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DEVELOPING AND MANAGING JAPANESE AND U.S. OEM — CANADIAN AUTOPARTS SUPPLIER RELATIONSHIPS IN THE 1990s

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Introduction

The intrusion of foreign business in domestic markets is difficult to avoid in any country. Domestic suppliers are often protected by taxes, duties, tariffs and a range of imaginative non-tariff barriers. Canadian markets traditionally have been very "open" - with foreign trade accounting for more than 25% of GNE.¹ Manufacturers in the Canadian automotive and autoparts markets have been even more exposed than those in other industries since 1965 when the Auto Trade Pact was signed with the U.S.A.

In the 1970s Japanese auto imports began to capture significant market share from the U.S. "Big 3" in North America.² The impact of this was to reduce the share of Canadian-made automobiles and also to diminish the derived demand enjoyed by Canadian auto parts manufacturers. Indeed, the loss of market share by the Big 3 plants in the U.S. further affected Canadian parts manufacturers by reducing their exports to the U.S. In the late 1980s the Japanese auto manufacturers began establishing manufacturing plants in North America.

During the past 10 years imported vehicles and those from transplants³ have increased their share of the Canadian market from 21% to 33%.⁴ Today there are eight Japanese OEM⁵ transplants in the U.S., all with capacities exceeding 200,000 units per year. During the 1990s it is anticipated that the Honda Motor company will overtake Chrysler Corporation to become the No. 3 car company in the U.S.⁶ In Canada, one Japanese OEM transplant has a 200,000 unit capacity, while three produce 100,000 units or less per year.

Although there are 400 transplanted Japanese automobile parts suppliers functioning in the United States, only 18 have established manufac-

turing operations in Canada so far.⁷ Nevertheless, the \$15 billion Canadian autoparts industry is likely to be seriously affected: If the Japanese OEMs in Canada don't buy from Japanese transplanted partsmakers, they still prefer to buy from the suppliers they know in Japan, rather than taking what they perceive to be a risk in buying from a Canadian firm. They are reluctant to try the unknown, and lack confidence in Canadian quality.

A few Canadian partsmakers have successfully broken through these barriers, but major opportunities apparently will not become available until the 1992 model year design changes are initiated.

Meanwhile, Canadian parts manufacturers are having increasing difficulty in competing against their U.S. counterparts because of the relative strength of the Canadian dollar. Those that have been successful have had to implement strict cost control and cost reduction measures, OEM-required SPC (Statistical Process Control) programs, various forms of JIT (just-in-time) inventory approaches and other measures initiated or expected by their OEM customers.

The research reported here examines how the relationships between OEMs and their first and second tier suppliers are changing as they enter the decade of the 1990s. The respondents are Canadian first tier autoparts suppliers - the firms in the middle of the chain of derived demand which are most likely to be hurt by market restructuring; and which are most likely to benefit if they can pursue the challenges of the 90s. Their interactions with and perceptions of both their OEM customers and second tier suppliers provide an insight into the operations of domestic business-to-business markets which are being disarrayed by the invasion of new competitors from off-shore.

To appreciate the changes taking place in the Canadian autoparts markets and the types of approaches that Canadian firms may need to take with Japanese transplants in the future, it is helpful to understand the OEM-supplier hierarchy in Japan.

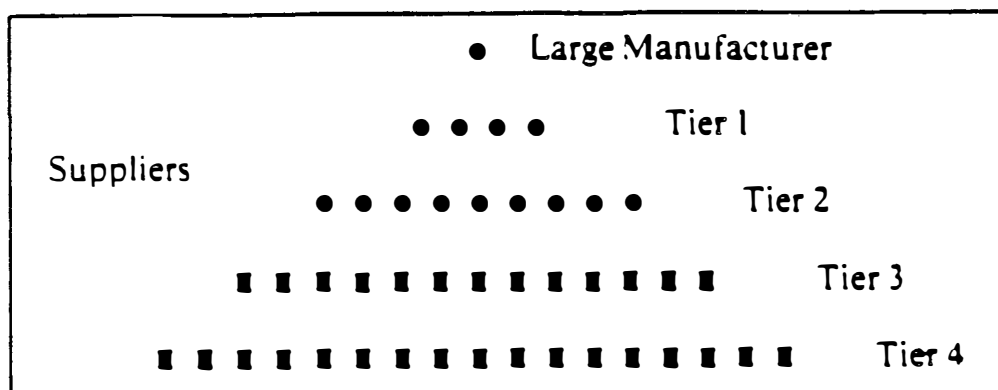
The Japanese Hierarchical Structure

In Japan the OEM often forms the top of a pyramid with its primary suppliers or sub-contractors forming the first supplier tier (Figure 1). These first tier suppliers are often controlled by the OEM or, if not controlled, there is a very close relationship between the two firms. An example would be Asin-Warner which supplies automatic transmissions to Toyota, and is indirectly controlled by Toyota to the extent of 90% ownership. In this case the control is obvious, but there are many cases where direct or indirect control of supplier firms is not as apparent. For example, many first tier suppliers are operated by people who formerly were employees of the OEM. In addition to financial assistance in their start-up, they may also have been given capital equipment directly from the OEM's factory. At the very least, they will have strong loyalty and an ingrained sense of obligation to their former employer, who most likely purchases 100% of their output.

Typically, the first tier suppliers supply major parts and subassemblies. Atypically, Asin-Warner also supplies other OEMs such as Mitsubishi, Isuzu and Volvo but does not supply Toyota's arch-rival, Nissan. These first tier suppliers in turn purchase from a number of suppliers, which form tier 2. Companies supplying components to tier 2 firms form tier 3. These supplier relationships can extend to 5 tiers, the last one often consisting of subassembly work done by independent subcontractors in their

homes. Generally, the further down the supply lines, the more likely will be the use of "cottage industry" suppliers.

Figure 1
Japanese Supplier Tiering System



Typically, any changes in suppliers are likely to come between tiers 1 and 2, and at lower levels, not between the OEM and tier 1. This is because of the close, long-term relationship between OEMs and top tier suppliers. The pyramid relationship is often not as straightforward as presented above. For example, a tier 2 supplier may sell directly both to a major OEM and to a first tier supplier.

In Japan all five tiers have synchronized their production processes (including JIT). Could this phenomenon happen in North America? Our research indicates that as the OEM is forcing adaptation on first tier suppliers, the first tier suppliers are beginning to make similar demands on their (second tier) suppliers.

Given this background in the relationships among Japanese OEMs, and the various levels of their suppliers, let us now turn to the Canadian environment, where our research explored interactions among the participants in the domestic autoparts supply system.

The Canadian Research Findings

More Demanding Relationships - In our study 1st tier suppliers were asked to describe recent changes in their relationships with their (2nd tier) suppliers. Of the 97 suppliers in the sample, only 17 felt that there had been no changes in their relationships. Most of the firms reporting changes indicated that they were placing more stringent demands on their suppliers. These 1st tier demands often commenced with a 2nd tier supplier survey to assess the internal management effectiveness of that 2nd tier firm. On the whole, 1st tier principals found their suppliers receptive to the performance evaluation idea. Some of the more stringent requirements include JIT delivery, productivity improvements, shorter lead times and such product quality demands as self-certification and development of SPC capabilities. However, some small independent (2nd tier) subcontractors have difficulty accepting a "zero-defects" principle, which they equate to price increases. Some respondents observed that their relationships with 2nd tier suppliers have become strained as they implemented OEM dictated certification programs, and then passed these stringent quality requirements on down to their 2nd tier suppliers.

Increased Demand for Quality - A frequent demand by first tier suppliers was for higher quality to be provided by 2nd tier suppliers. Respondents which had achieved superior quality ratings from Ford, GM and Chrysler expected these same stringent requirements to be met by their suppliers. (An example of this is the quality certification programs described above.) First tier suppliers seem to be recognizing the relationship between increased quality and lower prices.⁸ Those which experienced better quality from their suppliers have in turn reduced their inventory reserve (tempering the JIT syndrome).⁹

Closer Relationships - Although several parts suppliers indicated that the number of second tier suppliers they used was shrinking, there was general agreement that the relationship with remaining suppliers was much closer than it used to be. Continuous communication and sharing of information - especially technical know-how - is becoming the norm.

As additional efforts are being made by principals to change from adversarial roles to partnerships with their suppliers, longer-term relationships are resulting. They are finding their suppliers more cooperative, for example: more willing to experiment with new raw material requirements. Closer relationships are facilitated as suppliers become more sophisticated in how they deal with their first tier suppliers: e.g. EDI (electronic data interchange) links are becoming common for inventory control. Other examples of closer relationships include on-site supplier reps to solve problems and joint problem-solving teams.

Long-term Contracts - As long-term contracts are becoming the norm between OEMs and first tier suppliers, it is perhaps not surprising that they are starting to appear at lower levels in the tier structure. Often tied to the longer-term agreements are requirements for productivity improvements.

Cost reduction/improvement programs are beginning to be implemented between first tier suppliers and lower tiers. A first tier firm indicated that they had not had a price increase from one (2nd tier) supplier for four years. Similar to the productivity improvements mentioned above, these cost-oriented programs are frequently a condition of the longer-term contracts that are being negotiated today.

Customer Awareness - Autoparts suppliers report that their (2nd tier) suppliers are exhibiting a greater sensitivity to their needs. This repre-

sents a welcome departure from past practise. Evidence was supplied that lower tier suppliers are more aware of the automotive industry's demands - they are more attentive.

Fewer Suppliers - As OEMs have greatly reduced their supplier bases, so too have the first tier suppliers. This reduction of the supplier base has necessitated longer-term contractual relationships to reduce the buyer's vulnerability.

Reverse Marketing

Reverse marketing is the imaginative and aggressive pursuit of new supply sources by the purchaser.¹⁰ Reverse Marketing involves: (1) development of existing suppliers, and (2) development of new ones.

Development of existing suppliers is easier to do because the relationship already exists. Nevertheless, the buyer frequently encounters tremendous inertia to his/her new approaches and suggestions.

Often the development of new suppliers can yield far greater benefits to the firm because of the opportunities for exploiting new technologies and previously unavailable markets. One of the questions asked of the suppliers was "What have you been doing lately in development of your existing suppliers?"

Development of Existing Suppliers

One of the major recent thrusts undertaken by OEMs is an increased demand for higher levels of quality. As a result, many first tier suppliers are working with their suppliers to improve the quality of 2nd tier products and to control costs jointly. Quality assurance programs on key commodities have resulted in suppliers becoming more knowledgeable about

their customers' processes. Other initiatives in the quality area are SPC improvement, quality surveys, self-certification of quality and total quality/partnership programs coordinated by the purchasing function.

The autoparts suppliers are making a deliberate effort to provide better information to their (2nd tier) suppliers. Many have ventured to improve communication at all levels within their own organization and with parallel levels (or functions) in their supplier organizations. Common approaches are joint meetings/forums explaining long-term strategies, sharing new product plans and jointly addressing mutual problems. First tier suppliers are providing their second tier suppliers with more detailed production requirements and shipping schedules as improved information is received from OEMs. One respondent reported giving his suppliers a two year steel usage forecast to integrate into their production plans. The drive toward continuous improvement has led to the use of plant visits as an effective method to allow suppliers to see their customer's operations at first hand.

First tier suppliers have been doing much more monitoring and auditing of their suppliers' performance. At the time that this research study was undertaken, one respondent had completed an assessment of approximately 40% of the firm's supply base: the study encompassing quality, delivery and cost control. Other suppliers have initiated price and delivery monitoring as an on-going process for autoparts suppliers who are concerned about improving their positions with OEM customers. For many, annual supplier audits are common.

More involved/sharing/partnerships - OEM suppliers are becoming far more involved in sharing knowledge and in developing partnerships with their (second tier) suppliers. One first tier supplier has chosen the top

three or four second tier suppliers in major product categories and invited them to participate in a long-term relationship, similar to the type of relationship that the first tier supplier would like to have with OEMs. Other evidences of closer relationships include daily interfacing with suppliers, supplier/plant joint action problem-solving committees, participation in the other firm's business with suggestions for cost reduction, and more involvement in parts design.

There is more emphasis on "partners in industry" (to use the autoparts makers' terminology), and more frequent meetings with suppliers who have fallen short of their customers' requirements.

Development of the suppliers has also been brought about by setting up specific training programs. SPC instruction is becoming common, often in the second tier supplier's plant. Some suppliers have gone so far as to assist in developing the management people in their suppliers' organizations, where necessary.

Another example of greater involvement of first tier organizations in the development of their (second tier) suppliers is the case of U.S. subsidiaries which have been attempting to develop Canadian sources of supply where previously none was acceptable. This has been triggered by currency exchange uncertainties and by a desire to source in Canada for JIT purposes.

Some other ways in which existing second tier suppliers have developed include offering them additional services, such as inventory control of their stock, catalogue and field services and assistance in prototype development. There is now a tendency for people from different functional areas in the first tier partsmaker organization to interact with their opposite number in their parts supplier organization, to opt for single sourcing, and to use common bar coding procedures.

Developing New Suppliers

The respondents were asked to elaborate on the initiatives which they recently had undertaken to develop new sources of supply. Of the ninety-seven respondents, only 13 indicated that they had done nothing to develop new suppliers.

Some first tier firms had established formal supplier development programs. One parts manufacturer replied, "we have formed a team that continually surveys the market for potential new suppliers, conducts quality audits on potential suppliers and, when they do not measure up, provides them with details on what is required to become certified". Another respondent made visits and obtained quotations from alternative potential new sources for all major purchased direct and indirect materials. A common practice was encouraging possible new suppliers to bid on any and all requirements. One firm had just started developing new suppliers two months prior to receiving our questionnaire; another had developed three new suppliers within the past year to replace existing ones.

Price seemed to be a great motivator in seeking to develop new supply sources. The search for less costly sources was frequently cited. Looking to the U.S. for new, alternative sources was mentioned frequently. Respondents perceived U.S. suppliers as being lower cost producers than their counterparts in Canada. More off-shore purchases are planned by Canadian first tier suppliers as they seek more competitive prices. One respondent has worked with tooling suppliers in developing countries in an attempt to achieve lower costs and shorter lead times for acquisition of tools. Another sought cost reductions through competitive sourcing off-shore, and freight reductions by sourcing locally. Some were exploring the Far East for new suppliers.

Developing Canadian Sources

Trying to meeting OEM customers' more stringent requirements has triggered the first tier suppliers to conduct supplier audits of both existing and potential suppliers. This has resulted in a supplier base which can better meet the OEMs' increasingly more stringent requirements.

A number of other initiatives were reported by respondents, including always looking for alternative supply sources, finding new suppliers at trade shows, identifying new suppliers through requests for quotations, continuous research in trade magazines, always having an open door policy for interested potential suppliers, and publishing a brochure identifying what is sought in new suppliers, among others.

Developing Canadian sources of supply was seen as important by six respondents, most of which were U.S. owned. Most of the raw materials sourced by one respondent is steel. In the past this steel was sourced off-shore to try to contain price. Since steel is 60-70% of the selling price of a firm's final product, the company is now attempting to source in Canada to stabilize price (removing currency exchange rate fluctuations) and to have a closer supplier for possible implementation of JIT. Another firm has explored opportunities for sourcing materials/components locally to achieve greater Canadian content, as well as the similar objective to the preceding example of avoiding currency fluctuations. Still another firm re-engineered some of its products because it wanted to source in Canada.

Our research indicated that more invitations to quote are being sent to new potential Canadian suppliers in an attempt to achieve more localized sourcing. This is noteworthy because in the past, U.S. and off-shore sources typically have offered lower prices and were more popular. This change may reflect the greater desire to buy JIT.

Summary and Conclusions

In the 1990s the Japanese automobile manufacturers plan to dominate Asian markets - not with exports but by moving as much production offshore as is technically feasible.¹¹ They have not pursued this strategy in North America or Europe yet. However, their success in implementing such a strategy in Asia is most likely to influence their thinking about North American markets in the late 1990s and possibly Europe in the early part of the next century. Our research among Canadian automotive parts suppliers suggests that those who have been successful in capturing orders from the Japanese transplants in Canada have done so by adapting their operations to better conform to the methods of doing business preferred by the Japanese OEMs.

In the next decade the Canadian automotive parts suppliers will have to adopt more of the Japanese management and manufacturing techniques if they wish to prevent Japanese parts transplants from capturing their markets with the Japanese OEMs and possibly even domestic OEMs.

For European automobile and parts manufacturers the message is clear. ASEAN (Association of Southeast Asian Nations) markets are already controlled by the Japanese, and non-Asian competitors will have a tough time making any impact. Although European automobile manufacturers' domestic markets seem relatively secure at the moment, there is a lesson to be learned from the experience of domestic manufacturers in North America. The new millenium is only a decade away.

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