THE LONG-TERM DEVELOPMENT OF A SUPPLIER-BUYER RELATIONSHIP
THE CASE OF OLOFSTRÖM AND VOLVO

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ABSTRACT

In recent years various co-operative strategies have attracted research interest from a number of scholars. The explicit assumptions of opportunistic behaviour in the tradition of transaction cost analysis has been questioned. Instead of avoiding interdependence to other companies empirical studies have demonstrated the existence of long lasting and trusting exchange relationships between organisations. However, historical accounts of the organisation of systems of suppliers or of the development of long-term business relationships with single suppliers are scarce. Most studies of purchasing behaviour are based on cross-sectional data and do not take into account that the companies studied may have been caught at different stages in a more or less continuous adjustment process. To remedy this shortcoming a long-term in-depth study of one relationship that lasted for 43 years will be presented here.

Two questions are raised: To what extent does interdependence with suppliers represent a threat - something companies seek to avoid - or an opportunity that they strive for as a way to increase their competitive position? To what extent may the design of a company's production and purchasing behaviour represent a deliberate strategy? Strategy implies choice and this may not always be the case which limits the freedom of action and puts constraints on the opportunities in the future.

These issues are illustrated in an analysis of a relationship lasting 43 years between Volvo and one of its suppliers. Depending on the point in time at which we choose to describe it, Volvo's purchasing strategy can be classified, in the terminology used in Gadde & Håkansson (1993), as either "new" or "traditional". This demonstrates the importance of studies following the long-term evolution of a company as a way to increase our understanding of the purchasing and marketing behaviour of industrial firms.

1. SETTING THE PROBLEM

1.1. The Research Question

Research has demonstrated the existence and importance of lasting business relationships between suppliers and customers in industrial markets (cf. Webster, 1977; Ford, 1982). Beginning in 1926, Olofström supplied pressed parts and later on assembled car bodies to the Swedish automobile producer Volvo. The Volvo company was founded that year, and it must have been regarded as a very risky venture. The supplies required by Volvo were complex and subject to change as a result of alterations in the design of the cars and rapid technical developments. It implied large investments by Olofström and very limited alternative use, as no other large automotive industry existed in the country. If for the first 10 years Volvo failed to live up to planned volumes, the opposite was true for most of the time after 1947. Thus we are talking about a complex relationship in an uncertain environment.

When Olofström was finally acquired by Volvo in 1969 it was the last major supplier to be incorporated, and by then it accounted for about one-third of the materials in the finished cars. Since the early 1950s, 80 per cent of Olofström's turnover had been directed at Volvo. By way
of continuous adaptations and investments specific to the relationship, the production systems of
the companies had become closely interrelated and a strong mutual interdependence had
developed. The question then arises as to how it was possible to manage an exchange
relationship of this kind between two independent companies for such long time and in an
effective way?

1.2. Interdependence - Threat or Opportunity?

A central theoretical issue concerns the way in which internal and external resources should be
balanced, which boils down to the question of the delimitation of the firm, make-or-buy
decisions and the design of a purchasing strategy (cf. Williamson & Ouchi, 1981). As no firm is
self-sufficient resources inside a company have to be combined with external resources
controlled by other firms. What factors explain why firms prefer to perform some activities
inside the company controlled by hierarchical arrangements, and why some are bought from
other companies and the transaction thus governed by the mechanisms of the market?

Most studies of purchasing strategies happen to be related to the automotive industry. In order to
test the market failure approach e.g. Monteverde & Teece (1982) and Walker & Weber (1984)
have made comparative studies of make-or-buy decisions and vertical integration, using cross-
sectional data from the automotive industry in the US. With this method, the companies are
studied at one point in time and dynamic aspects are excluded. This approach is highly
equilibrium-oriented and does not take into account that the companies studied may have been
cought at different stages in a more or less continuous adjustment process (Aldrich, 1986). It has
also been criticised for neglecting the impact of different traditions of vertical integration in the
companies studied (Pfeffer, 1982). All this highlights the need for studies of corporate
purchasing strategies where the evolution of the purchasing behaviour is taken into
consideration.

Models of strategy in general, and much writing on the design of production systems - be it
concerned with make-or-buy decisions or purchasing strategies - often implicitly assume that
actions are the result of deliberate choice. However, an integrated production design involves
financial resources and know-how, as well as the option of considering alternative purchasing
strategies. If a company lacks funding it is obliged to turn to out-sourcing, regardless of whether
this may be problematic or may impose later restrictions on freedom of action. The alternative is
to refrain from the venture altogether. Once a firm starts to use an outside supplier its freedom of
action also is hampered to some degree. Buyers and suppliers in an industrial market often make
mutual adjustments in a way that is beneficial to the specific exchange. As these investments
have limited alternative use, a state of interdependence between the companies will gradually
emerge. Once this process has started, alternative ways of acquiring the resources become less
attractive. A situation of "small-numbers" and reciprocal dependency arises. An important aspect
of the way companies handle an exchange relationship thus concerns the way they can benefit
from the advantages of these mutual adaptations, without losing control and without developing
too great an interdependence with any single supplier or buyer.

This problem has been addressed in different ways in the available theories. Transaction cost
economics (TCE) and the resource dependence/interorganisational perspective (IO), both of
which in their different ways argue that organisational strategy is aimed at reducing uncertainty
and securing benefits of relative autonomy for the firm in question, focus on how inter-
derpendence can be avoided. Thus they look on interdependence as a threat. Recently an
opposing view has attracted interest concentrating instead on the opportunities offered by co-
operation and reciprocal dependencies (cf. Axelrod, 1984; Ring & Van De Ven, 1992). This
brings attention to a third form of governance structure besides the hierarchy - market
dichotomy; cooperative relationships between organizations.

A point of departure in TCE analysis is that the transactions at the outset are carried out in a
market but that some of them due to "market failure" as a consequence of the small number
problem will be internalised. According to Williamson (1975/1979) a recurring exchange
between two companies that is characterised by the occurrence of large transaction specific
investments will for efficiency reasons develop towards vertical integration. "Vertical
integration economises on transactions by harmonising interests and permitting a wider variety of sensitive incentive and control processes to be activated" (Williamson 1975, p.104).

Central to the resource dependence perspective is that organizations attempt to manage their external dependencies in order to, if possible, acquire autonomy and freedom from external constraints (cf. Pfeffer & Salancik, 1978; Pfeffer, 1982). In symbiotic or buyer-seller relationships interorganizational linkage activities will be undertaken to achieve this end. This practice may e.g. include contracting, coopting, coalescing or merger as a way to enlarge the task environment in defense of domain (Thompson, 1967). The management of interorganizational relations is concerned with issues of politics and argues from the perspective of power maintenance and power acquisition. Besides the number of potential transaction partners, the small number issue which is central in TCE analysis, the resource dependence perspective emphasises the importance of the resource - e.g. the proportion of purchases or sales - as a predictor of integration.

If TCE analysis reasons from an efficiency point of view this is not the case in the IO perspective. According to Pfeffer (1982); "The resource dependence perspective, on the other hand, argues that the principal concern motivating integration is the attempt to reduce uncertainty and that this uncertainty reduction will be pursued even at the expense of profits, albeit subject at some level to a profit constraint when mergers among business firms are considered" (ibid., p. 206).

In the TCE analysis attention for a long time largely was focused on the polar forms - markets and hierarchies - and it neglected intermediate or hybrid forms although they may have been the most interesting. Although Williamson (1991) later puts attention on mixed-mode governance structures the main emphasis seems to have remained on the market and hierarchies dichotomy. This bias as well as its strong emphasis of opportunistic behaviour and ignorance of the implications of trusting behaviour on governance mechanisms made Ring & Van De Ven (1992) conclude that TCE analysis "suffers from not adequately exploring other available governance structures, repeated transactions, the dynamic evolution of governance and transactions, and the key roles of trust and equity in any interorganizational relationship" (ibid. p. 484).

Gadde & Häkansson (1993) maintain that accepted ideas of what characterises an efficient purchasing strategy have recently been revised. Traditionally it has been considered good practice to focus on price, and to play different suppliers off against one another (cf. Williamson, 1975). This approach is based on the assumption that, to be competitive, the suppliers would have an incentive to reduce their costs, and that over-dependence on a single supplier could be avoided in this way. In sharp contrast to this picture Gadde & Häkansson (ibid.) claim that greater dependence on suppliers is an important ingredient in a modern purchasing strategy. Central to this empirically based tradition is the notion that fairly stable relationships gradually develop between interacting firms, and that these promote the technical, commercial and social exchanges that occur. One point of departure here is the assumption of heterogeneity (Hägg & Johanson eds., 1982). The efficient use of out-sourcing implies that the chosen suppliers possess resources which are complementary to the resources of the buyer. However, the resources needed by a company may not be structured in an optimal way from the start, and a buyer may increase its overall competitiveness by actively influencing and developing the suppliers of the required goods. Thus, how external resources are used may be more important than which supplier is chosen at the beginning. It will be easier to systematise and develop an exchange, if a buyer and supplier can establish a long-lasting and deeper relationship, characterised by an atmosphere of closeness, co-operation and mutual trust and expectations. Thus, according to this way of thinking, interdependence is a prerequisite for the effective use of external resources.

In many ways the development observed in the Volvo-Olofström case is contrary to that predicted by received theory. According to TCE analysis, the negotiation and supervision of a contract would have been difficult in this case, and associated with considerable costs. As the automobile industry is subject to fierce competition, the question of "efficient boundaries" (Ouchi, 1980) is important. Following interorganizational theory and the resource-dependence approach it would have been expected that Volvo and Olofström should have avoided to build up a reciprocal interdependence of this magnitude. Even if Volvo at the time when this case starts could not chose among a number of alternative suppliers it still is not in accordance with
theory that the interdependence over the years gradually was increased as both companies were prepared to extend the scope of the services exchanged. If Volvo had been very concerned about getting into a situation of too much interdependence, there seems to have been instances when alternative suppliers could have been used. In the same vein Olofström could have refrained to take on additional products not specified in the original agreement.

Given the TCE and IO traditions our present case represents something of an anomaly. What are the key factors which led Volvo to maintain and develop a co-operative strategy with its supplier, when both transaction-costs and resource-dependency perspectives would predict otherwise? It would have been expected that Volvo “should” either integrate vertically backwards or find alternative suppliers to Olofström, in order to avoid a situation of small numbers and greater dependency to develop. Yet, this did not happen for over forty years, and the business was still successful.

The way Volvo organized a network of suppliers in its early years is quite in line with what Gadde & Håkansson (1993) would describe as a new purchasing strategy. However, after some time considerable changes were effected by Volvo in relation to its major suppliers besides Olofström, and what Gadde & Håkansson (ibid.) would classify as a more traditional type of purchasing behaviour was adopted in 1957. Why did Volvo initially organize its sourcing in a "new" way, and then gradually abandon a co-operative strategy for an hierarchical arrangement? How can it be explained that in 1957, at a point of time when Volvo's original way of organizing a production system eventually was taken up by Toyota\textsuperscript{1} and later became the vogue, Volvo officially declared that maintaining competition was a primary condition for an effective purchasing strategy? Thus we have here a situation in which a company develops in a way that is rather contrary to both the "old" and "new" received theory. How did this come about?

1.3. Source Material and the Design of the Paper

The paper is principally based on information collected in published documents e.g. company and employee news journals and annual reports. This is supplemented with some more or less comprehensive company descriptions and interviews and correspondence with one of the leading actors. The available sources provide fairly good coverage of the technical content of the exchange processes and the adaptations in machinery and facilities. However, data about the organization of day-to-day business and the channels of information between the companies concerned is sparse.

The presentation of the case will be divided into four sections, covering three periods and an account of the ultimate take-over by Volvo. The analysis that then follows will focus on factors explaining the dynamics in the network of production, the way the interdependence evolved, the delimitation of the companies involved and factors leading to the final incorporation of Olofström into Volvo.

2. THE ESTABLISHMENT OF THE RELATIONSHIP, 1926-1939

2.1. Volvo, 1926\textsuperscript{2}

The process leading to the foundation of Volvo started in the autumn of 1924 when Assar Gabrielsson asked Gustaf Larson to design a car adapted to Swedish conditions. In June 1925 the design of the car was complete. However, no one was prepared to invest in the project on the evidence of the blueprints alone. Gabrielsson then decided to produce 10 test cars, using his own and borrowed capital. Once he had produced a prototype of “the Swedish car”, he was able to "persuade" SKF to take over the project. Until then Gabrielsson had been sales manager of SKF but he had now left this position and started to work full-time on the automobile project. Volvo thus started as a wholly-owned subsidiary of SKF, and remained so up to 1935. The support of SKF was certainly very important in helping to make it possible to realise the project. Besides providing the required capital for the new venture it gave legitimacy. To the suppliers, it was a

\textsuperscript{1}For a description of the development of Toyota see Wada (1991).

\textsuperscript{2}The description of Volvo is based on Lind (1984), Kinch (1987), company papers and annual reports of AB Volvo.
guarantee in itself that the famous SKF company had a stake in this risky venture. Earlier efforts by Thulinverken to establish car production on a larger scale had failed, and Scania Vabis had discontinued its modest production of cars in 1924. Further, Volvo could benefit from SKF's technical excellence, and could use its laboratories and its knowledge and experience of various suppliers.

The process of building up industrial production started in the second half of 1926 in the premises of a closed-down ball bearing company in Gothenburg. According to the original plans 1 000 cars were to be produced in the first year, 4 000 in the second and 8 000 in the third. At that time this was considered a large project in Sweden, and great expectations surrounded it. By then many companies in the Swedish engineering industry were facing problems and suffering from excess capacity as a result of over investments during the Great War. Apart from the final assembly of the car, Volvo only did the upholstery and the assembly of the bodies in its factory in Gothenburg during the start-up period. Special equipment for cars such as carburettors and electrical components were bought abroad. However, most of the components were produced to Volvo's specifications by five main Swedish subcontractors, of which Olofström was one.

2.2. Olofström, 1926

Since 1884 Svenska Stälpressnings Aktiebolaget, Olofström, founded in 1735, had been a wholly-owned subsidiary of AB Separator (later Alfa-Laval), supplying parts for separators and milking machines to other firms in the group. It also sold enamelled pots and pans, and containers for milk. When the demand for pressed products declined as a result of the recession in the early 1920s, AB Separator tried to sell Olofström but could not find a buyer.

At the time when Olofström embarked on the production of pressed parts for Volvo, it was also considering other projects. One alternative was to automate the enamelling operation but this project was never realised and the plant was closed down in 1930. Another production line introduced in 1926 consisted of pots and pans of pressed stainless steel; this was later extended to kitchen sinks in the same material. These new products were a success and accounted for the greater part of turnover and profit up to 1950. In 1926 Olofström had a turnover of SEK 2.7 million; it showed a small profit and had 400 employees.

2.3. The First Order

The bodies for the test cars had been hand-made by a coach work manufacturer in Stockholm, but once production started on a larger scale this method was not practicable. There is no information available as to whether any alternative supplier for pressed parts was considered. There existed other companies in the same industry as Olofström, but it has not been possible to find out if they had a stamping machine of the required size or not. However, Olofström had been a supplier to SKF, and Gabrielsson knew they had a large stamping machine that could perhaps be used for the present purpose. And so he approached the company in the summer of 1926. At the time Olofström's chief engineer, Karl Granfors, was in the US to study an automated enamelling process, and he was instructed to re-arrange his visit and to look at car body manufacturers as well. When he returned to Sweden he brought back a list of the equipment needed and tenders for the most important machines (Granfors, 1984).

In the autumn of 1926, Karl Granfors and Gösta Runnquist, the managing director of the Olofström company, attended a meeting in Gothenburg with the management of Volvo in the presence of the managing director of SKF to discuss the possibility of Olofström supplying Volvo with parts for bodies. It was then arranged with Olofström for the supply of material for the first years production of 1 000 cars. The agreement was between Volvo and Olofström but the presence of the managing director of SKF is an indication that the backup of this company mattered. This meeting was followed by two more where the conditions were discussed. One qualification that had to be satisfied, if Olofström was to become Volvo's supplier, was that it could convert an existing single-action stamping machine into a double-action version. The total

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2 The description of Olofström is based on Fritz (1983), Granfors (1984), company papers and annual reports of Svenska Stälpressnings AB Olofström.

investment necessary to start-up the Volvo production in Olofström had been estimated at about SEK 100 000 (Ellegård, 1983a, p. 36).

According to Granfors no detailed and comprehensive written contract regulated the exchange between the parties for the first 13 years. In the interview he stressed that the arrangement was largely based on the mutual confidence between Gabrielsson and Granfors. This had sprung from a particular episode during their second negotiation in Gothenburg, when Gabrielsson had tried to read Granfors calculations. Instead of concealing the figures, he gave Gabrielsson the calculations to look at, and this gesture of confidence was the beginning of a lifelong, trustful relationship. (Granfors, 1984) The original agreement stated that Olofström acquired an exclusive right to supply pressed parts for bodies, chassis and engine components on three conditions (Fritz, 1983, p. 190): a) that the quality should be on a par with the American standard, b) that the deliveries should be on time, c) that the prices should be lower than those of any potential competitor.

This last condition implied that it was not an exclusive agreement. Instead Olofström had the right of first refusal, but ultimately came to treat it as an exclusive right (Granfors, 1984). The prices were set on a cost-plus basis.

2.4. The Content of the Exchange

The content of the exchange between the companies was determined by the activities that Volvo located at Olofström, and its volume by how many cars Volvo managed to sell. The first model was a failure and a great many of the 500 open cars had to be scrapped and in order to sell the 500 closed body cars the price had to be reduced. This involved Volvo in considerable financial difficulties, and SKF had to cover the losses. In 1928, as a complement to its automobile operation Volvo started to produce trucks, and later buses, and until 1957 this line represented the greater part of its business. Up to 1936 Volvo experimented with a number of car models, and its annual production was in the range of 600-900 units. Many cars were sold as taxis. Parallel with this, new and larger models of trucks and buses were introduced.

Technical developments in car body manufacture were rapid during this period. The bodies of the first cars had wooden frames which were covered with metal on the open model and with pegamoid (artificial leather) on the closed model. The bonnet, wings and pressed metal plates for the open car were supplied by Olofström, and the assembly was carried out by Volvo in Gothenburg.

The Volvo car was obsolete before it was even introduced, as the American cars with which it was competing had already gone over to closed metal bodies. Thus it was imperative to introduce a new model as quickly as possible, and the production of the first closed metal-body car, the P 650, started in 1929. The body was developed by Volvo in co-operation with Olofström. It still had a wooden frame, and was only covered with metal sheets half way up; its roof was covered with pegamoid. This model, in several variations, remained in production until 1937, during which time the amount of metal in the bodies gradually increased. In 1936 the first completely closed metal body arrived with the introduction of the PV 51. This model met with a favourable reception on the market, and for the first time the demand for Volvo cars exceeded the available production capacity.

An important change in the relationship occurred in 1930, when the assembly of the bodies was transferred to Olofström. One reason given for this move from Gothenburg to Olofström was that the lower wage rates in Olofström more than covered the higher cost of transporting an assembled body. This move can also be explained by the fact that Volvo needed more space for its expanding business, and it gave priority to the more profitable production of trucks. This decision was preceded by a tug-of-war between Olofström and AB Atvidabergs Industrier, who both wanted this business (Granfors,1984). Atvidaberg had supplied Volvo with wooden parts for the body frames, and it continued to supply Olofström for some years. However, its role as a supplier declined as wood was gradually replaced by steel in the cars. On the first models the chassis frame had been supplied by AB Bofors, but in 1935 this was taken over by Olofström. Bofors supplied Olofström with the longest girders, as Olofström did not have the necessary machinery itself (Söderström 1984).
By the end of 1939 Volvo's sales had increased to almost 3 000 cars and 4 500 trucks and buses. Besides these increasing volumes, Olofström had extended its share of the material in the cars, and now supplied Volvo with unpainted, metal, closed bodies mounted on frames. It also delivered mufflers, fuel tanks, radiators and truck rear-axle housings. In 1939 two-thirds of a work-force of 1 200 were engaged in the production of bodies and other parts for Volvo (Fritz, 1983). In 1926 the work-force had been 400, which suggests that the whole increase was due to Olofström's operations for Volvo. Of a turnover of SEK 13.4 million, stainless steel products accounted for 40 per cent, automotive parts for 37 per cent, war equipment for 3 per cent, other items for 16 per cent and material for separators for only 4 per cent. Thus the products which had been introduced in 1926 now completely dominated Olofström's operations. Stainless steel was more expensive than the material used in the Volvo production, which explains its larger share of the turnover. The venture into more car production was interrupted by the war, and Olofström began instead to supply certain products which Volvo had previously imported.

2.5. The Governance of the Exchange

The first more inclusive written contract was signed early in 1938 and came into effect at the beginning of 1939. The content of the agreement can be summarised as follows (Fritz, 1883, p. 190).

- Olofström was given an exclusive dealing clause whereby Volvo agreed to buy all its bodies and pressed parts from Olofström.
- Olofström had to supply Volvo with all that it needed of these products, with the reservation that Olofström could not be compelled to increase its deliveries by more than 20 per cent each year (Ellegård 1983 a, n. 42, p. 245).
- the necessary investments would be financed by Olofström but paid off by Volvo according to plan.
- the price would be fixed to cover Olofström's principal costs including an agreed profit.
- if the contract was cancelled, Volvo was obliged to pay off "the Volvo investments" made at Olofström. The buildings would go to Olofström as would machines and other investments in the event that the final pay-off exceeded half the initial outlay.
- the contract provided for two years notice, which could be given on 31 December 1946, at the earliest.
- Volvo would get a certain percentage of the revenue on parts sold to other car manufacturers.

According to Granfors (1984) the contract did not regulate everything in detail, and its practical application was based on a relationship of mutual trust. The complete confidence between Gabrielsson and Granfors is testified in many of the accounts (cf. Söderström 1984). In order to avoid conflict about prices Volvo was to have access to Olofström's accounts through the agency of independent auditors. This agreement by and large represented a codification of what had previously applied. However, on this occasion Volvo also did consider other alternatives, such as the acquisition of Olofström or the start-up of the production of bodies in Gothenburg. ¹

Olofström had no experience of the car body production and was assisted in many ways by Volvo to acquire know-how and machinery. When the assembly of car bodies was transferred to Olofström in 1930, it was located in the premises of the enamelling operation which had been closed down the same year. In 1935, when more space was needed for the manufacture of stainless steel products it was decided to build a new factory for car body assembly at an estimated cost of SEK 300 000 (Fritz, 1983, n. 20, p. 191).

There is no indication in the source material that Volvo took any active part in preparing Olofström for fulfilling the first orders. However, there are many other instances of Volvo intervening in the operations at Olofström. At the end of 1932 Gustaf Larson, head of production at Volvo, corresponded with Ivan Örnberg, at that time working in the American automobile industry and in 1933 to become the head of car production at Volvo, about the purchase of a second-hand stamping machine from the US, to be located at Olofström. This idea was abandoned and in 1933 a German-made machine was purchased by Olofström instead at a cost

¹Olsson (1993), quoting from the minutes of the AB Volvo board meeting on 16 September 1938 and 3 March 1939.
of SEK 200 000 (Lind, 1977). This was the first investment in a new stamping machine at Olofström intended specifically for the "Volvo production". An agreement was reached whereby Volvo should contribute to the amortisation of this machine based on the volume produced for Volvo (Fritz, 1983).

In 1933 two other Swedish-Americans were recruited by Volvo in the US. and placed at Volvo and Olofström respectively. Edward Lindberg, with nine years experience from Studebaker, was employed as a car body designer at Volvo (Lind, 1977). Bernard Johansson, with 19 years in the American automobile industry behind him, was appointed as head of the tool department at Olofström (Separatorbladet, 1960:4, p. 27; Söderström 1984).

The expansion of the car sales in 1937 made heavier demands on the production capacity at Olofström. Volvo sent for ten experts from the American coach work manufacturers, The Budd CO, who between 1937 and 1939 when the war broke out drew up plans according to American standards. New plants were erected and a large new stamping machine installed (Luftrenaren, 1944:3, p. 15). To give some idea of the size of the commitments made by Olofström for its "Volvo production", it can be mentioned that the investments in new premises and machinery equalled or exceeded Volvo's investments in its engine factory.

3. THE PERIOD OF RAPID GROWTH, 1946-1960

3.1. Volvo's Breakthrough with the Cars

Car sales increased from 700 in 1946 to 80 000 in 1960, while during the same period the truck sales doubled from almost 6 000 to 12 000. The real breakthrough for Volvo as a car manufacturer came with the introduction of the PV 444. If Volvo had overestimated the possibilities of selling cars at first, the opposite was true in the post-war period. The PV 444 had been produced in 196 000 units by the time a major change in the model was effected in 1958, and the PV 544 was introduced. A station-wagon, based on the PV 444 car came on the market in 1953 and a new car, the Volvo Amazon, was presented in 1956. They were all successful. At the end of the period Volvo started production of a sports car based on components from the Amazon.

In 1956 Volvo experienced a breakthrough on the American market and the following year 25 per cent of the cars were sold there (Kinch, 1992). Under such rapid expansion the limits for any further increase in the production at the old industrial plant in Gothenburg would soon be reached. Recognition of this led to plans for a new factory, and a building site for the purpose was acquired in Torslanda outside Gothenburg. In 1956 Assar Gabrielsson was succeeded by Gunnar Engellau as managing director.

3.2. The Content of the Exchange

The exchange between the two parties did not alter in any fundamental way as regards its the content. Olofström continued to supply unpainted assembled bodies and pressed parts for cars, trucks and buses. In 1952 the task of pressing frames for truck chassis was transferred from a British company to Olofström, and a large stamping machine was purchased for this purpose. Production of truck driver's cabins on Volvo's account also started in 1956. Previously, on its own initiative and in collaboration with AB Åtvidabergs Industrier, Olofström had manufactured driver's cabins which fitted the truck chassis made by Volvo.

Volvo's rapid growth and the introduction of new models imposed heavy demands on the tool shop at Olofström, and on the organization as a whole. The plant for the assembly of bodies and the stamping capacity were both being more or less continuously expanded. The start-up period for the production of the models introduced immediately after the war had been less dramatic, since Olofström had time to build up the necessary organization gradually. The problems became steadily greater from 1956 onwards. Together with a constantly increasing volume of bodies for the PV 444, Olofström also had to start-up the production of bodies for the new Amazon car and driver's cabins for the new trucks. This proved to be too much. At that time the capacity of the tool shop of Olofström could not match the increased demand; thus the
production of these models was seriously delayed and there were also problems regarding quality.

According to chief engineer Ingvar Söderström (1984) new technical body design and assembly principles, together with a first time adaptation of plastic moulds for die shape and fixture dimensioning, were a considerable obstruction to a smooth and trouble free start of production. To this he added that it took some time for Olofström to get aquatinted with the new management thinking at Volvo. Gabrielsson's recommendations for Olofström to tool up gradually for the Amazon, like there was done for the PV 444, was not considered adequate by the new Volvo administration in charge 1956.

In 1958, in connection with the introduction of the PV 544, delays in the production programme again occurred. The production of the bodies for the new sports car, and its assembly, were located in the UK. Volvo had no capacity for the assembly work in Gothenburg and Olofström, referring to the condition in the contract with Volvo whereby it could not be compelled to increase production more than 20 per cent per year, refused to extend its commitment and produce the bodies for the sports car as it already had problems to match the increased demands caused by the successful introduction of the Volvo cars in the US (Granfors, 1984).

Between 1957 and 1959 Volvo's car sales rose by an average of more than 30 per cent annually, and Olofström had real difficulty in keeping up with this rapid expansion. As a result of the expansion in the sales of Volvo cars, Olofström's operations became increasingly concentrated to supplies for Volvo. As early as 1950 these amounted to more than 50 per cent of turnover, and in 1960 exceeded 80 per cent. This level was maintained until 1969. (Fritz, 1983)

3.3. Adaptations

New production methods were introduced from the US and this was supported by the licence contract between Volvo and the Budd Co. In 1945 and 1947 people from Olofström visited the US and in the years 1946 to 1949 Edward Coyle from Budd's assisted in the start-up of the production of bodies for the PV 444 (Söderström, 1984).

Earlier car models had been produced in short series using largely manual production methods. The volumes achieved in the 1950s called for, and made possible, the use of a new technique. This involved increased mechanisation and a change-over to floating production. These various innovations combined to reduce the need for labour. The number of employees in Olofström amounted to 1 369 in 1947, and had increased to 5 030 in 1960. Shortage of labour was a serious problem which limited the rate at which production could be increased. The manufacturing of components started at plants located in places close to Olofström with a surplus of labour. In order to increase the space for Volvo production at Olofström, the stamping machines were ultimately transferred to these new factories, which thus became largely self-contained. By 1958, about 900 out of a total labour force of 4 423 were working at the new plants. This meant that about 3 500 were working at Olofström, which represented 64 per cent of the total population of 5 485 in that town. The corresponding figure in 1950 had been about 41 per cent. Continuing growth on this scale at Volvo would mean either substantial immigration to Olofström, or the further transfer of production to places with a better supply of manpower.

Due to delays in deliveries, Volvo made demands regarding the way in which the operations at Olofström was organised again in 1957. An agreement was reached whereby two consultants from the Budd Co., experts on tools and the assembly of bodies, should be stationed at Olofström for a year. Further, Volvo established a section in Olofström to supervise deliveries to Gothenburg and to ensure that they were of acceptable quality. This section was not closed down until 1962.

3.4. The Governance of the Exchange
The contract between Volvo and Olofström was renewed in 1944, 1950 and 1956. The 1950 contract covered the period up to 1960, which meant that in 1956 it was being extended well ahead of time. Its effective period was then extended in 1960 for another five years, to expire on 31 December 1965.

Since 1949 AB Volvo and AB Separator had one common member of their two boards - Björn Prytz former managing director of SKF. In 1955 Karl Granfors, now managing director of Olofström, entered the boards of Volvo and Separator. Between 1958 and 1960 the technical director of Volvo, Svante Simonsson, was a member of the board of Olofström. Altogether this increased the interface between the companies in a period when major changes in the buyer and seller relation were in progress.

In the summer of 1958 negotiations started between the companies. Volvo threatened on the one hand not to prolong the contract after 1965, and on the other to engage an independent American car body manufacturer. Later in the same year a bid of SEK 48.7 million was submitted for the shares in Olofström. This was rejected by AB Separator who demanded SEK 101.5 million. As the bids were so far apart no agreement could be reached (Fritz, 1983, p. 319).

The managing director of Volvo, Gunnar Engellau, stated in the joint industrial council when the bid to buy Olofström had been rejected that he did not know "what form the future co-operation would take, but the question is naturally subject to thorough examination; the result will be of great importance to the design of the new car factory" (Minutes of the joint industrial council, AB Volvo, 4 March 1959). As long as deliveries continued according to the contract, the demands on Olofström's production capacity continued to be heavy. Nonetheless, the uncertainty about what would happen after the contract expired in 1965 was great, and this in turn led Olofström's management to recommend the municipal authorities to observe certain precautions regarding decisions on any major long-term investments. A new contract valid until 31 December 1970 was approved at the end of 1960.

4. RESTRUCTURING THE RELATIONSHIP, 1961-1968

4.1. The Content of the Exchange

Volvo's rapid growth continued, which meant growing pressure on Olofström to expand its operations. By 1968 car sales had more than doubled, reaching a level of 170 000. The same year Volvo sold about 13 000 trucks and buses, which was the same figure as in 1961. This further emphasised Volvo's position as a producer of cars. The success of the cars in the US definitely meant that Volvo was competitive as car manufacturer and further rapid expansion was expected. In this period the relationships to some suppliers were being renegotiated by Volvo, and the company was also expanding into new areas of production. In 1964 Volvo acquired a company which produced driver's cabins for trucks. A factory for car fittings and accessories started in 1965 and a production unit for forgings in 1967. Big investments were also made in the engine and gearbox factories already acquired by Volvo.

A new contract effective from 1 January 1961 was approved at the end of 1960. The content of this is not described in any of the available sources, except that it was valid until 31 December 1970, that it amounted to a value of SEK 2-2.5 thousand million, and that the notice period was 3 years. Comments made by Engellau in 1967 indicates that there is reason to believe that the basic conditions, e.g. the cost-plus arrangement closely resembled that of the earlier contract.¹ (Fritz, 1983, p. 319.). The annual increase in car production was on the same level as in the late 1950s, but the available source material makes no mention of any similar difficulties for Olofström. This may be because the relative increases in the volumes were less, and the growing scale of production promoted competence and made possible the introduction of new techniques. The main reason for the difference, however, is that the technical content of the exchange had now altered. The year 1961 represented a turning-point in the relationship between Volvo and Olofström. Since 1930 Olofström had been the sole supplier of car bodies to Volvo. But in the

¹This is also mentioned in the letter from Karl Granfors to Nils Kinch, dated 5 December 1984.
second half of 1961 Volvo began to assemble bodies for the Amazon car from parts pressed by Olofström in the new car factory that had been erected at Torslanda outside Gothenburg. Olofström also continued to assemble this model until 1964, when the work was completely taken over by Torslanda. On this occasion some equipment was also transferred to Volvo. When the PV 544 model was taken out of production in 1965 the assembly of car bodies ceased altogether at Olofström. Only the assembly work for the station wagons and driver's cabins for trucks remained. In 1966 Volvo introduced the 140 model and began to stamp certain large and bulky parts at Torslanda, thus taking a further step.

Olofström had now lost part of a task that had been its speciality since the relationship was established in 1926. It continued to supply stamped and preassembled parts for the new 140 model, for the Amazon and for trucks and buses. Olofström had to allow these modifications as otherwise the growth of Volvo would have been retarded. It had difficulties to keep up with the rapidly expanding car company. By now it was known to Olofström that Volvo disliked the terms of the relationship and the exclusive dealing right which did not allow it to ask different suppliers to compete for the tenders. In order to cash the benefits of the investments made Olofström wanted to continue as long as possible on the prevailing terms and a modified contract allowed it to gain some time (Granfors, 1984).

Olofström assisted Volvo in various ways when the production of bodies was transferred to Torslanda. Before retiring, the former technical manager of Olofström led the start-up of the new production of bodies there. People from Volvo were trained at Olofström, and to begin with supervisors and qualified workers from Olofström helped at Torslanda. When the stamping process started there in 1966, Volvo was supplied with the necessary stamping dies and tools by Olofström (Söderström, 1984).

A decision to transfer the production of the body for the sports car from the UK to Olofström was taken in 1968. This transaction was treated as an ordinary business agreement, and was not subject to the conditions stated in the existing contract between the parties (Granfors, 1984).

The expansion of the plants at Olofström continued, and new stamping machines and other equipment were acquired. The production technology was further developed, with greater automation in the lines of stamping machines and welding equipment for assembling the bodies. As a way of evening out the variations in load in the tooling department Olofström also produced tools and dies for stamping for other customers in Sweden and abroad. When Volvo made a major change in its models and the need for tools was at its greatest, orders were placed abroad for the same reason, and foreign mechanics were employed at Olofström for short periods (Söderström, 1984).

Starting in 1961, transfers of production between different factories began, with a view to concentrating the assembly of bodies at the Olofström factory, while products not connected with Volvo were moved to a subsidiary plant at Mörrum. The other subsidiaries were not affected as they were already completely specialised on automotive parts. This move was said to have been made in order to rationalise production. However, it can also be seen as an adjustment to facilitate the take-over by Volvo of all production related to automobiles. Towards the end of the period the sales department was enlarged, and in preparation for an altered relationship with Volvo, efforts to establish new markets were increased. By this time Olofström had required a reputation as a specialist, and had started to sell equipment for the assembly and welding of bodies to other car factories.

Turnover at Olofström rose steadily during the first part of the period, reaching SEK 350 million in 1966. The following year it dropped to SEK 296 million. Automobile parts accounted for 83 per cent of the turnover in 1968, against 84 per cent in 1960 (Fritz, 1983). The number of employees culminated in 1965 at 5,540. This represented an increase of 500 compared with 1960. It then fell to 4,722 in 1968. The reason why Olofström's turnover and employee numbers did not follow Volvo's steady growth, was that the company had gradually to give up several of its earlier tasks. The recruiting problems persisted throughout this period, and were aggravated by the establishments of new industries close to Olofström.
5. VOLVO BUYS OLOFSTRÖM

According to Fritz (1983, p. 319), whose description is based on Alfa Laval archives, Volvo's management felt that its freedom of action was being curtailed, and that no other Swedish company supplying Volvo had such a favourable contract as Olofström. There is no indication that the co-operation on the operational level caused any problems and differed from that in a wholly owned subsidiary (cf. Söderström, 1984). Thus, the reason for Engellau's discontent must have been related to the profits earned by Olofström. In November 1966 Volvo gave notice that the contract would be terminated unless the parties had entered a new agreement before 15 June 1967. Secret negotiations started at the beginning of 1967 concerning possible future collaboration. Volvo tried to substitute the cost-plus deal with an ordinary purchasing relationship, and wanted a situation whereby Olofström would have to compete with other firms in order to obtain a contract. In a letter to Hans Stahle, the managing director of Alfa Laval, Gunnar Engellau wrote "In future Volvo is unlikely under any circumstances to enter into a contract such as the one we have had with Olofström" (Fritz, 1983, p. 319). No agreement could be reached and Volvo gave definitive notice of termination of the contract.

Following a request from Volvo for tenders from Olofström for deliveries after the contract had run out, new negotiations started in May 1968. In Alfa Laval a strategy was discussed whereby Volvo would be induced to buy the automotive part of Olofström. At the beginning of 1969 plans for extended car production were presented by Volvo. The target was set at 275 000 units by 1975. The growing demand for bodies presupposed an increase in stamping capacity. The annual capacity at Olofström corresponded to the production of about 200 000 cars, and although the stamping capacity at Torslanda had been increased, a deficit was predicted. This provoked plans for a third stamping factory, if Volvo was unable to find other solutions at Torslanda or Olofström.

Early in 1969 concrete discussions about the acquisition of Olofström by Volvo began. The parties were far apart not only as regards the price but also concerning the mode of payment. Volvo wanted to pay with an issue of new shares, while to Alfa Laval it was very important to obtain tax relief on the capital gains. In less than a week an agreement was reached and the transaction was made public on 7 March 1969. Volvo acquired the automotive part of Olofström with 4 500 employees for SEK 140 million. In addition Alfa Laval received SEK 30 million, which represented the down-payment on investments in plant and machinery for its Volvo production.

After the incorporation, plans for a restructuring of the business were released. A concentration of resources to car production was planned, to be accompanied by the transfer of other products as demands for cars increased. The parts which for reasons of transport or assembly ought to be produced close to the body-assembly operation, would be transferred to Torslanda. The production of parts for trucks would gradually be transferred to the unit producing bodies for trucks, and the deliveries to Scania Vabis and Saab were to be wound down at the rate determined at the time of take-over. Finally, a new factory for stamped parts would be built on land north of the old factories in Olofström. The investment in this plant amounted to more than SEK 200 million, and production started in 1972. The managing director of Olofström remained in his former post, and no great changes were made in the exchange relationship.

Once Volvo had acquired the company, the Olofström management spoke of their earlier fear that, after 1970, they were going to have to compete with other suppliers on a non-contract basis. Now, the take-over by Volvo meant that this uncertainty about the future development of the business and investments had disappeared. Their efforts to develop new products and markets ceased, which led to the sales department losing much of its importance. However, in order to maintain even production in the tool department, it was still necessary to keep in touch with other customers in Sweden and abroad.
6. DISCUSSION

Four topics will now be addressed. This case has demonstrated that Volvo's purchasing strategy has been characterised by continuous adjustments over the years, and as our first theme the need for studies covering the evolution of a company's purchasing strategy will be discussed. In connection with this the development of Volvo's relationship with its main suppliers apart from Olofström will be summarised. The theme in the following section concerns the specific nature of the relationship with Olofström and how the interdependence developed. Next we will touch on the question of the difference it might have made if Olofström had been incorporated earlier. Finally the factors leading to the termination of the relationship will be elaborated.

6.1. A Quest for Long-term Studies

As we have seen, Volvo pursued different sourcing strategies at different times. To begin with 88 per cent of the materials in the car came from external suppliers (Olsson, 1993). Volvo entered into close co-operation with a number of Swedish subcontractors with a view to establishing a competitive production network. In a way Volvo in 1927 was acting as though, in the terminology of Gadde & Håkansson (1993), it was pursuing a "new" purchasing strategy. When Volvo was founded Gabrielsson and others stressed the excellent conditions for an automobile industry in Sweden, which lay in the resources and experience of the potential subcontractors and the possibility of using specialists to create a decentralized production system. Was this design for the venture thus the result of a deliberate strategy, something which Gabrielsson had desired from the start? An alternative explanation could be sought in another theory, which maintains that a realised strategy not only contains elements of intention but may also have been conditioned by necessity and chance (cf. Mintzberg, 1978; Aldrich, 1986). The suspicion that Gabrielsson's description was a way of making a virtue of necessity is confirmed in his later writings, when he called this solution "the poor man's wisdom" (Gabrielsson, 1937). There are definite indications that a more integrated design was first considered but was later abandoned due to difficulties in raising capital (cf. Lind, 1984). Instead, a highly capital saving system was organised. The necessary working capital could be kept to a minimum by letting the suppliers allow Volvo credit of such long duration that it was possible to sell the car before the materials were due for payment (Granfors, 1984).

The possibility of following a more "traditional" purchasing strategy, in the sense that potential suppliers were set against one another with the one offering the lowest price being chosen, was not generally an option. No other Swedish company needed automotive parts of the kind Volvo required. The other companies in the industry, Scania Vabis and Tidaholm, were each producing about 100-200 trucks and buses annually in more or less wholly integrated factories and using basically manual production methods. There was only SKF, supplying large quantities of ball-bearings to the automobile industry abroad, which produced in long series and ranked as a specialist. Thus a necessary condition for the launching of Volvo's venture was to convince a number of potential suppliers to make long-lasting commitments and to take the steps required to achieve the quality and productivity necessary for making the venture a success.

The resources and technical know-how possessed by the companies in the initial stage should not be overestimated. As events moved on, we can see that the adaptation and development of these resources to fit Volvo's requirements were probably of greater significance. Volvo had to introduce into the Swedish supplier firms the methods and mentality that had given the American industry its exceptional position. Volvo did not possess the required know-how on its own, but had to organize the transfer of various competencies from the United States. This was done in different ways. Swedish-Americans with experience from the American automobile industry were recruited by Volvo and Olofström, licence agreements were made with American companies and Swedish engineers were sent to the United States on study trips (cf. Kinch, 1995). According to Gabrielsson (1956) Volvo often had to take considerable risks in connection with its suppliers' plant expansions and their acquisition of machines. He mentions Olofström as the best example of this kind of collaboration.

Important moves towards a more integrated system were soon realised. The supplier of engines was acquired in 1930 and the manufacturer of gear-boxes for trucks in 1942. This was due to
their inability or unwillingness to increase their capacity at the required pace. As wood was replaced by steel, the supplier of the wooden parts lost its importance. The relationships with the remaining two suppliers developed in separate directions (Kinch, 1987).

In the 1930s Bofors was the single largest supplier to Volvo, but after the Second World War its importance suddenly declined. It is known that the company found it difficult to meet the prices offered by Volvo, and that it had more profitable alternatives at hand in the production of armaments (Kinch, 1987). The original contract stipulated that the prices offered to Bofors should be related to what Volvo could get for the finished car. As things turned out this arrangement proved to be unfavourable to Bofors. The chairman of the board at Bofors, Sven Winquist the founder of SKF, had been a great supporter of the car business as a member of the SKF board. Between 1930 and 1936 he had also been a member of the board of Volvo. When he resigned from Bofors in 1946, his personal links with Volvo were cut. If Volvo, as a consequence of this support, had hitherto felt any obligation to Bofors, it now was free to change its strategy. Volvo now turned to foreign companies for some of the necessary forged parts and the frame girders for trucks. At the same time the start-up of production after the war made it possible for Volvo to reconsider its production design, and the "new" purchasing strategy which had been more or less forced upon it was now to be abandoned. A description of the purchasing function bears witness to this, as it states clearly that "the possibility of maintaining competition is a primary condition for achieving the right quality at the lowest cost" (Luftrenaren, 1957, No. 3, p.10.). Over the years Bofors continued to supply Volvo but it also supplied other automotive companies in Sweden and abroad; in a process beginning in 1926, it had acquired the status of a specialist in forged automotive parts.

Thus of the major suppliers only Olofström kept its position vis-à-vis Volvo after the war. In this way the relationship was special. How can it be explained that Olofström managed to operate as an "independent" firm within this relationship for 43 years?

6.2. The Interdependence in Retrospect

With hindsight it might be suggested that Volvo located too many tasks at Olofström and increased its dependence on the company to an extent beyond that predicted by conventional theory. In the same vein Olofström's constant readiness to increase its commitments to Volvo may be open to question. In order to explain how this interdependence arose and why the relationship lasted for so long, the conditions prevailing when it was launched in 1926 have to be taken into consideration. Volvo had just been founded, and its financial resources and its knowledge of the industry were both limited. The failure of the first series of cars and the strained financial situation that resulted did nothing to improve its bargaining strength.

Olofström's situation was different. The company had other alternatives at hand, and in return for making the necessary commitments it ultimately managed to obtain an exclusive dealing right. This later prevented Volvo from spreading orders over other suppliers or starting to produce some parts in its own factories. Payment for the services provided was based on a cost-plus agreement, which meant that they were always covered. In the case of the contract not being extended Volvo was committed to repay Olofström's investment in its "Volvo production". This meant that after only a few years Volvo was in a sense locked in, and the cost of change in connection with terminating the relationship would certainly have been substantial.

For Volvo the start-up of a new line of production for bodies would have required big investments. As car bodies are bulky and uneconomic to transport, sourcing from abroad was hardly any alternative. It may also be doubted whether any company after the war had excess capacity, as had been the case earlier regarding the forged parts from Bofors. Unlike the two companies first acquired by Volvo, Olofström had the support of a large public company and capital procurement posed no difficulties. Given these circumstances Volvo with its limited financial resources had no incentive to terminate the relationship so long as Olofström fulfilled its obligations.

According to Ford (1982) the commitment of the actors involved in a relationship gradually increases as a result of their experiences in their ongoing interaction. However, we have reason to believe that right from the beginning the commitment in the Volvo-Olofström relationship
was very great and something resembling the institutionalisation of the relationship seems to have occurred fairly early. Ford (ibid., p. 302) declares that a company should have a plan, so as not to become over committed or to develop too heavy a dependence. However, there is no evidence that either Volvo or Olofström ever hesitated to go on increasing the scope of their activities until late in the 1950s. Over the years Volvo was prepared to extend its use of this supplier, and to have Olofström/AB Separator finance part of its own rapid expansion. According to the wording of the agreement, Olofström was obliged to match Volvo's growing demands as sales grew, but on top of this it was also prepared to take on new tasks.

This pattern of behaviour is not consistent with that of the suppliers to Morris Motors in the UK., for instance. Instead of developing the kind of dependence described here, they preferred to sell (Overy, 1975). In comparison to Volvo, however, Morris Motors initially grew much faster and was more profitable. Olofström continued to increase its sales to other customers, but growth in this line of business lagged far behind the growth rate of the Volvo products. Thus what had started as a marginal venture soon developed into Olofström's dominating business. It was not until the late 1950s, when it faced difficulties in delivering on time, that Olofström refused an order and referred to a paragraph in the agreement that released it from its obligation to supply Volvo if production expanded at a rate of more than 20 per cent a year.

The transfer of the car body assembly operation to Olofström in 1930 may be explained by the necessity of making room in Gothenburg for the expansion of the profitable production of trucks rather than the problematic and unprofitable car business. This may have been the only way of keeping the car venture alive - a venture in which Olofström also had a stake due to its investments in special equipment. On the other hand it is hard to understand the logic of the relocation of the production of bodies for trucks to Olofström in the mid-1950s. The company was already struggling to expand at the pace demanded. This operation added to the strain in the tooling department caused by the rapidly increasing demand for bodies for the successful PV 444. Was this the result of Volvo underestimating the sales or Olofström overestimating its ability to expand its capacity? One wonders whether any calculations of Olofström's chances of fulfilling its obligations were ever made. It is easy to get the impression that the relationship had been institutionalized to such an extent that increased production at Olofström was more or less taken for granted (Ford, 1982; Pettigrew, 1985, p. XIX). It seems as though no problems connected with dependence or overload ever arose; nor were any alternative solutions considered.

### 6.3. Co-operation - the Result of Common Goals or a Consequence of a "Locked-in" Situation

An organisation may be defined as any stable pattern of transactions between individuals or aggregations of individuals (Ouchi, 1980). The relationship between Volvo and Olofström fulfils these requirements and may thus be subject to the forces present in all organisations. There is reason to believe that a variety of social mechanisms commonly at work in organisations will, over time, reduce any differences in the goals of individuals irrespective of the companies they work for, and will produce a strong sense of community. This is in line with the "clan" form of organised activities proposed by Ouchi, which is said to be "typical in technologically advanced or closely integrated industries, where teamwork is common, technologies change often, and therefore individual performance is highly ambiguous" (ibid., p. 136). However, a precondition for this form to be effective is that opportunism can be avoided.

The impression that emerges from the available material is that Olofström was considered to be part of the "Volvo clan". In the day-to-day work it was treated as a department or subsidiary to Volvo (cf. Söderström, 1984). Its special standing as a subcontractor was marked by the many articles in the Volvo news magazine, and Olofström was the only external supplier mentioned in the minutes of Volvo's "Joint Industrial Council". However, to the social mechanisms producing a sense of community and goal congruence can be added the more "brutal" forces of interdependence that were at work in this case. As things turned out, in a situation involving as few as two parties and with very strong interdependence developing between them, both sides had an interest in increasing the competitiveness of their joint efforts. Had Volvo failed, Olofström would have been severely hurt too - and vice versa. This mutual dependence on the success of the venture may be one reason why Volvo was allowed to interfere as it did in the
Olofström's operations. It may also explain why Olofström assisted Volvo when activities were transferred to Gothenburg in the 1960s.

If the companies were so closely tied to one another long before they were formally merged, the question arises as to whether Volvo's behaviour would have been different if it had acquired Olofström earlier? Would this have led Volvo, perhaps in order to realise certain site-specific advantages, to locate the body assembly operation to Gothenburg at an earlier point in time? The supply of labour, which was problematic in Olofström, was no better in Gothenburg, and location to some other place had no obvious advantage as the government in the early 1950s was not in favour of investment to increase the production of cars. To this may be added that the general wage level was higher in Gothenburg than in the region where Olofström is located. Thus it may have been part of a Volvo strategy to have a substantial share of the car produced "outside" the company in order to avoid a spill over of the higher wage rates. The unforced extension of the contract in 1956 confirms the impression that Volvo would have acted in the same way up to 1958, even if it had acquired Olofström in the early 1950s.

The conflict in 1958 did not hinder the gradual transfer of the production of bodies from Olofström to the new factory that was built in stages at Torslanda. Had Volvo acquired Olofström in 1958, this process would probably still have followed the same pattern.

6.4. Factors Leading to the Termination of the Co-operative Relationship

In the previous section it was argued that neither the location of the production activities nor the way they were performed, would have been any different if Volvo had bought Olofström earlier. The reason for the conflict arising in the late 1950s thus has to be sought in the economic terms of the exchange. The problems then boils down to one thing: to what extent were the prices Volvo had to pay according to the contract too favourable to Olofström. The problem is complicated by the fact that the benefit to Volvo of Olofström/Separator financing part of Volvo's expansion, also has to be accounted for.

Up to the mid-1950s the atmosphere in the relationship can be described as one of closeness, cooperation and mutual trust and expectations (Håkansson, ed., 1982). Given the open contract that governed the exchange, this was a prerequisite for realising the largescale adaptations and handling the subsequent interdependence that developed. According to Ouchi (1980, p. 137) a prerequisite for the clan form to be effective is that opportunism can be avoided. In the relationship under study opportunism was handled by letting independent parties audit Olofström's accounts. As long as the companies agreed on how the costs and the profit margins should be calculated, this arrangement was workable.

To a large extent the atmosphere was shaped by the trustful relation between Gabrielsson and Granfors, who handled the relationship between the companies from its start in 1926 until 1956. There are no signs in the available sources of any open conflicts during this period. On the contrary there is reason to believe that there was in general a mutual understanding between the two companies and no evidence of opportunism.

It is open to speculations why the contract was extended by Gabrielsson in March 1956, shortly before he resigned as managing director of Volvo, when it still had more than two and a half years to run. This extension may represent institutionalized behaviour and thus have been made without any particular reflection, or it can be seen as a deliberate attempt by Gabrielsson to moderate the effects on Olofström of a revised strategy on the part of the new aggressive management that was succeeding him at Volvo. Did he act in this case on a basis of what was most advantageous for Volvo, or was he guided by personal consideration for the management of Olofström? Maybe he could foresee what lay ahead, and effected this extension to reciprocate for the understanding attitude of Olofström/Separator during Volvo's own problematic early years.

The period following 1955 put heavy pressure on the relationship as demands from the market increased. Added to which there was a new aggressive management in Volvo pursuing a strategy of greater commercialism and self-interest. This increased the level of conflict in the relationship, which culminated when Volvo's bid for Olofström was turned down. As a result of
these events the atmosphere became rather acrimonious at the managerial level. There is no indication that this had any impact on the close co-operation between the companies in their daily operations. However, the change in the governance structure with more board members in common for some years, can be seen as an effort to regain a spirit of mutual understanding. There is no reason to believe that the difficulty Olofström had in fulfilling its obligations as regards the quantity and quality of the bodies was solely the result of mismanagement that could have been avoided if Volvo had owned Olofström. One reason given for the problems with the quality of the car bodies for the Amazon, was that Volvo had initially only allowed a limited number of tools to be developed (Söderström, 1984). Gabrielsson was uncertain whether the new car would be accepted by the market and he wanted to minimize the investment. When the volume increased this design strategy proved inadequate.

The governance of the relationship had been reviewed twice before Volvo finally acquired Olofström in 1969. Common to both instances was that Volvo was planning for substantial investments to increase its production capacity for cars to match a big forecast increase in its sales. Thus the main reason for revising the conditions of the exchange in this case may have been triggered by factors outside the relationship. Increasing the scale of operations necessitated a change; in 1938 this called for a more formalized contractual arrangement to handle the greater interdependence - in 1958 Volvo's new management was dissatisfied with the prices allowed to Olofström. Volvo forecasted substantially larger sales volumes for the 1960s, and plans for a new plant for the car assembly operation were considered. This stimulated thinking about the way production was organized, and encouraged efforts to handle relationships with suppliers on strict business lines. The bargaining power in relation to the suppliers had been reversed. As a result of its success on the market Volvo was negotiating from a position of strength. Earlier agreements made when Volvo’s situation had been less favourable or was based on smaller volumes than the ones now projected, were reconsidered. An example of this was that in order to relieve itself from two contracts agreed in 1929, Volvo now paid SEK 20 million to SKF (Kinch, 1987). The significance of this event is obvious, given that this sum represented almost half the amount Volvo was prepared to offer for the shares in Olofström.

Since 1938, when the agreement with Olofström was formalized, sales volumes had increased more than ten times over, and the open contract on a cost-plus basis was proving unfavourable to Volvo. A parallel to this development can be seen in the incorporation by General Motors in 1926 of its former supplier of bodies, Fisher Body. However, the efforts of the new management at Volvo to change the conditions of exchange with Olofström were hampered by the contract valid to the end of 1965. Had this extension not been effected, Volvo would certainly have given notice of termination of the contract already in 1958. The new management had not been part of the social exchange with the supplier over the years; it represented a younger, more professional and aggressive management style, guided by self-interest and not committed to earlier agreements.

Olofström, unlike the companies acquired earlier by Volvo, had a financially very strong owner. In 1958 this owner was well aware of the value of the business and, resisting Volvo's threats turned down the bid as too low. Some time later a new contract was agreed; it was by no means certain that Olofström would be able without considerable strain, to fulfil its obligations according to the old agreement. It still had big problems in getting enough manpower. Knowing of Volvo's aspirations to acquire the business, AB Separator may have been very reluctant to extend its operations to new places with a better labour market. Although the business was profitable, this was not in line with the strategy of the company as a whole. It had gradually drifted into an unrelated business of considerable size, and further commitments on the present conditions must be considered very risky. Thus, when the growing demands of the market

1In 1919 GM had acquired a 60 per cent interest in Fisher Body and entered into a 10 year contractual agreement with an exclusive dealing arrangement. The price was based on costs plus 17.6 per cent, and when the volumes increased GM was unhappy with the price charged by Fisher and by their refusal to locate the body plant adjacent to GM's assembly plants (Klein et al., 1978).

2According to an estimate made by Volvo in 1958, an increase in the production of cars by 100 units a week would correspond in the Volvo group to a demand for about 150 more mechanics, and in Olofström for about 100. For the remaining Swedish suppliers the additional need was estimated at 300 mechanics. The manpower requirement in the Volvo group was distributed over several factories located in many regions with a population far exceeding that of Olofström (Minutes of the Joint Industrial Council of AB Volvo, 3 December 1958).
necessitated the rapid growth of the business, a situation predicted by conventional theory prevailed.

According to Granfors (1984), AB Separator was aware that Volvo would eventually have to take over. However, in order to obtain a better price and meanwhile to collect the profits of the business, it was important to postpone acquisition by Volvo for a few years. At the same time AB Separator realized that it was not possible to delay the expansion of Volvo, which meant that a transfer of tasks from Olofström to Volvo was necessary. The restructuring of production that started in 1960, concentrating the Volvo goods to the plants in Olofström and transferring the remaining products to other places, can also be seen as a preparation for Volvo's acquisition of the automotive business.

When Volvo acquired Olofström in 1969 it was planning for a further major increase in production capacity and needed supplies of pressed parts on a scale that called for a new factory. This time an agreement could be reached and the buyer/seller relationship was transformed into a hierarchical one after 43 years duration.

7. CONCLUDING COMMENTS

Crucial factors to bear in mind in seeking to understand this case are the rate of expansion at Volvo, the technological change, and the dynamics that this generated. The content of the exchange, the leading personalities, and the resources in the companies and the environment all changed over the years but the relationship between Volvo and Olofström persisted and grew deeper. As a result of continuous adaptations and investments specific to the relationship, the production systems of the companies became closely interwoven and a strong mutual interdependence evolved.

The initial structure of Volvo's production system, and the way it developed for many years, departed to a great extent from what some theories would have predicted, i.e., theories claiming that companies try to stop just such heavy dependencies ever developing. On the other hand, the relationship with Olofström is a clear illustration of ideas underlying the network approach to the study of industrial markets (cf. Gadde & Håkansson, 1993). It exhibits numerous of examples of close and trustful co-operation, free from self-interest and opportunism. Big adjustments are smoothly effected within the relationship, in order to adapt to technical developments and changing market conditions. Not until Volvo's successful penetration of the US market really establishes the company as a competitive producer of cars and it begins to grow fast, does the governance of the relationship become problematic on the managerial level. On the operational level there is no indication that the problems are any different from what can be expected between units belonging to the same business group.

The case shows that a co-operative exchange strategy with a supplier of complex goods, necessitating heavy investments in idiosyncratic assets and radically reducing the number of parties involved, can be workable even in conditions of uncertainty in relation both to the technological content as well as the volumes exchanged. The Volvo-Olofström case confirms the point made by Granovetter (1985) and others, that the market failure approach exaggerates both the presence of self-interest and opportunism in inter company exchange, and the superiority of the hierarchy with its common goals and better means of control over transactions performed within a single company.

When Volvo was founded lack of capital necessitated the use of a subcontractor. For many parts there was no alternative to single-sourcing but the relationship that was established in this case developed in such a way that it very much resembled that between two units of the same firm. The differences in relation to a wholly owned unit are more a matter of degree than of kind. The companies became closely interrelated and the boundaries between what were formally independent units, were to some extent erased.

Two critical factors that allowed this "clan like" situation to develop were the cost-plus deal and Olofström's financial strength. The first excluded any haggling in the day-to-day operations and the second meant that Olofström could match Volvo's growth. These factors were not present in
relations with the engine and gearbox manufacturers acquired by Volvo at an early stage. They preferred to sell their operations when they reached the limit of their capacity.

Olofström was strongly committed to contributing to the developing automobile industry, and Volvo could intervene in the operations of its subcontractor in a way that is normally only possible through a more formal hierarchical control. It is by no means certain that earlier incorporation would have changed the way the production of car bodies and pressed parts was organized.

According to the market failure and resource dependence approaches an exchange between firms may develop into various forms of co-operation, which in the extreme case can end in full vertical integration. However, in contrast to the transaction-cost approach, where the interdependence is regarded as a temporary intermediate state, the network approach does not assume that a development towards vertical integration is inevitable. In our case the co-operative relationship lasted for 43 years. This alone makes it a unique industrial co-operative venture in Sweden. Added to which, there was an increase in the volumes traded, and the supplier saw steady growth in its share in the materials used in the final product.

If this relationship was effective for so long, why did it eventually develop in the direction predicted by the "old" received theory? Perhaps, implicitly, the market failure and resource dependence theories refer primarily to companies that are "up and running". A different logic may necessarily apply to organisations in the establishment phase. Volvo did not become firmly established until the late 1950s. But the efforts which its management then initiated to change some of its relationships with other firms were restricted by commitments it had been obliged to make earlier. At the end of the 1960s Volvo was free to renegotiate the contract with Olofström. This time it would insist on a competitive arrangement and would not extend the cost-plus deal that had obtained until then. For Alfa Laval/Olofström this meant greater uncertainty, on top of its continuing commitment due to the new investments required by growing volumes. This was considered too risky and they preferred to sell.

This case description covers the period up to 1969. Since then policy regarding make-or-buy decisions and purchasing strategy in Volvo have both been changed again. Fewer components are now produced within the company, and multiple sourcing has gradually been abandoned. This further underlines the necessity of case-studies covering a long time period of inter company relationships, if we want to increase our understanding of the purchasing and marketing behaviour of industrial firms.
REFERENCES


ELLEGÅRD, K., 1983b, Människa-Produktion -Tidsbilder av ett produktions-system, (Pictures of a Production System), Meddelanden från Göteborgs Universitets Geografiska institutioner, Serie B, Nr 72.


**Company papers**


*Separatorbladet*, The company and employee magazine of AB Separator 1948-1960

**Annual reports**

AB Volvo 1926-1970

AB SKF 1926-1970

Svenska Stålpressnings AB Olofström 1926-1969

AB Separator/Alfa Laval 1926-1970

**Interview**

Karl Granfors, Former managing director of AB Olofström, Olofström, 18 January 1984. This is referred to as Granfors (1984).

**Personal correspondence**


Ingvar Söderström, Former chief engineer at Olofström, memo written in reply to a letter from Nils Kinch to Karl Granfors dated 28 September 1984. The letter is dated 23 November 1984 and was enclosed to the letter from Granfors above.