

Samsung Electronics Co., Ltd' Decision on AST in 1997

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Samsung Electronics Co., Ltd.(SEC) had to decide whether it should acquire AST Research, Inc.(AST) in 1997. From various aspects of domestic, foreign, and global environments, and resources and capabilities of SEC and AST, this case asks what would be the best decision for SEC. Especially, this case emphasizes the competitors' strategic moves in addition to general external and internal environments as a critical factor for the decision making.

Key Words: acquisition, competitive motives, industry analysis, internal analysis

I. Introduction

November 22, 2006, newspapers reported a piece of news regarding an international patent infringement.

"Samsung has won a U.S. patent suit against Taiwanese PC maker Compal. Samsung Electronics said Tuesday it has won a US\$9 million U.S. compensation lawsuit against a Taiwanese computer maker that violated its patents. A jury for the Federal Court in California found on Nov. 17 that Compal violated a notebook computer patent of Samsung Electronics, and ordered Compal to pay US\$9 million, part of sales earned between April 1999 and March 2002 in damages. Samsung filed the suit against Taiwanese notebook computer manufacturer Compal with a court in California in 2000 for infringing its patented technologies for making laptop computers."

This news reminded people of the

relationship between Samsung Electronics Co., Ltd. (SEC) and AST Research, Inc. (AST) in the middle of 1990's, because the patented technology for notebook computers in the news was transferred from AST. At that time SEC had to make a very important decision in 1997, and it attracted great attention of news media. Although almost 10 years have passed, the question still remained. What would be the best decision? If it happens again, should the decision be different?

SEC was one of the largest companies in Korea that produced electronic home appliances including computers. Since it was established in 1969, SEC has produced various kinds of products such as televisions, refrigerators, washing machines, air conditioners, and electronic ranges. In 1983, SEC began producing personal computers. After the semiconductor business in Samsung

Group was merged to SEC in 1988, SEC could achieve steep growth rates thanks to enormous semiconductor product sales in the world. In 1992, SEC developed 16-mega DRAM first in the world, and in 1993, SEC recorded 80 trillion-won sales for the first time in Korea as a single production company.

With such great money inflow and seemingly promising prospects in the computer industry, SEC invested \$378 million to take 40.25% stake of AST, the sixth-ranked PC maker in the US in 1995. It was the largest foreign investment ever conducted by Korean companies, followed by Hyundai Electronics' acquisition of a business unit of Global Information Systems for \$340 million. However, AST's sales kept declining and SEC needed to do something.

In 1997, one senior executive insisted SEC should acquire AST right away. Another executive argued SEC should find another place to invest money, not AST. Some other executives tried to make a compromise of these two extreme options. To take over AST, SEC needed around \$470 million including AST's debt of \$370 million. The issue was if AST was worth for it. There were several issues that should be evaluated to make the decision, such as technological or market situations. Strategic moves of competitors also should not be underestimated. Specifically, what factors should be evaluated? From this evaluation,

what do you think SEC should do on AST?

II. The Personal Computer Industry in the World during 1993 - 1997

In 1993, the personal computer market was greatly expanded by 19.8%, and IBM was on the top among competitors taking 10.84% of the market share, followed by Apple (9.43%) and Compaq (8.06%). AST was on the 7th, but it was one of the fastest late-movers, recording 75.6% growth compared by the previous year. The strong growth of the PC market was remained at around 20% through 1994, 1995, and 1996, mainly due to the fast sales growth in Europe, Japan, and South Asian markets. In the US market, however, the growth rate of the PC market was not as high as that in the other areas. For example, in the first quarter of 1996, the growth rate in the US market was 14.7% while the growth rate in the world was 18.4%. This means that leading PC manufacturers needed to exploit global opportunities rather than just focus on the US market, even though the US market was still the biggest one in the world.

However, the highly growing PC industry did not give enough profits to PC manufacturers. Actually, many PC manufacturers had to use price-cutting strategy to enter into a foreign market, hurting their own

profitability. For example, Compaq deeply cut their price to enter Japanese market to take a leading position from NEC in 1992. The strategy worked well, and Compaq gained the leadership. In 1994, Compaq used the same strategy in the US market against IBM and Apple. But this time it did not work very well. When Compaq cut their price by 11% or 22%, IBM responded to Compaq by cutting down the price by 27% very quickly. Other PC manufactures also took actions to deal with Compaq's strategy. Hewlett Packard announced that they would decrease the price even below Compaq's price level soon. DEC informed their PC dealers about an impending price cut.

This price competition reflected several important trends in the PC industry at that time. First, the biggest CPU supplier, Intel, cut down the price of Pentium chips by almost 40% in 1994. This allowed PC manufacturers to maintain margins while decreasing price. Second, customer preferences started to change very quickly. The use of internet allowed PC users to exchange information with other users. A new generation of computers, so called 'network computers' emerged. This required higher capacity of memories and upgraded equipments (e.g. sound and video cards for games) more quickly than ever. Third, while the demand of PCs has been always higher than the supply in 1992 and 1993 due to the fact that major computer parts were not supplied enough on time, PC part manu-

facturers were equipped by large facilities to produce those parts quickly in 1994. Thus, PC manufactures were able to produce as many computers as they wanted.

The price competition in 1996 and 1997 created new competitive situations. The most important change would be that low-end PCs priced below \$1,000 started to be manufactured and to dominate the market. The market share of those products increased from 7% in 1996 to 25% in 1997. Related to this, as a result of the price competition, market concentration was intensified. The market share of the top four PC manufacturers in the US (Compaq, IBM, HP, and Dell) increased from 26.7% in 1996 to 32.2% in 1997 based on shipments. This phenomenon was mainly due to the economies of scale. Top companies were able to produce their products at low cost and also cut their margin to increase market share. The middle-group companies such as Packard-Bell and AST had hard time to come up with this market situation.

III. The PC and Other Related Business Environments in Korea during 1993 - 1997

Since 1993, Korean PC and other consumer electronics manufacturing companies have actively made strategic alliances with foreign companies following the general

trend of globalization. There were some reasons for this. First, the demand for computers in the Korean market was quite strong. For the first time, one million computers were sold in 1994, and it was 30% more than the sales in 1993. Therefore, companies wanted to take the leadership in this growing market. To introduce more advanced computers continuously, domestic PC manufacturing companies needed technological supports from foreign companies, and strategic alliances were frequently used for this. Second, domestic PC manufacturing companies were making big money in other industries, too. For example, SEC experienced 527% growth in earnings in 1994 in the semiconductor market. The problem was, however, the semiconductor industry was going mature at that technological level and growth rate was declining. Thus, SEC needed to find an appropriate place to invest the money it earned. Third, the labor cost in Korea in general happened to be one of the highest in Asia. Korean manufacturing companies were searching for foreign partners or acquisition targets to work with to achieve low labor cost.

Because of these reasons and many others, Korean PC and electronics manufacturing companies were trying to make alliances with, or acquire, foreign companies in 1994 and 1995. SEC made an alliance with Hewlett Packard to have exclusive rights to sell some HP models in Korea, Hyundai Electronics invested to take over some

(eventually all of) equity of Maxter, and LG Electronics acquired controlling share (57.5%) of Zenith. The total amount of foreign investments by Korean companies in 1995 was increased by 60% compared to in 1994.

Korean business groups even competed in acquiring foreign companies' equity. SEC and Hyundai Electronics competed to take over Global Information Systems' non-memory business, and Hyundai won. It was recorded as the biggest foreign investment ever by Korean company, which was \$340 million. Right after it happened, SEC renewed the record by acquiring AST's 40.25% equity for \$378 million. This kind of big investments never occurred before 1994.

IV. Brief History of Samsung Electronics Co., LTD. (SEC)

SEC has been the second largest electronics company in Korea until the late 1970s. The largest one was Goldstar (later LG), which was established in 1958. Goldstar produced the first radio (1959), refrigerator (1965), TV (1966), and so on in Korea, and dominated almost all electronic products market. But SEC, as a follower, concentrated on exporting its products, and finally became the largest electronic company, based on the sales volume, in the late 1970s.

In Korea, the first computer was produced in 1980 by Trigem, which was established

by venture capital. Trigem has led Korean computer industry until 1993, based on supplying government demand and keeping technological leadership. But during that period, the computer industry grew very fast and big electronic companies started to enter into this market one by one. The rivalry in this market has increased quickly, and it led price competition, which was not a good condition for a venture capital company like Trigem. SEC began producing personal computer in 1983, and became the top computer manufacturer in 1993. After 1993, SEC kept being the stable leader in

the computer industry in Korea.

When SEC was merged with Samsung Semiconductor in 1988, SEC became the 13th largest semiconductor producer in the world. SEC could gain tremendous money inflow in semiconductor industry during the early 1990s. SEC succeeded in developing 16-mega DRAM in 1990, and finally developed 64-mega DRAM first in the world in 1994. SEC was awarded for exporting \$10 billion as a single company in Korea for the first time in 1995, mainly because of the semiconductor products. Table 1 summarizes a brief history of SEC.

(Table 1) A Brief History of SEC (1969-1996)

year	month	events
1969	Jan	Company established
	Dec	SAMSUNG-Sanyo Electric established (later merged into SAMSUNG Electronics)
1970	Jan	SAMSUNG NEC established
	Nov	Black-and-white TV (model: P-3202) production started by SAMSUNG-Sanyo
1971	Jan	First black-and-white TVs (model: P-3202) exported (to Panama)
	Nov	Construction of Suwon complex begun
1972	Nov	Production of black-and-white TVs for local sale begun
1973	Aug	HQ moved to Suwon, business operations streamlined
	Dec	Home appliance plant completed
1974	Mar	Refrigerator (models:SR-180, SR-201TD) production begun
	Dec	Washing machine (model: SEW-200W) production begun Korea Semiconductor Co-acquired
1975	Apr	Econo TV development completed
	Nov	Monitor plant completed
1976	Feb	4 Production of energy-efficient High Cold refrigerator (models:SR196, SR-206WP) begun
	Apr	Development of 14" color TVs (models: SW-C3761, SW-C3762) completed in-house
	Oct	1 millionth black-and-white TV produced

〈Table 1〉 A Brief History of SEC (1969-1996)

year	month	events
1977	Apr	First color TVs (model: SW-X3761) exported (to Panama)
1978	May	4 millionth black-and-white TV (most in the world) produced
	Jul	Marketing subsidiary (SEA) established in the US
	Dec	Exports exceed US\$100 million
1979	Jun	Mass production of microwave ovens (model: RE-7700) begun. Overcoming economic slump, developing technology
1980	Mar	Korea Telecommunications Corp. acquired
	May	Air conditioner production begun
	Jul	Production of color TVs for local market begun
	Dec	1 millionth Econo TV produced
1981	Feb	1 millionth color TV produced
	May	10 millionth black-and-white TV produced. First microwave ovens (model: RE-705D) exported (to Canada)
1982	Jan	Color TVs re-exported to Japan
	Jun	Sales subsidiary (SEG) established in Germany
	Sep	First overseas plant (SEP) established in Portugal
	Dec	Korea Telecommunications Corp. name changed to SAMSUNG Semiconductor & Telecommunications Co. Leading in exports and development
1983	Mar	Production of personal computers (model: SPC-1000) begun
	May	Portugal factory started exporting PAL system color TVs
1984	Feb	Company name changed to SAMSUNG Electronics Co., Ltd
	Nov	Sales subsidiary (SEUK) established in England
	Dec	Plant (SII) established in the US. First VCRs exported to the US. World's largest microwave oven factory (2.4 million units/ year) completed. Annual sales top W1 trillion
1986	May	Research labs established in Santa Clara, California and Tokyo, Japan. Best of '86 Prize received from Korea Management Association
	Jul	1M DRAM development completed
	Aug	10 millionth color TV produced
	Sep	Sales subsidiary (SEAU) established in Australia. Sales subsidiary (SECA) established in Canada
	Oct	Plant completed in England; production of microwave ovens, VCRs, and color TVs begun
1988	Oct	Sales joint venture (SEF) established in France. Plant (TSE) established in Thailand Plant completed in Mexico; production begun
	Nov	SAMSUNG Semiconductor & Telecommunications Co merged with SAMSUNG Electronics (home appliances, telecommunications, semiconductors selected as core business lines)

〈Table 1〉 A Brief History of SEC (1969-1996)

year	month	events
1989	May	20 millionth color TV produced. Development of 4M MASK ROM completed
	Aug	Construction of Thai plant completed; production started up Plant established in Malaysia
	Dec	Company ranked 13th in the world for semiconductor sales
1990	Nov	Development of 16M DRAM completed
1991	Oct	Development of pen-based notebook PC completed
	Dec	US\$4 billion in exports achieved. Development of mobile phone handset completed
1992	Feb	Plant established in Czechoslovakia
	Mar	Development of 8-bit micro-controller completed
	Apr	Development of 1.4" color TFT LCD completed. Development of 4M SRAM completed. Development of super-mini computer completed. 10 millionth industrial robot produced
	Jul	Joint venture VCR operation established in Tianjin, China
	Aug	Development of mobile phone system completed
	Sep	Development of world's first 64M DRAM completed
	Oct	Company granted 'A' international credit rating
	Nov	US\$40 billion dollar in exports achieved (first Korean manufacturer to do so). Development of 250MB hard disc drive completed
Dec	Single president system begun for more unified management structure	
1994	Feb	Joint venture production complex established in Tianjin, China
	Apr	30 millionth microwave oven produced. Semiconductor equipment plant (Korea DNS) established
	Aug	Development of high-quality TV completed. Development of world's first 256M DRAM completed
	Nov	Mukoonghwa Factory established for handicapped workers
1995	Feb	40.25% share of AST Coin US (computer manufacturer) purchased
	Apr	Technical tie-up made with Toshiba for 64M flash memory chips
	Sep	World's first 33" double screen TV introduced
	Oct	Development of 22" TFT-LCD completed. Wynyard Park completed in U.K.
	Nov	Exports top US\$10 billion (first for Korean manufacturer)
	Dec	Development of world's first 1G synchronous DRAM completed
1996	Mar	Construction of SAMSUNG Austin Semiconductor begun. Electronics complex established in Tijuana Mexico
	Jun	VisionPlus TV introduced
	Sep	ISO 140001 received; a first for any semiconductor company
	Oct	Development of 1G DRAM completed

Source: SEC

V. Brief History of AST Research, Inc. (AST)

AST Research, Inc. was established in 1980 as a high-tech consulting firm to produce enhancement boards for IBM personal computers by three immigrant engineers: Albert Wong, Safi Qureshey, and Thomas Yuen. AST enjoyed early success and could get a good reputation for quality and innovation. In 1983, their sales reached \$12 million, and in 1984, AST went public raising \$13 million. In 1986, AST began to produce its own computers. It introduced 286 computers using their own brand, but as it fell behind in introducing PCs based on 386 chips, it reported its first loss in 1989.

However, AST produced two new 386-based PCs in the middle of 1989, and also it began emphasizing foreign business, establishing subsidiaries in Europe and the Far East. Introducing 12 types of computers in 1990, AST raised its sales up to \$2,468 million in 1994, and was ranked at 5th in the personal computer industry in the U.S. But as soon as AST acquired Tandy's PC manufacturing operations to expand its production capacity and increase its distribution outlets, it began losing market share and money. The acquisition of Tandy was followed by a series of production and shipping delays. AST had to experience stumbling just after other PC makers aggressively dropped prices on their products. Table 2 summarizes a brief history of AST.

〈Table 2〉 A Brief History of AST (1980-1996)

year	events
1980	Established by three engineers to produce computer parts for IBM
1984	IPO (Initial public offering)
1986	Began producing its own computers
1993	AST (75.6% growth rate) was on the 7 th in the world following IBM (10.84%), Apple (9.43%), Compaq (8.06%), etc.
1994	AST was on the 4 th in the US market and 5 th in the world. In China (21.5% market share) and Hong Kong, AST was on the top. Acquired Tandy Computers.
1995	In the first quarter, recorded \$40 million loss
	In March, asked SEC to invest for 20% equity
	In July, SEC acquired 40.25% equity for \$378 million
1996	In China, AST became on the second following IBM
	In the first quarter, recorded \$116 million loss. Cumulative loss reached around \$400 million

Source: Various Sources

VI. The Value of AST as an Acquisition Target

There were several reasons that SEC selected AST as a potential target. First of all, AST had 190 patents related to general computer parts and notebook computers, which was the 4th in numbers in the world. For example, "function key" technology which is being commonly used for notebooks was owned by AST. Its R&D capability was also very highly evaluated. SEC planned to pursue cooperative product developments, cross OEM and cross licensing. Since SEC's long-term goal was to move from semiconductors to multimedia system products built on integrated circuits, SEC needed high-level technology in the computer manufacturing area.

Also, AST had 6 manufacturing plants and 45 sales branches over the world in 1995. It was ranked 5th in the U.K. and 6th in the U.S., and 1st in China. SEC wanted to use this global network to manufacture and sell its computers. SEC maintained AST and SEC brands altogether to make use of AST's brand image. Before 1994, SEC experienced several failures to sell computers in the US even though they set up the first sales subsidiary in the US in 1978. Thus, it was a meaningful action for SEC to make a sales base in the US market.

Sales volume was another important factor. In 1995, SEC sold around one

million PCs and AST sold two million. If they could be simply added, SEC-AST could emerge the 5th computer manufacturer in the world based on sales volume. Considering that "size effect" could be very important in fragmented industries like the computer industry (there were no absolute leader in the market), SEC-AST combination might create competitive advantages.

In addition, AST could be a stable buyer of electronic parts made by Samsung group's other companies. For example, Samsung Electro Mechanics expected to increase keyboard and floppy disk exports more than double by having AST as a buyer.

VII. Competitive Motives of SEC

Traditionally, SEC has been growing through severe competition with LG Electronics (Former Goldstar). LG Electronics was the first electronics company in Korea, and dominated domestic market for the early 20 years. While LG Electronics focused on domestic market, SEC concentrated on exploiting foreign market by exporting and at last became the top. As the volume of computer industry grew fast in the late 1980s, other gigantic company groups, so called *Chaebols*, came into this market. Korean top four company groups, Samsung, Hyundai, Daewoo, and LG group, began to produce PCs and compete with

each other very severely. Trigem, the former top computer producer, was also one of the competitors. These companies actively set up foreign R&D centers in 1996 (Table 3).

In this situation, LG Electronics made an alliance with IBM and gave a deep impact on Korean PC market. Mr. Chang-Kyu Oh, the CEO of LG-IBM, showed his intent in a newspaper.

“Our ultimate goal is to combine the power of capital, technology, and distribution channel of LG Electronics and IBM to create synergy, and ultimately be the top PC manufacturer in Korea.”

LG-IBM succeeded to attract Korean customers' attention, especially for their notebook PCs. Experts evaluated that the

alliance captured LG's strengths in distribution and IBM's leading technological power.

Hyundai Electronics and Compaq also tried to make an alliance to imitate the LG-IBM model. While Hyundai Electronics was one of the big electronic manufactures in Korea and Compaq was number one PC manufacture in the world, their business in Korea was not very successful. Mr. Kang-Hoon Lee, the CEO of Compaq Korea, made a comment on this deal.

“If Compaq and Hyundai Electronics make joint venture, the reputation of Compaq in the world and Hyundai Electronics' marketing power would complement each other. The new venture could have more explosive power than our rival, LG-IBM.”

<Table 3> Foreign R&D Centers in 1996

Company	Location	Technology
Samsung Electronics	US	MPEG II, 3D graphics, VOD, Multimedia PC, Multimedia ASIC
	Taiwan	Software
	Russia	Multimedia software, Network application, Groupware, Real-time application
	India	Multimedia, Computer application software, Telecommunication, Semiconductor
Trigem	US	Wireless technology, Data-communication, Portable workstation
	China	PIMS, Travel information CD
Daewoo Telecommunication	US	Application software
	India	Application software
Hyundai Electronics	US	Multimedia products
LG Electronics	India	Multimedia, Semiconductor design, Telecommunication, Switching system, Artificial Intelligence

Source: Various Sources

VIII. Cooperative relationship between SEC and AST (1995-1996)

In January 1995, AST offered SEC to acquire its shares. It was reported that AST negotiated to sell a 20% stake to SEC to overcome its cash shortage. At that time, AST had to delay introducing a number of new products due to the lack of marketing skills. As a result, AST market share declined slightly in 1994, a year when the PC industry flourished.

AST fell in need of cash, and SEC needed to launch into the U.S. market. In March 1995, SEC decided a "significant minority investment" into AST. SEC invested \$378 million for 40.25% stake of AST with an option to increase its stake in the future. SEC held options to buy 4.4 million more shares of AST stock for a penny per share. The average stock price was \$15 and buying price was \$22.

In September 1995, AST announced the resignation of three top executives, who

were the president and chief operating officer, the senior vice president, and the general manager of desktop product operations. In November 1995, Ian Diery, a former Apple Computer executive, was appointed as chief executive in replacement of Safi Qureshey. Safi took only chairman position at that time. In January 1996, SEC agreed to guarantee \$200 million in credit for AST to save AST from desperate cash shortage. In June 1996, SEC again agreed to buy \$60 million in newly issued stock to help AST pay off a debt and raised its share up to 49.9%. At that time, AST's stock price was dropped to \$6.75 (Table 4). Kwang-Ho Kim from SEC was elected chairman of AST, which meant he would preside over 11-member board of directors. Safi Qureshey, the former chairman, became AST chairman emeritus. In August 1996, Ian Diery, CEO, resigned to make way for Young-Soo Kim from SEC. Now SEC took full control of AST.

<Table 4> Stock Ups and Downs of AST

Amount: \$

	High	Low	(High+Low) / 2
1992	23.25	11.25	17.22
1993	25.25	13.25	17.33
1994	32.25	10.75	18.02
1995	18.94	7.88	13.89
1996	8.88	4.00	5.96

Source: SEC

IX. Discussion

In January 1997, senior executives at SEC were on a meeting to finalize the decision on AST. With all the available information, it was time to make a decision. Should SEC take over all the share of AST and take full control of management? If so, it might cost

another \$470 million. Should SEC give up AST and find another way to keep going? A bad news is that the stock price of AST was not high enough to pull back initial capital investments. Could there be any other strategic options that SEC had?

No matter what decision they would make, they knew that there should be a strong reasoning for it.

삼성전자의 AST 인수 사례

신형덕**

요 약

1997년, 삼성전자는 그동안 꾸준히 지분을 취득해 오던 미국의 컴퓨터 회사인 AST 사를 완전 인수할 것인지 아니면 다른 대안을 강구해야 할 것인가에 대해 의사결정의 내려야 하는 기로에 놓였다. 본 사례를 통해 외국 기업을 인수 대상으로 하는 상황에 있어서의 외부환경과 내부환경, 그리고 경쟁 기업의 전략적 행동에 대해 분석을 하는 과정을 살펴보고자 한다.

주제어: 기업인수, 경쟁적 동기, 산업 분석, 내부환경 분석

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