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## Buyer-Supplier Relationships

In recent years, increasing attention has been paid to buyer-supplier relationships and supply chain management in general. Views of buyer-supplier relationships have evolved from the old school of the 1980s, where buyers and suppliers were viewed as part of a zero-sum game, to the more collaborationist outlook of the 1990s, which claimed buyers and suppliers could co-operate to the benefit of both, to the more network-oriented view of the 2000s, where buyers and suppliers are parts of organic business eco-systems. One interesting fact is that, empirically, buyer-supplier relationships exist in surprisingly multifarious forms in different geographic regions and business sectors. There is simply no one dominant mode. It is therefore important to examine and identify the many types of buyer-supplier relationships in existence. What follows is an outline of eight different real-life examples that cover a broad range of buyer-supplier relationships.

### Toyota and Its Suppliers<sup>1</sup>

Toyota Motor Corporation, the world's fourth-largest carmaker in 2000 (after General Motors, Ford, and DaimlerChrysler), managed its relationships with many of its suppliers according to a model that was traditional among large Japanese companies. This model, a variation of the "keiretsu" model, consisted of a federation of companies, usually dominated by a large firm, such as Toyota, that had special power in the federation. The supplier partners within a keiretsu were called kankei-kaisha (affiliated companies); usually the parent firm would have a minority ownership in each of these companies, and would transfer employees to it. But even independent firms (dokuritsu-kaisha) outside the keiretsu, which had no ownership relationship with the parent firm, would often work with the parent firm in much the same way.

The wide use of the keiretsu model implied that, at the highest level, the relationship between buyers and suppliers required continuous feedback and suggestions for improvement about each other's operations. In addition, it required a high level of commitment. In Japan, this

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<sup>1</sup> Sources unless otherwise stated: Dyer, J. H., (2000), *Collaborative Advantage*, New York, the United States: Oxford University Press, pp. 44-45, 64-65, 108; Michael S. Flynn, Kara F. Alkire, and David Graham, "OEM Parts Purchasing: Shifting Strategies", University of Michigan Transportation Research Institute, January 2001, pp. 7, 9; Hoover's Company Profile.

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commitment could take several forms, including equity investment, implicit long-term contracts, employee co-location, and customised plant investment. A one-time shortcoming would trigger efforts to fix the problem instead of a search for an alternate vendor — although continued problems could eventually result in the withdrawal of a contract.

Long considered the most efficient vehicle manufacturer in the world, Toyota pushed very hard to implement its lean production system all the way through the supply chain. In the United States (as well as in Japan and Europe), the company instituted a Toyota Supplier Support Center, a school for suppliers to learn the core concepts of the Toyota Production System and to develop strategies for implementation at their own plants. From 1992 to 1997, senior management teams from nearly 100 supplier firms attended the Center. In fact, Toyota founded a supplier association in Japan as early as in 1943 to promote “mutual friendship” and the “exchange of technical information” between Toyota and its suppliers. Later, Toyota established a similar association with its US suppliers, which was not trusted at first but grew to become quite successful. Toyota valued face-to-face contact in fostering supplier relationships, which was why the company took to Internet parts exchanges more slowly than big US carmakers did in the late 1990s and early 2000s. The profile of Toyota’s suppliers according to percentage of total component costs, as shown in **Exhibit 1**, is apparently in stark contrast to that of its US competitor General Motors.

Under the Toyota Production System as followed in Japan, most Toyota assembly plants were located within 35 miles of Toyota’s corporate headquarters and technical centre. Toyota’s suppliers were clustered around the assembly plants in “Toyota City”, with the internal parts suppliers very close (an average of 10 miles distance in 1992), kankei kaisha a little further away (average 30 miles) and the dokuritsu kaisha still further away (about 87 miles). This kind of distance scale was much smaller than that in US auto-supplier networks. On average, Toyota’s suppliers made more than eight just-in-time deliveries per day. Toyota’s inventory-to-sales ratio in the early 1990s was about one-fourth that of the leading US carmaker General Motors.

Toyota appeared to do business only with suppliers that could provide global presence, technical innovation and speed. Issues such as quality, reliability and commitment to cost reductions seemed to be prerequisites for consideration, as indeed was the case for other manufacturers as well. A typical trajectory for a supplier relationship with Toyota started with the supplier manufacturing a part or system designed entirely by Toyota. Only after a long period of high performance and continued relationship-building would the supplier progress reach a point where its own design and technical expertise could be leveraged. Even when a firm became a preferred supplier, Toyota would seldom cede complete design responsibility. Toyota had historically been opposed to the use of so-called “black box” designs, particularly in core components such as engines and power trains. But even so, suppliers found in Toyota a trustworthy customer mainly because of the fairness and predictability of Toyota’s routines and processes for dealing with suppliers.

## General Motors and Its Suppliers<sup>2</sup>

General Motors Corporation (GM) was the world’s leading carmaker in terms of sales by the early 2000s. It had remained highly vertically integrated throughout its corporate history, and produced internally roughly 65 to 70 per cent of the components that went into a vehicle. It also sourced externally, primarily and traditionally through arm’s-length relationships that depended great deal on price-bidding. The profile of GM’s suppliers according to percentage

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<sup>2</sup> Sources unless otherwise stated: Dyer (2000), pp. 11, 25, 46, 111; Flynn et al, January 2001, p. 4; Hoover’s Company Profile.

of total component costs is shown in **Exhibit 1**, and shows a clear difference from that of Toyota's suppliers.

Traditionally, GM, like other big carmakers in the United States, had a relationship with suppliers that some would consider "adversarial". GM's internal manufacturing plants as well as suppliers' plants were scattered around the United States, in complete contrast to Toyota's Japanese production network, which could fit within the distance between GM's two closest car plants. Predictably, GM's suppliers and buyers did not have a lot of face-to-face contact compared with Toyota's. Trust between GM and its suppliers was also much lower, according to researchers. In 1992, facing poor financial performance, GM's Group vice-president for Worldwide Purchasing, Jose Ignacio Lopez, initiated policies that were even more combative with suppliers, to the extent that GM started demanding double-digit price reductions in many instances. It also broke the tradition of renewing one-year contracts with long-term vendors, instead often switching the business to the lowest bidder. On several occasions, it was alleged, after a supplier helped GM develop a new part — while absorbing part of the development cost — GM then shopped the proprietary designs to competitors, searching for the best production prices. GM's buyers were not allowed to accept a lunch invitation except under certain conditions — and even that was discouraged. One executive said:<sup>3</sup> "We don't know what a supplier partnership gets you. It just locks you in. We don't even like using the word *partner*."

In the short run, GM achieved US\$4 billion savings in annual materials under Lopez, but to the long-term detriment of relationships with suppliers. Suppliers became less likely to reserve their best ideas for GM, choosing instead to market them to companies that tended to value supplier relationships more. After Lopez left GM for Volkswagen in 1993, the new head of purchasing, Richard Wagoner, took a softer stance towards suppliers. He did not completely repudiate Lopez's methods, but the more extreme elements seemed to have generally ceased. Wagoner stated in 1993 that, "GM will remain tough but fair with suppliers. We don't believe in the old traditional bear hugs, talking about how we love each other or don't. Partnerships have to be based on market demands and customer expectations."

Harold Kutner, who became vice-president of worldwide purchasing in the mid-1990s, kept to a similar philosophy. He said, "Our focus is not necessarily having great partnerships with assumed relationships for life with suppliers. It's having relationships with suppliers, with very high expectations. The suppliers should expect me to be a good customer. I should share data. I should share global opportunities and volume forecasts. And I should give them any kind of information that will eliminate waste within the system. On the other hand, we have very high expectations: one, that the supplier should become global, and two, that his performance can be benchmarked with anybody's around the world." But Kutner was soft only by GM's standard. He had a reputation among suppliers as a hard-nosed negotiator who pressured suppliers to slash prices, and had even said, "I've spent my whole life kind of beating up suppliers on their performance."<sup>4</sup>

The Big Three US carmakers — DaimlerChrysler, Ford and GM — set up an Internet automotive parts exchange platform called Covisint in 2000; two other major carmakers, Nissan and Renault, soon joined. Covisint allowed the purchasing of the one billion US dollars' worth of car parts to be done through an online bidding system. Although some expressed hope of reducing a great deal of cost with the set-up of this system, carmakers such as Toyota emphasised that face-to-face meetings with suppliers and personal inspections of factories and managers could not be done on the Web. In fact, by mid-2002, Covisint as a business was not generating enough revenue from auction, and had been cutting expenses and

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<sup>3</sup> Dyer (2000), p. 111.

<sup>4</sup> Ralph Kiesel, "Kutner bears heat he once delivered", *Automotive News*, 29 July, 2002.

jobs for the previous year. Accordingly, many suppliers were reluctant to use Covisint because it was viewed as a tool that carmakers used to get lower prices on parts.<sup>5</sup>

### Microsoft and PC-Makers<sup>6</sup>

US-based Microsoft Corporation was *the* global software superpower by the 2000s. It provided a variety of products and services, including the Windows operating system — which usually had the Internet Explorer (IE) browser as part of the package — and the Office software suite. The company held hegemony over several major sections of the personal computer (PC) software market. One source said that Microsoft Office’s market share by revenue for its Word and Excel components was about 94 per cent by 2000; Windows’ market share around that time was 92 per cent.<sup>7</sup> IE took up 95 per cent of global usage share of Web browsers, according to a survey in late 2002.<sup>8</sup> Other sources pointed to market shares that were consistently at least above 80 per cent. Microsoft had also expanded into markets such as video game consoles, enterprise software, computer peripherals, software development tools, interactive television and Internet access services.

Predictably, Microsoft’s high market shares and aggressive business expansion had brought charges of antitrust violations. In 1998, the US Justice Department, backed by 18 states, filed antitrust charges against Microsoft, claiming it stifled browser competition and limited consumer choice. In 2000, US Federal Judge Thomas Penfield Jackson found that Microsoft had used its monopoly powers to violate antitrust laws. Judge Jackson’s findings showed that Microsoft had pressured other companies in a number of ways to achieve monopolistic ends.<sup>9</sup> As for PC-makers, he wrote: “With respect to OEMs [original equipment manufacturers, i.e., PC-makers in this context], Microsoft’s campaign proceeded on three fronts. First, Microsoft bound Internet Explorer to Windows with contractual and, later, technological shackles in order to ensure the prominent (and ultimately permanent) presence of Internet Explorer on every Windows user’s PC system, and to increase the costs attendant to installing and using Navigator on any PCs running Windows. Second, Microsoft imposed stringent limits on the freedom of OEMs to reconfigure or modify Windows 95 and Windows 98 in ways that might enable OEMs to generate usage for Navigator in spite of the contractual and technological devices that Microsoft had employed to bind Internet Explorer to Windows. Finally, Microsoft used incentives and threats to induce especially important OEMs to design their distributional, promotional and technical efforts to favor Internet Explorer to the exclusion of Navigator.”

Microsoft had the power to behave in this way, since many consumers bought a computer model because of the pre-installed software in it or at least the software that was compatible with it. And PC-makers had to pay Microsoft a licensing fee for incorporating Microsoft’s programmes on each single product. Below are some more details:

1. Microsoft used a variety of tactics to deter PC-makers, Internet-access-service companies and Web content providers from using the Netscape Navigator browser, IE’s major rival product. Microsoft used licensing agreements and technical integration to make sure that PC-makers and other partners had little choice but to use IE in their products.

<sup>5</sup> Ralph Kisiel, 29 July, 2002.

<sup>6</sup> Sources: Hoover’s Company Profile and media sources as referenced below.

<sup>7</sup> International Data Corporation (IDC) figures quoted by Patrick Thibodeau, “Gartner: Microsoft licensing could push users to StarOffice”, *Computerworld*, 1 May, 2002. Since Office could also be run on Apple Computer’s Macintosh system, it was expected to have a higher market share than Windows.

<sup>8</sup> Press release, “Microsoft’s Internet Explorer global market share is 95% according to OneStat.com”, OneStat.com, 16 December, 2002.

<sup>9</sup> Don Clark, “The Microsoft Ruling — Portrait of a Monopolist: Threats, Profits and Power”, *Wall Street Journal*, 8 November, 1999; “Excerpts from the ruling that Microsoft Violated Antitrust Law”, *New York Times*, 4 April, 2000.

2. IBM was both a big customer (as computer-maker) and competitor (through its OS/2 operating system and others) of Microsoft by the early 1990s. In 1995, IBM announced plans to install software produced by Lotus, a competitor of Microsoft, on its PCs. Microsoft then terminated negotiations with IBM to license the upcoming Windows 95 system, giving a reason concerning the audit of IBM's royalty payments to Microsoft. Microsoft did not grant IBM a licence until the latter agreed to pay Microsoft US\$31 million for back royalties; that deal was made only 15 minutes before the official launch of Windows 95 in August 1995. IBM still had to bear missing substantial revenues, and its plight did not end there. "From 1994 to 1997 Microsoft consistently pressured IBM to reduce its support for software products that competed with Microsoft's offerings, and it used its monopoly power in the market for ... PC operating systems to punish IBM for its refusal to co-operate," wrote Judge Jackson.
3. Although Apple Macintosh was a rival to Windows, Apple Computer relied on Microsoft to develop software for its operating system. It then happened that Apple wanted to develop a multimedia technology called QuickTime that could be used on both Macintosh and Windows, making it easier to write software that was compatible with both systems. However, Microsoft repeatedly and unsuccessfully tried to get Apple to drop the project. Another dispute involved Microsoft threatening to withhold the development of a Macintosh version of Office to try to persuade Apple to adopt IE in the standard shipment of Macintosh. It culminated in 1997, when Apple signed a deal that included its endorsement of IE, a patent cross-licence agreement, and a Microsoft investment in Apple.
4. The big computer-maker Compaq Computer irked Microsoft with a plan to ship part of its PCs without the screen icons for IE and MSN. Microsoft repeatedly protested this move as a violation of licensing agreements. Then, in 1996, Microsoft sent Compaq a letter stating its intention to terminate Compaq's license for Windows 95 if Compaq did not restore the MSN and Internet Explorer icons to their original positions. Compaq, for fear of losing the licence, capitulated. Later the companies even signed one of the most favourable contracts between Microsoft and any PC-maker, in which Compaq promised to promote IE exclusively for its PC products and thus ceasing to pre-install Netscape Navigator in its PCs. "In return ... Microsoft has guaranteed Compaq that the prices it pays for Windows will continue to be significantly lower than the prices paid by other OEMs [original equipment manufacturers, i.e. PC-makers] ... Compaq has enjoyed free internal use of all Windows products for PCs since March 1998," wrote Judge Jackson.

### Hong Kong Container Terminals: the THC Dispute<sup>10</sup>

By the early 2000s, Hong Kong handled a large chunk of Mainland China's trade cargo, mostly originating from the thriving Pearl River Delta, and had long been the world's busiest container port. By 2002, Hong Kong had four container terminal companies operating eight container terminals with a total of 18 berths at Kwai Chung and the nearby Stonecutters Island. Total capacity was estimated to be around 25 million TEUs.<sup>11</sup> The container throughput of Hong Kong was 17.83 million TEUs by 2001, 11.3 million TEUs of which were handled at Kwai Chung and the rest by ocean and river vessels. Hong Kong's container

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<sup>10</sup> Sources: CLSA Emerging Markets, *Hong Kong Strategy — Market Outlook*, October 2002, pp. 21-24; Hong Kong Consumer Council, "Assessment of complaints against members of shipping line agreements", July 2002; Hong Kong Shippers Council website, URL: [www.hkshippers.org.hk](http://www.hkshippers.org.hk).

<sup>11</sup> TEU means twenty-foot equivalent unit, is a measure of container box volume. One TEU is the size of a standardised container measuring 20ft x 8ft x 8ft.

terminals were unique in the world in that they were fully funded, owned and managed by the private sector with no government involvement. By 2002, the biggest of Hong Kong's four container terminal operators was Hongkong International Terminals (HIT), a subsidiary of the Hutchison Whampoa Group. It operated 10 berths on its own. HIT and China Ocean Shipping Company (COSCO) operated two additional berths under a HIT-COSCO joint venture. The second-largest operator was Modern Terminals Limited (MTL), which operated five berths and was owned by Swire Pacific, Wharf, China Merchants and Jebsen & Co. The smallest operator was CSX World Terminals, which operated the remaining one berth.<sup>12</sup>

Meanwhile, the city of Shenzhen, the immediate northern neighbour of Hong Kong, was developing its own container ports. In the 1980s, the Shenzhen authorities decided to develop its own ports in Yantian, Shekou and Chiwan. Starting from 1990, the throughput volume handled by Shenzhen grew rapidly; it reached 5.1 million TEUs by the end of 2001, 4.1 million TEUs of which were containerised, making Shenzhen the eighth-busiest container port in the world. Certain major Hong Kong container terminal operators had shareholder or business interests in the Shenzhen ports. Swire Pacific, China Merchants and COSCO had interests in Chiwan and Shekou, and MTL had the management contract for Shekou. Yantian, the largest of the three, was 48 per cent owned by Hutchison Whampoa. Its throughput was 2.7 million TEUs in 2001, which was 0.5 million above its capacity. Yantian was seen as the pacesetter among Shenzhen terminals in terms of pricing.

Officially, Terminal Handling Charges (THCs) were collected by shipping lines from shipper clients (i.e., the manufacturers and cargo owners) in order to recover the cost of paying the container terminals or mid-stream (river-trade) operators for the loading/unloading of containers and other costs borne by the shipping lines. THCs thus involved three parties: the terminal operators, the shipping companies and the shippers. The terminal operators charged the shipping lines a fee to allow them to berth at their terminals (berthing charges) and another fee to load/unload the containers (container handling charges). The shipping lines were supposed to charge the shippers an amount of THC that would exactly recover the container handling charge. In reality, by 2002, shippers said that they were being charged double the amount of the container handling charge. In fact, the Hong Kong Shippers' Council claimed that THCs had been increasing at double digits since they were introduced in 1990 until 1998, and that by 2001 the Hong Kong shippers were suffering from the world's highest THCs [**Exhibit 2**]. When midstream operations controlled by the terminal operators sought to impose an HK\$40-per-container service fee, the Shippers' Council took the case public. They went on to voice their grievances concerning THCs to the Hong Kong Consumer Council, the Hong Kong Legislative Council and certain Hong Kong government departments as well.

The shippers in particular complained that they were being charged the same THC from members of the same "conference" between shipping lines. Historically, in international liner shipping, "conferences" were created between liners for the purpose of ensuring that appropriate returns were achieved to guarantee that the long-run availability of efficient shipping services was maintained. The conferences were in effect joint-venture operations, and pooling arrangements between members resulted in economies of scale. Among these conferences, the Shippers' Council specifically mentioned the Intra-Asia Discussion Agreement (IADA) and the Transpacific Stabilization Agreement when discussing their complaint with the Hong Kong Consumer Council.

The Shippers' Council lobbied unsuccessfully for a reduction in THCs in 1998. In 2001, they raised the request again. Terminal operators claimed they had lowered THCs by 20 per cent

<sup>12</sup> CSX was a joint venture between US container shipping line Sea-Land Services, Hong Kong-based Orient Trucking and ATL Logistics Hong Kong. ATL was a joint venture between CSX World Terminals, Hongkong Land, New World and Sun Hung Kai Properties.

to 25 per cent since 1997. Meanwhile, the liners had only been maintaining the same THC's since 1998. The case, then, should have been clear enough, and the shippers accused shipping lines of disguising their charges as a cost-recovery mechanism to increase revenue at the expense of shippers in light of weak freight rates. However, K Line, one of Asia's leading shipping lines with no interest in the Hong Kong terminals, expressed doubt as to whether the terminal operators had really lowered charges.

Not only were the conferences reportedly acting like pricing cartels to the shippers; so were the terminal operators. Shippers said that the high THC's that they had to bear indicated that there was price-rigging between operators. Since the late 1990s, the container ports at Shenzhen rose in significance, providing the first feasible and potential alternative to shippers, but shippers also suspected price-rigging between Hong Kong and Shenzhen operators. Shenzhen's THC's were also very high compared to Shanghai; and the terminals at Shenzhen and Hong Kong had largely common shareholders. Added to that, operators at Shenzhen did not have to pay premiums to local governments in return for development rights. So the pricing at Shenzhen probably seemed even more unreasonable to shippers.

### The Hollywood Motion Picture Industry<sup>13</sup>

Hollywood, or more properly the Los Angeles area, had dominated the US motion picture industry since the 1920s. In 1987, the Los Angeles-Long Beach Primary Metropolitan Statistical Area accounted for 71 per cent of US motion picture and 60 per cent of the nation's television show production.

By the 1990s, in the Hollywood motion picture industry, studio projects, studio-backed independent projects and negative pickup deals (an arm's-length transaction on what was essentially a spot market) provided co-ordination through hierarchy, quasi-markets and spot markets respectively. Although the precise organisation might differ, in each case an individual film was created through the efforts of a short-term coalition with little consideration for long-term loyalty. The minimum efficient scale for movie production was the single production unit or single project. Project-based coalitions of directors, actors, crew, contractors and subcontractors were assembled for each major motion picture. Large numbers of contracts had to be written for each motion picture, concerning every issue from story rights acquisition to pre-production, principal photography and post-production. Even the studios' in-house production involved the hiring of many individuals and subcontractors on a one-film basis. The costs of casting, negotiations, agents' and lawyers' fees, and monitoring, could account for a substantial portion of the costs of a film.<sup>14</sup>

Localisation was no doubt vital for such an industry, in which participants were in constant communications. In order to participate in it, one had to be part of the local subculture. Formal and informal networks had developed among the studios, directors and local firms in the area. The motion picture community was relatively small: there were only a few dozen key decision-makers. Since information flowed so quickly and completely through the industry, a reputation for fair dealing was essential, and opportunistic behaviour was often swiftly punished. Producers, executive producers, talent agents, entertainment lawyers and business affairs executives negotiated the multitude of deals that had to be made for each

<sup>13</sup> Adapted from Enright, M. J., (1995), "Organization and Coordination in Geographically Concentrated Industries", in Lamoreaux, N. R., and Raff, D. M. G. (eds), (1995), *Coordination and Information*, the United States: the National Bureau of Economic Research, pp. 103-146.

<sup>14</sup> The costs associated with negotiating the contracts and monitoring the production were at least 10 per cent of the production budget for a typical movie in 1992 — in addition to the search costs involved in casting and crew selection.

motion picture, effectively matching supply and demand and setting prices for the services of film artists.

Inter-firm and interpersonal competition was a driving force in the industry. The studios competed fiercely with one another to attract talented individuals and promising projects, and to place their films at the most desirable theatres. The larger talent agencies had used their control over access to many top-name clients to become major forces in the industry. Star actors were also big winners. The contract fees for actors before and after they became stars could differ enormously. In particular, if a star had been identified with a character in a movie — for example, the child actor Macaulay Culkin with his character in the blockbuster *Home Alone* (1990) — the sequel of the movie would need that star and no other to act in it. In such cases, the star could have overwhelming bargaining power against the studios.<sup>15</sup> Therefore, studios had used the tactic of signing multi-picture contracts with stars for more than one episode in a series of movies. Natalie Portman, for example, was signed to a three-picture deal for the *Star Wars* prequels. Child actor Daniel Radcliff was signed for a two-film deal worth about US\$300,000 in 2000 for the first two instalments of the *Harry Potter* movies, in which he played the eponymous hero.<sup>16</sup> Warner Brothers, which made the movies, was in an advantageous bargaining position in setting the fees because so many child actors wanted to be the lead. It remained to be seen what arrangement would be worked out for subsequent films in the series.

### The Prato Wool Textile Industry<sup>17</sup>

By the mid-1990s, the Prato region of Italy, just outside Florence, accounted for about 50 per cent of Italian wool textile production. Prato firms generally supplied medium-quality wool fabrics for women's wear, and roughly accounted for three-quarters of the medium-quality wool fabric produced in Italy. Prato's skilled workers were masters at the flexible, rapid-turnaround, short production runs needed for fashion apparel and prototypes of mass-market apparel. Modern technology and machinery (mostly supplied by local machinery firms) and the short production runs required for fashion apparel allowed for efficient operation on a small scale. Fragmentation led to an increase in variety, which along with the geographic concentration of the industry, reduced shopping costs for customers and attracted buyers from around the world. Most Prato firms specialised in a single stage of production. A single batch of raw material often passed through five, six or more Prato firms on its path to finished textile. No firms were engaged in all production stages. Most firms in the area were suppliers and buyers at the same time, and they co-operated as equals, without a senior partner that dominated in deciding the terms of co-operation.

The co-ordination of production involved arranging and guiding the flow of material through and between the stages. Apart from manufacturing, skills such as marketing, design creativity and capacity to serve new market were also needed. The localisation of the industry facilitated the organisation of a complex system where each stage of production delivered just-in-time to each subsequent stage. Moreover, a large number of firms were set up that provided services to the textile industry, thus further increasing the importance of the efficient flow of financial, organisational, commercial and technical information within the district. It had been estimated in the mid-1980s that communication costs (including the value of the time used in communication) in the Prato textile district was approximately 2.9 per cent of

<sup>15</sup> Culkin's fee for *Home Alone* was US\$100,000, compared to about US\$5 million plus five per cent of the domestic gross (which turned out to be US\$8.7 million) for *Home Alone 2: Lost in New York* (1992). Source: Brandenburger, A. M., and Nalebuff, B. J., (1996), *Co-opetition*, New York, the United States: Doubleday, pp. 48-49.

<sup>16</sup> Jojo Moyes, "Agents withdraw child actors from pounds 90m Harry Potter film in protest at low pay", *The Independent*, 16 October, 2000.

<sup>17</sup> Adapted from Enright (1995).



total sales. Information flow within the district's textile industry had benefited from its localisation. Virtually everyone in the area was involved in the textile industry in some capacity. Everyone spoke the same language, including business idioms and ways of thinking. Social contacts and interpersonal networks helped spread information about the industry and its firms. Standardised contracts had emerged.

Most transactions in the Prato industry took place in spot markets. Co-ordination was achieved through contractual relationships and market parameters such as price, quality, time and reliability, rather than hierarchical authority. *Impannatori*, entrepreneurs that took orders, sub-contracted production, supervised fabric design, found clients, purchased material and arranged logistics, often without directly controlling any productive capacity themselves, had emerged as the central co-ordinating agents, occupying a unique position in the industry. After receiving orders, *impannatori* subcontracted productive activities on a spot basis. They tended to use many subcontractors, each of which tended to serve many customers, with the local market providing the principal co-ordination mechanism for firm activities. Most *impannatori* rotated their subcontractors periodically. Those that did not still used the presence of numerous local competitors and common knowledge of local quality and price standards to set contract parameters. This resulted in essentially market-mediated outcomes, even for what appeared to be long-term relationships. As long as a subcontractor did not deviate from local standards of quality, or tried to charge above the going price for a service, there was no reason to change subcontractors.

By 1990, there were approximately 600 active *impannatori* in Prato. They had become the market-makers of the system, matching and co-ordinating supply within the area with demand from other parts of Italy and abroad. They ran trade fairs in which buyers from around the world were invited to see the newest products of local firms. Since *impannatori* also obtained information on improved machinery, new processes and markets wherever it was available, the Prato firms were able to keep abreast of the most modern technology as it competed on the basis of quality, design, reliability, continuity of supplies and punctual delivery. Sometimes large rush orders came in that strained the system. Firms might then pay their subcontractors more to expedite their orders. Or, interpersonal and family ties allowed priority to be given to rush orders while less important orders were slightly delayed. Trust played an important part here: it was implicitly agreed that the favour would be returned in granting future deals or special contract terms. Some larger firms invested in weaving and finishing firms in order to ensure rapid turnaround on special orders for large customers. Increases in equity cross-holdings also complemented the inadequacies of the spot market.

The Prato system had proven better able to change from the production of commodities to the production of differentiated products than the textile industries in other European nations, which were not as localised or fragmented. The specifics of wool textile production, particularly the separability of production stages, and the segments served by the Prato industry, particularly fashion-related segments, had been amenable to the fragmented structure of the Prato industry. Prato firms remained unmatched in their ability to turn out short production runs of a wide variety of fabrics at short notice, making them ideal for the fashion-related segments of the garment industry, with their short seasons and short production runs.

### **Airbus and the Making of A380**

According to Giunta (1999), "the commercial aircraft industry shows marked division of labour between firms extending over the international scale. With the high costs and serious risks involved in research and development and engineering, the complexity of the productive

cycle and the application of extremely diverse technologies ... a number of enterprises must be involved.”<sup>18</sup> This characteristic was reflected in the production of A380, the flagship new project in the early 2000s of aircraft maker Airbus.

By that time, two companies dominated the global commercial aircraft manufacturing market: Airbus (owned by the European firms EADS and BAE SYSTEMS) and US-based Boeing.<sup>19</sup> Boeing was the older company and had led the race for many years. Boeing’s B747, in particular, was the first of the world’s jumbo jets, with a capacity of more than 400 passengers, and had not been matched by any Airbus models. Airbus’ most important goal in the early 2000s was to produce an aircraft that could beat the B747. The project, called A3XX, was conceived as early as 1996 but was only officially launched in late 2000. It was later renamed the A380. In terms of size, the A380 was unprecedented among airliners. The “Super Jumbo” would be a long-range triple-decker that would seat more than 550 passengers. By early 2003, it was known that the new model was expected to enter service by 2006. Airlines that were known to have placed orders by then included Air France, Emirates Airline, Federal Express, International Lease Finance, Lufthansa, Malaysia Airlines, Qatar Airways, Qantas, Singapore Airlines (the airline for the service launch) and Virgin Atlantic; a total more than 100 planes had been ordered by these 10 airlines. The cost of each new aircraft had been estimated as being within the US\$200 million-to-US\$250 million range. The project was a very expensive investment even by the standard of commercial aircraft manufacturing. The company’s manufacturing plants throughout Europe were enlarged for the production processes, and Airbus even had to build a new factory in its home base in Toulouse, France, to accommodate the final, main assembly line that would give birth to the new aircraft. The research and development costs of A380 were about US\$10 billion — and that was before including the cost of the factory building.

The way that Airbus developed and built A380 was in line with previous Airbus aircraft projects. Many of the major assemblies, such as wings, fuselage and rudder, were manufactured in different locations in Airbus’ European plants and then shipped and trucked to Toulouse.<sup>20</sup> On the other hand, much of the work was also contracted out by Airbus to first-tier suppliers that often contracted out their share of the work to other, smaller suppliers. All these suppliers would contribute not only the manufacturing but also some technological development to the project. **Exhibit 3** gives an idea of the outsourcing involved.

In fact, over the 30-odd years of Airbus’ existence up to the A380 project, it had built up a network of 1,500 contractors in more than 30 countries which, according to the Airbus website, “have demonstrated they can deliver the quality we demand within the required timeframes.” Of these, more than 800 companies were in the United States, contributing products that ranged from engines to window glass. There were also contractors in Europe, Asia, Africa and Australia, providing aerostructure commodities, materials, equipment systems, propulsion systems, company consumables and services, and product-related services. Bringing all the inputs, components and systems together according to tight production schedules was a logistical challenge of the highest order.

Procurement was one of the major branches of the Airbus organisation, headed by an Executive Vice President. It comprised five areas: airframe procurement; equipment and propulsion systems; general procurement, capital goods and services; quality and supplier development, and strategy and services. The branch as a whole was responsible for

<sup>18</sup> Anna Giunta, “Supplier Relations in Commercial Aircraft Industry: the Case of Alenia in Southern Italy”, 1999 ICSB Naples Conference Proceedings, International Council for Small Businesses, URL: [www.sbaer.uca.edu/Research/1999/ICSB/99ics122.htm](http://www.sbaer.uca.edu/Research/1999/ICSB/99ics122.htm).

<sup>19</sup> EADS stands for European Aeronautic Defence & Space Company. It consisted of three companies based in Germany, France and Spain respectively. BAE SYSTEMS was a UK-based company.

<sup>20</sup> In previous projects the parts were flown to Toulouse, but this time most of the new model’s parts were too big for that.

negotiating with suppliers and arranging the provision of externally sourced goods and services to time, cost and quality as agreed with Airbus' Programmes and Operations branches. Procurement implemented standards, policies and processes across the whole of Airbus and its supply chain. Through such efforts, Airbus could manage its relations with suppliers, monitor their performance and drive corrective and improvement actions. The company had even set up an online system called "Airbus Sourcing" that allowed buyers and suppliers to exchange requirements, proposals and technical innovations. Airbus spent 14.1 billion euros (about US\$12.5 billion) on procurement in 2001, compared with sales of US\$18.2 billion in the same year.

### The Acer Group by 2001<sup>21</sup>

Contract electronic manufacturers (CEM), or electronics manufacturing services (EMS) providers, were companies that manufactured a variety of electronic products for computer and electronics companies on a contract basis. By 2000, CEM/EMS providers often supplied complete manufacturing services, including product design, manufacturing, quality control and related activities. In that aspect, they were also original equipment manufacturers (OEMs), which manufactured finished products often to be sold under the brand names of client companies (sometimes, as in the Microsoft ruling mentioned earlier, brand-name companies that might not have internal manufacturing facilities were also called OEMs). They might also be involved in some design work, and were called in that capacity original design manufacturers (ODMs).

CEM/EMS had become a big business by 2001, when 15 to 20 per cent of total electronics production worldwide was outsourced. According to an industry source, by 2001 there were 50 contract electronics manufacturers worldwide with revenues over US\$100 million. A number of observers agreed that PC-makers would outsource more and more of their production to EMS providers on an OEM basis. It had been claimed that the worldwide contract manufacturing market amounted to US\$103 billion in 2000. The leading CEM/EMS companies, US-based Solectron and Singapore-based Flextronics International, both had sales in excess of US\$10 billion in 2001. The main competitive variables and purchasing criteria for the CEM/EMS business were product quality, reliability of delivery and price. For companies that also outsourced design, design capabilities were also critical. Asia in general, and Taiwan in particular, was the home of many medium-sized contract manufacturers.

The Acer Group, one of Taiwan's foremost PC-makers and peripherals-makers, was by early 2001 in a special and embarrassing position of being both a contract manufacturer and also a vendor of its own brand-name PCs. In other words, it was simultaneously a supplier and buyer among PC-makers. By early 2001, the Acer Group's flagship company Acer Inc.'s leading product lines were notebook PCs, desktop computers and computer motherboards. Developing a global brand name was the quest of Acer's founder and guiding light Stan Shih, who had been leading the company since its inception as an OEM in 1976. Acer had ranked seventh in the world in PC unit sales (including its own brand and OEM production) in the late 1990s, and was the ninth in 2000. Own-brand sales accounted for roughly 40 per cent of Acer Inc.'s revenues in 2000, with contract manufacturing accounting for 60 per cent. Acer Inc.'s branded business suffered a loss of over US\$60 million in 2000 in the Americas and Europe, and continued to lose money overall.

The contract manufacturing business, which had factories in different parts of the world, was profitable, though its revenues had fallen. At the same time as the global economy suffered from a recession by 2001, affecting Acer's revenues, Acer also ran into issues combining

<sup>21</sup> Adapted from Enright M. J., and Mak, V., (2001), "Acer in 2001: The Reorganisation", Hong Kong: Centre for Asian Business Cases, School of Business, The University of Hong Kong.

contract manufacturing and own-brand business. Since Acer might manufacture a PC model for a client and a similar Acer-brand one in direct competition, OEM clients feared leakage of business secrets. Acer's OEM operations suffered after IBM, a major customer, cancelled an order in 2000. IBM accounted for 53 per cent of Acer's total revenue in the first quarter of 2000, but only 26 per cent in the second quarter of 2001.

To address the problem of conflict of interest, and also to re-focus its own-brand business, in May 2001 Acer announced that it would spin off its Design, Manufacturing and Services (DMS) i.e., its contract manufacturing arm, into a new company called Wistron Corporation. Acer Brand Operation (ABO) would become the flagship business of the Acer Group, and would concentrate on marketing and sales for Acer's own branded products. It would outsource all its manufacturing and would give a free hand to its contract manufacturers. With eight global operation sites, Wistron claimed to have achieved US\$3 billion in OEM business revenue in 2000 (as Acer Group's DMS arm). It also claimed to be the top global ODM/OEM supplier for the PC industry that year — but provided no information about how that figure had been arrived at. Wistron was dedicated to achieving global leadership in design and OEM manufacturing within the information and communications technology (ICT) fields. Acer planned to reduce its ownership of Wistron from 100 per cent to about 30 per cent by mid-2002. The spin off was expected to allow Wistron to make the best use of its research and development resources, design capabilities and global logistics system, and to have a free hand in looking for new customers. At its inception, Wistron would have clients that included IBM, Dell, Hitachi and Fujitsu, with IBM the single largest client. Acer claimed that ABO would just be another client of Wistron.

## The Future of Buyer-Supplier Relations

Several trends in the early 2000s were likely to influence buyer-supplier relations. These included an increased emphasis on supply chain management, an increased use of online communications and purchasing, increasing outsourcing in manufacturing, increased outsourcing in the service sector, and profit pressure on major firms. Increased emphasis on supply chain management, with its focus on providing complete information through every step in the supply and distribution chain and its desire to minimise inventories, pushed some companies to limit the number of suppliers they used to a relatively small number that could be true partners in an integrated supply chain. Online communications and purchasing tended to provide greater pricing information to buyers, which in turn could cause them to push for lower prices. Several large companies began to go to online auctions in the early 2000s for many of their inputs in order to obtain better pricing and improved terms. Increased outsourcing in both manufacturing and services have served to bring new parts of the world, China and India in particular, into the global economy. The trend also has made many manufacturing and some service activities commodities, in which it is increasingly difficult for suppliers to earn high returns. The increasing globalisation of competition and the emergence of new players from new markets also resulted in substantial profit pressure on many venerable firms in the early 2000s. Most analysts expected that this pressure would push them to rethink their supplier relations, though it was not clear in which directions many firms would take those relations.

**EXHIBIT 1**  
**PROFILE OF TOYOTA'S AND GENERAL MOTORS' SUPPLIERS**

	<i>Percentage of Total Component Costs</i>		
	<i>Internally Manufactured</i>	<i>Partner Suppliers*</i>	<i>Arm's-length Suppliers</i>
Toyota	27%	48%	25%
General Motors	55%	10%**	35%

\* Kankei-kaisha (affiliated companies) in the case of Toyota.

\*\* Two or fewer suppliers for a product category.

N.B.: "internally manufactured" implies production as part of the vertically integrated company; arm's-length relationships relied primarily on legal contracts with outside suppliers; partnerships were external relationships governed by trust and implicit long-term agreements rather than legal contracts.

Source: Dyer, J. H., (2000), *Collaborative Advantage*, New York, the United States: Oxford University Press, p. 33.

**EXHIBIT 2**  
**TERMINAL HANDLING CHARGES (THC) IN SELECTED MAJOR PORTS**

THCs for Europe are as of March 2001. All other THCs are as of August 2002.

<i>(in HK\$)</i>	<i>USA 20'</i>	<i>USA 40'</i>	<i>Europe 20'</i>	<i>Europe 40'</i>	<i>Asia 20'</i>	<i>Asia 40'</i>
Hong Kong	2,140	2,855	2,060	2,750	1,800	2,650
Shenzhen	1,096	2,087	1,100	2,100	1,096	2,087
Taiwan	1,271	1,589	1,150	1,450	1,096	NA
Singapore	788	1,170	720	1,020	788	1,170
Japan	749	936	1,870	2,680	686	1,030
Indonesia	1,012	1,557	NA	NA	1,051	1,557
South Korea	657	891	620	840	657	891
Malaysia	590	880	480	710	590	880
Thailand	478	718	480	710	478	718
Shanghai	510	680	120	180	113	175
The Philippines	85	113	270	340	507	669
Germany	NA	NA	1,110	1,110	NA	NA
The Netherlands	NA	NA	790	790	NA	NA

Note: "20" is a standard unit for container volume and is equivalent to the volume of a container measuring 20ft x 8ft x 8ft; "40" is similarly equivalent to the volume of a container measuring 40ft x 8ft x 8ft.

Source: CLSA Emerging Markets, *Hong Kong Strategy — Market Outlook*, October 2002, p. 23.

**EXHIBIT 3**  
**SOME A380 SUPPLIERS AS OF 10 MARCH, 2003**

<i>Supplier</i>	<i>Components</i>
Aerolec (joint venture of Goodrich and Thales)	Variable-Frequency (VF) Electrical Generation
Aircelle	Nacelle
Belairbus	Slat Track Systems for Wing Sections
COMTAS Aerospace	Upper Frame Cross Beams
Diehl Avionik Systeme	Doors and Slide Management System, Highlift Slat Flap control Computer
Draeger Aerospace	Emergency Oxygen System
EADS Augsburg	Flap Tracks, Floorbeams, Front Wing Frame
Eaton	Hydraulic Pumps, etc.
Fairchild Controls	Galley Cooling
Fenwal, Meggitt, Thermocoax	Bleed Overheat Detection
FR HiTemp	Fuel Pumps
Frisby (Triumph Group)	Cargo Door Actuators
Fuji Heavy Industries	Vertical Tailplane Edges, Tip, Fairings
GE-Pratt & Whitney Engine Alliance	GP7200 Engine
GKN Aerospace Services	Wing Trailing Edge Panels
Goodrich (with Auxitrol, Thales)	Flight Control Systems, Landing Gear, Air Data Systems, etc.
Hamilton Sundstrand	Air Conditioning, Ram Air Turbine
Honeywell	Aircraft Environment Surveillance System, Flight Management System, etc.
KID-Systeme	Cabin Communication Data System, Passenger Supply Channel, etc.
Kollmorgen Artus	Emergency Electrical Generation
Liebherr (with Honeywell, Smiths)	Bleed (main WPs), Spoiler Actuators, Highlift Actuation
M. C. Gills	Cockpit & Electronic Equipment Bay Floors
Messier-Bugatti	Braking & Steering Control Systems, etc.
Messier-Dowty	Landing Gear — Nose
Mitsubishi Heavy Industries	Front & Aft Lower Cargo Doors
Nord-Micro	Avionics Ventilation, Cabin Pressure Control, and Ventilation Control Systems
Northrop Grumman	Air Data Inertial Navigation System
Pfalz-Flugzeugwerke (PFW)	Fluid Distribution Systems
Pratt & Whitney Canada	Auxiliary Power Unit (APU)
Rockwell Collins (with Honeywell, Thales)	Avionics Communication Router, Radio Communications, etc.
Rolls-Royce	Trent 900 Engine
Ruag	Outer Fixed Trailing Edge, etc.
Smiths Aerospace	Landing Gear Actuation, Video Concentrator/Multiplexer, Wing Flaps/Slats, etc.
Thales (with Diehl Avionik Systeme)	Flight Control Unit, etc.
TRW	Cargo Loading System, Rudder, etc.
ZODIAC (with ECE, Intertechnique, Monogram Sanitation)	Electrical Distribution — Primary, Fuel Hydromechanical, Water Waste, etc.

Source: "Airbus A380 Suppliers", *SpeedNews*, URL:  
[www.speednews.com/lists/A380\\_Suppliers.html](http://www.speednews.com/lists/A380_Suppliers.html)