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## **Trust and Opportunism in Supply Chain Relationships** **The Commercial Vehicle Industry**

### **ABSTRACT**

**Supply relationships are generally of a long-term nature in the commercial vehicle industry. Closer ties and enlarged scope of supplier involvement make it difficult to judge efficient costs. Under a regime of incomplete contracts, trust plays an important role for achieving efficiency, but lack of information and uncertainty also foster opportunistic behaviour.**

### **INTRODUCTION**

The assumption one makes about the behaviour of decision makers in business firms has profound impact on what one's theory has to say about industrial structures.

**Trust** is a dominant behavioural assumption among researchers adhering to an "IMP-tradition"<sup>1</sup>. Firms, which interlock into industrial networks, are expected to test each other's trustworthiness. If successful, this process of mutual adaptations provides a basis for further involvement. Such relationships are not easily formalised on paper – formal contracts – but rather exhibit strong informal traits. Trust in terms of expectations about equitable dealing replaces the formal contract as a safe guard against cheating. There is empirical evidence of the positive role played by trust in supply-chain relationships.

**Opportunism** means that firms are likely to take advantage of opportunities for selfish action at the expense of their counterparts. This assumption is a cornerstone in "neo-classical" transaction-cost theory<sup>2</sup> in which much effort has been devoted to depicting the circumstances under which opportunism would thrive. Firms are assumed unwilling to accept relationships where opportunistic behaviour can be expected. Therefore, vertical structures based on informal relationships are deemed unstable under circumstances that make opportunistic behaviour likely. There is empirical support also for this theory.

One would then ask which theory provides a realistic or the better interpretation of reality. Or, could trust and opportunism exist in one and the same relationship?

This paper will show that it is not a question of either or, but that there is a complex pattern of trust and opportunism in vertical relationships. The paper takes its departure in the commercial vehicle industry in which the present author has been active during the past 17 years. It will focus on a long-term relationship between a large manufacturer of commercial vehicles, Alpha, and its middle-sized supplier of frames<sup>3</sup>, Beta. To some

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<sup>1</sup> Trust plays an important role in other theoretical frameworks as well, notably (social) exchange theory (see Högberg, 1998 and 1999)

<sup>2</sup> Often transaction-cost theory is equated with Oliver Williamson's works in which opportunism is a salient feature. Ronald Coase, and those following in his tradition, are strongly critical of the importance attached to opportunism and the resultant conclusions regarding vertical integration (see Williamson and Winter, 1993).

<sup>3</sup> The frame is the structural part of the chassis. In this case the frames are welded.

extent the present paper is a continuation of this author's previous contributions to IMP conferences (Högberg, 1999 and 2000).

The relevant analysis of opportunism and trust would be one that considers their respective economic effects. Opportunism that is exercised by one (or both) of the parties to a supply contract is expected to give that party an economic benefit at the expense of the other party i.e. opportunism is generally associated with a "zero-sum game". Trust would rather be associated with mutual economic benefits be it cost reduction or value creation, which are realized through joint efforts. However, in a situation where such joint efforts are made, opportunistic behaviour could be exercised in order to influence the distribution of the results jointly achieved by the parties. Thus, one would expect that trust and opportunism could exist "side by side" in a supply-chain relationship

### **OPPORTUNISM**

Opportunism "extends the conventional assumption that economic agents are guided by considerations of self-interest to make allowance for *strategic* behavior. This involves self-interest seeking with guile and has profound implications for choosing between alternative contractual relationships" (Williamson, 1975:26). Opportunism does not pose a problem when there are many competitors, but when trading conditions are characterised by imperfect market conditions. Coase (1937) discussed the difficulties of forecasting future needs and the implications of uncertainty for the cost of using the price mechanism. Essentially, he pointed at the limitations to rational decision-making caused by imperfect markets. Williamson (1975) argued that these were the conditions under which opportunistic behaviour would be likely to occur and difficult to curb.

It is assumed that opportunistic behaviour is facilitated and that its pay-off increases to the extent that assets involved become more specific (Klein, Crawford, and Alchian, 1978; Williamson 1979 and 1981). The specificity of an asset is defined, as the difference between the productive value of the present and the best alternative use of that asset i.e. the asset is specific to a particular set of transactions. This issue is trivial if one does not add the importance of the asset to the parties involved. Thus, asset specificity becomes crucial to the extent that it involves, relative to the parties, large and durable investments that invoke costly adaptations to changes in markets or technological circumstances (Williamson, 1993:100). Asset specificity is not only confined to physical assets but involves human assets as well. Also the location of a plant can be relevant – site specificity

Even though asset specificity might be at hand when a relation is first established, the literature generally focuses on the period of execution of the contract and when the contract expires. One of the classical contributions is Klein, Crawford, and Alchian (1978). They argued that when a supplier has made an investment of a long-term nature with a, relative the investment, low alternative use, the customer might be induced to take advantage of the opportunity to renege on the contract and require a reduction in price for the services rendered. On the other hand, the customer might not have many alternative suppliers. Therefore, the supplier's bargaining position does not have to be weak. Specific assets can create a complex pattern of interdependencies between supplier and buyer making it difficult to assess the bargaining power of each one. Instead, given a context of small numbers, asymmetric information, and uncertainty about the future, there will be incentives for opportunistic behaviour by both parties.

Thus “neo-classical” transaction-cost theory claims that the larger the economic consequences of a potential default and the costs of enforcing the contract, the more likely it is that one of the parties integrates vertically i.e. there will no longer be an external supply relationship.

What about the empirical support for the role purportedly played by opportunism? The argument rests upon the combined effects of asset specificity and opportunism, two variables that are not easily made operational and measured. Therefore, researchers have largely resorted to indirect measures. Most of these studies dealt with upstream products.<sup>4</sup> Downstream examples are components for consumer products (Walker and Poppo, 1991) and distributors (Spekman and Strauss, 1986). In upstream operations physical and site asset specificity dominate compared to human and relational asset specificity. There are limited requirements for frequent redesigns and engineering i.e. the products are relatively well standardised. Also most downstream operations covered in these studies concerned relatively simple inputs.

There are also studies involving the vehicle industry. Montverdi and Teece (1982) studied the choice between market and hierarchy in the automobile industry. They found that the larger the application engineering efforts, the more likely that the component was manufactured in-house i.e. human asset specificity was related to vertical integration. Walker and Weber (1984) found a relationship between the competition in a car manufacturer’s supplier market (representing asset specificity as well as potential for economies of scale) and vertical integration.

Various measures of asset specificity were used in the above studies. There is some support for the assumption that asset specificity is related to vertical integration. Opportunism was not empirically tested at all.

There is one case, however, in which opportunistic behaviour was purportedly proven. “Neo-classical” transaction-cost theorists have used the Fisher Body/GM case as a standard case (cf. Klein, Crawford, and Alchian, 1978). It was argued that the owners of Fisher Body took advantage of the fact that the long-term contract with GM had become very unfavourable to GM. Fisher Body controlled the specific assets that were essential to GM and could virtually “hold up” their customer. Finally, GM had to acquire Fisher Body in order to avoid opportunistic actions. Recently, the case has been reconsidered and the support for “the hold-up theory” strongly questioned (e.g. Casadeus-Masanell and Spulber, 2000; Högberg, 2000)<sup>5</sup>.

## **TRUST**

If two parties to a supply-chain relationship both refrain from opportunistic behaviour and co-operate in a trustworthy manner they can improve the ability to take advantage of potentials for specialisation and economies of scale. Trust would then operate as a mechanism for managing the relationship. By trusting a partner’s good will and acting upon that trust, one might make oneself more vulnerable to opportunistic behaviour. Therefore, each one of the parties must believe that trustworthy behaviour will benefit it more than what it could achieve by acting opportunistically. It is not enough that an “objective” evaluation would conclude that the sum of benefits to the partners is larger under trust than under opportunism. Opportunistic behaviour is almost by definition a

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<sup>4</sup> See Joskow (1993) for a survey.

<sup>5</sup> Casadeus-Masanell and Spulper (2000) even showed that the relationship between Fisher Body and GM was characterised by trust rather than opportunism.

short-term strategy (who wants to continue a relationship with a cheating partner), while trust has a long-term relevance.

Trust plays an important role in (social) exchange theory (e.g. Homans, 1958; Blau, 1964; Levine and White, 1961). Applied to business firms, exchange theory adds a social dimension to the economic interpretation. Economic actions are conceived of as embedded in a social structure that will affect the economic behaviour (Granovetter, 1985). Early exchange theorists stressed the relationship between trust and equitable exchange conditions. Perceived equity would be positively related to a party's willingness to increase its dependence on another firm (Van der Ven and Walker, 1984). It would also decrease the inclination to exercise power in a relationship (Cook and Emerson, 1978). It is important to observe that equity does not necessarily imply a symmetrical relationship i.e. one in which the partners have equal power or share the benefits equally.

Mutual trust is built successively. It is the result of a gradual deepening of relationships (Blau, 1964; Guetzkow, 1966). Industrial firms test how well they fit together and the relationship is developed through mutual adaptations (Håkansson, 1982; Johanson and Mattsson, 1987). This is a process of selection and learning that reduces the risk of opportunistic behaviour and enhances the ability to take advantage of specialisation. Existing networks of relationships also serve as channels of information about potential partners, their viability, and trustworthiness (Gulati, 1995). It has been observed that firms tend to choose partners with whom they already have exchange relationships or have similar network positions (similar status) (Podolny, 1994). Existing contacts thus provide information as well as serve as means of uncertainty reduction. Alternatively expressed, tendencies for opportunistic behaviour do not easily pass unnoticed in an industrial network. Trust and reciprocity (equity) are means of social control that, from an efficiency point of view, make exchange arrangements viable alternatives to vertical integration (Larson, 1992; Lazerson, 1995; Uzzi, 1997).<sup>6</sup>

### **PRINCIPLES FOR ANALYSIS**

The analysis requires a relevant description of the relationship between the manufacturer of commercial vehicles and its suppliers. This means identifying conditions under which complexity, specific assets, and particularly specific knowledge appear. It is an environment that exhibits the properties of "a market failures framework" (Williamson, 1975) and, thus, one in which the arguments of trust and opportunity can be put at test.

The analysis is essentially economic i.e. trust and opportunism are analysed with respect to their economic motivations and consequences. There is both a general analysis, which is independent of particular cases, and examples drawn from a case that represents more than 30 years of co-operation. Such a long lasting relationship would not have survived without there being trust. Therefore, the examples will focus more on opportunism than on trust. It is opportunism that threatens the survival of the relationship, and opportunism can never be the *modus operandi* in an ongoing relationship. Rather it is interesting to analyse why occasions of opportunism, if they occur, do not lead to a break down of the relationship.

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<sup>6</sup> There is also empirical evidence that trust without demands for efficiency could become counterproductive and lead to a degenerated relationship (cf. Granovetter, 1984; Larson, 1992; Uzzi, 1997).

## TRENDS IN THE COMMERCIAL VEHICLE INDUSTRY

During the past decade shrinking profits have plagued the commercial vehicle industry. All manufacturers have launched programmes aimed at reducing costs. This has led to pressure on suppliers to reduce prices but also to more strategic changes in the structure of supply-chain relationships.

We have seen a trend towards long-term outsourcing of production to single-source suppliers. The vehicle manufacturers concentrate on their core technology, but core technology could be defined differently. For example, one of the Swedish manufacturers, Volvo, has a clear strategy to outsource, while the other one, Scania, produces more of the value chain itself.<sup>7</sup> We can also find vehicle manufacturers who still maintain their own production of parts and only outsource on a short-term basis during business peaks. Some manufacturers have two suppliers for strategically important inputs.

When the manufacturer outsources, it risks losing essential knowledge about that specific input. This becomes more critical the more closely related the input is to the core technology. There are signs in the industry that this has become a concern.

*Many vehicle manufacturers have outsourced their production of seats. They have given up their proprietary rights to seat designs, or, rather, when new designs are developed it is the seat manufacturer who does it. The production of seats has become concentrated on a few hands. This makes it difficult for small vehicle manufacturers to have special designs. As a result seats lose their role for differentiating the vehicle. A purchasing director complained that his company had lost its know-how in this field and had to accept the "standard" seat.*

Another important development in the vehicle industry concerns logistics. The vehicle manufacturers increasingly require so-called sequential deliveries. The supplier will deliver in a pre-determined sequence onto the assembly line. This requires JIT-deliveries and short lead times in order to cut down on inventories (or rather to eliminate inventories). The complexity increases with the number of models and variants of each model i.e. with growing importance of customer-order initiated manufacturing, the need for co-ordination between customer and supplier increases.

### Supplier Involvement

We will disregard the procurement of standardised components and generic inputs, because it can be done at arm's-length. In other supply relationships, the degree to which the supplier has proprietary rights and the extent to which the supplier is involved in development, design, and engineering will affect the interdependence and the need for co-ordination between the parties.

**Supplier has proprietary rights.** The supplier has its own products or technical solutions for parts that can be built into larger subsystems of the vehicle. These suppliers generally make adaptations of their products to the specific needs of their customers. This may require considerable discussions and joint activities concerning the specific properties of the products. Also R&D efforts can be involved. The vehicle

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<sup>7</sup> Monteverdi and Teece (1982) found a similar difference between GM and Ford.

manufacturer may want a special alloy or design. Asset specificity will increase as a result of such customer-specific solutions.

*A manufacturer wanted its new vehicle to be built on a light chassis. It discussed with several steel mills and finally selected one of them, which was willing to do the necessary R&D work and could offer an attractive price. The steel mill developed an alloy especially for this frame. It participated in a design project run by the vehicle manufacturer the aim of which was to calculate the weight and strength factors of the design. The steel mill did not sell the alloy to other vehicle manufacturers, nor did the customer have other supply sources.*

This is a case when a manufacturer customised a generic product. The project was carried out prior to the manufacture of the chassis. The need for co-ordination decreased, when production started.

*One of the large suppliers to the vehicle industry has a proprietary design for axles. The axle is part of the power train of the vehicle, which belongs to the core technology of the vehicle manufacturer. This supplier has tried to convince vehicle manufacturers to choose its design of axles instead of their own ones. It also offers development capacity.*

This case is different from the previous one in that the supplier makes inroad into the vehicle manufacturer's core technology. There is also more need for continuous co-ordination after the development phase. By having proprietary rights the supplier's strategic importance and power in the relationship increase. The vehicle manufacturer cannot switch to another supplier without solving the proprietary rights issue.

**No proprietary rights.** Parts and subassemblies are manufactured based on designs and drawings made by the vehicle manufacturer. The supplier does not own any rights to the product it manufactures. Drawings, type-bound tools, and fixtures are typically the property of the customer. The frame, which is the structural part of the chassis, is a typical example of this category.

The lowest degree of involvement would be that the supplier just receives design drawings from the customer, converts them into production drawings, and manufactures the parts. In this case the supplier is not involved in design and engineering work. This is the "traditional" contract manufacturer, which is merely a production unit with little overhead. Efforts to reduce costs are restricted to the supplier's own operations. The recent development in the commercial vehicle industry has confined the traditional contract manufacturer to the second tier. First tier suppliers are expected to increase their capacity to participate in design and engineering apart from developing other resources e.g. relating to logistics and quality.

*Beta started in the second half of the nineties to develop resources in order to become a strategic partner to Alpha. Beta had been appointed single source supplier already in the beginning of the nineties, but that had meant little in terms of participation in the development of the frames. Alpha still supplies the design drawings, but Beta is consulted and even participates in the detailed design work in order to take production considerations into account. Thereby cost reductions can be achieved*

*already at the design and engineering stage. Beta also became responsible for updating design drawings.*

*Beta has also become part of development teams. The focus extends beyond cost saving in Beta's production and includes efficiency improvements in the interface between the chassis and the body as well as cost savings in Alpha's own assembly operations. Successively Beta has moved closer to Alpha's core technology.*

Although a supplier like Beta has no proprietary rights its position is strong. The extension and deepening of the relationship with its customer has involved the development of relation-specific assets, particularly specific human assets. The parties have become increasingly dependent upon one another. It will be more difficult for the vehicle manufacturer to switch to other suppliers, which are at an initial disadvantage, because they lack experience and involvement in the particular process. Also the supplier has become more dependent because of specific investments in equipment but predominantly in people and systems.<sup>8</sup>

### **REGULATING THE RELATIONSHIP**

Differently from standardised components or commodities for which a new supplier can be chosen and a new contract can be signed every time a purchase is made, these are more complex situations. The parties have made investments and obligations the efficiency potential of which favour a long-term relationship. The question is then how such long-term relationships are regulated. If there is a highly stable and regulated market, the difficulty and hence the cost of writing a contract that could effectively regulate a substantial period of time might not be overwhelmingly high. However, the vehicle industry is one of structural change and substantial variation in demand. Therefore, the parties are facing uncertainty about future market conditions. They will have to rely on so called incomplete contracts. This means that all matters of relevance to the deliveries are not decided in the contract. One extreme would be to have no formal contract at all (except for a contract specifying the operative purchasing conditions<sup>9</sup>), but this is hardly the case for important supplies. The vehicle manufacturer will typically perform the operations in-house or make long-term contracts covering the life cycle of a model or specific parts. These contracts generally run from 3 to 7 years (there are examples of contracts that extend even further). It should be observed that the duration of a long-term contract need not be synonymous with the duration of a relationship. New agreements are commonly signed with existing suppliers.

The contract might in itself create chances for opportunism, if the conditions that existed when the contract was signed change during the course of the contracted period. This is one of the reasons for vertical integration discussed in "neoclassical" transaction-cost theory (Williamson, 1975; Klein, Crawford, and Alchian, 1978). Even though opportunism might not be involved, attempts to make the contract more comprehensive and detailed can be counter-productive.

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<sup>8</sup> The resources that the supplier to the vehicle industry develops can offer a competitive edge in order to attract other customers, because the vehicle industry is a forerunner in terms of quality, logistics etc.

<sup>9</sup> There are written contracts that specify the operative supply conditions. These are to a considerable extent standardised by each vehicle manufacturer in order to have a uniform procurement function (probably quite similar across vehicle manufacturers). These conditions are part of the contract package.

*Alpha required that Beta invested in a new factory adjacent to one of Alpha's most important assembly units abroad. The parties had so far had a rather simple contract and relied on a largely informal regulation of their relationship. Beta was not prepared to make such a large investment without having a contract that was much more comprehensive and detailed. Matters, which previously had been taken care of informally and on an ad hoc basis, now had to be negotiated and included in the contract. The parties tried to contemplate possible problem areas and outcomes. This caused long negotiations and frustration. Differences of opinion previously hardly bothering the relationship now surfaced. Quite soon, after having the contract in place, they realized that the contract itself caused problems, because circumstances changed and the detailed agreements did not fit the new situation. Instead of guiding the parties, the contract caused much friction between them. After slightly more than a year changes were made with the intention of avoiding too detailed specifications.*

The less that is regulated contractually, the more the parties will have to rely on informal means of co-ordination and problem solving. Mutual trust enhances co-operative and efficient working conditions. In an asymmetric relationship power may play an important role as well. The most powerful of the parties has most of the say when issues are up for decision and are not covered by the contract.

*Beta had gradually adapted so much to Alphas requirements and ways of operating that Beta's dependence had become very strong. Alpha had grown accustomed that Beta would always accommodate to Alpha's wishes and needs. There are several instances when Alpha has not heeded the provisions in the contract. "They put a lot of efforts into completing the contract. Then they put it in a drawer and continue business as usual", as one of the managers of Beta put it. The relationship had to a considerable extent become very similar to that of a vertically integrated firm.*

*There are also examples of rule breaking that enhance efficiency. The lead times from order to delivery are very short. The normal procedure for changes in the order is to have a written document accepted by the supplier. When changes are made late, there is sometimes no time for adhering to the prescribed procedure. Beta has usually accepted to make the changes without written order. This is done at an operational level in Alpha without top management's knowledge. Informal procedures are developed at an operating level in order to compensate for formal rules that reduce efficiency.*

### **Critical Issues in the Contract**

Price, competitiveness, and volumes are issues that cause most uncertainty and are given much attention in the contracts.

**Price.** When the vehicle manufacturer has different suppliers who compete for the contract, the prices are determined and specified in the contracts (price is of course a criterion on which suppliers are selected). When a new contract is signed with an existing supplier, prices are not always specified, but negotiated as part of an ongoing

process. In both cases it is quite common to have contractually binding price decreases or, at least, targets for such decreases. The parties may also agree to work jointly towards reducing costs. There are contracts of a cost-plus type i.e. the supplier receives a price that ensures it a certain margin.<sup>10</sup> Such an arrangement could be used when there are many changes of models and large volume fluctuations making it difficult to set prices beforehand.

**Competitiveness.** Contracts generally include clauses intended to safeguard that the supplier remains competitive. Therefore, such means as benchmarking and open-book arrangements are frequently used. This is particularly important, if the contract is of a cost-plus type. There is generally a clause that gives the buyer the right to terminate the contract, can it be proved that the supplier does not remain competitive.<sup>11</sup>

**Volume fluctuations.** The vehicle manufacturer cannot foresee the exact number of units of each product that it can sell during a year, but has to rely on forecasts (for better or worse). Therefore, as Coase (1937:391f) observed, the buyer will make an agreement with a supplier without specifying fixed amounts at fixed dates. Instead the supplier agrees to keep a certain production capacity and delivery times. It is at the buyer's discretion to place orders within the restrictions set by the agreed upon capacity and lead times. In order to facilitate the supplier's planning the buyer provides forecasts. There are long-term forecasts covering several years as well as annual forecasts, which are broken down into quarters and months. Fixed orders are placed no longer than a specified number of days before delivery. In the commercial vehicle industry the buyer does not guarantee a certain volume, but the supplier has to make own judgements of the forecasts it receives.<sup>12</sup> Volume fluctuations are, therefore, one of the most critical issues for the supplier, because the prices offered are based on certain volumes and how these volumes are supposedly spread over the year. It is not uncommon to have a clause that gives the supplier a right to renegotiate prices will the volumes fall substantially.

We contend that price, competitiveness, and volume fluctuation cannot be regulated effectively at the contract stage. Therefore, they will cause problems during the implementation of the contract. Then trust will be put to test. Below we will first discuss the reasons why price is so difficult an issue and thereafter strategies to achieve competitive prices.

## **THE RIGHT PRICE – THE UNIVERSAL DILEMMA**

Even when several suppliers have been invited to offer and there is a competitive situation, efficient price negotiations are not necessarily ascertained. That requires sufficient knowledge about costs among the potential suppliers. Costs must then be considered in a dynamic perspective: The price offered is not based on what it initially costs to manufacture the product, but a future cost that reflects economies of scale, learning-curve effects, and other cost-saving measures.<sup>13</sup> A new model may be subject to successive changes already during the bidding process. Furthermore, the business may even be unprofitable to the supplier during a ramp-up phase. Thus, even when

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<sup>10</sup> Such contracts were obviously common in earlier days but were deemed too dangerous – compare the Fisher-Body case (Klein, Crawford, and Alchian, 1978).

<sup>11</sup> The supplier will be given a time limit within which the supplier can regain competitiveness. It is also common to refer to arbitration, if the parties cannot agree whether the supplier is competitive or not.

<sup>12</sup> The situation is different in the passenger car industry, where such guarantees do exist. The reason is probably that the volume fluctuations are higher than for, at least, some types of commercial vehicles.

<sup>13</sup> Quite often the initial price is supplemented with a schedule for price reductions reflecting cost decreases thanks to accumulated volumes.

several suppliers compete for a contract, the price issue can be a major cause of uncertainty. The problem increases during the execution of the contract, because there is no competition when the prices for changes are to be negotiated. Since commercial vehicle manufacturers often work with single-source suppliers on a very long-term basis spanning over several model life cycles, prices are negotiated with only one supplier also when procurement is made for new models. Thus, there are in fact two issues: is the initial price efficient and does the supplier remain competitive throughout the contract period?

All this contributes to the vehicle manufacturer's difficulties of making realistic assessments of their suppliers' competitiveness. Benchmarking is not easy, when the present supplier has developed a considerable experience of the product. It is not really a question of whether somebody else could manufacture at a lower price instantly, but whether the present supplier operates at the efficient cost curve. Therefore, comparisons between suppliers are difficult. It is equally difficult to judge costs relative prices between different models and parts. It requires that the buyer have the relevant production knowledge, part of which the buyer lost when production was outsourced.

Lack of knowledge feeds uncertainty and suspicion: Is the supplier motivated to make all efforts to reduce costs, and, if so, does the supplier have the necessary competence to stay competitive? When the vehicle manufacturer procures standardised materials, OEM-components, or inputs based on its own designs and drawings, the price mechanism and the competition between suppliers make these problems less salient. But, when the supplier becomes more involved in design and engineering or has own proprietary control, the buyer's uncertainty about price and competitiveness will certainly grow.

### **Buyer Strategies**

The supplier mainly resorts to one or combinations of the following strategies in order to handle the price-competitiveness issue:

(1) *A general reduction of all prices regardless of individual circumstances.* This is a strategy commonly used when the vehicle manufacturer faces a business slump, and cost slashing is ordered throughout the company. A certain percentage decrease is demanded across all models and suppliers. There is hardly any evaluations of what would be the realistic reduction level i.e. how much could the suppliers reduce prices without endangering their own survival. Negotiations turn into power games in which attrition plays a dominant role.

*Alpha had decided to make considerable investments in new plants. Alpha invited Beta to set up a new factory abroad and offered a single-source agreement. But, Beta was required to make a general price reduction across to whole assortment. If Beta did not comply with the suggested package, Alpha would have to find someone else who would. Beta knew that switching to a new supplier would take a long time. However, Alpha was by far the Beta's most important customer. After lengthy negotiations about the level of price reductions, Beta agreed on successive price decreases, because it would not risk its present business. In addition, the extra volumes seemed to compensate for the loss of margin. Never during the negotiations did Alpha present any evaluations about what Beta should be able to achieve in terms of price cuts. The levels agreed upon*

were reached through “flexing muscles” rather than joint cost calculations.

(2) *Invite other suppliers to submit offers.* It is not uncommon that vehicle manufacturers benchmark their present suppliers by inviting offers for parts of the total package (e.g. part of a subassembly) from alternative suppliers. The buyer knows that there is always a possibility to get a low price for a rather simple part. This is then presented to the supplier as a suggestion to use the competing company as a second tier supplier and, as a result, be able to reduce the price for the total package. There are instances when this benefits both parties. However, the first-tier supplier must keep resources required for the complete package including engineering resources. These resources, which are fixed costs, are generally spread evenly across the total package. If the supplier abandons part of the production, fixed costs will increase for the remaining part and perhaps beyond what can be covered by the price received. This is not unknown to the vehicle manufacturer.

*Alpha informed Beta that they had achieved a much lower offer for a particular part than the price at which Beta delivered and had stated as its “rock bottom price”. Was Beta really truthful in its representation of its cost level, or did Beta not produce efficiently? The long-term agreement made it possible for Beta to check the realism of the prices offered by the third party (in this case Alpha suggested that Beta should outsource some of the production). Representatives of Alpha and Beta visited the alternative supplier. It turned out that the drawings, which Alpha had supplied, were incomplete. This led to a revision of the price upwards and thus made the alternative offer unattractive. However, Alpha’s initiative had caused Beta a lot of trouble and made it reveal more of its cost structure than it actually wanted in order to prove that the suggested alternative was not competitive. And, had Alpha provided incomplete drawings on purpose?*

(3) *Provide optimistic forecasts.* By giving the supplier forecasts that are too optimistic, the buyer may achieve a lower price. The supplier bases the prices on larger volumes and/or a faster reduction of costs thanks to fast learning effects.

*Beta made a review of old forecasts and related them to new investments required by the customer. A clear pattern emerged: When expansions were negotiated the long-term forecasts became less accurate (more optimistic). Beta could never prove that Alpha deliberately distorted information, but forecasts were not professional. After much discussion, the parties agreed to work jointly on the forecasts. Beta sent an executive who analysed the relevant data together with the head of the customer’s planning department. The result was substantial revisions of the forecast.*

*The very large suppliers have their own forecasting resources. Therefore, they become less dependent on the vehicle manufacturers for information relevant for capacity planning. In fact, they seem to be better on that job than their customers. The reason could be that they are suppliers to several vehicle manufacturers and can evaluate the whole market as well as the competitive positions of their customers more objectively.*

(4) *Turn a deaf ear to complaints.* Since changes require negotiation and action, the buyer can delay changes by avoiding to set up dates for meetings, or, when meetings are held, delaying decisions. Changes become effective after a protracted period. Price increases are delayed.

*Beta found that volumes did not grow as quickly as Alpha had stated. The price cuts made by Beta had caused severe inroads into its profitability. Beta required new price discussions in accordance with the provisions in the contract with Alpha. These provisions entitled Beta to immediate negotiations and price increases providing that Beta was still competitive and had taken all measures to reduce costs. Alpha delayed negotiations in a similar manner as Beta had done, when Alpha required price cuts. Negotiations draw out more than half a year. Beta gave notice of contract termination, which it could do provided negotiations did not lead anywhere. Alpha audited Beta's books and the parties had detailed analyses of Beta's cost estimates. Finally, Beta managed to achieve limited increases and changes in the schedule for future price cuts, but the increases did not become effective retroactively.*

(5) *Go from single to double-source supply.* There have been instances when vehicle manufacturers revert from single to double-source supply when a contract is up for renewal.

*On of the very large suppliers, a multibillion-dollar company complained that they had based their initial investment and prices on the assumption that there would still be a single supplier relationship, when the existing contract was up for renewal. It was prepared for competition from other manufacturers, but know that it had amassed enough know-how and a cost position, thanks to considerable accumulated volumes, that would enable it to fight off competitors. Then the customer informed that it had decided to have two suppliers, because the volumes would increase. However, the expected increase did not compensate for the loss of volume that was the result of dividing the deliveries between two manufacturers. Therefore, the fixed costs per unit rose and the pay-off time of the initial investment increased considerably.*

### **Supplier Strategies**

When the buyer increases the pressure in terms of price reductions, the supplier resorts to its tacit know-how in order to regain lost margins. This becomes possible when changes in existing models are made or when new models are introduced. Without external competition, the parties have to agree on the cost effects caused by the change. It is not only the question of calculating the change in the number of machine hours, but also changes in layouts, learning effects etc. Furthermore, there may be manufacturing of prototypes and fixtures, which are "one-time" assignments, and therefore prices are of more limited consequences for the buyer. It is not uncommon that purchasing managers view these opportunities for the supplier as breathing space in a process of constant pressures for cost-reduction. And, "one-time" assignments do not really affect the performance criteria for the purchasing manager, who typically has an assignment to reduce costs for specified parts or subassemblies by certain percentage points. To some extent one could see collusion between the purchasing manager and the supplier here.

*Beta managed to achieve differentiated price reductions and to allocate most of them to old models soon to be abandoned. This made it possible for the purchasing department to achieve its annual target for price reductions.*

When new models are introduced, the old price-reduction schemes come to an end. There is limited connexion between the old scheme and the new calculations and negotiations. This means that bulletins about price reductions are to some extent illusory. New prices are agreed upon based on calculations including assumptions about learning effects. If the supplier is well aware of its present and future costs, it can claw back on previous price decreases. However, the introduction of new models can also work in the opposite direction; the supplier faces more uncertainty concerning new models than with the old ones, of which the supplier has acquired considerable experience.

### **THE ORGANISATIONAL DIMENSION**

When vehicle manufacturers move towards outsourcing and their suppliers become increasingly involved in other functions than the mere production, there are organisational consequences not always foreseen.

*Beta strived to become a strategic partner of Alpha's. This required a substantial improvement of its development capacity e.g. design people and other types of engineers. Beta had not realised that it did not enjoy the goodwill and the trust of all departments and decision makers at Alpha. In its existing, rather limited role as a manufacturer against drawings supplied by Alpha, Beta had mainly had to deal with the purchasing department. Now it had to expand its contacts and "marketing" efforts within the Alpha organisation. Beta had to convince design and production people of the advantages that it could offer. It dawned upon Beta that not everybody was convinced of Beta's merits. Furthermore, some people saw Beta's effort as an intrusion into their domains. Interdepartmental conflict was also part of the picture. In fact, there were two camps, one that supported Beta and focused on the economic benefits, and another one that was uncertain about Alpha's future dependence upon Beta.*

*Beta managed to achieve an agreement about product development and became part of several development teams, but it turned out to be a time and resource consuming process really to become a trusted member of the teams.*

The vehicle manufacturer could not be looked upon as one single decision maker. There may be an overall strategy to outsource, but the implementation of that strategy may cause interpersonal and interdepartmental conflict. These companies are not entirely organised in order to manage complex supplier relationships. The purchasing department has overall responsibility for the relationship, but the potential for economic returns lies with other departments. While the purchasing department may be in favour of extended involvement, it still has its own targets to reach i.e. reduction in price for present supplies.

## DISCUSSION

This paper deals with the commercial vehicle industry. It is an industry in which long-term supplier relationship is the dominant mode of procurement. The parties rely on incomplete contracting, which means that some issues are left to be decided later, be it jointly or by the buyer. We have taken as an example a case in which a traditional contract manufacturer has developed its competence and become a strategic partner to a major manufacturer of commercial vehicles. There are economic advantages potentially available to both parties such as cost reductions and improved designs. These potentials extend across company boundaries thus requiring joint efforts. Such activities cannot be specified in any detail in a contract. Rather the outcome of present work leads to new projects and so forth. The parties would not establish such a far-reaching relationship without there being trust, developed over a long period of time. But, the deepening of the relationship also leads to more specific assets and to stronger interdependence between the parties making them more vulnerable to opportunistic actions.

And, opportunism does occur, but it is hardly of a hold-up nature. Rather, it concerns ways to gain or withhold information. There is not only asymmetric access to information, but information is also objectively limited and uncertain, especially concerning competitive costs and volume fluctuations. The buyer acts opportunistically in order to reduce uncertainty about the right price/cost. It is accepted that the supplier makes profits.<sup>14</sup> The buyer also wants to ensure that the supplier operates at the efficient cost curve also after having achieved the status of single-source supplier. But, the buyer has limited knowledge about the cost parameters. Therefore, the buyer tends to apply pressure towards price reductions until nothing more can be achieved. The supplier resorts to opportunistic actions when it considers that exchange is not sufficiently equitable and when it has been forced to reduce prices too far. It is not really the question of gaining excess profits, but to compensate for the lack of profits. Such opportunistic behaviour seems to be “part of the game” and does not, if kept within limits, pose a serious threat to a continued relationship.

There is always an asymmetric element in an incomplete contract: the buyer is given the right, within agreed upon limits, to decide when and how much the supplier shall deliver. This is the very basic nature of the incomplete contract. The buyer may use this prerogative beyond what would be considered equitable, especially in relation to a less powerful supplier. It was mentioned that the relationship might even begin to resemble an internal hierarchy in that the buyer disregarded the written contract and treated the supplier as an internal production unit. However, power does not necessarily work counter to trust. Non-coercive power could have a positive effect on trust (e.g. Duarte and Davies, 2000).

During the past decade, price has regained a strategic importance (if ever it was stripped of that status). This is easy to understand, when one contemplates that firms in the vehicle industry operate at quite low net margins. A price increase of a few percent could double the profit, while a similar decrease could wipe it out entirely. To the extent that opportunistic behaviour includes elements of a hold-up nature, the attempted price changes are rather subtle and do not reach such drastic levels as were discussed by Klein, Crawford, and Alchian (1978). The art of opportunism is really to make it not so obvious. The very moment that “blackmailing” can be detected the basis for trust is

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<sup>14</sup>Profitability is one of the variables in Alpha’s supplier evaluation program.

eroded. The vehicle manufacturers are prepared to suffer substantial costs to get rid of suppliers who attempt a hold up and they have made their position known.

Finally, the organisational dimension cannot be overlooked, when trust and opportunism are discussed. Companies are inhabited by people having diverse interests and functions. An extension of a supplier relationship could instigate inter-departmental conflict and efforts to make life difficult for the supplier.

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