of the explanation of hybrid vertical inter-firm relations provided by TCE.

2 *Hybrid vertical relationships*

Above, I have referred to hybrid relationships as a class of economic relations between the pure market and the pure hierarchical ends of the continuum of exchange relationships. On the basis of three aspects, namely the duration of the relationship, the mechanism for bringing about adjustments to transactions and the nature of the commitments made, a more specific description of hyrbid relations can be provided.

Hierarchical relationships between firms are usually (quasi-) permanent. Divestiture of an internal supplier can occur, but is not routinely expected. The duration of market relationships does not exceed the time necessary to complete a particular transaction. Of course, the relationship can be renewed to accommodate another transaction, but then all terms have to be in principle renegotiated. Hybrid relationships are characterized by the fact that they are more durable than the individual transactions for the fulfilment of which they form the framework. If formal contracts are used, these contracts tend to be long-term. In other respects it is not so much that the relationship is permanent, but rather it is of indefinite duration.

In pure market relations, no adjustment within transaction agreements is

[1] Williamson's work, particularly its (1985) codification, will be used as the main source of the theoretical and conceptual content of TCE in this article. Empirical findings come from a variety of sources.

expected. The contract governing the exchange is seen as fixed, and if performance according to specifications fails to occur damages can be claimed (Macneil, 1974). Adjustment only takes place *between* transactions. In hierarchical relations sequential adaptations within a series of transaction(s) are effected through fiat (Williamson, 1991). In hybrid relationships adaptation typically takes place by renegotiation of the original agreement (e.g., on the basis of a 'gross inequity provision', Joskow, 1985), by arbitration if the relationship is predominantly of a formal contractual nature, and by informal bilateral consultation in other cases.

As far as the commitments of the parties are concerned, in the case of market relations these are of the nature of legal (contractual) obligations. In the case of hierarchical relations, conflicts with regard to commitments will in principle be settled without recourse to the judicial system. The applicable doctrine of contract law is that of 'forbearance' (Williamson, 1991). The societal touchstone of a last resort would be labour law rather than the law of contracts.

Hybrid relationships are mostly of a contractual nature, just like market relationships, but because of their longer duration the formal arrangements will constitute less of an adequate reflection of reality. Legal enforceability of informal arrangements is questionable, however, and for that reason hybrids need other mechanisms to endorse the relationship. Candidates are mutual dependency and mutual trust. I will return to this point later in the paper.

From the above it can be concluded that in some respects hybrid relationships can be described as an intermediate form if compared to markets and hierarchies, but in other respects they form a category in their own right (cf., Bradach and Eccles, 1989). In particular, these relationships are governed by enforcement mechanisms of a juridical nature, but they are also endorsed by mechanisms of a non-legal nature. As will become clear later, this definition already carries the seeds of the criticism of TCE formulated in the penultimate section of this article.

3 Structure of the article

In Section II of this article the conceptualization of hybrid vertical inter-firm relationships in TCE will be discussed. Section III provides an overview of the empirical research within the TCE tradition into hybrid relationships. In Section IV the analysis of hybrid relationships in TCE is criticized. Conclusions and suggestions for future research follow in Section V.

II Hybrid vertical relationships and transaction cost economics

1 Hybrid relationships in TCE

In his original formulation of TCE, Williamson (1975) assumed a dichotomy of market and hierarchy. A transaction will be accommodated either by the market mechanism, or take place within the managerial hierarchy of a single firm. Possible intermediary co-ordination mechanisms and the concomitant inter-firm relationships are disregarded, because they are assumed to be inherently instable and therefore relatively scarce (Williamson, 1985: 83; see also, Poensgen, 1983). In more recent work Williamson (1979; 1985; 1991) acknowledges that relationships governed by intermediate co-ordination mechanisms are not necessarily instable, and that these forms are in fact quite common. He now explicitly distinguishes a third category, next to market and hierarchical relationships.[2] For this third category labels like 'bilateral relationships', 'hybrid relationships', and 'relational contracts' are used. It contains inter-firm relationships that are more durable and extensive than market relationships, but are not of a hierarchical nature. With the distinction of this third category TCE enters the focus of the present article.

Williamson's explanation of hybrid vertical inter-firm relationships is relatively straightforward. In the perspective of TCE this type of relationship results from a trade-off between different production technologies with differential cost structures, and different governance structures with differential transaction cost features. Hybrid relationships are likely to occur if substantial economies can be realized with the use of a production technology specific to a particular group of clients (in contrast to a nonspecific technology, or a technology specific to one particular client).

The automobile industry can serve as an example. A press used for the production of body parts is not specific to one particular client, although the moulds used with it are. The press itself, assuming it can only be used to produce body parts, is specific to a particular group of client firms. In this situation an independent supplier can, through the aggregation of demand, achieve economies of scale which are inaccessible to the individual clients.[3] However, if client firms were kept purely at arm's length, the independent supplier would expose himself to an unacceptable risk of opportunistic rent-seeking by the clients. The solution is a durable

[2] A fourth category, consisting of so-called 'trilateral relationships' (Williamson 1979: 249ff; 1985: 74ff) is strongly related to conventional market relationships, and will be left outside the discussion in this article.

[3] Cf., Williamson (1975: 16–19; 1985: note 92; 1985: 116). Williamson uses the argument that if one of the client firms were to try to achieve the same economies of scale as the independent supplier, it would have to sell part of the components produced to its competitors. These, however, would for strategic reasons be unwilling to buy from a competitor. The argument, although not implausible, is somewhat ad hoc.

relationship between otherwise independent parties, based on the use of a governance structure that can be located somewhere between the extremes of market and hierarchy, that is, a hybrid relationship.

Comparable justifications of hybrid vertical relationships are economies of scale associated with shared inputs across diverging kinds of transactions or learning economies associated with repetitive production in many separate relationships (Joskow, 1985).

I will now go into this intermediary governance structure in TCE in detail.

2 *Private ordering*

The issue in hybrid relationships, as in market relationships and hierarchical relationships, is the curbing of opportunism leading to the exploitation of the vulnerability stemming from transaction specific investments. Within a hierarchy common ownership and central control check the opportunism of the constituent parts.[4] In the case of market transactions investment in specific assets will only occur if legally enforceable contracts offer sufficient protection. In many cases this will mean that investment in specific assets will be refrained from. But how can opportunistic behaviour within a hybrid relationship be checked?

The mechanism proposed by TCE is that of 'private ordering': the parties design the relationship to achieve a balance of mutual dependency. In this way transaction specific investments can be safeguarded without recourse to an external enforcement mechanism such as the law of contracts.

The legal vacuum in which the relationships to be investigated are placed in TCE is a reaction to the fiction of perfect and free enforcement of contracts employed in more traditional economic (and legal) approaches (Galanter, 1981). Williamson is right in dismissing this fiction. That he seems to overreact with his assumption of a 'legal vacuum' should be seen as part of his analytical strategy rather than as an assumption concerning reality.[5]

Williamson (1983; 1985: Chapters 7 and 8) proposes the use of 'hostages' (in the metaphorical sense of the word) as the chief expedient for the achievement of a balance of mutual dependency. A 'hostage' is a good representing a high value to the party who is handing it over. The use of a

[4] The price paid for the attenuation of opportunism in hierarchies is the loss of high-powered incentives. In market relationships, incentives for efficiency are strong because the fruits fall to the party realizing them, but for the same reason the temptation to behave opportunistically is also strong. Hybrid governance displays intermediate values in incentives as well as in the reduction of opportunism (Williamson 1991: 280).

[5] Williamson refers to this assumption as a 'paradigmatic wedge' (1985: 169). In the conclusion of his book he points at the desirability of research into the mix of private ordering and legal contracts used in practice (1985: 399).

hostage works as follows: the party that is most vulnerable, for instance because of its investment in transaction specific assets, receives a hostage from the other party. The power over the hostage safeguards compliance by the other party; if it does not perform, the hostage is lost. In terms of the example used above, if a car manufacturer invests in a mould specific to the press used by a supplier, this investment functions as a hostage that creates a better balance of dependencies.[6]

In addition to the exchange of hostages, other, related expedients can be distinguished, such as collaterals. All these devices have their drawbacks, and in the absence of a legal enforcement system they can only establish a shaky balance (Kronman, 1985). We will return to this in Section IV.

In the next section, empirical research into hybrid relationships will be discussed. First, the relation between the level of transaction specific investments and the occurrence of hybrid relationships hypothesized in TCE will be considered. Next, the question whether the empirical research bears out the prominence of private ordering in hybrid relationships will be investigated. The first question pertains to the validity of the central proposition of TCE. The second question deals with the plausibility of the mechanism that is assumed to form the basis of hybrid relationships in TCE.

III Empirical research in the TCE tradition

In most of the empirical studies into vertical relationships within the tradition of TCE, a dichotomy of market and hierarchy is assumed (see for instance Masten, 1984; Masten *et al.*, 1989; Monteverde and Teece, 1982a; Mosakowski, 1991; Walker and Weber, 1984, 1987; for an overview of empirical studies, see Joskow, 1988a). Sometimes the fact that the dichotomy employed is a simplification is stressed explicitly (Anderson and Schmittlein, 1984). All this work yields no understanding of the applicability of TCE to hybrid vertical relations. More to the point are those studies that focus specifically on these hybrids. The most important will be briefly discussed.

1 Hybrid relationships and transaction specific investments

The central proposition with regard to hybrid vertical relations advanced by TCE is that these relationships will occur in cases of moderately specific investments i.e., not specific enough to justify full vertical integration, but too specific to rely on market governance. This proposition can best be

[6] Note that there would be no hostage and that the supplier would not be protected if the mould was not specific to the type of press used by the supplier. To the contrary, if the mould can be easily transferred to other suppliers, the vulnerability of the supplier in question increases (Semlinger, 1991).

tested in the context of a systematic comparison of market, hierarchical and hybrid relationships.

I have been able to trace only two studies with such a focus: Joskow's (1985) study of the role of market transactions, long-term contracts, and vertical integration in the relationship between electrical power generation plants and their suppliers of coal; and Stuckey's (1983) analysis of the aluminum industry.

Stuckey (1983) certainly takes into consideration the full gamut of governance structures, but market contracts, of short as well as of long duration, appear to play only a minor role in the aluminum industry. Joint ventures are the only hybrids of any importance in this industry, but this class of relationships falls outside the scope of this article.

Joskow (1985) finds that in the relationships between electricity generating plants and coal suppliers, vertical integration correlates positively with the level of transaction specific investments. In those relationships where no vertical integration takes place, higher specific investments lead to contracts of longer duration. Long-term contracts can be conceived as hybrid relationships. The fact that the occurrence and duration of these long-term contractual relations varies with the level of asset specificity, specifically locational specificity, is a confirmation of the central proposition of TCE.

In other studies the complete continuum of governance structures is not taken into consideration, but hybrid relationships are compared with either market relationships or with some form of hierarchy. Thus Monteverde and Teece (1982b) compare pure market relationships between a supplier and his clients in the automobile industry with relationships of 'quasi-integration', in which the client-firm invests in specialized tools to be used by the supplier. In conformity with the expectations based on TCE the use of this expedient and the occurrence of the concomitant hybrid relationships appears to correlate with the level of transaction specific investments exposed to the danger of opportunistic behaviour.

Masten (1983), without explicitly mentioning hybrid relations, describes a parallel use of 'quasi-integration' for the safeguarding of investments in specific manufacturing and testing of tools in the production of defence equipment.

Palay (1984) finds the same phenomenon in the relationship between rail carriers and shippers. Where investment in highly specific railcars are called for (for instance for the transportation of chemicals), these investments are incurred by the shipper. In addition to 'quasi-integration' Palay also distinguishes other hybrid relationships, as well as market relationships. The relation between the occurrence of the various governance structures and the level of transaction specific investments is again in complete conformity with expectations based on TCE.

On the whole, the relation predicted by TCE between transaction specific investments and the occurrence of hybrid relationships as an alternative to market or hierarchy is borne out by the empirical findings. However, some of the empirical findings are hard to reconcile with received TCE. Hybrid relationships sometimes appear to be based on mechanisms other than the private ordering predicted by Williamson.

2 *The basis of hybrid relationships*

What, then, are the findings of the empirical studies with regard to the basis of hybrid relationships?

Above, the phenomenon of 'quasi-integration', described by Masten (1984), Monteverde and Teece (1982b) and Palay (1984), has been pointed out. 'Quasi-integration' is a clear example of private ordering as described by Williamson.

In other studies, however, mechanisms underlying hybrid relationships that are not so easily reconcilable with TCE are mentioned. Thus Joskow in a series of publications on his research into the relationship between electricity generating plants and coal suppliers describes contractual relations of a very long duration i.e., up to 50 years (Joskow 1985; 1987; 1988b).

The basis for these relationships is formed by the legally enforceable contracts between the parties. Notwithstanding the complexity of these contracts (resulting from the necessity to make arrangements for price and quantity adjustments), these relationships appear to be viable. The same can be said of the contractual relations between suppliers and buyers of petroleum coke (Goldberg and Erickson, 1987), and between producers of natural gas and the owners of pipelines (Mulherin, 1986). In the light of Williamson's analysis of hybrid relationships existing in a legal vacuum these long-term contracts are rather unexpected.

This does not mean that the core of Williamson's position, that the assumption of perfect and free legal enforcement is counterproductive in the study of industrial organization, is incorrect. In the aluminum industry Stuckey (1983) observes inherent instability in long-term contractual relationships involving important transaction specific investments. Klein (1988) points out that long-term contracts that are supposed to protect transaction specific investments, may, on the contrary, induce opportunistic behaviour in cases of unforeseen circumstances. These observations may be taken as support for Williamson's analytical strategy. But Williamson is carrying the matter too far if he reduces the function attributed to the judicial system to zero (Hodgson, 1988: 154). Hybrid relationships remain in the shadow of the law, because the parties realize that appeal to the court is always possible (Joskow, 1985).

Much more problematic for TCE, as developed by Williamson, are the frequent references to hybrid relationships based neither on private ordering, nor on legal contracts. Lall (1980) observes a paternalistic relationship between Indian car manufacturers and their suppliers, and stresses the importance of mutual trust and parallel expectations. Walker and Poppo (1991) in their discussion of 'single-source' relations between a manufacturer of consumer goods and his suppliers point at the expectation of the supplier that the relationship will be durable, and therefore that it is not too risky to incur transaction specific investments. The purchasing firm on the other hand, although at risk because of his dependency on only one supplier for each component, feels safe because opportunistic behaviour of a supplier would damage the reputation of the firm in question. On top of that the purchasing firm which was investigated in most cases buys a substantial fraction of the supplier's total turnover, making the latter also dependent. Heide and John (1990) point at expectations with regard to the continuity of the relationship, too. They find a positive relation between the level of transaction specific investments incurred by the supplier and the expectation of continuity of the purchasing firm. In their view joint action of supplier and buyer (e.g., with regard to product development, quality control or long-range planning) also serves as a safeguard for transaction specific investments. This joint action would make opportunistic behaviour less likely.

In this context the results of Palay's (1984) study, pointed at above, are also significant. In the USA full vertical integration between rail carriers and shippers is not feasible because of government regulation, nor are long-term contracts ensuring compensation for specific investments through higher carriage rates. The expedient of 'quasi-integration' is used only in cases of high asset specificity. At lower levels of asset specificity (18 of the 51 relationships investigated) the investments are, in the eyes of the parties concerned, warranted by the competition of the market and the importance of maintaining a reputation. Besides, Palay points at the development of trust relationships between individual representatives of firms as well as between the firms as such.

Lorenz's (1988) observations dovetail with these findings. Lorenz has conducted a small-scale investigation into the relationships between medium-sized manufacturers of industrial appliances in the Lyon region and their subcontractors. Apart from policies to limit the dependency stemming from transaction specific investments, the managers interviewed by Lorenz also point out that they deliberately and systematically try to build trust-relationships. Intensive personal contacts are seen as essential in this context.

To sum up, only in a limited number of empirical studies within the TCE tradition do hybrid vertical relationships receive attention. As far as the basis of these relationships is concerned, private ordering and mutual dependency, both in agreement with Williamson's (1985) analysis of hybrids, are observed. But also legal enforceability of long-term contracts, as well as parallel expectations and trust relations are pointed at. The conclusion has to be that, although there clearly is a relationship between asset specificity and governance, the findings with regard to the basis of the relationships investigated pose problems to TCE.

In the next section the application of TCE to hybrid vertical inter-firm relationships will be criticized.

IV A critique of the analysis of hybrid relationships in TCE

Hypotheses with regard to the relationship between transaction specific investments and the form of the relationship generated by TCE are endorsed by empirical findings. However, the basis underlying hybrid relationships in many instances appears to be at variance with the private ordering mechanisms expected. In my view this finding is a symptom of fundamental flaws in TCE.

1 Typification of the explanatory model of TCE

To begin with, a typification of the model used in TCE for the explanation of hybrid vertical inter-firm relationships will be given.

A first observation is that, in TCE, parties are assumed to be opportunistic. This characteristic of economic agents is a fixed assumption.[7] The design of governance structures is a reaction to this characteristic, but does not influence it. In TCE governance structures and exchange relations – hybrid and other – are only of instrumental value to the parties (Bowles and Gintis, 1990). The relationship serves to bring about the exchange.

A second observation regards the rational faculties attributed to economic agents. TCE may ostensively depart from the assumption of bounded rationality, as proposed by Simon (1961), in the explanation of hybrid relationships a form of hyper-rationality not very different from the one assumed in more traditional micro-economics is brought into the analysis.

The basis for this statement lies in the genesis of hybrid relations, as described by Williamson (1985). The choice of a governance structure – a spot contract, a hierarchy or some kind of hybrid – is a deliberate decision according to TCE. This can be deduced from Williamson's choice of words. Williamson, for example, speaks of the 'strong commitment to intended rationality' of TCE (1985: 387); he states that '[s]uppliers are

[7] Actually, Williamson assumes that 'some individuals are opportunistic some of the time and that differential trustworthiness is rarely transparent *ex-ante*. As a consequence, *ex-ante* screening efforts are made and *ex-post* safeguards are created' (Williamson 1985: 64). However, the main thrust in TCE is to explain existing safeguards in transaction relations as a response to the problems of opportunism, the possibility to screen successfully for opportunism and consequently of being able to renounce safeguards is hardly worked out. Thus differences in opportunism are de-emphasized in TCE (see also Noorderhaven, 1993).

assumed to be farsighted' (p. 164); and that 'bilateral (private ordering) safeguards are carefully crafted' (p. 106).

Even more revealing is the fact that the mechanisms of private ordering are assumed to be completely designed *ex-ante*. In its essence TCE is a two-period model: in the first period the relevant decisions with regard to investments and governance structures are made; in the second period the actual transactions follow. TCE is geared to the comparative analysis of governance structures, a theory of gradual change from one structure to the other is lacking.

Given the complexity and uncertainty that characterizes many hybrid relationships, a very high strain is put on the rational faculties of the parties if the private order that is assumed to discipline the relationship has to be designed before the actual start of the transactions. The parties should be able to foresee developments that might increase the dangers of opportunism; organize the necessary exchange of hostages etc., and also anticipate and neutralize the dangers evoked by these safeguards themselves (Klein, 1988; Kronman, 1985). The hyper-rationality that TCE denies access to at the front door sneaks in through the back door.

2 *The nature of hybrid relationships*

The assumption in TCE that opportunism is a basic characteristic of human nature is difficult to reconcile with elements like 'parallel expectations' and 'trust' that play a role in hybrid relationships according to the empirical research. TCE in its received form makes one expect that the danger of opportunism remains unabated, even if parties share a long history, and have learnt to know and respect each other. Is it possible to introduce a somewhat more complicated and realistic view on human motivation into TCE?

At first sight, Williamson admits this possibility. He points at the influence of customs, mores, and habits (1985: 22), at cultural and institutional checks on opportunism (p. 122), and at the possibility that behavioural and governance features hitherto neglected by TCE should be taken into account (note 406).

However, these and similar remarks are little more than gratuitous qualifications that do not touch the main arguments of TCE. Williamson obviously is impervious to the criticism that his assumptions concerning human behaviour are too simplistic. Thus he rejects the suggestion that private ordering can only succeed if endorsed by community norms (1985: 166), he considers the exchange of hostages more important than cooperative behaviour (pp. 204–205), and he argues that although the view of human nature employed in TCE excludes the possibility of friendliness, sympathy and solidarity, this view nevertheless has to be maintained, because it generates 'numerous refutable implications' (pp. 391–392).

In brief, TCE as developed by Williamson assumes that hybrid vertical inter-firm relationships are based on ingenious constructions preserving a durable balance between parties that remain unabatedly opportunistic.

In view of the theoretical problems this line of thought encounters (Kronman, 1985; Noorderhaven, 1992), as well as the findings of empirical studies, it seems worthwhile to investigate what other control mechanisms – apart from private ordering – can be incorporated into TCE without subverting the theory's internal consistency. Obvious candidates are behavioural norm systems generated in the context of the transaction relation or in the wider social environment (Macneil, 1983). In both cases opportunism would have to be treated like a variable rather than a constant. Intuition, as well as empirical research, suggest that this is a promising itinerary (see Heide and John, 1990; John, 1984; Noorderhaven 1993; Noorderhaven *et al.*, 1992).

The fact that the basis of hybrid relationships, as found in empirical research, in many cases diverges from the kind of private ordering mechanisms expected by Williamson, provokes the question whether these relationships can be very well described as 'hybrids' of market and hierarchy. If trust plays a much more important role in this kind of relationship than in markets or hierarchies, perhaps it is better to shift to a model comprising three ideal types (Bradach and Eccles, 1989). Or, alternatively, many dimensions of transaction relations may be distinguished, each empirical example forming a mix of the various elements (Schreuder, 1990). I will not pursue this line of thought here, but evidently it is important not to remain trapped in a one-dimensional view of a continuum of transaction relations (Knorringa and Kox, 1992; Powell, 1990).

3 *The rationality of economic agents*

The hyper-rationality assumed to be guiding parties in the design of private ordering arrangements leads to an underestimation of the problems of information gathering and processing that individuals and organizations have to cope with. Because of this heroic assumption, TCE pictures hybrid relations as the fruits of sheer planned and intentional action. This is unfortunate, for it leads to a complete neglect of the dynamics of the creation, development and decline of relationships. To point at just one aspect of these dynamics: it seems plausible to assume that the process of interaction plays an important role in the development of trust (Noorderhaven *et al.*, 1992). In this line of reasoning is the hypothesis that the age of the relationship influences its form.[8] In an older relationship, a

[8] Cf., Heide and John (1990), who find a significant relation between the age of a relationship and the parties' expectations regarding its continuity. These expectations in turn positively affect joint action, which in Heide and John's model functions as a safeguard for transaction specific investments.

larger stock of trust has been accumulated, and lower safeguards can be settled for. A similar hypothesis cannot be generated by received TCE.

The hyper-rationality assumption also blinds us to the fact that communication between economic agents is fraught with difficulties. This is especially the case in the context of technological innovation. Thus a buyer and a supplier wishing to co-operate in the development of a new product ('co-makership') first have to find shared categories of understanding and a shared language (Nooteboom, 1990). This means that cognitive limitations have an important bearing on transaction relations, and may form an additional reason to cherish durable relationships.

More generally, received TCE can easily lead to a too narrow consideration of the production and transaction costs related to a single (series of) transaction(s). A transaction conducted today paves the way for future transactions with the same party. This does not mean that the instrumental view of transaction relations has to be abandoned, but that a number of functions of these relationships are being overlooked in received TCE. Especially in industries characterized by rapid innovation this may cause underestimation of the importance of hybrid vertical inter-firm relations (Noorderhaven *et al.*, 1992).

4 Alternative and supplementary approaches

A thorough discussion of alternative approaches to hybrid vertical inter-firm relations falls outside the scope of this article. However, three schools of thought that may be instrumental in the further development of TCE will be considered in brief.

In the first place, the theory of industrial networks (or the interaction approach) can be mentioned (Håkansson, 1982, 1989; Johanson and Mattsson, 1987). In this approach various possible bases of hybrid relationships are explicitly taken into consideration. Among these possible bases are legal enforceability of formal contracts, (mutual) dependency, and trust. Although the theory of industrial networks lags behind TCE as far as the formulation of refutable propositions is concerned,[9] some of the elements of the much richer descriptive apparatus of the first approach might be used to enlarge TCE.

The literature concerning the concept of 'relational contract' is equally relevant. Williamson uses the concept of 'relational contract' in his typification of hybrid relationships, but if the concept as originally developed by Macneil (1974; 1978) is scrutinized, the compatibility with TCE appears to be questionable (cf., Gordon, 1985: n. 575). Macneil empha-

[9] Håkansson (1989: 127) concedes that 'the network perspective is still too incomplete for us to see with any certainty if the individual results *per se* – whether they support our expectations or not – contradict or support our theoretical model'.

sizes the fact that relational contracts 'grow' over time, and points at the very limited meaning of the original agreements and intentions as time goes by. Furthermore, Macneil stresses the importance of norms that develop over time and regulate the behaviour of the parties to a transaction relation. Harking-back to the original concept of relational contracts can be instrumental in the incorporation of temporal and dynamic aspects into TCE.

Finally, the literature pertaining to the influence of cultural characteristics on inter-organizational relations can provide a useful supplement to TCE. Dore (1983) for instance sees social norms as the most important explanation for the Japanese system of subcontracting. Although this explanation is not undisputed (cf., Florida and Kenney, 1991), TCE could benefit from a more systematic attention to the social and cultural environment of transaction relations. In this way Granovetter's (1985) criticism that TCE disregards the embeddedness of exchange relations would be answered.

To sum up: the rich descriptive apparatus of the interaction approach can help to avoid a too restrictive analysis of vertical hybrid inter-firm relations. Relational contract theory points at the need to incorporate the time dimension more explicitly into TCE. This literature may also help to provide TCE with a 'rich classificatory apparatus' (Macneil, 1981), specifically with regard to different governance structures. Literature on cultural differences between countries or regions and the impact of these differences on inter-organizational relations may be helpful in overcoming the lack of sensitivity of received TCE to the embeddedness of transaction relations. The perceived risk of dependency and the concomitant need for safeguards may vary between cultural settings. In all cases, the line of reasoning central to TCE, pertaining to the relationship between asset specificity, risk of opportunism and safeguards, can be maintained.

V Conclusions

TCE offers a simple and elegant explanation of the phenomenon of hybrid vertical inter-firm relationships. The hypothesis that the occurrence of these relationships is related to the level of transaction specific investments is not refuted by the results of empirical research. However, the conceptualization of hybrid relationships in TCE, with private ordering as the most important disciplinary mechanism, is less felicitous. The empirical evidence shows that legally enforceable contracts also play an important role in hybrid relationships, together with shared expectations and mutual trust.

The discrepancy between conceptualization and empirical evidence is undesirable, for a theory that does not adequately explain important aspects of a phenomenon, forms a poor basis for practical recommendations. Therefore, improvements of and additions to TCE as developed by Williamson are called for. These improvements and additions should pertain to the role of trust and expectations; the significance of human and organizational limitations to information collection and processing; and the dynamics of creation, development and decline of hybrid vertical inter-firm relationships.

Such additions and adaptations are no small measures, and go to the heart of the assumptions underlying TCE. But the explanatory strategy characteristic of the theory, based on the hypothesized relation between the properties of transactions and those of the governance structures accommodating these transactions, can, in principle, also be fruitfully applied to hybrid vertical inter-firm relationships.

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