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Can Hyundai Go It Alone?

Young-suk Hyun and Jinjoo Lee

The Korean automobile industry has progressed rapidly during the last decade. Hyundai Motor Co. (HMC) selected a unique strategy of self-reliance. As a new entrant firm to U.S. markets from NICs, Hyundai developed its own models, the Pony and Excel, with minimal foreign investment but with technical collaboration with foreign automakers. This fact distinguishes Hyundai from other joint venture automakers in developing countries.

Hyundai's strategy now faces several challenges, such as the increase of trade protectionism, the rapid technological changes in the auto industry and the intense competition from domestic competitors which are supported by major multinational automobile makers. Now Hyundai has to respond to the new environment. Hyundai's strategy is traced in this article, particularly focusing on Hyundai's technology development strategy and its implications.

Introduction

Business Week[1] reported that Korea pushed the U.S. market with 'Excel', made by Hyundai, the same way that West Germany stormed the United States in the 1950s with Volkswagen, and Japan in the 1970s with Toyota. Hyundai's Excel has become the fastest-selling import in history.[2] The Korean automobile industry, represented by Hyundai Motor Co. (HMC) has progressed rapidly during the last decade in the international oligopolistic market, of which 20 producers, headquartered in the seven Auto Program Countries, account for more than 92 per cent of the world's production.[3] UNIDO[4] and UN[5] pointed out that Korea selected a unique strategy in the development of an automobile industry among the developing countries. As UNIDO pointed out, the Korean example remains of great importance, because if it fails, then there will be no case in the Third World of a producer trying to go it alone.

Hyundai has developed its own model cars such as the Pony, Stellar and Excel with minimal foreign investment, penetrating international auto markets aggressively. Many automobile companies are paying great attention to Hyundai as a new entrant in the international automobile industry. The case of Hyundai Motor, however, serves as an exception in the developing countries concerning strategic planning for self-reliance. Before we proceed further, it is helpful to first provide a brief background of the Automobile industry and Hyundai Motor, second to the strategies and the challenges to Hyundai.

Jinjoo Lee is Professor of Management Science at the Korea Advanced Institute of Science and Technology. Young-suk Hyun is Associate Professor of Business Administration at the Hannam University, Taejon, Korea.

The Korean Automobile Industry

The real starting point for the modern Korean automobile industry began in 1962 when the government enacted the Automobile Industry Protection Law and the Five-year Automobile Development Plan, as a part of the First Five-Year Economic Development Plan. Thus the first modern assembly plant was established by the Saenara Motor Co., based on a technical collaboration with Nissan of Japan. Saenara only assembled cars with imported semi-knockdown (SKD) parts from Nissan, in a plant with a capacity of 6000 passenger cars per year.

Saenara was forced to shut down during the foreign exchange crisis in 1963 and was taken over by the Shinjin Motor Co. in 1965. The Shinjin Motor Co. has changed its name to GM–Korea, Saehan Motor Co., and is currently the Daewoo Motor Co. (DMC) which is a 50:50 joint venture between General Motors (GM) and Daewoo Group, one of the largest *chaebuls* or business conglomerates. (It had $8·7bn in sales and ranked 49th in the *Fortune 500* in 1985.) Thereafter, three other automobile makers: Hyundai, Asia and Kia started in Korea. They were all 100 per cent locally owned at the time of establishment. Kia started as a bicycle maker in 1944. It began to produce passenger cars in 1974 and started to produce the Mazda-designed sub-compact from 1987. Ford of America invested $30m for a 10 per cent share of Kia in 1986. Mazda holds 8 per cent of Kia's share. Asia Motor is a military and commercial vehicle maker. Ssangyong Motor is another special vehicle and jeep maker. There are five auto makers and over 860 parts makers in Korea. Automobile production in Korea is shown in Figure 1.

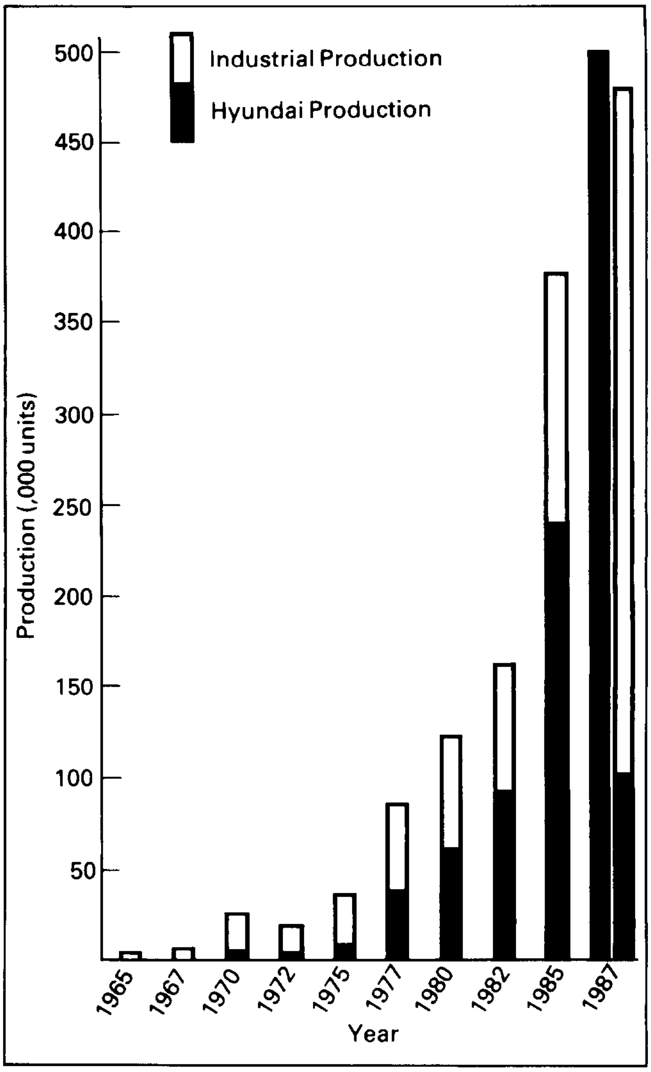
The Hyundai Motor Co.

The Hyundai Motor Co., a typical locally owned firm, was established in 1967 by the largest Korean *chaebul*, Hyundai (it had $14·0bn in sales and ranked 25th in the *Fortune 500* largest international firms in 1985). This is the largest conglomerate in Korea (28 subsidiary firms in construction, engineering, automobile, shipbuilding, electronics and trading), and has maintained the business strategy of local ownership and managerial control, although recently Mitsubishi of Japan was allowed to participate in a 15 per cent equity. Mitsubishi's role in Hyundai Motor, however, is limited to technical assistance and selling parts. Hyundai not only retained managerial control but also reserved the right to compete directly in Mitsubishi's own markets.

Hyundai Motor has progressed remarkably. Total sales in 1987 amounted to $2840bn Won ($3·9bn U.S.), an increase of 43 per cent compared to 1986; profit after tax was $59·7bn Won, or $82m ($44m in 1986); Per capita sales in 1987 of $134,000 were 4·6 times those in 1980. Sixty-two per cent of sales came from overseas markets in 1986, and 56 per cent in 1987. Total personnel at the end of 1987 was 28,918, with a increase of 20,040 since the end of 1980 and increase of 11,579 since the end of 1985. Table 1 gives an outline of Hyundai.

Production

Though Hyundai was a late entrant in the auto industry, it has become the largest auto producer in Korea, and the famous 'New Entrant' automaker in world markets. Hyundai completed a new auto plant in 1985 with an annual capacity of 300,000 units. Total Hyundai production in 1987 exceeded 606,000 units, including 544,000 passenger cars, as shown in Figure 1. That is, 71 and 62 per cent of total output in Korea came from Hyundai in 1986 and 1987 respectively. Hyundai also achieved another milestone in the Korean auto industry. The cumulative automobile production of Hyundai from the commencement of its production in 1968 reached 1 million units in January 1986. It took 18 years for Hyundai, 29 years for Toyota, and 43 years for Mazda to produce 1 million automobiles.



Source: KAICA, Hyundai Motor Co.
Note: (1) Hyundai was founded in December 1967.
(2) Production in 1987 exceeded 970,000 and is shown by two bars in this figure.

Figure 1. Automobile production in Korea

Table 1. Selected statistics on Hyundai (unit: billion Won[1])

	1970	1975	1978	1980	1983	1985	1986	1987
Sales	8·8	30·4	93·0	225·0	577·4	1047·0	1906·3	2840·2
Profit	−0·3	2·5	4·6	−19·3	25·7	28·8	38·3	59·7
Capital	0·8	6·0	15·0	38·3	94·3	114·3	135·0	310·7
Asset	8·9	60·9	120·4	299·8	627·2	966·2	1361·0	1858·6
Employment	1942	2662	6036	8878	10,636	17,321	26,008	28,918
R & D Personnel[2]	–	–	130	170	451	793	1014	N.A.
Export Ratio[3]	0	0	19·4	26·5	17·1	49·9	70·4	66·4
Hyundai Share of Total Export	–	–	81·3	64·3	75·5	97·5	98·6	74·4
Productivity[4]	2·3	2·7	6·3	6·9	10·2	13·9	16·5	21·0

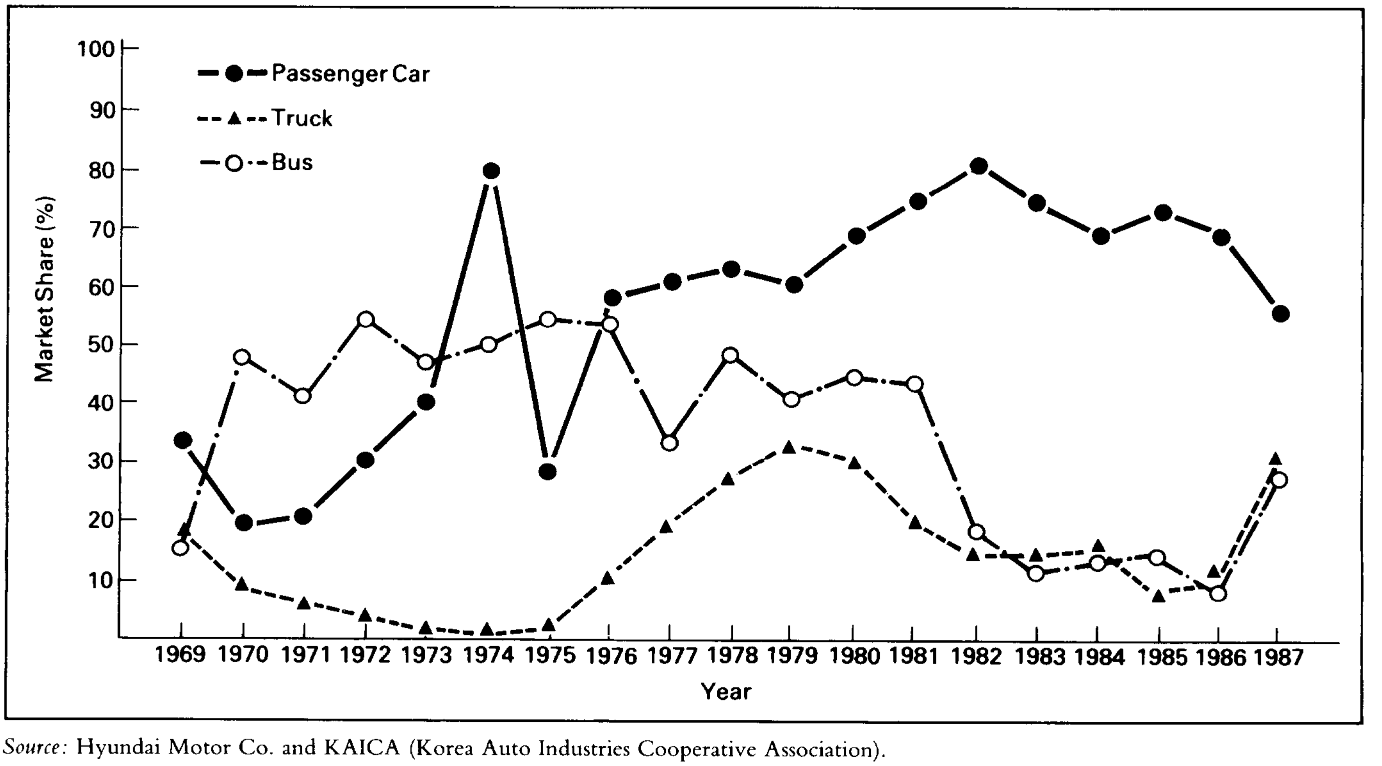
[1]The exchange rate in Korea is varied along with the floating system and $1 U.S. is worth about 800 Won as of July 1987 and 730 Won as of September 1988.
[2]R & D personnel = Researchers who hold bachelor or above degrees.
[3]Export ratio = Total export/total production in unit.
[4]Productivity = Vehicle production per person.

Hyundai began to assemble Ford-model automobiles with imported knockdown parts from Ford including assembly and production technology in 1968, the year after its foundation. Hyundai then tried to develop its own model based on accumulated technology. Hyundai's own model, the Pony, was exhibited in 1974 at the Torino motor show held in Italy. After the Pony, Hyundai has developed other original models such as the Pony-II (1982), Stellar (1983), Excel (1985), Grandeur (1986) and Sonata (1988).

Domestic Market Share
Hyundai's strategy to penetrate foreign markets with its own model put it ahead of its Korean competitors in technical as well as economic performance. For example, the big success of the Pony made Hyundai the leading automobile firm in Korea. The domestic market share of Hyundai in passenger cars rose from 28·3 per cent in 1975 to 57·5 per cent in 1976. Thereafter, Hyundai maintained its position as the leader at 70 per cent of the passenger car market in 1986. But its share fall to 56 per cent as a result of the 'LeMans', Daewoo's new car, and recently 'Pride' of Kia, has cut Hyundai's dominance in domestic markets. In contrast, Hyundai's share in commercial vehicles increased remarkably as the Government abolished the Product Limit Policy from 1987.

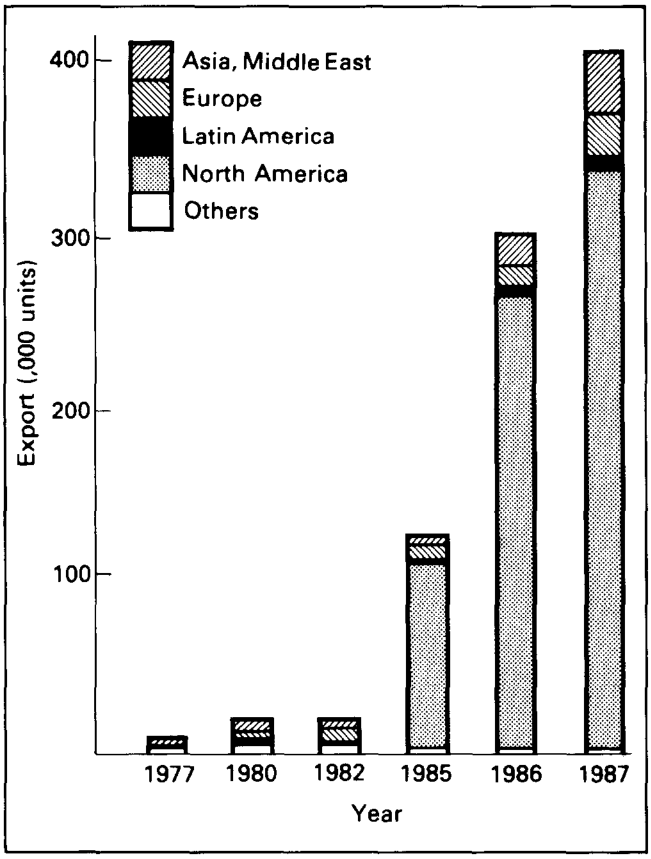
Export
Hyundai has led Korean auto exports since 1976. Hyundai recorded its first export by selling six Pony cars to Ecuador in 1976. Before it moved into European markets, Hyundai had tried for the Latin American, Middle East and Southeast Asian markets. The accumulation of valuable experience, including overseas marketing expertise and international auto market trends through export activities in the above countries, enabled Hyundai to enter Canadian and U.S. markets in 1983 and 1986 respectively. Hyundai reports that 1 million of its products were exported to over 60 countries between 1976 and 1987. Korea's automobile exports, which account for about 55 per cent of total auto production in 1987, have been dominated by Hyundai. Hyundai accounted for 98 and 74 per cent of the total Korean automobile exports in 1986 and 1987 respectively. The Excel was selected as one 'Product of the Year' by *Fortune* in 1986 when Hyundai started to enter U.S. markets. 203,000 and 310,000 Excels were sold in 1986 and 1987 respectively in the U.S. market, which has become the largest market of Hyundai. Figure 3 shows the automobile export of Hyundai regionally.

Technological Development
Strategically, Hyundai regarded the technical collaboration with Ford as a stepping stone, accumulating independent and in-house technical capabilities. The Long Range Automobile Industry Promotion Plan promulgated by the government in 1974 induced Hyundai to construct integrated automobile manufacturing facilities and also to develop its own car model. Hyundai developed its indigenous model with its own technological initiatives whenever possible. Hyundai also adopted a policy of obtaining technology from several foreign sources rather than a single source; when sophisticated technology was needed, Hyundai parcelled it out by components.



Source: Hyundai Motor Co. and KAICA (Korea Auto Industries Cooperative Association).

Figure 2. Domestic market share of Hyundai



Source: Hyundai Motor Co., export division.

Figure 3. Auto export of Hyundai

From 1974 to 1975, Hyundai acquired technologies for body styling and body design from Italy; technologies for engine, transmission (T/M) and axle design and manufacturing from Mitsubishi. Se-yung Chung the Chairman of Hyundai Group (the younger brother of Ju-yung Chung, the former Chairman) was personally active in the development of an indigenous model. Hyundai hired an automobile expert who had been a former managing director of British Leyland as the Vice President of Hyundai Motor, and six other technical experts from British Leyland for the development of Pony during 1974–1977.

The technologies acquired—mainly through foreign technical licenses and scouted local experts—enabled Hyundai to extend technological efforts for new product development. The next phase of Hyundai's technological development began in 1979 when exports became a strategic decision issue, partly in response to the government's machinery export promotion policy. Hyundai had already established its own R & D centre in 1978 to meet the quality standards of major export markets, especially for the European Economic Community requirements on emission control, noise level and safety. The third phase of technological development began in 1981 when Hyundai initiated the development of Excel, the first Korean front-wheel drive car, with a $450m investment.

Technology Licensing

Hyundai had imported 54 foreign technologies from 8 countries, from its establishment up to 1985. It licensed more than 30 different technologies from Japan, Switzerland, England, Italy and the United States during 1977–1982 when developing new cars. Hyundai has accumulated its own technological capabilities for new product development through the assimilation of these imported technologies. Repeated learning from performing new model development has enabled Hyundai to attain almost all technologies except some core design technologies such as styling, engine, transmission and axle design. Hyundai's technology licenses number 54, exceeding that of its competitors: 22 for Daewoo, 14 for Kia and 9 for Ssangyong. The major sources of technology licensing were Japan (22), United Kingdom (14), United States (5), Italy (5), West Germany (3), and others (5). Mitsubishi, the Japanese partner of Hyundai, provided 11 technology licences.

Self-reliance Strategy

Hyundai Motor's strategy is quite different from that of Daewoo Motor, a competitor in the passenger car market. At the outset, Hyundai began operations as an assembler of the Cortina, a passenger car from Ford, based on licenses and technical agreements with Ford. Hyundai believed from the start that if it was to become an independent competitor in the international automobile industry, it would have to be its own master. Hyundai has believed that self-reliance is an inevitable path to successful world class car manufacturing.

Meanwhile, Daewoo Motor operates under the constraints of GM's global corporate objectives. After the joint venture agreements with GM in 1972, Daewoo Motor Co. (its former name was GM–Korea, Saehan Motor Co., and Shinjin Motor Co.) has produced models of GM or GM's affiliated companies, e.g., the Chevrolet-1700, Gemini, Rekord and Royale. Daewoo has recently started to produce another GM model car, the 'LeMans', a front-wheel drive car developed by GM's subsidiary, Adam Opel of West Germany.

The different approaches of Hyundai and Daewoo also show up in the way they market their products. Hyundai wants its name to stand out. Hyundai has invested millions of dollars in advertising the subcompact car Excel. Hyundai wants to push ahead with an aggressive Japanese-style export strategy. Hyundai relies as little as possible on foreigners, while Daewoo believes Korean companies are not yet big enough to manage big U.S. sales networks. As a result, Daewoo's products appear in the United States under names such as General Motors. The LeMans from Daewoo is distributed by Pontiac of GM in the U.S. market. The Daewoo Chairman, Woo-choong Kim, insists that he wants the partnerships to continue indefinitely. *Business Week*[6] reported 'Daewoo vs Hyundai: It's a competition not only of products but also of philosophies'. Hyundai's self-reliance strategy comprises of the following major strategic decisions.

Joint Venture Negotiation with Ford

The first strategic decision was on the relation with Ford at its outset. Hyundai signed an agreement of technical collaboration for 5 years and paid 1–3 per cent royalties in 1968. Since Hyundai, as a late entrant to the auto industry, recognized the importance of foreign technologies, it negotiated for a 50:50 joint venture with Ford, but the 3-year long negotiation ended in failure in 1972 because Hyundai wanted managerial leadership. In other words, Hyundai did not want a joint venture at the expense of independence in 'managerial control'. Hyundai therefore made the decision to go it alone and decided to acquire technologies by licensing rather than joint venture.

'Pony' Development

The second major decision is characterized by massive investment in the development of an indigenous model. When Toyota pulled out of Korea to politically enhance its negotiations for entry into the Chinese mainland market, the Shinjin Co., which assembled the Corona under license from Toyota, sought a new partnership with GM. They established a new joint venture (GM–Korea) in 1972. GM's participation in the Korean auto industry pushed Hyundai, which was still in the infant stage, into desperation. Hyundai made the major decision to produce its own model through independent effort. Se-yung Chung, the former president of Hyundai Motor said of those days, 'Not wanting to sacrifice our independence, and struggling to maintain our self-reliant posture, we made the decision to build our own indigenous automobile—literally from the ground up.'

Government policy, which targeted the development of a 'citizen's car', supported Hyundai's decision. Hyundai invested \$100m in the Ulsan plant, projected to have an annual production capacity of 56,000 cars—far exceeding the annual domestic demand of 10,000 units at that time. This investment was three times the combined investment of all the competitors. About \$20m alone was earmarked for moulding equipment, which no Korean automaker had possessed up to then. As Korean automakers were engaged in knockdown assembly, they had no reason to invest in such expensive facilities. The development of an indigenous car model in Korea during the 1970s was highly risky. The president of another automobile company once ridiculed this decision, saying 'I will purchase Hyundai after it fails in new product development'. Hyundai finally succeeded in the development of the Pony in 1975. This success put Hyundai far ahead of its domestic competitors and has been a stepping stone to developing other indigenous models, maintaining the self-reliance strategy.

Merger Negotiation with General Motors

The third major strategic decision was followed by the second energy crisis and political turmoil after the assassination of the Korean President, Chung-hee Park. The worldwide recession which followed the second energy crisis in 1979 hurt the Korean economy and hit the auto industry more severely. In 1981, the Korean government pushed to merge Saehan Motor (formerly Daewoo Motor), which was 50 per cent owned by GM, with Hyundai to fully utilize economies of scale. Hyundai found itself embroiled in a contest with GM over the equity ownership ratio, free access to export markets and development of new models. Hyundai insisted on majority control, self-reliant development of new products and free access to any market, because Hyundai recognized that without independence, any venture, especially in auto manufacture, was doomed to fail when the venture targeted the export market. The negotiation proposed by the government to merge all passenger car makers ended up failing, because GM also insisted on managerial control for its global corporate strategy. An official in the planning department of Hyundai commented: 'If we had reached an agreement with GM or another U.S. automaker, we may not have exported Pony cars to the Canadian market.'

'Excel' Development

The fourth strategic decision was followed by the failure of the negotiation with GM. Shortly after backing out of a government-proposed merger with Saehan in 1981, Hyundai made another major decision to build a new plant capable of producing 300,000 sub-compact cars a year. An active R & D program and the introduction of a proving-ground and facilities for automobile performance testing was planned for development of the first front-wheel drive car to come from Korea. In line with this program the introduction of factory automation including a CAD/CAM system was also planned, to enhance productivity. Hyundai finished building a proving ground and research facilities in 1984 and invested \$450m in the new plant for the Excel, a front-wheel drive car. By the end of 1985, Hyundai had extended to product line with four indigenous models: the original Pony, the restyled and improved Pony-II, a four door compact sedan named Stellar and a front-wheel drive car, the Excel.

Independent Marketing Strategy

The fifth decision of Hyundai is related to the marketing approach for North American markets. Hyundai also reveals its self-reliance strategy in the establishment of its dealer system. Both in Canada and the United States where it insists on independent dealership. In 1983, Hyundai established Hyundai Auto Canada Inc. (HACI) in Toronto and in 1985, Hyundai Motor America (HMA) in Los

Angeles. Hyundai has built a network of 170 independent dealers in Canada and so far, another 170 independent dealers in 40 U.S. states. Meanwhile, Daewoo exports the LeMans through the Pontiac division of GM to take advantage of GM's financing and marketing strength in U.S. markets.

Indigenous R & D Efforts
The sixth decision is on technical self-reliance, as shown in Hyundai's R & D efforts. Hyundai has been very active in technical manpower training. For instance, Hyundai dispatched 97 technicians and engineers to advanced countries and invested 538 man-months in training when they first developed the Pony. In addition to the technical training, Hyundai has been very active in in-house R & D activities. Hyundai established the first Korean R & D institute for auto manufacture in 1978 with 253 personnel. The number of R & D personnel rose to 2254, of whom 1014 researchers hold bachelor or higher degrees as of 1986. Hyundai spent $79·0bn Won ($91m), 4·1 per cent of total sales, in R & D activity, far ahead of the local competitors. (Daewoo established an R & D institute in 1983 and the total number of R & D personnel was 495 at the end of 1986.) Hyundai has also set up a central research and development facility at Mabuk-ri, 30 km southeast of Seoul. The research at that facility is widely believed to be on the development of new engines, transmissions and advanced automobile technologies for the company to sustain a long-term self-reliance strategy. In May of 1986, Hyundai established the Hyundai America Technical Center in Detroit, U.S.A., to adopt advanced automobile technologies more effectively.

Auto Manufacturing in Canada
The seventh and last major decision of Hyundai is related to foreign investment in Canada. Hyundai made a decision to establish in Canada an automobile manufacturing plant with a 100,000 unit annual capacity, worth over $300m. The intention of Hyundai's investment is to show that it is not coming to Canada for one-sided gains, but rather that it is mindful of the need for a mutual benefit from trade. The project is the first investment by a Korean auto manufacturer in a foreign country, a result of Hyundai's aggressive business strategies.

Growing Challenges

Within two decades Hyundai Motor has progressed rapidly. It is not clear whether Hyundai can repeat Japanese history in Korea, and drive deeply into developed countries including the United States with the strategy of minimum foreign equity ownership. It is suggested that there are growing challenges to be responded to by those charged with a strategic planning function in Hyundai. These are the following.

New Competition from Domestic Makers
The two domestic competitors, Daewoo and Kia, compete intensely in the domestic as well as the export markets by collaboration with multinational automakers, GM and Ford, respectively. Hyundai, with its self-reliance strategy, therefore, must compete in the U.S. market with its domestic competitors, Daewoo and Kia. Daewoo once lagged behind Hyundai in the local market by a 4-to-1 margin, but its new car, the LeMans, has already cut Hyundai's dominance to a 3-to-2 margin. Sixty-nine thousand of Daewoo's car 'LeMans' were exported to the U.S. market in 1987 under a GM brand through the General Motors' Pontiac Division. Daewoo is relying on its partner's technology and marketing channels including after-service facilities. Kia also started to produce the Mazda-designed sub-compact car, 'Festiva', (called 'Pride' in the domestic market). Kia has moved aggressively, forming a triangular alliance with Mazda and Ford in the domestic as well as the export market with a mandatory contract of 85,000 units through the Ford marketing channel. Actually, Kia exported 60,000 Festivas in 1987.

Small Domestic Demand
In spite of the potential growth of auto demand in Korea, domestic demand is still small in comparison with that of the developed countries, including Japan, both in the past and at present (domestic demand: 250,000 in 1985 and 416,000 in 1987). Moreover, as import regulations on passenger cars were gradually released in Korea from 1988, Hyundai has had to compete with multinational auto manufacturers even in this small domestic market. Exports already accounted for 55 per cent of the total output of Korea, and a major part of Hyundai's sales came from abroad (62 per cent in 1986 and 56 per cent in 1987). The small domestic market pushes Hyundai to be more dependent on export markets, and its success in overseas markets, including the United States, is critical for its growth.

Competition in the U.S. Market
The problems of becoming an international auto manufacturer have grown more acute over time. As the growth rate of auto trade decreases, protectionism becomes wider and competition more severe. The competitive advantage of Hyundai is of low prices based on the lower wages found in Korea. *Fortune*[2] reports 'Thanks to the rising Yen, Hyundai "Excels" in the United States are also about $1500 cheaper than comparable Japanese models'. Japanese success in the U.S. automobile market lies however not on low prices alone, because the automobile is a durable product. The low price is only one of the factors in a purchase decision. The U.S. auto industry, suffering from Japanese imports, has tried to recover its competitiveness with various programs such as the Saturn project of GM, a global strategy to procure both sub-compact cars from low-waged Asian countries, and the introduction of automation. Competition for the lower end of the

sub-compact car market in the United States will be more severe as other countries like Brazil and Yugoslavia are eager to enter this market. Moreover, the U.S. auto industry has become too nervous to accept another potential foreign invasion into the U.S. market. As Korean auto exports increase, so the U.S. government may request voluntary export regulation of Korean auto manufacturers as it has to the Japanese.

Technological Gap

The development of new technologies for safety, emission, improved fuel economy and product differentiation in automobiles has accelerated in recent years. This has widened the technological gap between auto manufacturers and new entrants. New production technologies with robots and computers also damage the advantage of low-wage auto firms in developing countries like Hyundai. It also means that the shift of auto manufacturing to low-wage locations will not occur on the scale once expected.

New Product Development

The finance needed to compete with established auto makers is staggering. Developing an entirely new world car for the world-wide market with a new engine and other new mechanical components may cost about $3bn. It also takes 4 to 5 years between initial outlay on a new model and its introduction to the market.[3] $500–700m is required to put even the simplest of cars into production.[5] Such large financial requirements for a new product is one of the problems that Hyundai faces in competing with multinational automakers, on top of the technological problems.

In summary, Hyundai faces challenges from both domestic and foreign competitors in technology and marketing. Se-yung Chung, the Chairman of Hyundai Group and former President of Hyundai Motor Co. once said, 'We will co-operate with some larger automakers in the future, but do not want to be a slave to any company.'[7] Hyundai will maintain its self-reliance strategy for now, but it may seek more aggressive international collaborations with other automakers worldwide to respond to new challenges.

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