INTERNATIONAL MOTOR VEHICLE PROGRAM

FY '97 IMVP WORKING PAPERS

GLOBALIZATION OF THE KOREAN AUTOMOBILE INDUSTRY

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June 2, 1997

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I wish to thank the Sloan Foundation and the International Motor Vehicle Program, M.I.T. for their financial support. I also wish to thank Hyundai, Daewoo, and Kia Motors for their cooperation in this research and allowing me access to their overseas manufacturing facilities, and Sang Joon Park for his excellent research assistance.

Globalization of the Korean Automobile Industry

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1. Environmental Changes Facing the Korean Automobile Industry

One of the most important management concepts in the 90s is "global management." The world's top business concerns as well as numerous management schools have stressed the need to practice and teach global management. The necessity of global management has also been emphasized in the automobile industry as well by the top automobile companies and scholars. In fact, Shimokawa[1] states that "once a good idea, global alliances and networking is a now a virtual necessity."

The automobile industry, by virtue of its size, has always been a global industry. The Korean automobile industry, now the 5th largest in the world, also share much of the characteristics of a global industry with more advanced manufacturing countries such as the US, Japan, and Germany. The Korean automobile industry is characterized by huge investment in indigenous model development, and manufacturing facilities. This characteristic is more similar to the US, Japan, and Germany than it is to the automobile industries of Mexico, Canada, Spain, United Kingdom and Thailand. The automobile manufacturers in the latter countries are mainly subsidiaries that are manufacturing, and often just assembling from KD kits, the models developed by the parent companies headquartered elsewhere. By contrast, the automobile manufacturers in Korea (Hyundai, Daewoo, and Kia Motors) all have their parent headquarters within Korea, and most of the new product development is carried out in Korea.[2]

Because of the enormous amount of investment in manufacturing facilities, experts view the efficient scale of an automobile assembly plant to be output of 200,000 to 300,000 cars a year. For engine plants, the efficient scale is attributed to be around 400,000 engines per year. On the other hand, the huge investment in new product development makes the scale economy of a platform as important as the scale economy of an assembly plant. For example, Hyundai Sonata platform strives for about 400,000 cars a year in order to be competitive. However, the minimum efficient number of cars per platform differs by companies and models. In fact, many Japanese and European manufacturers have profitable platforms producing less than 200,000 cars per year.

Another consideration is the variety of consumer tastes. As Korean consumers become more mature consumers of automobile, they are exhibiting more variety-seeking behavior and demanding more models. However, more models imply less domestic sales per model, as more and more models compete for the same consumer dollars. In order to produce more models at the efficiency scale, Korean manufacturers have had to look to the global market for their cars.

Yet another reason for the globalization of the Korean automobile industry can be attributed to slower domestic growth. During the 70s and 80s, the growth of domestic sales averaged around 25%. This growth rate has decreased to 10-14% in the early 90s; in 1994 we saw zero growth; and in the first quarter of 1997, we are seeing minus growth. To make matters worse, many Korean manufacturers have increased their capacity in order to become a global player. Also, in 1998, the top *chaebol* group in Korea, Samsung, will enter the already crowded passenger car market with a Nissan model adapted for the Korean market. For the first time in its history, Korean manufacturers are experiencing severe over capacity and increasing inventory at their

[1] Koichi Shimokawa, "The Globalization and Strategy of the Japanese Automobile Industry," *IMVP Working Paper*, M.I.T., 1992.
[2] Sung Joon Hong, "A Study of the Internationalization of the Korean Automobile Industry," Master's Thesis, *Choong Ang University*, June,1994.

lots. Meanwhile labor costs in Korea have gone up substantially, as have input costs. This coupled with the weakened yen in 1993-1994 have severely restricted the price competitiveness of Korean automobiles.

The opening up of the Korean market following WTO and Korea's membership into the OECD, has engendered more intense competition from foreign imports. In particular, most foreign automobile companies are using penetration pricing strategies to gain a share of the Korean automobile market.[3] Due to the importance of the automobile industry to a country in terms of employment and its effect on related industries, many governments are sensitive to trade imbalances arising from automobiles. Also, with the regionalization of economies through trade blocs (NAFTA, ASEAN, EU, APEC, etc.), Korean manufacturers are in the danger of being handicapped in their major export markets by both tariff and non-tariff barriers.

The active pace of mergers and acquisitions in the automobile industry is another environmental characteristic that the Korean automakers are facing. Many Korean manufacturers were shocked at the announcement of the takeover of Mazda by Ford in 1996. Acquisition of the passenger car division of Saab by GM, takeover of Jaguar and Rover by Ford and BMW respectively, are signaling the era of competition between mega automakers. In response to the consolidation of the global automobile industry, Korean manufacturers have increased their capacities at home and abroad in order to be large enough to compete at a global scale.[4]

The recent entry of US, Japanese and German manufacturers into the emerging markets of South East Asia, India and China has also spurred the Korean manufacturers to enter these markets by setting up local manufacturing. Many of the South East Asian countries have seen 20% or higher sales growth in 1995, and this trend is expected to continue as these nations develop economically and income increases. Many governments in these countries are also consciously promoting local manufacturing because of the potential technology spill over effects arising from housing a local automobile manufacturing industry. China, with a population 15 billion people, is potentially the largest market in the world for automobiles. The Chinese government is in the process of selecting a handful of automobile manufacturers for its national car program and many automobile manufacturers are jockeying to gain a favorable position here. Korean manufacturers know that there are many first mover advantage in these growth markets, and strives not to lose the initiative to their competitors.[5]

Due to the environmental changes above, the Korean automakers have chosen the road to globalization as a way to sustain its competitiveness. Globalization of Korean automakers have unfolded in the following stages.

1. Exports

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[3] Chi Sang Ji, "WTO order and the Korean Automobile Industry," *Automotive Economy*, De. 27, 1994.

[4] Sang Gyo Lee, "Ford's Acquisition of Mazda Signals Restructuring in the World Automobile Industry," *Shin Dong A*, August 1996.

[5] (a) "War Clouds in the World Automotive Industry," *Economist (Korean ed.)*, June 28, 1995.
(b) Yong Sun Chung, "Developing countries expected to show continuous growth," *Automotive Economy*, Dec. 26, 1995.
(c) Yong Sun Chung, "The Chinese automobile industry getting focused," *Automotive Economy*, Oct. 31, 1995.
(d) Kwon Hyung Lee, "The fast growing Indian automobile market," *Automotive Economy*, July 11, 1995.

2. KD exports and assembly
3. Local manufacturing
4. Global alliance and networking (i.e., the networking of global manufacturing, parts supply, marketing, and R&D into a cohesive strategy, fully utilizing strategic partners).

The major difference between the Korean experience and the experience of other countries is that the stages 2, 3, and 4 seems to have progressed concurrently. Like other aspects of the Korean economy, stages of globalization has seen a feverish pace with everything coming about within a very short period of time.

The stages of globalization are examined in detail in the next two sections. Because stage 1 and stages 2, 3 and 4 require very different company capabilities and because of significant temporal distinction, we will examine them separately in Sections 2 and 3, respectively.

2. The History of Korean Automobile Exports[6]

The history of Korean automobile exports can be divided into 4 distinct periods. The introductory period was started by the exports of the Hyundai *Pony* model in 1976. The growth period is marked by the Hyundai *Excel* phenomenon in North America. The retrenchment period is marked by the quality problems faced by Korean automakers in North American market and their sharp decline. The revival period is marked by diversification of export markets.

2.1 Introductory Period (1976-1984)

The history of Korean automobile exports started in 1976 with the first shipment of the Hyundai *Pony* to Ecuador. Exports were possible due to the development of the *Pony* by Hyundai as an indigenous model. Prior to the *Pony*, all the automobiles manufactured in Korea were KD models of Japanese and American manufacturers, and they were manufactured purely for local consumption and manufacturers were prevented from exporting them. From 1976 to 1979, we saw exports increase from 1,341 to 31,486 units, solely due to the *Pony*. However, exports cooled off between 1980 and 1983. The reason for this cooling off was the lack of substantial follow-up models to the *Pony*. During this period, the Korean automobile industry did not have any distinct advantage over their international competitors in terms of manufacturing efficiency, quality and marketing.

Table 1. **Exports of Korean Automobiles**

(units)

year	passenger cars	commercial vehicles	total
1976	734	607	1,341
1977	4,995	4,041	9,036
1978	16,371	9,966	26,337
1979	18,702	12,784	31,486

[6] Based on "The History of Korean Automobile Exports," by Wujin Chu, *Symposium Commemorating $100 billion Exports*, The Korean Federation of Trade Associations, 1995.

1980	14,655	10,597	25,252
1981	17,221	9,062	26,283
1982	14,133	6,185	20,318
1983	16,405	8,073	24,478
1984	48,778	3,513	52,291
1985	119,210	3,897	123,107
1986	298,879	7,490	306,369
1987	535,231	11,079	546,310
1988	564,511	11,212	575,723
1989	347,273	8,219	355,492
1990	339,672	7,303	346,975
1991	378,600	11,523	390,123
1992	427,513	28,531	456,044
1993	572,402	66,087	638,489
1994	648,385	89,464	737,849

source: *1995 Automotive Industry*, Hyundai Motors

2.2 Growth Period (1985-1988)

The Korean automobile industry saw strong growth in this period through aggressive export market cultivation and improved technology and productivity. In terms of technology, Hyundai developed its indigenous model named the *Excel* and built the Ulsan plant with an annual capacity of 300,000 units. During this time, Kia, in a three-way alliance with Ford and Mazda, manufactured the Ford *Festiva*. The *Festiva* was developed by Mazda, manufactured by Kia, and marketed by Ford.

On the marketing side, Hyundai established its own network of dealers in 1985, and set up Hyundai Motors America. During this period, many high quality and reasonably priced consumer electronics and garments were being exported to North America from East Asian countries such as Japan, Korea, and Taiwan. Hyundai rode this general optimism toward Asian-made products and made a strong entry into North America. In 1985, Hyundai *Excel* was the number one import vehicle in Canada. In the following year the *Excel* was broke the record for the most car sold in its first year of import in the US by positioning itself as an alternative to a used car. In fact *Excels* were priced such that it was the lowest price new-car on the market for that year. The *Excel* advertising stressed the practical side of automobile purchase rather than other selling propositions such as prestige, performance or image: the *Excel* was positioned just as a "sensible" car. In 1988, the *Excel* became the number one selling imported compact car in the US by selling 263,000 units.

Kia also made inroads into the US by selling its product through an OEM arrangement with Ford. The tie-in with Ford gave Kia access to the world market as Ford (Kia) *Festivas* were sold world-wide through Ford's global marketing network. The alliance with Mazda also greatly increased Kia technological capabilities in new product development, manufacturing and quality. Daewoo's tie-in with GM was not as successful. The joint venture with GM to produce the Pontiac *LeMans* was a bumpy relationship which eventually terminated in 1994. The *LeMans* was an Opel *Kadett* model adapted for Korea and for the US market. In 1987, 64,000 units were exported, a figure substantially below expectations. This figure decreased dramatically to a mere 27,000 units in 1990.

Between a period of just 4 years from 1985 and 1988, automobile exports increased from 123,107 to 575,723 units, a five-fold increase. Also, in 1988, Korean-made cars had a 3.67% share of the US market. However, this streak would quickly turn sour as quality problems began to surface.

2.3 Retrenchment Period (1989-1991)

In this period, Korean exports saw a dramatic decline. The main reason for the decline being quality problems that began to surface after the initial ownership period was over. In particular, North American consumers came to realize that the quality of Korean-made cars were not up to their expectations. In Table 2, we can see that Hyundai, who has exported the largest number of cars to the US of all Korean manufacturers, has 178 defects per 100 cars in the first three months of ownership in 1989. The figure increased to 235 in 1991. During the same period, the scores for Toyota decreased from 117 to 90. While Japanese cars have steadily improved their already strong quality levels, the Korean manufacturers are actually backsliding in terms of quality.

Table 2. JD Power Initial Quality Survey (defects per 100 cars in first 3 months)

(defects)

year	GM	Ford	Toyota	Honda	Benz	Hyundai	Daewoo	Kia
1980	740	670	205*	205*	-	-	-	-
1985	240	231	135	150	169	-	-	-
1987	179	1628	125	129	108	315	-	-
1988	173	172	121	161	116	229	246	161
1989	169	149	117	113	103	178	246	122
1990	-	-	-	-	-	230	303	166
1991	134	127	90	111	99	235	-	-
1992	136	129	83	106	-	193	-	-
1993	95	112	74	92	95	194	-	-
1994	91	112	69	92	91	193	-	-
1995	90	116	74	71	79	195	-	295

source: JD Power and Associates

* average of all Japanese cars in 1980

The quality problems with Korean cars are also reflected in the low used car prices. In Table 3, we see that Korean cars depreciate must faster than Japanese cars. The used car price of 3 year old Ford *Festiva* (manufactured by Kia) is a mere 44.5% of the original price, while that of the Honda *Civic* is 84.9%.

The main reason for this backsliding is due to the labor unrest that broke out in 1989. Labor unrest resulted in poor quality levels as workers did not care about quality and did not make the suggestions that lead to steady improvements in quality. In fact, the lean production system with its high quality requires a stable and cordial labor relations as a necessary condition. This is reflected in the experience of the US automakers, who among other things, greatly improved their relations with their workers. Labor unrest first surfaced in Korea in 1987, and the next four years saw the heaviest and most acute conflict of all. The automobiles produced in this very period were the automobiles exported to the North American market, which was then the biggest export market.

The labor-management conflict at Hyundai began to stabilize in 1992, resulting in the improvement of IQS scores from 235 to 193 in 1992. However, this figure has stayed constant until 1995, indicating that the quality problems at the Korean automakers were not all labor related. The residual variance in quality can be explained by the slow adoption of the lean production system. Korean automakers are somewhere between mass and lean production. For quality to improve further, Korean manufacturers must embrace lean production more aggressively.

Table 3. Selected Used Car Prices

(%)

Model	1991 model	1990 model	1989 model
Hyundai Excel	79.5	65.2	45.1
Kia - Ford Festiva	73	60.2	44.5
Daewoo - Pontiac LeMans	63	53.1	40.8
Honda Civic	99.7	94.5	84.9
Mazda 323	93	90.3	73.5
Nissan Sentra	92	72.4	58
Toyota Tercel	-	74.8	59.9
GM	82.4	71.2	53.6
Volkswagen Fox	-	71.2	58.3

source: Ward's Automotive Market Report, 1991

However, even during this period, Korean automobile industry managed to grow steadily due to strong domestic demand growth that averaged 22.6% between 1989 and 1991.

2.4 Revival Period (1992-)

In 1992, exports increased 13% over the previous year and started to pick up. In 1993, export increase was 33.9%; and in 1994, it was 13.8%. In 1994, Korean manufacturers exported 737,000 cars. The biggest reason for this improvement was due to the diversification of export markets and the high value of the yen. Market diversification meant lessening Korea dependence on the North American market by making inroads into Europe, Central and South America, and India. The European market can be further divided into the Western and Eastern Europe, and Korean automakers are actively pursuing market penetration in both these markets. In Western Europe, Koreans sold 114,919 cars in 1992. Hyundai, Daewoo and Kia are all selling cars in Western Europe under their own marquee, and their own distribution network. Within Western Europe, countries with liberal and non-protectionist trade policies such as Germany, United Kingdom and the Netherlands were the major markets.

Another side of market diversification is penetration of the Central and South American states. In 1994, Koreans exported 129,000 units to this region, making this region as important as Western Europe. Another characteristic of Korea's automobile exports to this area is that there is a high percentage of commercial trucks and buses, which generally have higher gross margins. In particular, Daewoo has been active in selling to Brazil, Columbia, Ecuador and Venezuela. Although overall demand in this region is strong, a variety of environmental factors such as the foreign exchange crisis in Columbia, recession in Ecuador, and wildly fluctuating tariff rates in Brazil make exports to this region volatile.

Table 4. Regional Diversification of Korean Auto Exports (1990-1994)

Region	1990	1991	1992	1993	1994
N. America	251,180	228,756	154,170	140,702	234,904
Western Europe	22,179	58,526	114,919	160,892	142,805
Eastern Europe	9,505	17,662	10,894	26,506	21,266
Asia	33,422	37,092	52,852	101,317	56,355
Central and S. America	8,206	13,177	50,063	95,106	129,077

source: *Monthly Automotive Statistics* 1995, KAMA

During this period, Korean automakers made aggressive investment in distribution and sales. Rather than relying on the "diligence" of their partners, as was the case of OEM exports, Korean automakers took matters into their own hands by setting up their own distribution system and selling under their own marquee. The limitation of OEM exports was that the OEM companies will sell Korean-made products only to the degree that they didn't encroach on the sales of their own brands. However, selling under one's own marquee requires a heavy investment in distribution channels and advertising.

Another reason for the export boost in this period was the high value of the yen. Between 1991 and 1994, the value of the yen against the won (the official Korean currency) increased by 9.2%. Due to this increase, the competitiveness of Korean cars increased vis-à-vis their Japanese competitors. In a report by the Industrial Bank of Korea, a 10 percent increase in the value of the yen leads to a 3.6% increase in exports of Korean automobiles.[7]

3. Knock-Down Assembly, Local Manufacturing and Global Networking

Today's competitive landscape can be expressed as "global competition," a state where companies from every nation are competing against each other in the global marketplace. The traditional boundaries of nations, laws, and cultures are no longer effective in containing a nation's economy against foreign competitors. While this is the

[7] Kyung Yup Kim, "The Effect of the High Valuation of the Won on the Export and Profitability of the Korean Automakers," *Automotive Economy*, Nov. 29, 1994.

general trend in this world, we are also finding that in the short run, there are more economic blocs being set up such as the EU, NAFTA, and ASEAN. These economic blocs also have a large effect on how automobiles are manufactured and marketed.

According to Shimokawa,[8] the world automobile industry is headed toward a period of global cooperative network. A global cooperative network has the following characteristics: (a) a full-fledged localization of management, capital, technology and high local content; (b) global alliance in areas of product development, manufacturing, procurement, marketing and after service among automakers across countries and sometimes even with automakers within the same country. The global cooperative network is important due to the need to complement each other's skills and to decrease risk.

From this perspective, it is fair to say that the Korean automakers have mostly relied on a global strategy that mainly consists of their own resources rather than joining forces with the major competitors of the world. Although Hyundai has an alliance with Mitsubishi; Kia with Mazda and Ford; Ssangyong with Mercedes-Benz; and now Samsung with Nissan, the degree and number of alliances are very few. In this sense, the Korean automakers have not reached the stage of a global cooperative network formation outlined in Shimokawa's paper. Nevertheless, Korean automakers have made tremendous strides in globalization in terms of KD operations and local manufacturing. In this section we will first focus on KD operations. We will then examine the local manufacturing strategies of the three major Korean automakers.

3.1 Knock Down (KD) Operations

The stage between exporting and local manufacturing is KD operations. KD operations started in 1989, and over a short period of 7 years, it has seen tremendous growth. In 1993, 63,000 units were exported followed by 47,000 units in 1994 and 88,000 units in 1995 (up to Nov.). Table 5 shows that the percentage of KD exports is 9% of total exports in 1995. The reason for this growth is the realization by the big three Korean automakers that KD is a way to pre-empt a foreign market before full-fledged local manufacturing takes place.[9]

Kia is the leader of KD operations. Kia, in 1987, was the first Korean automaker to start KD exports to Taiwan and the Philippines by exporting 25,000 units. By 1993, the volume of KD exports by Kia had doubled to 50,000 units. In 1994, exports to Taiwan decreased dramatically and KD exports fell below the 1993 level. However, in 1995, buoyed by exports to Iran, Germany and the Philippines, KD exports rose to 62,430 units. One aspect of Kia's KD operations that needs special mention is Indonesia. The Indonesian government started a national car industry program in an attempt to catch up with that of Malaysia's. Kia, amidst controversy, was chosen as Indonesia's partner. The *Sephia* was to be modified for the Indonesian market, and renamed the Timor. In the first stage (till July 1997), Kia will sell 48,000 fully assembled *Sephia's* ; in the second stage (till March 1998), Kia will export 48,000 KD kits to be assembled in Indonesia; and in the last period (from July 1998), when the joint venture manufacturing plant is to be completed, Kia will start local production in Indonesia. The initial capacity of the plant is 50,000 but this will be expanded to 100,000 by the year 2000.

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[8] Shimokawa, *op. Cit.*

[9] Kwon Hyung Lee, "The Automakers: Working Towards a Global Manufacturing Network," *Automotive Economy*, Dec. 26, 1995.

Table 5. KD Exports of Korean Automakers

(units)

		1989	1990	1991	1992	1993	1994	1995*
Hyundai	passenger	20,200	29,500	25,050	14,250	12,350	4,080	15,270
	commercial	-	-	-	-	-	-	180
	total	20,200	29,500	25,050	14,250	12,350	4,080	15,450
Kia	passenger	13,104	22,810	22,140	23,777	49,608	39,870	57,680
	commercial	1,441	1,170	1,020	1,300	990	2,720	4,750
	total	14,545	23,980	23,160	25,077	50,598	42,590	62,430
Daewoo	passenger	-	-	-	-	-	-	9,832
	commercial	-	-	-	-	-	-	119
	total	-	-	-	-	-	-	9,951
Ssangyong	passenger	-	-	-	550	400	300	352
Total	passenger	33,304	52,310	47,190	38,577	62,358	44,250	83,134
	commercial	1,441	1,170	1,020	1,300	990	2,720	5,049
	total	34,745	53,480	48,210	39,877	63,348	46,970	88,183

source: KAMA and company reports
* : cumulative exports up to Nov.

Hyundai was the first Korean automaker to set up a full-fledged foreign manufacturing facility. In 1989, following the hugely successful entry of the Hyundai *Excel* into Canada and US, Hyundai's plant was completed in Bromont, Canada to manufacturer the *Sonata*. Although the plant was built at a capacity of 100,000, the plant only produced 20,000 to 30,000 cars because of low demand and increased cost. The plant eventually closed in 1993 due to losses. Through this experience, Hyundai decided that they did not have any inherent competitive advantage in manufacturing cars abroad, especially in the developed economies. This lead to a weak effort toward globalization, with Hyundai focusing most of their energies on manufacturing in their Ulsan plant in Korea for both domestic consumption and export. In 1994, Hyundai only had 4,000 units of KD exported. However, Hyundai did slowly pick up KD operations and in 1995 with a volume of 15,000 KD kits.

Daewoo was the last comer in KD operations, but in 1995 it had 10,000 units exported to its joint venture plants in India, China, and Indonesia. Although Daewoo has been a slow starter, in 1997, it has the most ambitious plan for globalization. This will be discussed in greater detail in the next section.

KD operations were initially a way to boost exports. Many developing countries placed heavy tariffs on fully-assembled cars and KDs were a way to get around the tariff barrier. KD operations also contributed to the diversification of exports markets, as they went hand-in-hand with the opening up of new markets. KD operations also gives the impression that the automobile assembled is the local country's own rather than an imported product. This breaks down consumer and government resistance, leading to increased sales and a more favorable image of the KD exporter. However, since the 1994, KDs are viewed not simply as a way to increase exports but a as a precursor to full-fledged manufacturing in that local country. We now turn to this issue next.

3.2 Local Manufacturing and Global Networking

The environment for doing business in the automobile industry for Korean manufacturers are pointing towards globalization as the only way for Korean automakers to survive and become one of the major players. The sharp downturn in domestic demand, formation of regional economic trade blocs, the need to amortize the huge investments in new product development, need for scale economies in manufacturing, changing consumer tastes, volatile foreign currency markets are all pointing towards globalization as a way for the Korean automakers to sustain their competitiveness.

- **Daewoo Motors**

Among the Korean automakers, Daewoo is has the most ambitious globalization plan. In a front page story of the Business section of the *New York Times* (July 24, 1996), Daewoo's chairman Woo Joong Kim is featured in a story about Daewoo Motor's entry into Poland with a headline that read "European Beachhead for Korean Ambition." The Daewoo Group, the parent Group of Daewoo Motors, has plans to increase consolidated sales to $170 billion by the year 2000. In order to achieve this kind of growth, Daewoo plans to pursue an aggressive "global management strategy," that takes advantage of global synergy from numerous regional headquarters, over 1000 foreign subsidiaries, over 30 global R&D centers, 250,000 foreign employees, numerous global financial firms, and strategic alliance with Asian firms and governments.

Central to Daewoo's worldwide expansion is Daewoo Motors. The same article goes on to say that Daewoo Motors, a 24th-ranked automaker in the world was striving to be one of the top 10 automakers by the year 2000. Daewoo has plants under operation in Poland, Romania, India and numerous other KD operations worldwide. (See Table 6).[10] Daewoo's plans are to have 1 million in overseas capacity by the year 2000. Daewoo also has three major automobile R&D centers: the Bu-Pyung Center in Korea, the Worthing Technical Center in the UK and the Munich R&D Center in Germany. In 1995, Daewoo established sales and distribution networks in 19 European countries, and enjoyed strong sales there. Daewoo's goal is to manufacture 2.2 million cars worldwide with 70,000 cars for domestic sales, 350,000 cars for exports, and 1 million cars manufactured and sold overseas.

Table 6. Overseas Manufacturing Operations of Daewoo Motors

(units)

Region/Country		Model	Planned Cap. (by 1998)	Production Date
Eastern Europe	Czech	light truck	75,000	
	Poland	Cielo Passenger car light truck	90,000 200,000 20,000	
	Romania	Cielo	200,000	96.3 started
Southeast Asia	Philippines	Cielo, Espero	20,000	96.8 planned
	Vietnam	Passenger car	10,000	96.8 planned

[10] We will use Daewoo and Daewoo Motors interchangeably. The parent group will always be called the "Daewoo Group." The same will apply to Hyundai.

		large truck	1,000	
	China	large bus	2,500	95.8 started
	Indonesia	Cielo, Espero	20,000	95.9 started
Near East	India	Cielo Compact car	60,000 100,000	95.7 started
	Iran	Cielo, Espero	50,000	
	Uzbekistan	Cielo,Tico,Damas	200,000	96.3 planned

source: "Daewoo 2000, towards 1,000 foreign operations" *Daewoo Family News*

Table 6 shows that Daewoo's strategy is to enter growth markets that have traditionally been neglected by the world's top automakers. These were the countries in Eastern Europe, South-east Asian countries where the Japanese presence is low, and India. Hyundai's failure to maintain a manufacturing base in a developed region (Bromont, Canada) seems to have had an effect on Daewoo's decision as well. These countries also have a large population, so that Daewoo can rely on a strong local demand base. It is also noticeable that Daewoo's main product line is the *Cielo*, a compact car that is based on the old Opel *Kadett* platform. However, in 1996, Daewoo developed its own compact model called the *Lanos*, and this model will also replace the *Cielo* in these countries in the future. Daewoo has developed two additional platforms in 1996 and the variety of models from these platforms will provide the necessary models for Daewoo's globalization plans in the future.

An aspect of Daewoo's strategy that has attracted the most attention is their investments in Eastern Europe. In 1995, Daewoo bought controlling interest in FSO, and FSL in Poland. These two purchases are closely networked in their operations with Avia in the Czech Republic and Rodae in Romania. In March of 1996, Daewoo went into production of its *Cielos* in Romania. The reasons for Daewoo's entry into Eastern Europe are as follows. First, there is a large potential market for automobiles in this region. The absolute size of the market is ranked as Poland, Czech Republic, Romania, and Hungary, with strong growth prospects in Bulgaria and Slovakia. This increase in automobile demand is supported by a strong economy in these countries, which has seen GDP growth rates of 5.8% (Poland), 4.8% (Czech Republic), and 4.8 %(Romania) in 1995. Inflation has also come down to 20-30% per year from triple digits of just a few years ago. Second, at the time Daewoo had made its investment decision, the major automakers of the world had not entered these countries. Therefore, Daewoo has the first mover advantage in these markets. Third, Eastern Europe with its low labor costs and solid technology base in mechanical engineering, promises high quality products without the high cost. Fourth, the establishment of the CEFTA and Poland and Romania's entry into the EU in the future will help alleviate the effects of trade barriers for the Korean automaker.

Table 7. Daewoo Motors: Investment in Eastern Europe

Company name	Location	Investment (mill USD)	owner-ship	Date of inv.
Daewoo-FSO	Warsaw, Poland	1,100	70%	Nov-95
Daewoo Motor Polska	Rublin, Poland	700	61%	Jul-95
Avia	Prague, Czech Rep.	200	50.20%	Aug-95
Rodae	Craiova, Romania	306	51%	Nov-94

source: Daewoo Group; PlanEcon Inc; DRI/McGraw-Hill; Bloomberg Business Services

Table 7 shows that Daewoo has made substantial investments into automobile plants in the area. The four plants have close networking and sharing of common parts as well as swapping of each other's models. It is also noticeable that these plants have all been acquired through M&A rather than built up as green fields. Finally, as is quite typical of Daewoo, all of the purchase have been made within a very short period of 18 months. The speed of decision making seems to be Daewoo's main strength.

Another significant investment of Daewoo is in India. Due to liberal policies towards foreign investment and the Indian government's active desire to expand its automobile industry, the Indian automobile industry has started to see bright prospects for the future since 1993. Following this change in policy, we have seen many foreign companies trying to enter the Indian market. Daewoo and Suzuki seem to have pre-empted the Indian market. While the current leader in the Indian market is Maruti (a joint venture between Suzuki and the Indian government), Daewoo is the second largest automobile manufacturer in India. In July of 1994, Daewoo took over 51% of the stocks of a joint venture firm between DCM and Toyota, from Toyota. The name of the joint venture was changed to DCM-Daewoo and in 1995, the Delhi plant started to manufacture *Cielos* at a capacity of 50,000 per year. The initial plan was to produce 20,000 cars a year, but in a short period of two weeks, Daewoo had orders from customers for 114,000 cars, and Daewoo has plans to accommodate this explosion in demand by expanding capacity to 100,000 by the end of 1997.

Daewoo also plans to expand its sales network in order to sell the products manufactured from its plants worldwide. As of June 1996, the Daewoo Group has 23 sales companies and over 85 import offices worldwide. The Daewoo Group also plans to increase its dealer network, including setting up a dealer network in the US to sell Daewoo cars in 1998.[11]

Although Daewoo has an ambitious strategy, it is viewed as being very risky. Several environmental factors and hurdles must be cleared for Daewoo's venture to be successful. First, the economies in which the automobile plants are located must have steady economic growth. Since most of the plants are counting on strong local demand to sustain large scale production, it is imperative that Poland, Romania and India grow economically. Second, currency fluctuations should be minimal, or least Daewoo must be able to hedge against currency fluctuations. Since Daewoo's global strategy involves large trade in automobile parts, KD kits, and fully assembled cars, currency fluctuations could have a detrimental effect on cost, trade, and profitability, if not managed well. Third, Daewoo must be able to defend its incumbent position against new entrants. Daewoo may do this through a strong distribution network, superior after service, improvements in product quality and competitive pricing.

- **Hyundai Motors**

In 1989, Hyundai built its first overseas manufacturing plant in Bromont, Canada. For the next 4 years the plant was plagued by sluggish demand of its model, the *Sonata* , and rising manufacturing cost that Hyundai was unsuccessful in containing. Due to this experience, Hyundai has taken a very timid approach to global manufacturing. Most of the plants constructed from 1990 to 1995 were small plants in Botswana (cap. 20,000), Thailand (cap. 10,000), Malaysia (cap. 10,000), Pakistan (cap. 10,000), Egypt (20,000),

[11] "Daewoo expands its distribution network," *Daewoo Family News*, Mar 1, 1996.

and Indonesia (cap. 10,000). The investment strategy was to gain the benefits of exporting KD kits without being exposed to much risk. Table 8 shows that most of the plants constructed in this period were in developing countries. The unsuccessful experience in Canada taught Hyundai that there were no comparative advantage in locating in a developed country.

However, spurred by environmental changes described in Section 1, and Daewoo's aggressive globalization moves, Hyundai has had a turn around in philosophy and now has taken quite an active stance towards overseas manufacturing. Table 8 shows that recent plants are much larger. In 1996, Hyundai decided to have larger plants overseas, overturning an internal policy of keeping overseas plants small. Hyundai is now expected to increase the capacity of its Indonesian plant from 10,000 to 100,000 within 5 years. We can see from Table 8 that Hyundai is moving away from small to larger plants in Turkey (cap. 50,000) and India (100,000).[12] Nonetheless, Hyundai is maintaining its strategy of sole proprietorship of their overseas plants. Hyundai also strives for green field plants since they are better for product quality. However, green field plants take time to build and to come up to speed, and this could mean that Hyundai's worldwide manufacturing presence will not be felt immediately.

Table 8. Overseas Manufacturing Operations of Hyundai Motors

Country	Investment (US$000)	Hyundai's Equity	Capacity	Model	Time of Contract
Botswana	2,000	100%	20,000	Excel, Elantra	Jul-92
Thailand	existing facilities	100%	10,000	Excel	Oct-93
Malaysia	55,000	50%	10,000	Porter	Nov-93
Egypt	10,000	100%	20,000	Excel	Oct-93
Zimbabwe	existing facilities	100%	10,000	Excel	Jan-94
Indonesia	15,000	100%	10,000	Elantra	Apr-94
Philippines	existing facilities	100%	5,000	Excel	Jun-94
Pakistan	23,410	50%	10,000	Accent	Jun-95
Vietnam	200,000	65%	100,000	Accent, light truck	Jul-95
Netherlands	existing facilities	100%	2,000	3.5t, 6t truck	Aug-95
Venezuela	existing facilities	100%	-	Excel	Aug-95
Turkey	400,000	50%	50,000	Accent, Grace, Avante	Sep-95
India	1,000,000	100%	100,000	Accent, Sonata	-

source: *Korea Economic Daily*, Jan. 23, 1996

Hyundai is also planning to develop an "Asian-car" in order to penetrate the Southeast Asian and Indian markets. In 1998, Hyundai will develop a "competitively priced compact car of medium quality," with a 1,300 cc engine displacement, based on its

[12] "Hyundai Motors increases foreign investment," *Korea Economic Daily*, Jan 23, 1996.
Some estimate that the eventual capacity of the Turkey plant will be 100,000 and that of the Indian will be 200,000.

Accent platform. Hyundai plans to decrease the options of its *Accent* model and adapt it for the driving conditions of Asian countries. It also plans to make a revolutionary break-through in cost by sourcing 70-80% of the parts locally. Hyundai's Indian plant and the Indonesian plant, with a combined capacity of 200,000 units, will be the main beneficiaries of the Asian car. Hyundai's decision to focus on Asia is due to the fact that it is the fastest growing market in the world. Hyundai's decision to build the Asian car is spurred by the fact that other top automakers such as Toyota, Honda, Nissan, Mitsubishi and Chrysler have all announced plans to build their version of the Asian car.[13]

Hyundai also plans to use Turkey as its beachhead into the European market. Turkey, aside from having a large potential local demand is expected to join the European tariff union in the future, which would make Hyundai cars accessible to Europe with lower tariffs. Turkey also has many local parts suppliers, which would help Hyundai reach high local content levels quickly.

Hyundai also plans to strengthen its distribution network. In June 1994, Hyundai had 646 dealers in North America; 1,645 dealers in Europe; 233 dealers in the Central and South America; 121 dealers in the Middle East and Africa; and 301 dealers in Asia. In addition there are HMA (US), HACI (Canada), HMDG (Germany), all sales companies; and 163 overseas sales offices of the Hyundai Group.[14]

Hyundai's strategy, though on a much smaller scale than Daewoo's, also faces considerable risk. For Hyundai's strategy to be successful, the following hurdles must be overcome. First, Hyundai needs to have strong economic growth in India and Indonesia to provide stable local demand. Second, since most of Hyundai's plants, being fully owned by Hyundai, do not have the benefits of a local partner, Hyundai needs to overcome the difficulties of doing business in a foreign environment. The challenges faced under local manufacturing go much beyond exporting, and Hyundai needs to quickly come up to speed in many areas of global management. Third, Hyundai must battle the incumbents already entrenched in these markets. In Indonesia, Kia would be an early entrant, and in India, Daewoo would be an early entrant. Hyundai may overcome their latecomer position by providing better quality products and more variety of models.

- **Kia Motors**

Like the other two Korean automakers, Kia also has ambitions to become one of the top 10 automakers by the year 2000. Kia's strategy for doing this consists of two parts. The first part consists of increasing its inherent capability in product, quality, cost, and marketing. The second part consists of increasing foreign manufacturing and sales bases, and integrating them into a global network. In order to strengthen its inherent capability, Kia will spend 5-6% of sales into R&D, and strive to have a full line-up of passenger cars and trucks, all developed by Kia. Kia will also strive for better relations with its suppliers.

Although Kia has sales companies in the US, Germany and Japan (Table 9), Kia's sales network is viewed as being the weakest of the three Korean manufacturers because of its prior reliance on OEM sales to Ford in selling overseas. Also, Kia does not have the extensive overseas branch offices and sales companies that the Hyundai Group and the Daewoo Group enjoy, due to its smaller size and the fact that it only has automotive related business while Hyundai and Daewoo has everything from electronics to

[13] "Hyundai starts development of Asian Car," *Korean Automobile News*, Jan 15, 1996.

[14] Jang Rho Lee and Mong Gyu Chung, "Hyundai Motor's Global Network Strategy."

shipbuilding to apparel. Overseas marketing is one area of Kia's capabilities that will receive more attention, and Kia plans to set up a dealership of 6,000 dealers across 150 countries.

Table 9. Kia Motor's Planned Global Network

Manufacturing	Local manufacturing in potential markets Preparation for regional trade blocs Royalty income through export of automotive technology Preparation for development of world car
Sales	Brand image and marketing improvement 6,000 dealerships in 150 countries Sales companies in the US (KMA, est. 92), Germany (KME, Deutch Kia, est. 95), Japan (KJC, est. 92)
After Service	Global after service network (incl. N. America and Europe) Local AS companies (Egypt, Philippines, China)
Product Development	Overseas R&D centers to import technology World car development Establishment of global R&D network Detroit R&D Center (est. 89), LA Design Center (est. 91) Tokyo R&D Center (est. 88), Germany R&D Center (exp. 96)
Alliances	Joint R&D projects with industry leaders (joint eng. dev. w/ Rover) Hi-tech mechatronics systems development (w/ Bosch, ITT, TRW) Financing companies (w/ Ford)
Human Resources	Globalization of internal human resources (foreign internships, specialist training) Kia-zation of local personnel (internships in Korea, development of mgmt skills, tech. schools)

source: "Kia's global strategy for World Top 10," Kia Motors

Kia will also continue to strive to improve its technological base. Kia currently has foreign R&D centers in Detroit, Los Angeles, and Tokyo, and plans to add one in Germany in the future. Kia also plans to increase its capabilities in engine production by entering into an agreement with Rover of the United Kingdom.

The second part of Kia's strategies is to increase its global manufacturing and sales network. Table 10 shows that Kia already has a substantial amount of overseas operation. Aside from Indonesia, Kia's strategy is to have medium-sized plants of around 30,000 units per year. Kia will increase the current manufacturing capability by setting up two major bases in India and Argentina, and expanding the capacity of its existing plants in Iran and Pakistan. As alluded to before, Kia's main thrust will be in Indonesia, where it was chosen to be the main partner in the national car program. The plant, currently being built, is expected to be completed in 1998 with an annual capacity of 100,000 units.

Table 10. Overseas Manufacturing Operations of Kia Motors

Country	Model	Capacity	Year of Operation	Remarks
Taiwan	Aspire	30,000	1989	First KD export under the Ford brand
Philippines	Pride, Celes, Besta	7,000	1989	Pride produced as national car from '91
Venezuela	Aspire	8,000	1992	Sold as Ford brand
Iran	Celes, Pride	30,000	1993	Planned expansion to 100,000
Pakistan	Celes, Pride	15,000	1994	Planned expansion to 30,000
Vietnam	Celes, Pride	1,000	1993	
Germany	Sportage	30,000	1995	With Kamen First mfg in Europe
Namibia	Celes	10,000	1995	
Indonesia	Sephia, Sportage	100,000	1995	30% ownership in '93
India	Sportage	30,000	1996	under progress
Brazil	Sephia, Sportage	30,000	1997	under progress

source: The Developmental History of the Korean Automotive Industry (II) *Automotive Economy*, Sep. 19, 1995.

Kia's strategy is even more dependent on local demand of the countries in which the plants are located. Since, most the plants are medium-sized, Kia will not need to do as much trade in parts and fully assembled cars among neighboring nations as Daewoo. Thus, Kia's strategy is less susceptible to foreign currency risks. However, Kia will need to further increase its sales capabilities in order to market the products that are being built in its Korean plants.

4. Conclusion

The global automotive industry is going through a period of change characterized by consolidation, borderless competition, and the emergence of substantial new markets in Asia. Korean automakers caught amidst this environment is striving to maintain its very existence by bringing about drastic change in the way they have been doing business.

Prior to 1993, Korean automakers have traditionally relied on domestic manufacturing and exports to sustain themselves. But now, they are much more inclined towards expanding their manufacturing bases abroad out of necessity.

Fortunately for Korea, there has been strong domestic growth up to 1993 and steady export growth. The Korean exports were driven by the following milestones:

(1) Hyundai's development of its indigenous model, *Pony*, in 1976 lead to Korea's first exports.
(2) Hyundai's construction of its brand new 300,000 capacity plant in Ulsan motivated strong exports and the record-breaking Hyundai *Excel* sales in North America. Kia's OEM tie with Ford, led to Kia's access into the global market, especially to North America.
(3) Quality problems with Korean automobiles made during the worst labor strife in Korean history led to a sharp decline in sales.
(4) Korean automakers investment in overseas sales and distribution networks, and diversification of export markets has led to a resurgence in exports.

However, factors such as (a) slow domestic growth (b) need to provide variety to consumers while maintaining economies of scale (c) higher input cost in Korea (d) formation of regional trade blocs (e) and the synergy from competing at a global level have forced Korean automakers to globalize both their sales, manufacturing and R&D. This strategy shift is not new to the industry: US, Japanese and German automakers all have a substantial amount of their sales and manufacturing conducted overseas. All the automakers of these three countries have taken advantage of synergy of globalization in the areas of sales, product development and R&D.

The globalization of Korean manufacturers have the following characteristics.

(1) Korean automakers have entered markets where competition is less severe. These would be the markets in Eastern Europe; and other regions where US and Japanese presence are weak such as India and Indonesia in Asia, and Turkey and Uzbekistan in the Near East.
(2) Fortunately for Korean automakers, these regions are also the emerging markets with strong growth potential, rather than mature markets.
(3) Moving away from its prior strategy of having many small to medium capacity (cap. 10,000 to 30,000 units) plants, the newer plants being built are larger (cap. 50,000 - 200,000 units).
(4) Daewoo and Hyundai are leveraging off of their capabilities as large *chaebol* Groups, who have a strong network of trading companies, construction companies (plant construction), electronics companies (automobile electronics), and finance companies. The presence of such a network will be utilized to maximize the efficiency of their automotive operations.
(5) Korean automakers' strategies are dependent on strong local demand in countries where their manufacturing facilities are located.
(6) Korean automakers' are susceptible to currency fluctuations because their global strategy involves much movement of parts, KD kits and fully-assembled cars across national boundaries.

It is an open question as to whether the Korean automakers' globalization strategies will be a success. However, the Korean automobile industry seems to have no choice as "global alliances and networking is a now a virtual necessity." [15]

[15] Shimokawa, *op. Cit.*