Samsung's Mobile Phone Business

Abstract: This paper examines Samsung Electronics successful growth strategy in the mobile phone business. It examines its early efforts at developing a competitive product in the domestic market, its globalization strategies, and some of the key challenges it faces today. The paper provide insights into how a late-comer to an industry can overcome certain disadvantages and successfully position itself as a widely respected and successful brand.

Key words: Samsung, mobile phone, strategy

I. Introduction

For Samsung Electronics, 2003 was a watershed year. It successfully positioned itself as one of the world's best mobile phone manufacturers and its products were featured all over the media. Many were calling its mobile phones as "the best gift for Christmas" or "the Mercedes of mobile phones."

Samsung's achievements were particularly remarkable considering that its primary focus had previously been in semiconductors and home appliances. Indeed, when it first made the decision to enter the mobile phone business, industry observers viewed the move as foolhardy and reckless. But, much to their surprise, Samsung's foray into the market turned out to be a great success, contributing significantly to the company's profit growth and brand reputation.

In 2003, Samsung posted net profits of 6 trillion won ($5 billion) on annual sales of 43.6 trillion won ($37.9 billion). As of April 2004, its market capitalization stood at around 100 trillion won ($87.4 billion). It had also surpassed Sony, which had been a benchmark for Samsung, in terms of revenues and market capitalization. **(Exhibit 1)**

Samsung's exports currently account for two-thirds (79%) of total sales. In addition, Samsung has built its brand around the world; in 2003, the 'Samsung' brand was ranked 25th in the annual BusinessWeek/Interbrand study of the world's most valuable brands, having grown from $8.31 billion in 2002 to $10.85 billion in 2003. **(Exhibit 2)**

Few would deny the claim that Samsung has achieved remarkable success in the global market. As such, it could be worthwhile to take a closer look to find out which factors have contributed most to its success. In particular, we should focus our attention on the company's emerging mobile phone business, which has achieved some of the most outstanding gains of any of Samsung's business lines.

The objective of this study is to gain helpful insights into how a late-comer to an industry can overcome certain disadvantages and successfully position itself as a widely respected and successful brand.

II. Company Background: Samsung Electronics

Samsung Electronics was established in 1969 in order to provide an engine of future growth for

the Samsung Group. Though the electronics industry seemed promising in the 1960s, none of the Korean firms had advanced technology. Samsung began by producing low-end black–and-white televisions in a joint venture with Sanyo, a Japanese electronics company. With NEC, another Japanese firm, it produced Braun tubes and kinescope tubes. After three years, it began to produce black-and-white televisions under its own name, "Samsung." In the 1970s, it began producing other home appliances, including washing machines, refrigerators, color televisions and microwave ovens.

During the 1980s, it expanded its business lines to personal computers (1983), semiconductors, and telecommunication networks and devices (1988). For years, Samsung was regarded as a low-end product manufacturer that made cheaper alternatives to the high-end Japanese products. Its products were not considered to be very reliable, and it did not have a very strong reputation amongst consumers.

By the end of 1992, however, the company emerged as a leading semiconductor manufacturer in the DRAM (Dynamic Random Access Memory) market. It was the first case in Korea that Samsung, a domestic latecomer, successfully caught up incumbents and even became better than them in the world market. Behind their success was the management's strong drive to develop the semiconductor business into a truly world-class business and the company's future growth engine.

Samsung's system of group-wide coordination and governance enabled Samsung to concentrate its resources in the semiconductor business, which required enormous investment. For technology transfer, Samsung relied on technology licensing, established an R&D center in Silicon Valley and invited Japanese engineers to Korea on weekends to instruct Korean engineers in semiconductors. To secure human resources, Samsung recruited many Korean-American engineers with semiconductors expertise, offering them attractive compensation and benefits.

Despite a major surge in its semiconductor business, Samsung was losing money in its appliance business during the mid-1990s, as it had not managed to improve the quality and image of its products. Moreover, the Asian financial crisis of late 1997 deteriorated the situation further, causing profits to drop from $194 million in 1996 to $87 million in 1997.

To cope with its difficulties, Samsung launched a bold restructuring initiative in 1997. The initiative aimed to restructure the company in accordance with "global standards." The company laid off 16,000 employees during the first year, and it sold or spun off unprofitable business units and manufacturing facilities. It also shifted more of its resources to the LCD (Liquid Crystal Display) and mobile phone businesses in order to diversify its revenue sources, which had previously relied on the semiconductor business.

The emphasis on profitability and shareholder value was not typical of Korean firms at that time. The company's unyielding emphasis on quality, innovation, and globalization resulted in significant changes within the organization, and galvanized its foundation for future growth.

As the result of many years of reorganization, Samsung now has four major divisions: Digital Media Network, Digital Appliance Network, Telecommunications, and Device Solution Network. **(Exhibit 3, 4)** It holds market leadership in several product categories —DRAM, SRAM, TFT-LCD, CDMA mobile phone, etc. **(Exhibit 5)** Furthermore, the four divisions are closely connected to one another and in line with the company's pursuit of "digital convergence," the company's vision of its future.

Samsung currently has 25 production/sales subsidiaries, 39 sales subsidiaries, and 22

branch offices all over the world. **(Exhibit 6)**

III. Samsung's Mobile Phone Business

A Humble Decade (1984~1993)

In 1983, Samsung initiated its mobile telecommunications business, which it hoped would become the company's future growth engine. Forty engineers, each of whom had previously worked either in the wireless telephone division or facsimile machine division, were assigned to a new unit named the "Wireless Development Team."

The engineers had no idea what to do first. In desperation, they decided to obtain a rough picture of a Japanese-made mobile phone. Then they asked the Samsung branch in Japan to send them a Japanese car-phone. After disassembling and reassembling the sample car-phone hundreds of times, the engineers roughly understood how a mobile phone works. In 1986, Samsung was able to release its first built-in car phone, the SC-100. But the result was disastrous. The quality was so poor that many customers filed complaints, and the company ended up cutting the number of engineers in the development team from forty to ten.

Ki Tae Lee, the then-head of the Wireless Development Team and the current president of the Telecommunications division, found himself in a major quandary in deciding whether or not to continue the mobile business.

Ki Tae Lee decided to stay on track. He asked the company to buy ten Motorola mobile phones for benchmarking. It was a big expenditure for the company at the moment. Each unit cost about 2 million won, while the expected return on investment was uncertain. His engineers then went to work on analyzing them. Many of the phones were disassembled, and many were dropped or thrown away. They tested several aspects such as product design, quality, durability, and optimal environment for communications.

Finally, in 1988, Samsung developed its first mobile phone (or "hand phone" in Korea), the SH-100. It was the first hand phone to be designed and manufactured in Korea. However, customers still thought only of Motorola when they thought of mobile phones, and the quality of the Samsung phone was not good enough to break the customers' prejudice. Although Samsung introduced new models every year, each model sold only one or two thousand units. With such disappointing sales, talks of dropping the mobile phone line arose once again.

By the early 1990s, the worldwide mobile telecom market was growing rapidly, and many new players were entering the market. In Korea, Motorola accounted for 60-70% of the market, and Samsung accounted for only 10%. However, the engineers who participated in R&D for Samsung's mobile phones had a strong desire that they would be able to succeed in their endeavor, based on the process of trial and error that they had already been through. The decision was made to continue with the mobile phone business. However, the project leaders felt that a more deliberate strategy was needed.

A Remarkable Turnaround: "New Management" (1993~1996)

In 1993, an important event that resulted in a breakthrough for the development team occurred on a mountain one weekend. A member of the marketing team was hiking in the mountains when he saw a man calling someone with his Motorola mobile phone. He tried to make a call with his Samsung mobile phone too, but was unsuccessful. It was then that he realized that increasing connectivity would be a crucial factor. He knew it would be especially important in Korea, since more than two thirds of Korea's land is

mountainous, and the radio waves do not transmit as far in mountainous areas as in flatter areas.

It was decided that the development team would focus on improving connectivity. They found the optimal length of a mobile phone antenna and developed a method of using gold to connect the point between the antenna and the communication circuits, thus significantly reducing resistance and enabling steadier wave conductivity. They also developed the wave-searching software that was specially designed for Korea's topography.

Another event triggered Samsung's mobile phone business. On June 4, 1993, Kun Hee Lee, the then-chairman of the Samsung Group, presided over a meeting in Tokyo with his top executives and advisors to discuss future technology development in the company. Right after the meeting, Lee asked several Japanese advisors to have an additional private meeting. In this meeting, Fukuda Shigeo, who was a design advisor, handed over a report titled "Management and Design." The report criticized Samsung's problems in design practices and offered recommendations on appropriate technologies, development procedures, and design management.

The report, the so-called "Fukuda Report," came as a shock to Chairman Lee, and forced him to reexamine his efforts to improve the company's system of quality management, which he had worked hard at strengthening since he had become the chairman in 1987. He felt that he had to take action at that critical moment.

On June 7, 1993, in Frankfurt, Lee gathered 200 Samsung executives and pointed out every problem that Samsung had and emphasized that Samsung needed a turnaround and declared a new management initiative — "Samsung New Management." The "New Management" is a management philosophy that conveys Chairman Lee's strong drive for change, particularly in the area of quality improvement. His famous comment, "Change everything except your wife and children," revealed how seriously he took the situation.

The "New Management" reached to the mobile phone business as well, and Chairman Lee gave the division an ultimatum: "Produce mobile phones comparable to Motorola's by 1994, or Samsung would disengage itself from the mobile phone business."

Kyung Jun Cheon, the then-head of the product development team, was confident that his team could achieve the goal. At that time, the development team had already come up with twenty ideas for improvement, from its hundreds of comparison tests on voice quality, connectability and durability with Motorola's products, and had been working on the development of solutions.

Every weekend, the executives and engineers teamed up and traveled to the mountains all over the country. They tested connection quality on the mountains, which the company had decided to focus on as the key differentiator against Motorola. Since the members were carrying heavy telecom equipment, sometimes they were mistaken as spies hiding in the mountains.

In November 1993, the development team finally unveiled a new model, the SH-700. When Ki Tae Lee first got the phone from the development team, he threw it on the floor and stepped on it. Then he picked it up and tried making a call. Surprisingly, it worked. Since many people carry mobile phones in their rear pockets, Lee had requested that his team make a very sturdy phone. The phone could endure 870 kg of pressure, due to a special integration technology (inserting many support pillars in the circuit body).

This model was quite remarkable. It weighed less than any other company's models, the design was compact, and its quality was substantially improved over previous models. Each product manufactured was tested piece-by-piece to assure perfect quality. Phones with any kind of defect were burned openly for all employees to see. (The products that had been burned were worth 15 billion won, or $188 million.) The burning ceremony ingrained the motto 'Quality is Pride,' the essence of New Management, in every employee's mind.

In October 1994, the SH-770 was introduced under the brand name "*Anycall*." It was a result of the marketing team's effort at brand-building. The model was an upgraded version of the SH-700, with a few changes in design and improvements in product quality. Samsung expected that branding would change customers' perception of Samsung's mobile phone and build up their trust.

Aggressive marketing campaigns started as well. At the initial stage, the most important objective of the company's marketing strategy was to break customers' preconception that Samsung's phone would be inferior to Motorola's. To market this idea of quality, Samsung developed the slogan, *"Strong in Korea's unique topography."* This slogan helped persuade customers that Samsung's mobile phone was best fitted for Korea and its mountainous topography. It emphasized the fact that foreign products had been tested more in flat areas rather than in mountainous ones.

In addition, the company launched a marketing campaign known as "Cheon-wang-bong (Mt. Cheon-wang) Project." As part of the campaign, the company held free-trial events in famous mountain areas and on islands. On holidays, the events were held at highway rest areas. Many celebrities participated in the events.

The company also focused on building good relationship with distributors, since consumer choice was largely influenced by the sales agents' product recommendations. Samsung employees visited about 3,000 distributors in the country and held new product-launching sessions. Some employees gave the distributors gifts of oriental health supplements to let them feel that they were being taken care of. Samsung also began an agent referral program, in which distributors tested the quality of Samsung mobile phones and permitted their names and pictures to be used in Samsung's newspaper advertisements.

A full-blown advertising campaign was run as well. By casting some of the most famous and respected actors in Korea in it ads, Samsung was able to create a strong association between the Samsung brand and quality, credibility and patriotic feelings.

Customer testimonials also worked in a positive way. Many customers called Samsung to provide their opinions of the Samsung mobile phone. One customer reported that the phone was still working even after a car ran over it. Another said the phone saved his life because he was still able to call the fire department even after his *Anycall* phone had been half-burned. These stories were used in a series of television commercials, thus strengthening the connection between Samsung and quality in consumers' minds.

As a result of all the extensive marketing efforts, the market share of Samsung mobile phones soared from 25.8 percent in October 1994, to 51.5 percent in August 1995. In the same period, Motorola's market share dropped from 52.5 percent to 42.1 percent.

Some people compared Samsung's success to the story of David against Goliath. No one but the development members had expected that Samsung would be able to beat Motorola.

Pioneering the CDMA Era (1996~1998)

CDMA service in Korea began in April 1996, under the service of two mobile telecom carriers – SKTelecom and Shinsegi Telecom (STK merged with Shinsegi in 2000). In October 1997, three new mobile carriers, all PCS (Personal Communication Services) providers, entered the market. Thanks to heavy investment and aggressive marketing by these new carriers as well as government subsidies for PCS phone purchases, the total number of mobile phone service subscribers grew rapidly during this time. In May 1998, the mobile phone penetration rate had been 10%. By August 1999, it had reached 42.7%.

Samsung developed its first CDMA mobile phone in March 1996, to coincide with the launch of CDMA service. The first digital handset, the SCH-100, was extra light and slim, and enabled clear voice communication. In the digital era, voice quality was not as important as it used to be. Rather, the focus of competition shifted to additional features such as design, weight, and the capture of delicate sounds. Samsung also developed a voice recognition function and embedded it into its handsets.

Before long, Samsung became the leader in the PCS market. It partnered with KTFreetel and Hansol PCS to provide PCS phones. Its first PCS phone, the SCH-1100, entered the market with innovative features, including a lightweight body, enhanced battery life, and the ability to capture delicate sounds. The design was targeted at the young generation because the young generation had emerged as a large and growing customer base.

It also shifted its marketing communications strategy. For the CDMA cellular market, it emphasized the phone's new functions, for example, its voice recognition feature. For the PCS market, the company coined a new slogan, *"Strong in small sounds,"* to emphasize the mobile phone's capability to capture delicate sounds. The slogan spread rapidly via the appearance of young idol stars in the PCS commercials and the execution of various IMC (Integrated Marketing Communication) strategies.

By the end of 1997, one year after the CDMA service was first launched, Samsung had achieved a 57% market share in the CDMA cellular market and 58% in the PCS market. Also, in April 1997, it achieved sales of one million CDMA phone units.

Globalization (1998~ present)

Samsung made its first foray into the global market in 1996, when it exported its PCS phones to Sprint, an American CDMA carrier. Sprint had been supplied with its PCS phones from Sony, but as it sought out more advanced phones, it realized that Samsung was one of only a few companies that offered such phones. Sprint signed a $600 million contract with Samsung, under which Samsung would provide its PCS phones to Sprint for three years under the co-branded name "Sprint-Samsung."

Samsung worked with Sprint's engineers to develop customized phones that would work uniquely on Sprint's network. This effort differentiated Samsung in the market, and the deal ended up a great success.

After this first export success, Samsung expanded into Hong Kong (Huchinson, CDMA) in 1997, and Brazil (TELESP and TELERJ, CDMA) in 1998. After successfully exporting to Brazil, Samsung built a mobile phone production facility in Brazil in 1998, in the hopes of expanding into Latin America.

Samsung's leading position in CDMA technology and its significant domestic market share gave it the confidence and momentum to go abroad. Samsung targeted

countries that use the CDMA technology for mobile communication. In 1999, Samsung secured the number one position in the worldwide CDMA market where it accounted for more than 50% of market share.

However, the worldwide CDMA market was far smaller than the GSM market, which accounted for 70% of the total worldwide mobile communications market. Moreover, the domestic market was approaching saturation, and competition was becoming more intense. Motorola tried to reposition itself in the Korean market, and emerging domestic players, which were supported by exclusive distribution partnerships with service providers, actively launched new mobile phones. Thus, to achieve further growth, Samsung had to penetrate the GSM market.

The first GSM model was the SGH-200, which was made for European customers. But it was not as good as the company's CDMA phone. It was difficult to hurdle the high entry barrier, which the then "Big 3"—Nokia, Motorola, and Ericsson—had built for years. The company's next few models didn't attract Europeans, either.

The development team realized that a simple change in the circuit system wouldn't work in the European market. Thus, it decided to look more closely at the customer's point of view. They found that Europeans preferred geometric, balanced, and simple designs. Using this information, Samsung adopted 'simple' as the design concept, then developed a new design to suit the tastes of Europeans.

The SGH-600 was born in September 1998. To market this model, Samsung changed its market entry strategy by adopting a high-end strategy. Samsung needed to escape from its low-end image. It figured that its new mobile phone, with its sophisticated design and distinguished functionality, would help it do just that.

Before the SGH-600 was launched, Samsung exhibited the model at many trade shows to build up a premium image. After the first stop in Germany, many members of the press commented favorably to the quality of the product. Taking this as encouragement, Samsung entered into Italy, Portugal, France, and England. Although the price was higher than that of competitors, the sales of the SGH-600 reached 10 million units in the European market.

The GSM market accelerated Samsung's growth, providing new opportunities. Samsung's high-end positioning, along with its quality product, helped raise the prestige of Samsung's mobile phones to that of a luxury good.

In China, for example, Samsung dominates the high-end market. Though the average price of GSM phones in China is about 1,600 RMB, Samsung mobile phones sell for about 3,000~4,000 RMB. Even Motorola or Nokia, the first and the second players in China, sell for 2,000~3,000 RMB. Though Samsung's overall market share in China is in third place, its share in the high-end market (over 4,000~5,000 RMB) is around 50%.

In the CDMA market in China, Samsung beat Motorola and became the number one player in terms of market share in 2003. For most Chinese people, a CDMA phone is regarded as 'cheap' or 'free,' because the Chinese government provides subsidies for the CDMA phone purchases. Nevertheless, Samsung mobile phones are sold at prices 500~1,000 RMB higher than average.

In the UK, Samsung's market share has been growing rapidly since its entry in 1999. Its market share in 2000 was 2.6%, but grew to 4.9% in 2001, then to 9.9% in

2002. Its estimated market share in 2003 was 15%.

Thanks to such growth, Samsung was granted the "Best Manufacturer" award twice

by the Mobile News Award, an award that was previously given to Nokia and Ericsson.

Moreover, the localization strategy has paid off in Europe. For instance, in Germany, where service providers mainly compete in mobile contents, Samsung launched an online community called the "Funclub." Not only does the "Funclub" bring in customer's attachment for Samsung, it strengthens Samsung's relationship with its service providers. Through the "Funclub," Samsung proved that it is able to provide popular mobile contents, in addition to the handset itself.

In France, Samsung tries to connect technology and culture through what is called "culture marketing." For instance, in May 2001, Samsung had an exhibition titled *"Samsung, going together with culture"* at the Guimet Museum and displayed its products, including its mobile phones. It was a provocative trial for a famous French museum to display a company's products rather than historical relics. Also, it invited French artists to the new product launching session in the Champs Élysées.

In CDMA and GSM markets combined, Samsung ranked 4th in the worldwide mobile phone sales in 2002. In 2003, the company firmly held the number three rank in terms of unit sales and number two in terms of revenues. **(Exhibit 8)**

IV. Samsung's Global Management

Global R&D (Research & Development)

In 2003, Samsung invested 3.5 trillion won ($3 billion) or 8% of total revenues in R&D. It acquired 1,313 US patents in 2003, ranking it 11th in the world in US patent awarded. **(Exhibit 9)** Samsung has about 19,700 researchers working in R&D. Researchers account for approximately 34% of its total employees. Every year, R&D engineers developed about 100 new technologies and they work on the development of core technologies in the fourth generation (4G) mobile communications and in next generation memory chips.

Samsung's Information and Telecommunication R&D Center is in Suwon, where the company's headquarters are located. This R&D Center was designed to incorporate all of its business specialties—semiconductors, electronic components, multimedia, and telecommuni-cations—to maximize technological synergies among them. The Suwon R&D Center also interconnects with other R&D centers, both in Korea and in other countries. **(Exhibit 10)**

In the mobile business, Samsung has applied for 12,000 patents in Korea and 25,000 patents overseas since 1998. The main focus of R&D is the development of new technology standards for 4G communications and the mobile Internet. Samsung holds approximately one hundred patents related to 3G and 4G technologies. Recently, Samsung sold its cdma2000 1x EV-DO system to Japan and Southeast Asian countries.

Global Marketing

Samsung's clever marketing strategies played an important role in lifting Samsung's image from that of a low-end manufacturer to that of a global digital technology leader. For effective global marketing and branding, Samsung established a new organization to deal with its integrated global marketing activities. Eric B Kim, who used to work at IBM, was recruited to lead the Global Marketing Department. One of his most important decisions was to cease all existing contracts with 55 advertising agencies and to sign a $400 million contract with one ad agency, FCB Worldwide. Since then, Samsung has unveiled a series of corporate branding campaigns and the slogan, *"Samsung DIGITall:*

Everyone's invited."

One of Samsung's major global branding strategies is Olympic sponsorship. In 1996, Samsung was an unofficial sponsor of the Atlanta 1996 Olympics, having sponsored the Samsung Expo in the Pavilion of the Main Stadium. In the same year, Kun Hee Lee was selected as an IOC member, and Samsung received an opportunity to participate in TOP (The Olympic Partners).

The IOC proposed that Samsung participate in sponsoring the home appliance category for the Olympics. However, Samsung wanted to utilize the opportunity to promote a high-tech image, and felt that the home appliance category was not enough to emphasize Samsung's technological advances. Samsung set its sights on the telecommunications category and believed that, through the Olympic sponsorship, it could shed its image as a low-end home appliance maker and reposition itself as a high-tech mobile communications company. To win the sponsorship negotiations, Samsung concentrated its marketing resources on the mobile phone business.

In 1998, Samsung participated in the Nagano Winter Olympics as an official sponsor, and assumed the responsibility of providing all the mobile technologies needed for the Olympics. For this, Samsung allocated most of its corporate resources to the mobile telecommunications business.

Samsung also participated in the mobile telecommunication equipment category in the Sydney 2000 Olympics and in the Salt Lake 2002 Olympic Winter Games. Samsung's Olympic sponsorship is planned to continue in Athens (2004), Torino (2006, winter), and Beijing (2008).

In addition to its Olympic sponsorship, Samsung has been very active in sports marketing through the support of sporting events and athletes worldwide. It sponsored several equestrian games—for instance, the FEI (Federal Equestrian International) Samsung Nation's Cup and the SSL (Samsung Super League) in France.

Samsung's sponsorships in the world of golf also contributed to its global branding. Samsung thought a great golfer would increase brand value and the reputation of the sponsor, so it decided to sponsor Seri Park just as her career was taking off in the USA. In addition, Samsung became an official sponsor of the SAMSUNG LPGA (Ladies Professional Golfer Association) World Championship.

Movies have also taken on a significant role in Samsung's marketing. For example, Samsung has shown its products – such as its monitors, TVs, mobile phones, etc. – through product placements in many Hollywood movies. And for the popular movie 'Matrix: Reloaded,' Samsung actively participated in developing the "Matrix Phone."

In 2002, Warner Brothers, the Hollywood studio that made the movie "Matrix," requested the three top mobile phone manufacturers—Nokia, Motorola, and Samsung—to develop a new "Matrix Phone" for "Matrix Reloaded," the "Matrix" sequel. The studio specified that the phone should be highly usable, and that its design should be unique and suitable to the Matrix concept.

It was a highly challenging design and engineering task. Samsung's engineers and designers labored for six months to deliver a prototype. Upon seeing the prototype, Warner Brothers selected Samsung over Nokia, the company whose phone had appeared in the first Matrix series. The Samsung phone appeared in the sequel, and 500 units were produced for sales.

Thanks to the popularity of the movie, Samsung's Matrix Phone received a great

deal of attention and acclaim. In Korea, Samsung ran an advertising campaign that included scenes from the movie. In this way, Samsung's co-marketing effort with the most hyped movie of the year contributed significantly to Samsung's brand value. In evidence, Samsung won the "Super Reggie Award" for its successful Matrix marketing in 2004.

Innovative Designs and Products

One of the success factors of Samsung mobile phones is their innovative designs and functionality. The company developed unique but user-friendly designs that were closely integrated with innovative product concepts, allowing it to launch many *first-in-the-world* mobile phones.

The importance of design had risen to the fore with the release of the "Fukuda Report." Then, in 1996, the CEO reemphasized the design issue and declared the year to be the "Year of Design Revolution." The objective of the declaration was to reposition design, which had been regarded as a support function into the core of the firm's product/market strategies. Design was to be cohesively aligned to the Samsung's brand strategy and managed so as to build up the corporate identity.

In 2001, this newfound focus on design was built into the organizational structure. The design organization in the company has been upgraded, becoming the Design Management Center, which is under direct control of the CEO. And a new executive position, the CDO (Chief Design Officer), was created to manage the firm's overall design strategy. From then on, designers became directly involved in the entire product development process, from the very beginning, just as were R&D engineers.

Samsung also built a worldwide design network, establishing four overseas design centers, in San Francisco, Los Angeles, London, and Tokyo. The overseas centers are responsible for developing customized designs for international markets while maintaining a consistent Samsung brand identity.

One unique practice in the Design Management Center is the "precedent design system," Samsung's *design-driven* strategy. The "precedent design system" mandates the designing of products before the actual product is developed. Through customer research and lifestyle segmentation, the designers develop design samples in advance. These samples are then stored in a database called the "Design Bank" for future development and shared among other designers.

Throughout its history, Samsung has introduced a number of unique design features that have distinguished its mobile phones. Early on in its mobile phone business efforts, Samsung changed the location of the 'SEND' and 'END' buttons. The two buttons had been located on the lower side of the phone, but the arrangement was inconvenient because one had to hold the phone with one hand and push 'SEND' or 'END' button using the other hand. By relocating the buttons just below the display window, it became easy for a user to push either 'SEND' or 'END' with the same hand that was holding the phone.

Samsung also fostered the development of "clamshell" type phones, and it was Samsung that first designed a 'dual-folder' phone, which added an external display window to the clamshell type phones. Also, Samsung's Smart-Phone (a mobile phone/PDA handset), the MP3-Phone (with integrated MP3 player), and the Watch-Phone (which was wearable on one's wrist) were all the first products of their kind in the world. **(Exhibit 11)**

Recently, Samsung introduced the "Intenna" phone, which has an antenna embedded within the phone body, making the phone slimmer. It has also released a phone with a touch-screen for playing mobile games, and one equipped with a remote-control function.

Many authoritative design awards have already recognized Samsung's excellence in design. Samsung has been awarded the IDEA's (Industrial Design Excellence Awards) many times. Most recently, it won the "iF Design Award 2004," one of Europe's most prestigious design awards, for eight products, including one PDA phone and two mobile phones.

Guk Hyun Chung, the director of the Design Strategy Team, commented, "Our basic goal is to make customers recognize Samsung's products even when there is no logo attached."

V. Industry Outlook and Key Challenges

Industry and Competition

The worldwide mobile phone industry achieved 57.3 percent average annual growth from 1996 to 2002. In 2002, however, the growth rate dropped to a 6 percent, due to several factors—recession in the US economy, sluggishness in the global IT industry, and delay in the rollout of the 3G services.

But the industry experienced increased activity again in 2003, showing 20.5 percent annual growth. The forces contributing to the growth included increased demand from first-time buyers in emerging markets (China, Brazil, India, Eastern Europe, etc.), the introduction of function-rich phones such as camera phones, and replacement demand in mature markets (US, Western Europe, and some parts of Asia/Pacific). Total mobile phone unit sales reached about 520 million units in 2003, and are expected to exceed 600 million units in 2004. **(Exhibits 12, 13)**

At present, Nokia, Motorola, and Samsung are in the first-tier group, and Siemens, Sony-Ericsson, and LG Electronics in the second-tier. However, the top three players have a hold on more than half of the total market, totaling 55.2% and 60% market shares in 2002 and 2003, respectively.

The mobile phone market leaders have achieved competitive advantages, based on technology leadership, economies of scales, brand power, and superior negotiation power over suppliers and mobile service providers. They have invested heavily in R&D to keep their technology leadership and to make their core technology into the industry standard.

However, as technologies and components are becoming standardized and modularized, the technology gap among the industry players is narrowing. Recently, new mobile phone manufacturers have begun outsourcing core technologies and product modules; in other words, the market entry barrier is getting lowered. As the number of market players increases, those players are increasingly competing on price. **(Exhibit 14)**

Also, as the mobile phone market gets saturated, the demand for replacement will lead market growth. To stimulate the replacement demand, introduction of new mobile communications technologies and services will be required, resulting in a shorter lifecycle for mobile phones.

In addition, the market is diversifying at an increasingly rapid pace, embracing new technologies, features and applications. Color screens, Java, multimedia messaging, consumer applications and enterprise applications now characterize the market that only recently was defined simply by high, middle and low tiers.

Consequently, product development leadership, i.e. the ability to develop innovative, new products that match well-defined customer segments in a timely manner, will become a crucial capability.

Digital Convergence

"Digital convergence" is a key word in the 21st century world of information technology. Since the early 1990s, the concept of "convergence" of media content, otherwise known as "multimedia," has become an important buzzword. Since the mid-1990s, many companies have been actively pursuing convergence in devices (computing, appliances, communications, etc.) and networks (wired and wireless communications).

Many companies expect that digital convergence will provide great opportunities because convergence devices and services will cover larger market segments. However, at the same time, those companies will have to compete with an increasing number of competitors. For example, Microsoft (a software company) is competing with Sony (an electronics company) in the game industry.

To succeed in the convergence era, a company must develop a core technology and make it the industry standard. Doing so will give the company a first-mover advantage and additional revenue streams from its proprietary technology. For this reason, strategic alliances among companies have become more prevalent. For instance, Nokia recently introduced an enterprise smart-phone in alliance with IBM, while Motorola launched a smart-phone with Microsoft.

Of the many digital products available, mobile phones are one of the most suitable platforms for achieving a "ubiquitous" network. Mobile phones have already become a part of people's everyday lives, and people carry mobile phones anytime and anywhere. Plus, mobile phones have become more multi-functional, integrated with digital cameras, PDA's, camcorders, TVs and the Internet.

Major mobile phone manufacturers, including Samsung, have focused on developing convergence technologies and products. In October, 2003, Nokia launched the N-Gage phone, which embedded online games, an FM radio, a digital music player, and MMS (Multimedia Messaging Service). The N-Gage phone was sold 400,000 units only in two weeks since its launch. And Nokia places top R&D priority on the standardized platform that is applicable to all of its mobile handsets and mobile software.

Samsung's Key Issues

Though Samsung has continued its success in the mobile phone business, it faces a number of challenges to keep the growth momentum in the future.

First, competition in the mobile phone market will become more intense. Lower entry barriers will bring in more competitors to the market, and the "digital convergence" will accelerate the competition even further. Companies from other industries such as PCs or network services will compete directly with Samsung. As such, it will have to devise more creative win-win strategies in the highly uncertain digital convergence landscape.

Second, the sustainability of Samsung's high-end strategy, which was attributed to Samsung's brand building, may be in question. Samsung has achieved high profit margin, which is comparable to that of Nokia, mainly based on its high price, while Nokia has done so based on its cost dynamics. In terms of per-unit cost, Nokia spends less on R&D and marketing. One might doubt whether the high-end strategy can really be sustainable. **(Exhibit 15~17)**

As the mobile communications market becomes saturated, future revenue sources will come mainly from emerging markets (China, Brazil, India, Eastern Europe, etc.). First-time buyers in emerging markets tend to prefer affordable phones. This could hurt Samsung unless it begins to cover the low and middle-end markets. Nokia and Motorola, as well as many newcomers from China, have already targeted those emerging markets. How to compete in the low and middle-end markets, while preserving its premium brand image, will be important questions in Samsung's future growth.

Third, Samsung is highly dependent on foreign companies for core technologies and modules. For example, it sources core CDMA base-band chips from Qualcomm and sophisticated camera-phone modules from Japanese firms. Consequently, the proportion of royalty payment in total manufacturing cost is likely to increase unless Samsung develops its own technologies.

Some industry experts argue that most of Samsung's patents are on applied technologies, which are developed based on others' patent-protected core technologies. Recently, Samsung experienced a shortage in the supply of Qualcomm chips and camera-phone modules. This suggests that Samsung's high dependency on core technologies and product modules would threaten not only its future profitability but also its competitive position.

Fourth, Samsung needs to strengthen its product portfolio in next generation phones. In the smart-phone segment, Nokia has shown a great start, shipping 5.4 million units in 2003, which accounted for 54% of the world market. In contrast, Samsung shipped only 0.3 million units, and the shipment is even less than that of Sony-Ericsson, which shipped 0.8 million units.

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Exhibit 1　Comparison among major IT companies to Samsung Electronics

($B)

Samsung: 87.4, 37.9, 6.3
Intel: 175.0, 30.1, 7.5
Nokia: 98.5, 34.5, 6.0
Sony: 37.9, 37.8, 0.3
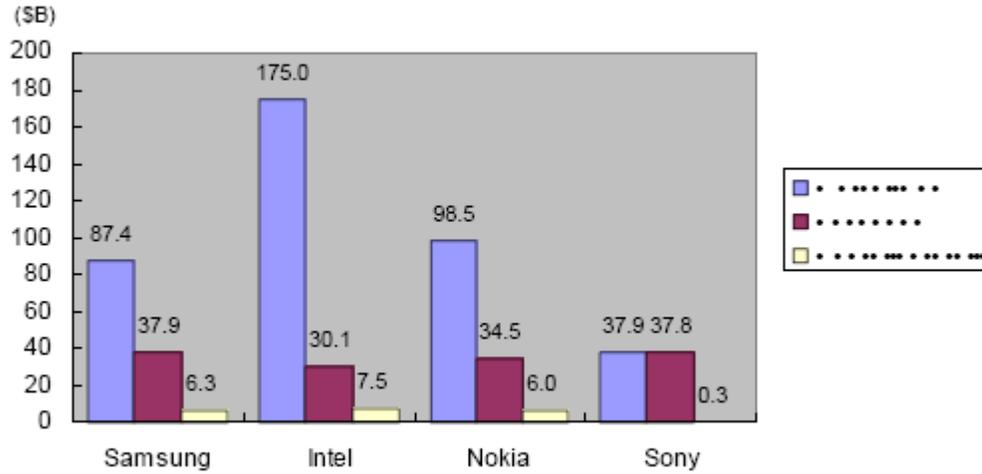
Source: Each company's annual report (2003)

Exhibit 2　BusinessWeek/ Interbrand's Global Brand Scoreboard

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Rank	Company	Brand Value ($B)		% Change
		2003	2002	
1	Coca-Cola	70.45	69.64	+1
2	Microsoft	65.17	64.09	+2
3	IBM	51.77	51.19	+1
4	GE	42.34	41.31	+2
5	Intel	31.11	30.86	+1
6	Nokia	29.44	29.97	-2
20	Sony	13.15	13.90	-5
25	**Samsung**	**10.85**	**8.31**	**+31**
81	Motorola	3.10	3.42	-9

Source: BusinessWeek "The Best Global Brands," August 4, 2003

Exhibit 3   Samsung Electronics' Organizational Chart
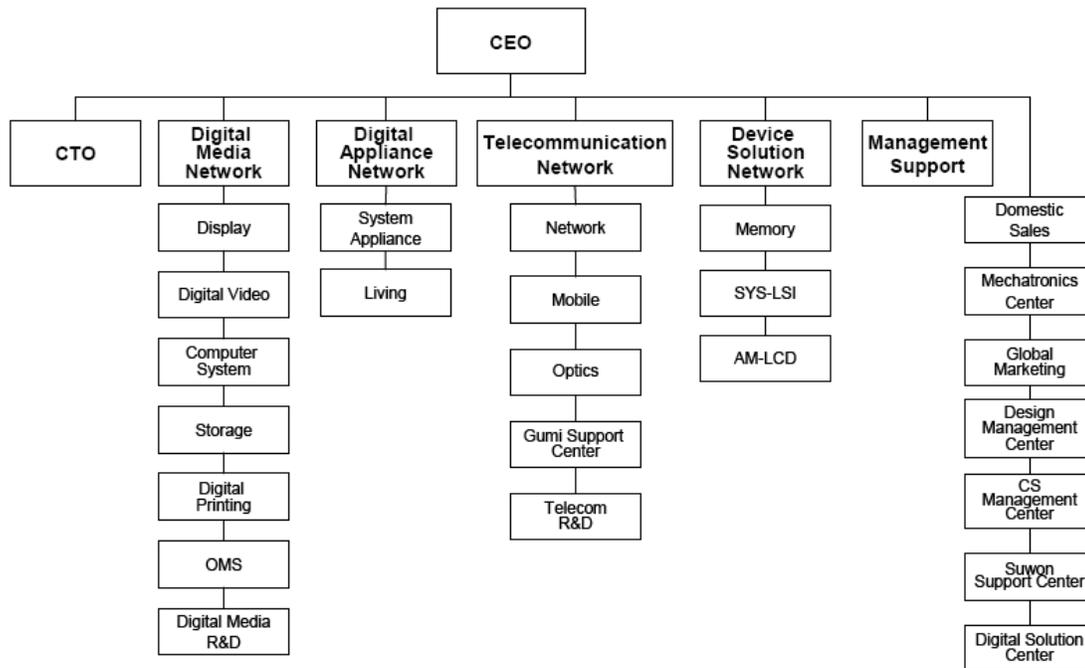
Source: Company's business report (2003)

Exhibit 4   Samsung's sales and profits by division (2003)

Division	Sales	(%)	Operating Profit	(%)
Device Solutions	17,904	41.1%	4,507	62.7%
Telecommunication*	14,202	32.6%	2,703	37.6%
Digital Media	7,745	17.8%	145	2.0%
Digital Appliance	3,406	7.8%	-111	-1.5%
Others	352	0.8%	-51	-0.7%
Total	43,609	100.0%	7,193	100.0%

* Telecommunications division deals with network equipment as well as mobile phones.
However, mobile phone business accounts for 90% of total sales of Telecommunications division.

Source : Company's website (www.sec.co.kr)

<Division Description>

- Device Solution Network : Memory, TFT-LCD, SYSTEM-LSI

- Telecommunication : CDMA, GSM mobile phone

- Digital Media Network : Digital TV, LCD Monitor, Laptop, DVD, Digital Camcorder, Printer

- Digital Appliance Network : Air-conditioner, Refrigerator, Washing machine,

   Microwave Oven, Home Networking

Source: http://gxuesm.gxu.edu.cn/
gxuesm.gxu.edu.cn/html/07shuangyu/anli/anli006.doc

Exhibit 5   Samsung's world best products by division (2003)

Division	Product	Market share	Ranking
Device Solution	DRAM	32.2%	1
	SRAM	27.6%	1
	TFT-LCD	17.6%	1
	Flash Memory	15.4%	2
Telecommunication	CDMA mobile phone	23.0%	1
•	Mobile phone	10.0%	3
Digital Media	TV	10.0%	1
	Monitor	22.0%	1
	VCR	25.1%	1
	DVDP	14.8%	2
	Camcorder	15.1%	3
Digital Appliance	Microwave oven	25.1%	1

Source: Company's website (www.sec.co.kr)

Exhibit 6   Samsung's Global Network

Region	Production Subsidiary	Sales Subsidiary	Branch Office
# of location	25	39	22
Region	Country (# of location)		
North America	USA	USA(6), Canada	
Latin America	Brazil, Mexico (2)	Mexico, Argentina, Colombia, Chile, Republic of Panama	Brazil, Colombia, Peru, Chile
Europe	UK, Spain, Hungary	UK(3), Germany(2), France, Italy, Sweden, Poland, Portugal, Netherlands(3)	Austria
Middle East and Africa		South Africa, UAE	UAE, Iran, Egypt, Jordan, Saudi Arabia, Turkey, Morocco, Algeria, Tunisia, Kenya
CIS		Russia, Ukraine	Russia, Kazakhstan, Uzbekistan
China	China (10)	China (5), Taiwan	China (3)
Southeast Asia and Japan	Indonesia, Thailand, Malaysia(2), India(2), Vietnam, Philippines,	Philippines, Japan	Malaysia
Oceania		Australia (2)	

Source: Company's website (www.sec.co.kr)

Exhibit 7 The Development of Mobile Communications Technology
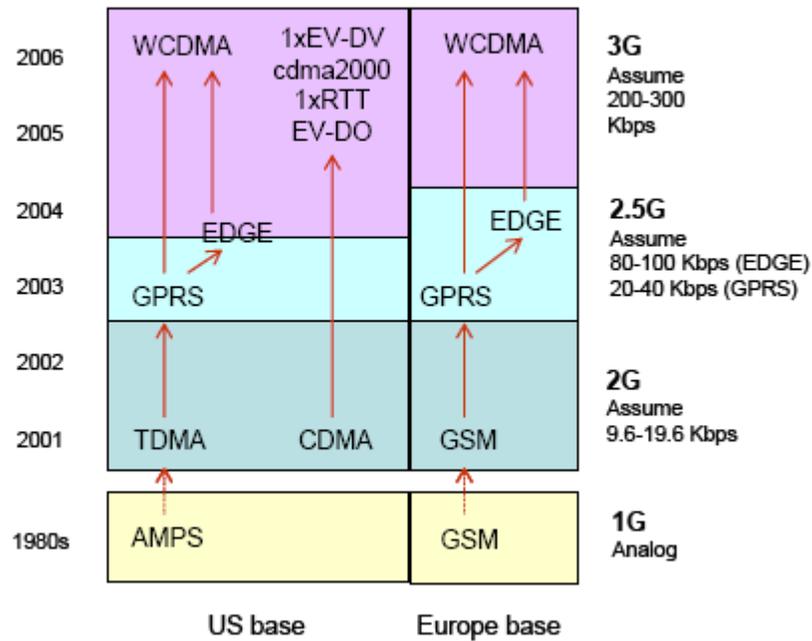
Source : Gartner Dataquest, reproduced by case writer

Exhibit 8 The Worldwide Mobile Phone Sales by Manufacturer (1,000 units)

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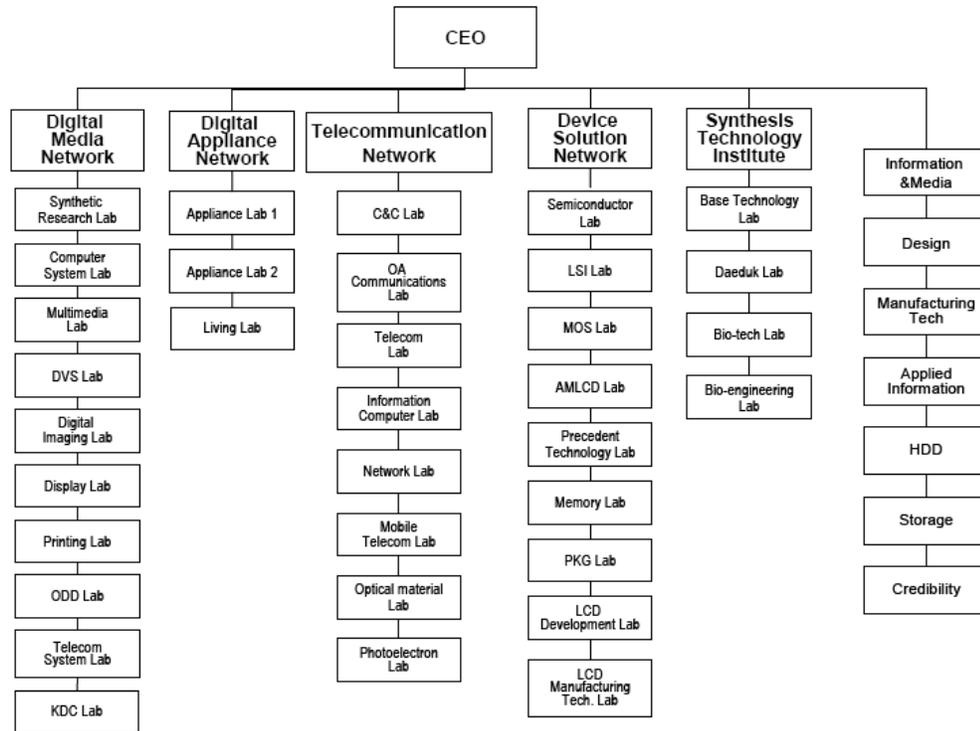| Rank	2003		2002		2001	
	Manufacturer	Sales	Manufacturer	Sales	Manufacturer	Sales
1	Nokia	180,672	Nokia	151,422	Nokia	139,627
2	Motorola	75,177	Motorola	72,853	Motorola	59,092
3	Samsung	54,475	Samsung	41,684	Siemens	29,735
4	Siemens	43,754	Siemens	34,618	Samsung	28,234
5	Sony Ericsson	26,686	Sony Ericsson	23,113	Ericsson	26,956
6	LG	26,214	LG	13,798	Panasonic	15,669
7	Panasonic	16,809	Panasonic	10,767	NEC	12,075
8	NEC	13,485	NEC	8,085	Alcatel	11,745
	Others	82,716	Others	75,292	Others	75,387
.	Total	519,989	.	431,631	.	398,520

Source: Gartner Dataquest (2004)

Exhibit 9 Samsung Electronics' R&D Expenditures (2001-2003)

Year	Number of Researcher	Investment (billion KRW)	% of Sales	Number of US patents	US Patent Ranking
2003	19,700	3,500	8.0%	1313	9
2002	17,000	2,900	7.3%	1329	11
2001	15,000	2,400	7.4%	1,451	5

Source: Company's website (www.sec.co.kr)

Exhibit 10 Samsung Electronics' R&D Organization

Source: Company's business report (2003)

Exhibit 11 Product Roadmap
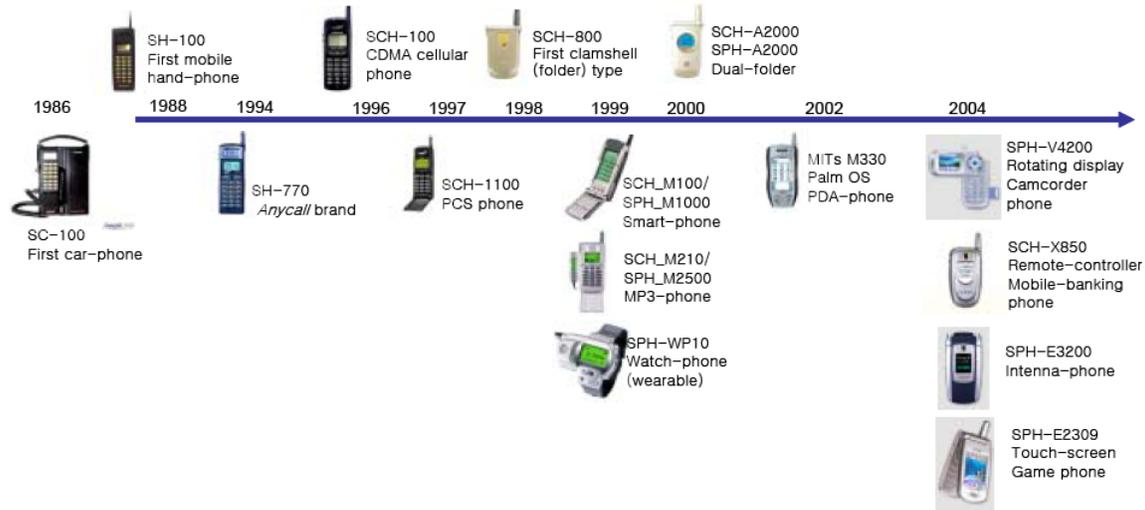
Source: Anycall Land (www. anycall.co.kr), reproduced by casewriter

Exhibit 12 End-user Spending on Mobile Phone Estimation, by Region ($M)

Region	2002	2003	2004	2005	2006	2007	CAGR 2002-2007
United States	24,482	25,399	27,037	26,773	26,521	25,491	0.8%
Canada	1,851	2,153	2,425	2,450	2,481	2,982	10.0%
Latin America	4,505	4,506	4,658	4,557	4,300	3,938	-2.7%
Western Europe	25,613	26,083	26,242	24,805	23,136	21,727	-3.2%
Central and Eastern Europe	6,260	5,788	5,962	5,597	5,380	4,833	-5.0%
Middle East and Africa	4,239	4,176	4,906	4,738	4,775	4,529	1.3%
Japan	9,078	9,061	9,651	10,038	9,165	8,073	-2.3%
Asia/Pacific	18,618	20,093	22,044	22,505	22,666	22,156	3.5%
Worldwide total	94,646	97,259	102,925	101,463	98,424	93,729	-0.2%

Source: Gartner Dataquest Market Databook (December 2003 update), reproduced by casewriter

Exhibit 13 Worldwide Mobile Phone Market Estimation, by Technology (1,000 units)

Technology	2002	2003	2004	2005	2006	CAGR 2002-2006
CDMA	73,254	92,506	104,088	126,234	144,227	18.5%
TDMA	22,874	31,446	23,350	24,989	19,515	-3.9%
GSM	274,142	302,180	308,327	406,892	432,501	12.1%
WCDMA	2,791	5,064	16,791	22,456	23,699	70.7%
Others	43,910	28,504	30,895	29,678	26,487	-11.9%
Total	416,971	459,700	483,451	610,249	646,429	11.6%

Source: Cahners In-Stat Group (2002. 4)

Exhibit 14 Trend of ASP (Average Selling Price) (1996~2004)
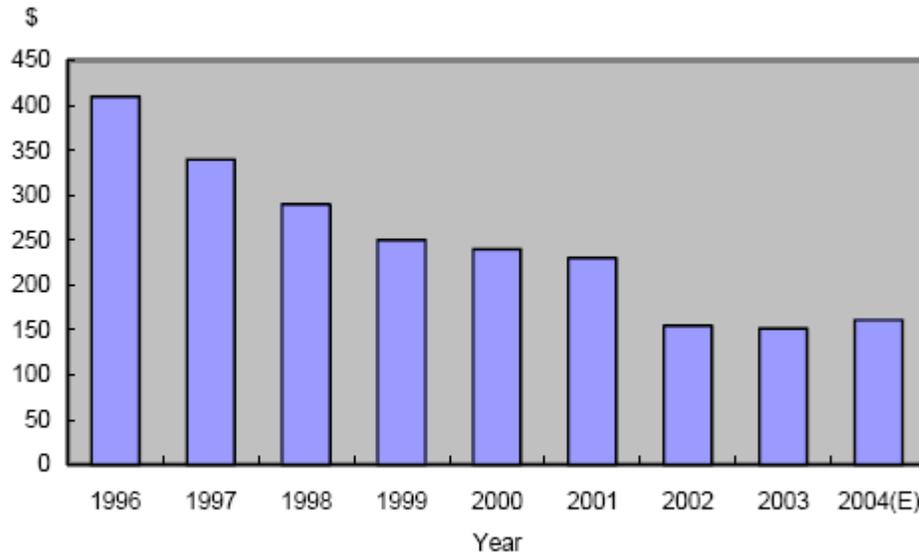
Source: KISDI (Korea Information Strategy Development Institute), adjusted by casewriter

Exhibit 15 Performance Record of Major Global Mobile Phone Manufacturers

Company		•	2002	2003
Nokia	(EURm)	Revenues	23,211	23,618
		Operating Profit	5201	5,486
•		Profit margin (%)	22.4%	23.2%
Motorola	($M)	Revenues	11,174	11,009
		Operating Profit	503	479
•		Profit margin (%)	4.5%	4.4%
Samsung	(KRWb)	Revenues	10,616	12,881
		Operating Profit	2,705	2600
		Profit margin (%)	25.5%	20.2%
Siemens	(EURm)	Revenues	2,361	4,651
		Operating Profit	93	38
•		Profit margin (%)	3.9%	0.8%
LG	(KRWb)	Revenues	3,357	5,119
		Operating Profit	434	250
•		Profit margin (%)	10.2%	4.9%

Source: Analyst's Report, Daishin Economic Research Institute (March 3, 2004)

Exhibit 16 Average Selling Prices of Major Global Mobile Phone Manufacturer ($)

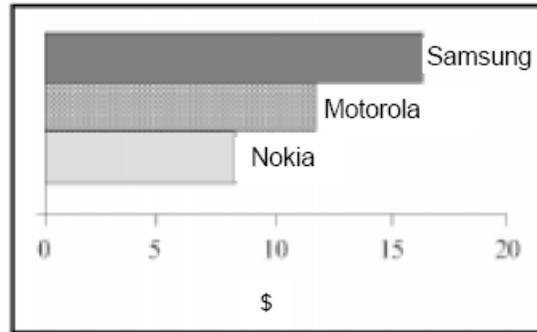| Company	2002	2003	2004(E)
Nokia	146	149	164
Motorola	163	143	144
Samsung	206	194	200
Siemens	116	124	115
LG	162	153	161

Source : Analyst's report, Tong Yang Investment Bank Research Center, February 10, 2004

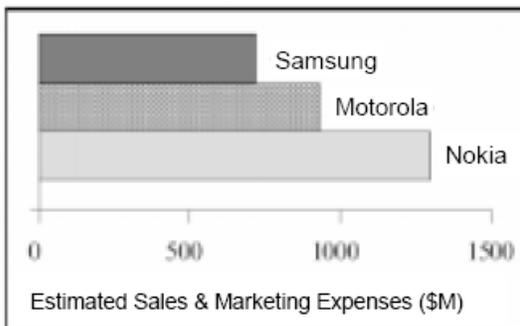**Exhibit 17** Comparison on R&D and Marketing Expenses
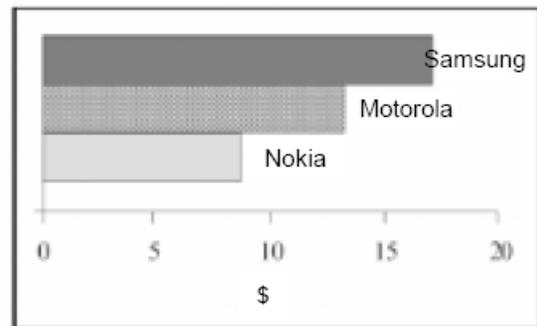

• R&D in Mobile Phone Business — Estimated R&D Expenses ($M)
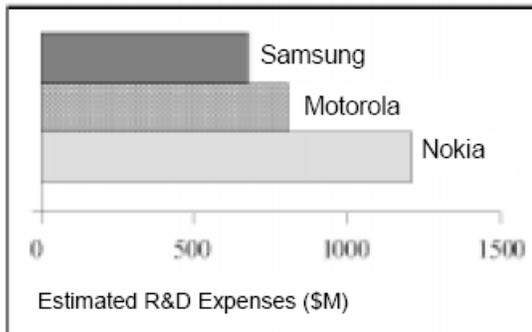
• R&D expense per unit ($)

• Sales & Marketing in Mobile Phone Business — Estimated Sales & Marketing Expenses ($M)

• Sales & Marketing expense per unit ($)

Source : Strategic Analytics, reorganized by KISDI (Korea Information Strategy Development Institute)