［研究ノート］

How SCE established the global success in the video game industry
— The value chain strategy and integrated-based production system —

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This paper deals with how SCE (Sony Computer Entertainment) successfully launched PS (PlayStation) without any relevant experiences in the T.V. video game business. SCE dominated the T.V. video game market worldwide a couple of years after PS was released in Japan. Delineating the fierce competition in the T.V. video game industry, the analysis delves into the value chain of organizations inherent in SCE and the integrated architecture of production systems adopted by SCE. The miraculous success of SCE presents a model for strategic reconsideration of international management systems and behavioral patterns of multinational corporations.

Key words: SCE, PlayStation, Value Chain, Integrated Architecture

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Introduction

This paper deals with the global success of PS (PlayStation) in the T.V. video game industry with special reference to the value chain strategy and integrated-based production system in SCE (Sony Computer Entertainment) The paper investigates that how the value chain and the integrated-based production system could be successfully carried out to launch PS despite adverse circumstances brought on by formidable rivals.

SCE released PS on December 3, 1993. Since then, the predominance of Nintendo was rapidly disrupted and overwhelmed by the inroads of PS into the game industry. No one could predicts that SCE would destroy the Nintendo's entrenched dominance in the T.V. video game industry in a few years. SCE successfully outmaneuvered Nintendo and SEGA Enterprises,(1) pushing them into their own niche segmentation, thus far undermining the business models encompassing the whole video game market. Furthermore, SCE expanded its market share in the T.V. video game industry worldwide. It took only three years for SCE to take more than 50 % of the total market share in the U.S. and Europe.

This was an indisputable victory for SCE, which concentrated every management resource on in-house company capabilities. The paper shows that no global success of SCE would have been achieved without both the centripetal coherences of business which were created inside the company and an entrepreneurial mindset of management.

Ⅰ Towards a Strategic Breakthrough

1 Advent of the Nintendo Empire

The historical formation of Japanese T.V. video game market can be dated back to the early 1980s.(2) Epoch, the famous Japanese toy company released "Cassette Vision" on August 1981. Micro Processing Unit (MPU) was not equipped with this machine.

However, it was the first hit T.V. video game machine in Japan. This machine was run by three major instruments: the console, the cartridge and the control stick.(3) The historical significance of "Cassette Vision" was that toy makers and hi-tech manufacturers began to recognize computer-game machines to be lucrative business.

During a short period from 1981 to 1983, 11 companies entered the Japanese T.V. video game market. While VCS (Video Computer System) of the Atari Corporation of the U.S, Odyssey of U.S. Phillips, Max Machine of Commodore Japan, and Intellivison of Mattel (See Table 1: T.V. Video Game Hardware in the First Half of the 1980s) were exported to Japan, the rest of hardware was manufactured by Japanese companies. The market was in highly intensified competition.

On July 15, 1983, Nintendo launched "Family Computer". This machine overwhelmed other video game machines and drove them out of the market in a short period of only two years. There were three reasons why Nintendo so tactfully outflanked other game companies in the fierce competition of the T.V. video game market.

The first reason for Nintendo success is that the price of "Family Computer" was much more affordably set at 14,800 yen, which was almost less than half the price of consoles of other companies. It was apparent that Family Computer was sold under cost. However, Nintendo anticipated that low pricing would produce large and strong patronage from consumers. Nintendo was in a forerunner of relational marketing, whose aim was to establish a long term relationship with consumers. The second reason is that "Family Computer" had 52 colors on the graphic function at the maximum basis. The console of Family Computer had the same 8 bit MPU as other machines, but Family Computer mesmerized youngsters and adolescents with the exciting features of colorful characters moving on the T.V. screen, which could

Table 1

T.V. Video Game Hardware in the First Half of the 1980s

Year of Sale	The name of Hardware	The name of Company	Bit	Price (yen)
1981.8	Cassete Vision	EPOCH	8	13,500
1982.6	Intelliv ision	BANDAI *	16	49,800
1982.9	Odyssey 2	MAGUNA BOX	8	49,800
1982.10	Pyuta	TOMY	16	59,800
1982.11	M5	SORD	8	59,800
1982.11	Game Pasokon	TAKARA	8	59800
1982.11	Max Machine	COMMODORE JAPAN	8	59,800
1982.12	Dyna Vision	YAMAGIWA	16	49,800
1983.3	Arcadia	BANDAI	8	19,800
1983.5	Atari 2800	ATARI	8	24,800
1983.7	Pyuta Junior	TOMY	16	15,200
1983.7	SC 3000	SEGA ENTERPRISES	8	29,800
1983.7	Family Computer	NINTENDO	8	14,800

SOURCE: Mari Yada, "King of Geimu no Miraisen" Nihon Jitsugyou Shuppansha, 1994. * Intellivision was manufactured by Mattel. It is merchandized by Bandai in Japan.

not be enjoyed by other machines. The third reason was that more game software was released for “Family Computer”, compared with that of the Nintendo’s competitors.

Sales of Family Computer were substantially proportionate with the variety of video software that was compatible with this machine. Nintendo put a high premium on dynamic, thrilling and entertaining attributes underlying video games. The more the accompanying game software was sold, the more Family Computer was sold, not vice versa. The video game software that was sold well came to be called killer soft, because the sales of consoles depended on the quality of video game software. (See Table 2 : Million Seller Software)

Nintendo was not snared in the management mistake called “Atari Shock”, which led to mass production of inferior hardware and vide game software.(4) In order to avoid Atari Shock, Nintendo patented “Family Computer” and also registered compatible video game software under the trademark of Nintendo. In doing so, other companies vying with Nintendo were not allowed to produce clone machines identical to “Family Computer”, and they were not permitted to create the same game software as those made by Nintendo and third parties which contracted with Nintendo.

The advent of Nintendo and the downfall of other game companies gave good lessons for the video game industry: the increase in the sales of consoles was to a great extent correlated with the quality of software which enhances excitement of players: the format holder should not change the price of a consol so frequently before it was released that the price change may incur a bad reputation; consoles which were regarded as clumsy and complicated in terms of handling were doomed to be kicked out of the market in a couple of months after they were merchandised. It does not go too far to say that the sales volume of brand new products in the game industry could be

Table 2

Million Seller Software

Unit=Million

THE TITLE OF SOFTWARE	THE NAME OF COMPANY	SALES AMOUNT		
		TOTAL	DOMESTIC	OVERSEAS
Super Mario Brothers	Nintendo	14,263	3,078	11,185
Sonic the Hedgehog	SEGA ENTERPRISES	2,100	600	1,500
Dragon Ball	BANDAI	1,136	1,126	10
Street Fighter	CAPCOM	2,000	1,000	1,000
Dragon Quest	ENIX	1,490	1,490	0
Final Fantasy	SQUARE	1,350	905	445
Biohazard	CAPCOM	1,000	500	500
Legend of Zelda	Nintendo	700	150	550
Derby Stallion	ASCII	640	640	0
Virtua Fighter	SEGA ENTERPRISES	550	300	250

Source: interviews with third parties conducted in April 1999.

easily predicted before they were released. Namely, reputation was pre-determined.

Two years after "Family Computer" was launched in the market, the significant killer software rolled out boosting the market share of Nintendo. "Super Mario Brothers", which was originally developed in Nintendo, was a big hit in the market. Subsequently, "Dragon Quest", which was produced by Enix, was a great success in 1986. In 1988, "Dragon Quest III" brought a spree to Japanese game players. This fad was called "Drakue Gensho" (ドラクエ現象) in Japan because video game fans were so keen to get this game software that they did not mind standing in a long line for a long time at game shops. Sales of "Family Computer" totaled about 18 million in Japan, and 31 million in the U.S. was recorded since the first release in 1985. "Family Computer" established a de facto standard in the video game industry in that most format holders and third parties were completely susceptible to business trends initiated by Nintendo.

More importantly, "Family Computer" came to be called "Fami-Kon" among Japanese. The name "Fami-Kon" became so prevalent in Japan that people confusingly tended to call even consoles produced by other companies "Fami-Kon". This was the victorious moment when Nintendo rendered Fami-Kon an unbeaten national brand in the game industry.

2 The impregnable System

On November 21, 1990, Nintendo released "Super Family Computer" with 16 bit MPU. Concurrently, the popular game software "Super Mario Brothers" and "F-ZERO" which was associated with F1 Grand Prix, were launched for this brand new machine. It was announced that on only that day of the release, more than 300,000 consoles were sold. Subsequently, "Final Fantasy" and "Legend of Zelda", which were promisingly categorized as killer soft, were released. About 1 million consoles were sold in one year after "Super Family Computer" was released.

Nintendo wielded control over the T.V. video game market overseas as well as in Japan for ten years until the release of PS. There was no competition for Nintendo any more. Under such a nearly monopolistic condition, the strict regulations were imposed upon the third parties at the company's discretion. These regulations were as follows: production expenditure must be paid to Nintendo in advance: no more than three video games were allowed to be produced in a year; and inspection was made under Nintendo quality control before merchandise was made. Even under such severe controls, no third parties cancelled contracts with Nintendo because they were able to gain big profits if their video game won popularity in the market.

During the heyday of Nintendo, the company contracted with more than 140 third parties domestically as well as abroad. An economic magazine described the overwhelming dominance of Nintendo upon the game industry in the following way: "Nintendo enjoys a closed architecture system similar to the way in which IBM did not permit programmers of other companies to make access to its OS. In 1993, Nintendo won 166.2 billion yen in operation profit."(5) It goes without saying that third parties, wholesalers, and game shops were made to be subservient to Nintendo, the gigantic format holder.

3 Birth of SCE

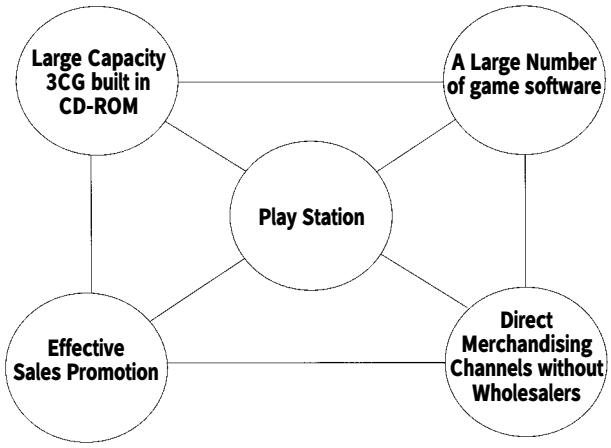
In the latter half of the 1980s, Sony and Nintendo launched a joint project to develop a new video game named PS-X. Both companies aimed to replace ROM-Cassette with CD-ROM. However, Nintendo suddenly rescinded this project because it tried to affiliate itself

with Philips Corporation, Holland, taking into consideration that Sony would claim the license of CD-ROM. Instead, Nintendo planned to make a big profit in the same way that huge royalties were paid by third parties through the production of ROM-Cassette linked to Family Computer and Super Family Computer. However, the collaboration with Philips was never accomplished. It was reported that Nintendo stuck to the development of a next generation console in which ROM-Cassette was equipped. Hiroshi Yamauchi, the CEO of Nintendo said at the time when the technological alliance was abolished, “a large quantity of vide game software never meets the entertainment needs of players”(6) or “Playing video games is totally different from watching movies in the context of entertainment”.(7) However, it turned out these statements were his wishful thinking.

This unexpected cancellation led to the establishment of Sony Computer Entertainment, which was financed jointly by Sony and SME (Sony Music Entertainment) on November 16, 1993. The CEO was Toshio Ozawa, the chairperson of SME. Senior executive vice presidents were Shigeo Maruyama from SME and Teruhisa Tokunaka from the headquarters. Ken Kutaragi was appointed as a general manager of the R&D division of SCE. The new company was ready to make a strategic breakthrough in the arena of the very competitive T.V. video game industry. (See Chart 1: Strategic Breakthrough of SCE)

Chart 1

Strategic breakthrough of SCE



4 In Pursuit of CD-ROM Development

Even after the sudden cancellation of the Sony-Nintendo project, which gave a big blow to the engineers of Sony who were absorbed in the development of CD-ROM in collaboration with Nintendo, these engineers were not discouraged at the setback. On the contrary, they were firmly determined to carry out and accomplish the project by themselves. There were three reasons that drove the engineers to get involved in commercialization of CD-ROM.

The first was that the production cost of CD-ROM was nearly by half lower than that of ROM-Cassette. The second was that the production lead time of CD-ROM is by two times shorter than that of ROM-Cassette. The third was that MPU of 640 bytes was equipped in CD-ROM, compared with ROM- Cassette which holds 8 bytes of MPU. This means that CD-ROM equipped soft ware enabled game programmers to create contents eighty times as powerful as that of ROM-Cassette. This technological progress motivated programmers to get engaged in producing more dynamic works. Moreover, it presented thrilling expectations to players who had been waiting for more complicated and exciting video game software.

5 Creating a New Marketing Channel

When SCE was established on November 16, 1993, Nintendo had very strong marketing channels with about 25,000 toy shops all over Japan. It seemed that no companies other than Nintendo could establish any effective marketing channels in this industry. In fact,

by influencing its predominance on the industry, Nintendo put strict surveillance on these shop owners in order to keep them from dealing in products from other vying companies. When Nintendo found that these shop owners violated the stipulations, the contract was unconditionally and unilaterally cancelled.

The shipment of new video games was made from third parties through wholesalers to game shops under the severe and meticulous control of Nintendo. However, this closed system was bottlenecked in that no matter how promising new game software may be, no one could predict the exact demand. Many influential wholesalers tended to buy up game software in advance which was expected to be in high demand whereas they were prone to beat down the price of unpopular game software. Thus, the video game market trading system was becoming speculative and warped.

SCE cashed in on the stagnant situations of the T.V. video game market. SCE followed the statements made by William H. Davidow. “A new device or invention will never become a product without proper distribution. The device itself may have the potential to address the needs of many customers, but without specialists to put it in the hands of those customer segments, it will not succeed.”(8) SCE cautiously created its own sales channels. The marketing strategy was deployed in the following ways: first, SCE directly supplied their products to sales shop, not through wholesalers; second, on-line business was introduced: CD-ROM based game software enabled the company to make an on-line production system which was designed to prevent dead inventory on video software games and effectively shorten the time of shipment.

In doing so, SCE solved chronic problems of the T.V. vide game industry: timely producing game software, keeping a stable supply of game software to shops, and abolishing pre-purchase of game software from third party companies.

6 Alliance with Third Parties

In the few months before PS was released, SCE had no game soft ware. The company strove to contract with leading third parties which were capable of producing killer software. However, these companies were so reluctant to make contract with SCE because they did not regard SCE as a format holder for a promising good business partner. In the game industry, video software with good sales is called “killer soft”. SCE wanted to affiliate itself with third parties that produced good qualities of software. The rationale was very clear: the sales amount of consoles evidently correlated with that of game software. This alignment with third parties was an imperative on the grounds that SCE could outmaneuver Nintendo and SEGA confronting the fledging game company.

As shown in Table 3, “Dragon Quest” and “Final Fantasy” are outstanding killer software. The sales amounts of these two game soft series totaled more than 10 million. It was obvious that killer software contributed to the prosperity of Nintendo.

There was an interesting episode in which one of the major third parties told SCE that the company would want to make a contract with SCE after the total sales of consoles produced in SCE exceeded over three million.(9)

Despite theses adverse circumstances, SCE succeeded in contracting with Namco, one of the major third parties, while Namco cancelled its contract with Nintendo. This was partly because Namco appreciated the innovative functions of PS, and partly because Namco was in contract trouble with Nintendo. The game software “Ridge Racer”, issued by Namco, was

the first blockbuster for SCE. Once Namco made a contract with SCE, many other third parties followed suit.

Also, it should be noted that SCE created new third parties by itself. In particular, SME helped SCE build this tactical plan. Before SCE took part in the T.V. video game industry, small companies which did not have sufficient production budgets could not embark on software business. In order to make these companies access the lucrative business opportunity, SCE introduced the same audition system as did SME adopted in the 1960s when a few companies dominated the Japanese music industry.(10) If the concept of software was accepted by the audition of SCE, it financed these companies which would become successful third parties for SCE.

7 Exploiting Potential Markets

Before PS was marketed in the game industry, there was a clear distinction between Nintendo and Sega in terms of market segmentation. Nintendo focused marketing strategy on the kids in elementary and junior high school, whereas Sega concentrated the marketing target on over 16-year-old boys from high school students to salaried workers in the late 20s who often played arcade game machines.

At first glance, there was no leeway for SCE to create a marketing opportunity in the existing saturated market. For that reason, SCE aimed to exploit a new marketing niche such as female consumers, middle-aged persons, and people who were interested in playing games, though not always hooked on the video games. Correspondingly, whether the quality of game software may be good or bad, SCE had to brace for numerous publications, compared with those of Nintendo and SEGA.

This strategy was correct. Nintendo and SEGA faced a dilemma partly because the two companies were shackled by the strong patronage of existing consumers who supported their own consoles, and partly because they avoided running the risk of expanding the marketing segmentations. In other words, under the well-established marketing segmentations, both companies could not change a marketing strategic position shored up by enormous game fans infatuated with their video games. Consequently, SCE was capable of disrupting the vested market share of Nintendo and Sega.

Interestingly enough, their dilemma was almost the same case as the so-called “Innovator’s Dilemma” put forward by C. Christensen. According to Christensen, “Disruptive technologies bring to a market a very different value proposition than had been available previously”.(11) “Hence, most companies with a practiced discipline of listening to their costumers and identifying new products that promise greater profitability and growth are rarely able to build a case for investing in disruptive technologies until it is too late”.(12) Therefore, it also can be observed that Nintendo and Sega were trapped in the “Innovator’s Dilemma”. Nintendo and Sega were too preoccupied with early success to change the existing strategy.

8 X day of Release

SCE cautiously planned to decide the day when PS should be released in the market. This was a very strategic decision for the company because SCE looked for the best time to capitalize on an opportunity to purchase a lump of semi-conductors from suppliers at large discount.

Put differently, SCE was probing for a downturn in the “Silicon Cycle”, which means that there is a fluctuating tendency for the price of chip to plummet when silicon chips were overproduced in the semi-

conductor companies or were oversupplied in the IT market.

In this connection, in 1983 Nintendo also took the same tactics with respect to the release of "Family Computer" as did SCE. Nintendo circumspectly predicted the bottom line of the Silicon Cycle. Nintendo was favorably able to negotiate with semi-conductor companies to discount chips with bulk buying. This was the most crucial moment for Nintendo to outflank its rivalry and develop the company.

The same goes for the grave failure of SEGA in releasing Dream Cast. SEGA underwent short supply of MPUs just before Dream Cast was rolled out. Management predicted over one million sales, but the sales amount reached only half a million in a year due to shortage of stock. The miscalculation contributed to the end of production of Dream Cast.

9 Advertising Tactics[13]

SEGA and Nintendo produced their own software while they released hardware. As far as SEGA and Nintendo are concerned, it is conceivable that software must be congruent and integrated with hardware in terms of the brand image of the company. The hardware and software produced by SEGA reflects computer-friendly games in which handling skills are required, whereas those by Nintendo are like safe toys youngsters can easily play.

However, SCE as a format folder had no software. This means that SCE could do away with formalities to match the image of hardware with that of software. SCE aimed to target potential marginal players who are not preoccupied with T.V. video games, and who don't belong to youngsters or adolescents. It can be said that SCE tried to cover all generations regardless of gender. This is why middle aged men and women playing PS were frequently observed on T.V. commercials presented by SCE. For that reason, the titles of software issued by SCE are divergent, inconsistent and incoherent in the context of a total library of software.

More importantly, the software that had good sales prospects was broadcast on the T.V. for a long time to keep the name of software familiar to T.V. viewers. This differed from the advertising ways of SEGA and Nintendo which made short-term T.V. sales pitches for only forthcoming software. SCE presupposed that such persistent T.V. sales pitches would make viewers want to buy the ongoing advertised software on impulse when they visited toy shops.

It should also be noted that SCE never put its name on the screen when software of third parties was broadcast on T.V. while SEGA and Nintendo put their own company names on the screen when software in such cases. Two reasons why SCE did not put the name of its company on T.V. screen may be that: SCE is not so familiar to T.V. viewers that its name could be established for the brand per se; and SCE wanted to avoid a confusing company image which the multi-platform system may cause, by simultaneously televising the company name with the name of the third party.[14] Instead, SCE introduced its own jingle[15] which can readily remind viewers of the advertisement relating to PS just before software of third parties is substantially advertised on T.V.

Ⅱ Dynamic Organizational Hinterlands

1 The Key Person of This Project

It was Ken Kutaragi who took full and strong leadership to implement the P.S. project. He was a key person who led SCE to succeed in the worldwide video game war. After he was recruited by Sony in

1975, he was assigned to the R&D division. His specialty was digital technology. He became preoccupied with developing digital instruments.

However, Kutaragi was regarded as a nuisance, a black sheep or recalcitrant in the organization before PS was highlighted because his entrepreneurship and ardent sprit for R&D were always mistaken for defiant and rebellious attitudes against management. He never acquiesced to ideas different from his own.

In spite of his strenuous effort to address the importance of digital products, his ideas were shelved and remained outlandish in the company at that time because Sony was dubious of commercializing products with digital technology. Sony cautiously avoided running the risk of embarking on businesses based on IT technology, especially digital ones, because the company had suffered excruciating experiences. For example, Sony failed to survive in the electric calculator market which represented cut throat competition in the 1970s. The company eventually retreated from the market despite being the development forerunner of the electric calculator.

Kutaragi was supposed to be reshuffled to the VTR division in the middle of the 1980s, but he solicited help from a senior managing director, explaining that he was anxious to continue research associated with digital technology. Fortunately, his request was granted. In 1985, he was assigned to the Information Technology Laboratory in Atsugi which is located 50 miles west of Tokyo.

In 1991, not long before when the joint venture with Nintendo was cancelled, Kutaragi was determined to materialize new game hardware made by only Sony itself. It was a sort of in-house venture enterprise. He persuaded Norio Ohga, Sony Chairman & CEO to establish a new company for the game business. It was easily accepted. Subsequently, Kutaragi involved the CEO of SME, Shigeo Maruyama and Teruhisa Tokunaka in charge of corporate laws and M&A in the headquarters. They had frequent meetings about how to launch a new project and make it survive in the fiercely competitive market. A few years later, each of them was appointed as managing founders of SCE.

2 A Charisma Tradition in Sony

A charisma tradition runs in the history of Sony. Since the establishment of the company under the name of Tokyo Tsushin Kogyou in 1946, the company incessantly pursed to the ever changing organizational improvements and the founders, Masaru Ibuka and Akio Morita were entrepreneurs with strong leadership. This charisma-type leadership was inherited to the next-generation senior managing officers such as Kazuo Iwama, Norio Ohga and Nobuyuki Idei. Ohga and Idei were recruited after the fame of Sony was established, but both of them became ones of successive CEOs with the entrepreneurship stemming from the guinea pig spirit deeply rooted in the company.

A charismatic-oriented management makes organizations elastic and resilient, rather than making them stagnant and static. Organizational reshuffles are commonly observed in Sony. More importantly, Sony respects the personnel policy to put the right members of staff in the right jobs to the extent to which organizational flexibility can be best optimized.

Under this dynamic company tradition, Kutaragi's idea came into being and came to be embodied in the project despite his opinionated character, which seems detrimental to typical Japanese managerial climates. Sony was and is benevolent and magnanimous to entrepreneurial heretics, to say the least.

In contrast to Sony, the famous and legendary

Japanese company founders of Matsushita Electric Industrial Corporation (Kounosuke Matsushita), Honda Motor (Souichiro Honda) and Daiei (Isao Nakauchi) had charismatic CEO, but exceptionally strong leadership was never taken over by successors. In the case of Daiei, the company had its heyday in the 1970s－1980s. However, it became imbued with bureaucratic characteristics as the company grew up. In the 1990s, Daiei was on the verge of bankruptcy and still struggles to survive even in the 2000s.

3 Philosophy behind Successful Products

Sony has a managerial climate which is idiosyncratic, compared to other companies in special relation to R&D. Sony respects "Not Invented Here" (NIH Syndrome) which the management strongly believes is crucial to creating entrepreneurial minds in the company. "Not Invented Here"(16) can be succinctly described in the following way:"Not Invented Here Syndrome" is a slightly tongue-in-cheek name for the tendency of both individual developers and entire organizations to reject suitable external solutions to software development problems in favor of internally-developed solutions.

NIH is deeply embedded in the mindset of management in Sony in that the company must produce the products which have never been created and marketed by other electronics companies. However, there was a clear tendency for Sony to have opinionated researchers and engineers. A critic called such a management policy of Sony a guinea pig spirit. The reason is that no matter how often the company may make epoch-making products, they are sooner or later doomed to be superceded by more innovative ones produced by other companies in rivalry. This surely can be applied to Sony. However, the president of Sony, Ibuka, uncomplainingly accepted this virulent remark made in the early 1960s at the decade when the company began to be recognized in the Japanese industry. He was proud of the guinea pig spirit that Sony would be sacrificed in the end.

Let us exemplify historic products of Sony since the company was set up in 1949. The first big hit was commercialization of the transistor radio (1955), but most marketers doubted that it could be sold at the time when it was marketed. Success was legendary enough to be remembered in the history of postwar-industry. From the 1970s to the 1980s, Sony aggressively entered household appliance markets. However, most projects failed: the portable electric calculator (1967－1975), the work station (1987－1992), Betamax-VTR (1975－1985) and the personal computer(1982－1992). Sony pulled these products out of the market because of increasingly fierce competition, although the company was a pathfinder for new household electrical appliances.

Whereas the above electrical appliances vanished in the market, Sony revealed resilient maneuverability to the market. Walkman, Vaio and WEGA were big hits. Walkman, which was a music player without a recorder was launched in 1978, Vaio, which was a PC was marketed in 1990. And WEGA which was a T.V. with a flat screen, was marketed in 1996. Particularly, in the case of product development of Walkman, the management rarely conducted intensive market research partly because the novel concept of new appliance did not exist among potential customers and partly because management firmly believed that the market should be exploited by Sony itself.

4 Combination of Ideas with Techno Stock

Sony traditionally respects ideas from engineers with special reference to market feasibility. If the ideas are viable in the market, management suggests to

engineers that they should be embodied in products which must be unique or have a competitive edge in the market. Likewise, management inspires the marketing division to promote products that can surpass rivals in quality. As one of company founders, Ibuka once put it, “If Sony makes consumers want to buy its own creative products, the efforts break into three stages: the good ideas behind the products account for 1% of the business success; the creation of product prototypes, 10%, success in marketing strategies, 100%.”(17) This statement typifies a management philosophy of Sony in weighing feasible ideas with products and marketability. In particular, Walkman became a legendary success led by the CEO of Sony, Akio Morita. While he disparagingly denied meticulous market surveys obediently following consumers’ whimsical opinions, he insisted that the demand should be created from nothing.

Ⅲ Fierce Competition with Rivalry

1 The Real Rival－Sega Saturn

Sega-Saturn was the video-game console maker which substantially competed with PS because both consoles had 32 bit MPUs and CD-ROM machines which enabled players to enjoy 3 CG games. Sales of Sega-Saturn consoles totaled over 1 million in the market six months after it was launched on November 24, 1994. It was a big hit for SEGA. Sega-Saturn was quite on par with PS in popularity. The sales competition with PS was neck and neck. However, the number of third parties which contracted with SCE was gradually increasing. Therefore, it was obvious that the game software produced by SCE outnumbered those at SEGA.

The production of Sega-Saturn was transferred to South East Asian countries because of cost reduction to gain a competitive edge.(18) The price of Sega-Saturn was reduced to 20,000 yen. However, this tactical measure was not rewarding. In the U.S and Europe, SCE continued the price reduction of PS every year while SEGA sold Sega Saturn bundled with video game software, which was derogatively construed as the icing on the cake among competitors. The CEO of Nintendo, Hiroshi Yamauchi, bitterly criticized the management strategy of SEGA. “SEGA never realizes what software is. This company was making consumers misunderstand that software is given free when they buy hardware.”(19)

SEGA could not fend off the incessant onslaught price reduction of PS. SEGA incurred a loss of about 600 million dollars because of overseas underselling operations. Sega-Saturn eventually went out of production in 1998. Dreamcast which was a next generation-console to Sega Saturn, rolled out in 1999. However, it failed to restore the lost share. SEGA announced that it had backed out of the console business on December 2001. Nonetheless, it was frequently said in the media that SEGA put up a good fight against SCE though it failed to turn the table. There are three points in which SCE could beat Sega-Saturn.

The first is the cost reduction system for PS. SCE could reduce the number of parts inside of the console which enabled production cost to be decreased. The original architecture of PS was designed in light of cost reduction. The total number of parts in the first console which was released on December, 1994 amounted to 750, while the number of parts in the fifth console which was released in November, 1997 was reduced to 450.(20) This efficient cost reduction gave an opportunity for SCE to reduce the price of PS. On November 1997, the price was reduced to 18,000 yen. SCE made price change s to PS five times

in about 3 years since the first roll out.

The second strong point for SCE is that SEGA was involved in the sales promotion race vying with SCE. The sales promotion expenses were a kind of bankroll. SCE made a much better offer for promotion benefits to third parities than SEGA. SCE successfully lured third parties because third parties wanted to invest in development for their game software with sales promotion expenses from SCE. This marked a substantial watershed in the end of SCE-SEGA game warfare. The prosperity of SEGA was in danger. Eventually, SCE won the contracts with the leading third parties which supplied game software the consumers were keen to buy.(21)

The third strong point for SCE is that game software engineers preferred PS to Sega-Saturn in terms of producing their games, especially 3CG. In addition, the architecture of PS was less complicated and more tractable than that of Sega-Saturn.

2 The End of Nintendo Dominance

Nintendo enjoyed its heyday for ten years until PS and Sega-Saturn were released in 1984 at the time when Super Family Computer (Super Fami Kon) was regarded as old-fashioned hardware. The price was beaten down and the sales amount plummeted more sharply than Nintendo had expected. Nintendo was outflanked by new game hardware of SCE and SEGA.

In 1996, Nintendo released N64 (Nintendo 64) three years after PS was released. The company was confident of preventing these two obnoxious companies from making further inroads into the market share of the T.V. video game industry. However, youngsters were seldom infatuated by this brand new machine with ROM-Cassette. The defense plan backfired. To make matters worse, a major third party company, Enix, cancelled to renew a contract for a supplier to Nintendo. This company produced a killer software, Dragon Ball Series. Subsequently, Square, one of the major third parties, canceled to extend a contract with Nintendo. It was also a big blow to Nintendo because Square supplied a strong killer software, Final Fantasy Series, for Nintendo. The austere control over the third parties by Nintendo began to crumble.

Under such a severe condition, while Nintendo made a marketing reform in which Shoshin-Kai（初心会）was disbanded, the company affiliated itself with LAWSON running the convenience stores chain in which N64 and the relevant game software can be purchased by the computer installed inside the stores. Despite these strenuous efforts, Nintendo could not restore market share sufficient enough to dominate the game industry. Correspondingly, the stock of Nintendo fell so sharply that its trading was temporarily suspended in August 1996. This typified the end of Nintendo's dominance over the T.V. game industry.

3 Advertising Offensive

The ratio of advertising expenditure to the total sales amount for SCE was 13.5% during the period from 1994 to 1996 while the ratio was 3.9% for SEGA and 3.5% for Nintendo individually. This means that SCE spent money on advertisements more than three times as much than SEGA and Nintendo.(22)

When SCE released PS on December 1994, the spot commercials were conducted on T.V. However, SCE did not sponsor any T.V. programs for PS. The advertisements were more focused on hardware than on software, whose issued titles counted 19. GRP (Gross Rating Point)(23) on hardware amounted to 15,344 points, while that of software amounted to 4,226 points. The GRP totaled 15,344 points. The ratio

of sponsor commercials with spot commercials was 0: 100%. The reason why GRP on software was weak was that SCE did not have any killer software. The total count of GRP was relatively low, compared with Sega Saturn whose GRP totally indicated 18,021 points.

In 1995, SCE advertisements still emphasized hardware over software in order to make T.V. audiences remember P.S. This year saw fierce sales competition between P.S. and Sega Saturn. The GRP on hardware counted 20,460 points, whereas that of software numbered 14,895 points. The GRP totaled 35,356 points. The ratio was 57.9% : 42.1%, and the ratio of sponsor commercials to spot commercials was 3.69% : 96.31%.

On June 1996, Nintendo released N64. This year was a watershed in the T.V. video game competition. The GRP on hardware amounted to 11,097 points, while that of software counted 60,504. The GRP totaled 71,601 points. The ratio was 15.4% : 84.6%. The ratio of sponsor commercials with spot commercials was 15.8% : 84.2%. The content of GRP changed that year. Advertisements of software were more emphasized more than hardware. It can be assumed that SCE understood that the name of PS was prevalent enough for consumers to distinguish PS from other consoles.

In 1997, SCE paid strenuous effort to corner SEGA and Nintendo. The GRP on hardware amounted to 10,725 points, while that of software numbered 88,526 points. The ratio was 10.8% : 89.2%. The GRP totaled 99,251 points. The ratio of sponsor commercials to spot commercials was 26.5% : 73.5%.

1998 saw SCE win over SEGA and Nintendo. The fierce competition was substantially over. The total GRP drastically decreased to 49,517 points. The GRP on hardware amounted to 8,970 points while that on software counted 40,547 points. The ratio was 18.1% : 81.8%. The ratio of sponsor commercials to spot commercials was 42.9% : 57.1%. It is observed that the T.V. programs sponsored by SCE were more frequented, compared to the past three years, because sponsors began to recognize the influence of PS over T.V. viewers.

4 Competition under the Oligopolistic Market

After the rapid inroads of PS in the T.V. game market, it was forming a tripartite oligopolistic condition by SCE, Nintendo and Sega. It should be noted that no matter how sophisticated consoles may be, there was the case that some were out of sales in almost one year after they were launched. (See Table 3: T. V. Video Game Hardware from the Second Half of the 1980s to the End of the 1990s)

These included 3 DO REAL (Matsushita), PC-FX (NEC), and PIPIN AT MARK (Bandai). The number of these machines which were sold in the market domestically as well as overseas did not reach up to 1.5 million. None of them survived for even two years.

With reference to 3 DO REAL, The main reason of failure could be attributed to awkward marketing strategy. At first, the price of 3 DO REAL was set at 79,800 yen, but, it was by far more expensive by 50,000 yen, compared to Super Family Computer. The price was reset at 54,800 yen. but it could be hardly regarded as affordable by parents no matter how lush the appearance. Furthermore, 3 DO REAL was channeled to the local chain-stores which were franchised with Matsushita. The number of stores was more than 30,000 in Japan. However, the shop owners had so poor knowledge of handling 3 DO REAL that they could neither impress nor attract potential customers. In particular, the concept of 3 DO REAL was so ambiguous that the shop owners considered it

to be an IT electric appliance. 3 DO REAL was doomed to be short-lived.

With regard to PC-FX, the machine was as popular as PS and Sega Saturn. It enjoyed a good reputation with consumers. However, the number of game software was so limited that players were disappointed. Killer game software was not produced. The machine was only attractive to the game nerds who contributed to creating small market share.

With respect to PIPIN AT MARK, Bandai affiliated itself with Apple Computer. The machine was multifunctional-oriented, covering internet, email and word processor. However, it was a bit clumsy for players to handle. Moreover, the size was relatively bigger than that of machines from other companies. It did not look compact and portable. As a result, it did not sell well.

In sum, it can be assumed that the consoles of even leading IT manufacturing companies could not survive in the fierce market. These failures remain a big lesson for the T.V. game industry.

Ⅳ Overseas Business of SCE

1 Swift maneuverability

In November 1993, SCE was incorporated in Japan. In May 1994, the PS project commenced at Sony Interactive Entertainment Inc., which is located in San Francisco. And in September 1995, PS was marketed in the U.S. In the case of Europe, on January 1995, the PS project was set up by London Electric Publishing Inc., which belonged to a Sony overseas

Table 3

T.V. Video Game Hardware from the Second Half of the 1980s to the End of the 1990s

Year of Sale	The Name of Hardware	The Name of Company	Bit	Price (yen)
1987.10	PC ENGINE	NEC HOME ELECTRONICS	8	24,800
1987.10	MASTER SYSTEM	SEGA ENTERPRISES	8	16,800
1988.9	MEGA DRIVE	SEGA ENTERPRISES	16	21,000
1990.11	SUPER FAMILY COMPUTER	NINTENDO	16	25,000
1991.5	NEO GEO	SNK	16	48,800
1991.12	MEGA CD	SEGA ENTERPRISES	16	49,800
1993.7	WONDER MEGA	JAPAN VICTOR	16	82,800
1994.3	3 DO REAL	MATSUSHITA	32	54,800
1994.9	PLAYDIA	BANDA	32	24,800
1994.10	3 DO TRY	SANYO	32	54,800
1994.11	SEGA SATURN	SEGA ENTERPRISES	32	44,800
1994.11	PC-FX	NEC HOME ELECTRONICS	32	49.800
1994.12	V. SATURN	JAPAN VICTOR	32	44,800
1994.12	PLAYSTATION	SCE	32	39,800
1996.3	PIPIN AT MARK	BANDAI	32	64,800
1996.6	N64	NINTENDO	64	25,000
1998.11	DREAMCAST	SEGA ENTERPRISES	64	29,800

SOURCE: Mari Yada, "King of Geimu no Miraisen" Nihon Jitsugyou Shuppansha, 1994. ※ The open price means that the price is set at the sales shops and wholesalers' own discretion, rather than not based on the price established by the format folders.

subsidiary. Not long before, SCEE (Sony Computer Entertainment Europe) was incorporated in London. Subsequently, distributing companies were set up in Paris, Milan, Madrid, and Dusseldorf.

This extraordinaily rapid business deployment of Sony gives us an important lesson because the existing theory of multinational corporations is presupposed on an evolutionary process of organizations as shown in Chart 4. It usually takes quite a long time before companies become multi-nationalized. It can be assumed that IT-based companies, which are especially concerned with software business are forced to build their overseas subsidiaries a few years after they are established in the home country because of cut-throat competition based on rapidly ever-changing technological innovation. It appears that an old tactical maxim works in this industry: “quick and rough-hewn work is better than polished but slow.”

2 Global System

When PS was launched in Japan, every part of PS was mostly furnished through subcontract suppliers in Japan. PS was assembled in the Kisarazu factory 50 miles south east of Tokyo, located in Tokyo Bay.

Overseas CD-ROM production for foreign customers was made in the two subsidiaries of SME located in Indiana and New Jersey, and a SME affiliated company established in Salzburg, Austria. When CD-ROM game software originally made for Japanese customers, was also in high demand overseas, only the master version copy was taken by SCE staff to either the plants in the U.S. or Austria for duplication on mass production line after it was translated in Japan to the local languages.

Moreover, SCE positively affiliated itself with overseas leading third parties like Electronic Arts. Local game software manufacturing companies willingly capitalized on offers from SCE because PS was undeniably a lucrative machine. The video software was locally produced and distributed in the local channels licensed by SCE because overseas third parties had no self-owned distributing channels.

PS was imported from Japan by air or ship. Air freight was made when the demand was high and shipment is urgent. The overseas price reduction of PS was simultaneously made irrespective of any region in wake of that in Japan. Otherwise, the speculative spread would be yielded if trading companies buy up PS for profit margins worldwide.

However, SCE was reluctant to distribute PS in China and South East Asian countries because the copy rights of PS were frequently infringed and pirated versions of PS were published without any legal authorization. Therefore, very restricted circulation was made through local agencies.

3 Multi-Domestic Marketing Strategy

In terms of multinational corporations, multi-domestic marketing strategy can be defined as an independent marketing operation that enables overseas subsidiaries to deploy their sales techniques at their discretion. Multi-domestic marketing operations often involve separate design and sales channels and operations to best satisfy both the needs and expectations of foreign local customers. This strategy is often observed in the global food industry to adapt products to their local tastes in terms of traditional eating customs.

For this reason, it can be stated that multi-domestic marketing strategy focuses on individual specific local markets of foreign countries, whereas global marketing strategy is a highly standardized marketing operation based on the directives of headquarters irrespective of socio-economic differences in any

foreign country.

In the case of multi-domestic strategy in the video game industry, it is confined to the game software supplied to overseas markets. This strategy was strictly controlled by every format holder. Particularly in the early 1980s, SEGA cornered Nintendo in the U.S., making effective marketing measurement based on multi-domestic strategy, whereas Nintendo had a big lead on SEGA in the Japanese market share.

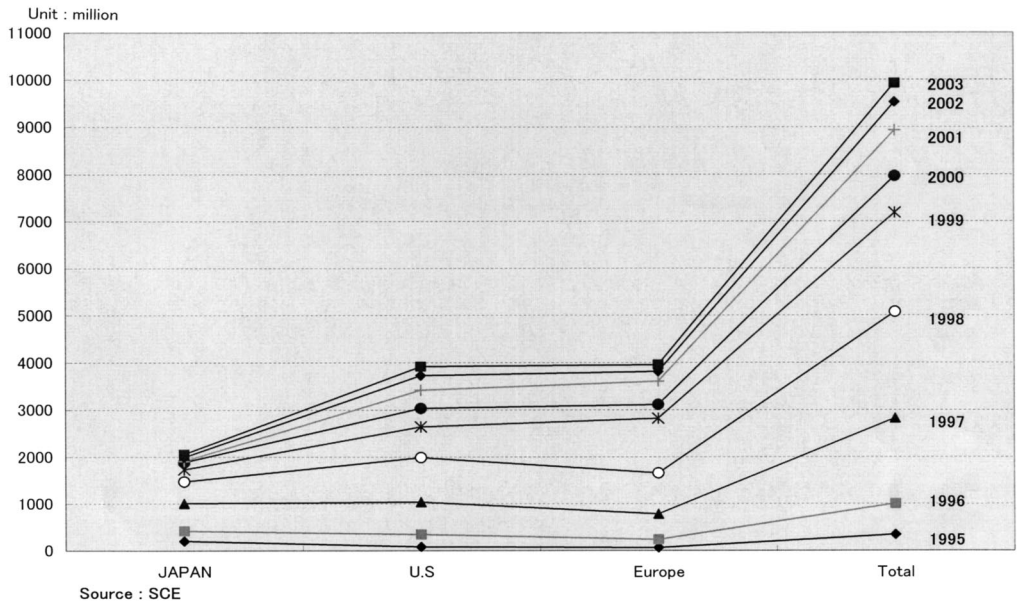
The overseas multi-domestic strategy of the video game industry was originally formulated by Nintendo because Nintendo was the first Japanese format holder which advanced in the U.S. In the 1980s, Nintendo learned to assimilate itself to the U.S. game culture through the arcade game business in dealing with bars, restaurants and amusement centers.

As far as the U.S. is concerned, it should be noted that the sales number of Genesis which was called Mega-Drive in Japan, surpassed that of S-NES which was called Super Family Computer in Japan in 1991 at the time when Nintendo had no substantial contenders in the Japanese market. This competitive advantage stemmed from the multi-domestic marketing strategy conducted by the U.S. subsidiary of SEGA. The subsidiary distributed a killer software, “Sonic the Hedgehog, which enthralled T.V. video game players in the U.S. This contributed to the sales of Genesis.

The success of video games seems to be culturally confined to a great extent to which the content of games must be readily understood by players in each country. Games relating to basketball and baseball are very popular in the U.S. ,whereas games coming from cartoons are accepted by Japanese players. It is interesting to note that “Dragon Quest”（ドラゴンクエスト）, and “Sweet Reminiscence in High School”（ときめきメモリアル）are not shipped overseas because the contents are extremely cultural-bounded and are therefore regarded as not well marketable in foreign markets.

Chart 2

Accumulative Sales Amount of PlayStation



Source : SCE

Ⅴ Strategic Cutting Edges

1 Value Chain

SCE had not launched any T.V. video games before it embarked on the PS project. However, it took SCE only about three years to take 50% market share in the T.V. game industry. What was the source of competitive advantage in global management in SCE? The answer is the value chain system which enabled SCE to implement a global strategy. (See Chart 2: Accumulative Sales Amount of PS)

According to Michael Porter, "Value Chain System" can be defined as every activity and relationship of the company in order to yield its competitive advantage in the industry. The concept is divided into two categories: primary activities and supporting activities, which cover suppliers, marketing channels and consumers. (See Chart 3: Value Chain of SCE)

Primary activities are inbound logistics, operations, outbound logistics, marketing and sales, and services. Primary activities are bolstered by supporting activities such as human resource management, technology management, purchasing and procurement throughout the Sony groups.

It may be stated that SCE was an ideal prototype for the concept of the value chain put forward by Porter. In other words, it may be that the value chain traditionally underlay the organizational climate of SCE, which enabled its strategy to be successfully implemented.

Sony provided SCE with many advanced technological devices such as optical disks and mobile terminals. Particularly, SME contributed to overseas sales for PS because this music company took advantage of their own marketing channels to help the sales promotion of SCE.

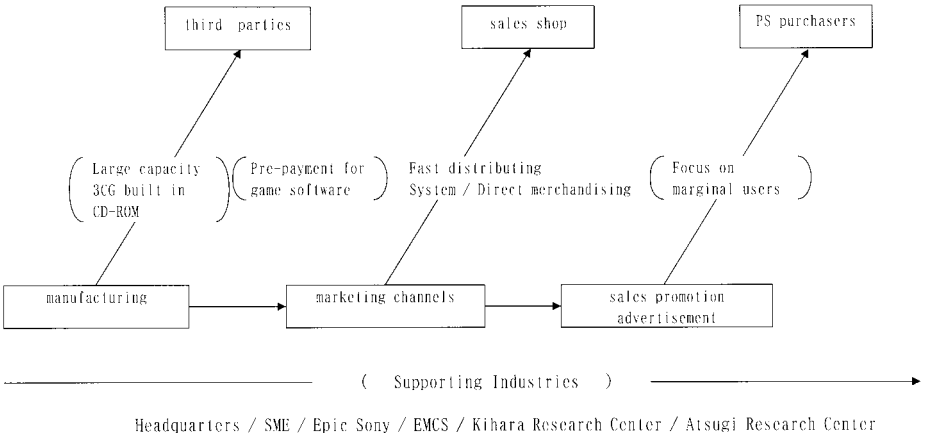
In November 2003, Sony announced that it would not make an initial public offering for SCE. It can be presumed that Sony wanted the value chain intact, making SCE a 100% SONY-owned subsidiary.

2 Integrated architecture

The production system of PS was based on an integrated architecture. integrated architecture can be defined as a configuration with multivariate interfaces between manufacturers involved in production concerned. integrated architecture does not to a large

Chart 3

Value Chain of SCE



extent depend on the OEM (Original Equipment Manufacturing) system which can be featured in outsourcing production. Integrated architecture can be well-observed in the relationship between set makers and subcontract companies in the Japanese automobile industry.(24)

In the case of the video game industry, integrated architecture is a technological interdependence between the format holders and the affiliated companies and third parties. PS was not a console produced by drawing on outsourcing contracts. SCE itself was directly involved in the R&D, design, merchandising, and creation marketing channel, and customer satisfaction in cooperation with headquarters and affiliated companies.

There is an interesting episode in relation to the integrated architecture of the game industry. When third party Square rescinded a contract with Nintendo in 1996, the engineers of Nintendo, who were in charge of the format for N64 which was to replace Super Family Computer, renounced the concept of game soft which the engineers of Square wanted to introduce in the new console. Compromise between the two companies never existed. The fissure and clash can be traced back to the differences in the production philosophy between integrated architecture and modular based-architecture. While Nintendo expected Square to do what Nintendo wanted, Square rejected a unilateral relationship with Nintendo in the end.

With reference to Xbox which is a big challenger to PS2, Xbox is a product of Micro Soft, a gigantic global software company. The concept of product stems from modular based-architecture. Modular based architecture can be defined as a production system depending on outsourcing covering R&D, designing, and manufacturing, with ideas conveyed to contracted companies. The production of Xbox is handed over to Flextronics, which is the contract manufacturer for Microsoft. Flextronics is a major multinational EMS (Electric Manufacturing companies) affiliated with multinational manufacturers on the basis of OEM (Original Equipment Manufacturing) contract which is closely related to modular based production. In other words, Microsoft took advantage of the tripartite relationship between the modular system, EMS and OEM in order to produce Xbox. Thus, Xbox is a product which is predicated on the outsourcing system. It is called a fabless（ファブレス）production system, which is abbreviation of “fabrication less” coined for Japanese.

Xbox is assembled in Mexico, Taiwan and Austria, whereas its design was developed and architected in the Seattle headquarters. Takahashi put it, “Holmdahl and his group had decided that manufacturing the product in an area where it would be sold and could give it cost advantage. Sony, for instance, had a tough time replenishing supplies in the United States because it had to use shipping lines and air freight.”(25) Thus, Microsoft opted for a geographical advantage in terms of cutting labor costs and marketing tactical maneuverability.

Like PS, PS 2 was also produced on the basis of integrated architecture in May 2000. PS2 enjoyed MPU with 128 bytes and a DVD apparatus for replay. LSI of PS 2 was produced in Sony’s Nagasaki Factory in Japan. MPU is produced in the joint-venture based factory with Toshiba which is located in the Oita factory in Japan. The production of LSI and MPU in the Sony group is immune to the silicon cycle which affects the production cost of consoles.

3 Does Branding Matter?

Recently, branding management has been attractive to scholars and business practitioners as a

core competence of firms. A brand makes people feel secure in purchasing. In fact, it is conceivable that this trend can be applied to the IT industry in that value-added strategy is closely linked to branding management. As early as the 1990s, Intel established a brand in the area of MPU, addressing its "Intel Inside Campaign" to PC makers.(26)

However, as far as the game industry is concerned, it is interesting to note that branding management does not work in the T.V. video game industry. In order to survive the cut-throat competitive arena of the game industry, it is only the content of video game software that counts most. The outcome of sales entirely rests with how entertaining the video game software may be, not the name of the company or the hardware per se.

There are two reasons why brand management cannot be applied to the video game industry. The first is that the game industry is involved in incessant price reduction of hardware. Hardware makers hardly expect profits from their consoles. It may be called a "gain by losing" strategy. The second reason is that intangible and creative characteristics inherent to video game software may be of a matter of chance which can be considered as a gamble and unpredictable. These assets are prone to be transient and short-lived. For these reasons, brand management cannot be established in the game industry.

Ⅵ Theoretical Implications for Multinational Corporations

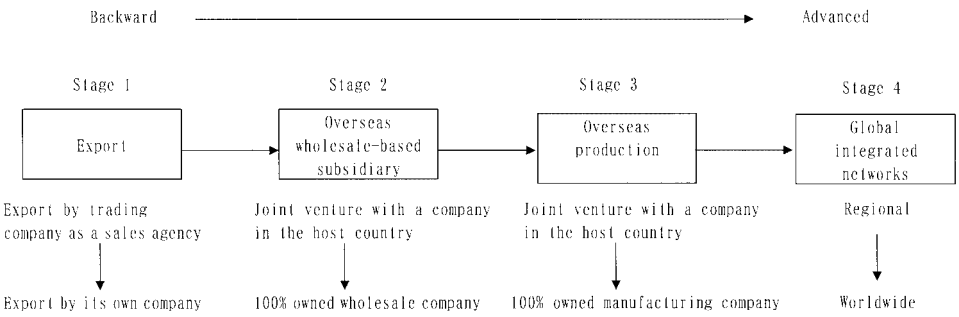
1 Reconsideration for an evolutionary view on multinational corporations

With reference to internalization theory, the Reading school has greatly contributed to the theoretical development of MNC theory since the beginning of the 1970s. The overriding theoretical tenet lies in the international managerial interdependence between the parent company and overseas subsidiaries in order to optimize the effect of cost reductions on their multinational behavior. Namely, the en-meshed cross-national managerial controls of the parent company on overseas subsidiaries reduces transaction costs between the headquarters and overseas subsidiaries. It is hypothesized that an international symbiosis is a competitive cutting edge which can fend off rivalry, taking the form of horizontally decentralized integrated organization.

Therefore, it is postulated that the highly internalizing relationships between the parent company and overseas subsidiaries is a highest stage for global competitiveness. In fact, there are some proponents who support the validity of an evolutionary view on multinational corporations.(27) (See Chart 4:

Chart 4

Evolutionary View of Multinationalization



Evolutionary View of Multinationalization)

However, it may be that the global behavior of T.V. video game companies may invalidate this view. As shown in the paper, the global competitiveness of PS stems from enmeshed networks of SCE and SONY groups which are located in Japan, rather than resting with overseas resources. It can be stated that the recent experiences of Japanese T.V. game industry shows that SCE, SEGA, and Nintendo are seldom fully multi-nationalized through internalization as is explicated by the Reading School.

As far as the T.V. video game industry is concerned, overseas competitions are wholesaler-based, which is very vulnerable to competitive situations in the home country, while all out fierce competitions are invariably spawned inside Japan. Global decentralized interdependence never counts. Industrial configuration is highly centralized. It can be inferred that no matter how interlocked the parent company and overseas subsidiaries may be, global operations may be greatly disrupted if the parent company incurs poor business achievement in Japan.

SCE shows that overseas subsidiaries had high susceptibility to the parent company through global competition with SEGA and Nintendo. SCE encroached overseas operations of SEGA and Nintendo like a blitz operation with a lightning strategic velocity, smashing through the existing business model of T.V. video games in Japan in the last quarter of the 1990s.

Thus, the global success of PS put a skeptical assumption on the view of evolutionary development on multinational corporations, mainly based on the internalization theory. At least, the experiences of the Japanese T.V. video industry show us that cut-throat domestic competitions may be a contributing factor which is detrimental to a growing globalizing stage of industry.

2 The Relationship between Regional Advantage and Firm's Competitiveness

Based on the global successful experiences of SCE, it is supposed that regional advantage is closely related to the value chain-based organizational structures which are inherently established in Japan. Moreover, the integrated architecture-based production system may also be buttressed by the regional advantage in which neighboring companies play a part of supporting industry in terms of enhancing the quality of hardware and software. In light of the T.V. video game industry, the regional advantage is not yielded through transaction costs in dealing with overseas subsidiaries, as opposed to exponents who advocate the validity of internalization theory.

It appears that as Michael Porter put it, "In productivity competition, firms spread activities globally to source inputs and access markets but competitive advantage arises from a process of innovation and productivity growth heavily localized at the firm's "home base" for a particular product line: the location of its strategy development, core product and process R&D, and critical mass of the firm's sophisticated production (or service technology)"(28)

Also, as Paul Krugman wrote on an industrial accumulation in the context of economics, "The whole process of industrialization within the United States was marked by similar stories of small accidents leading to the establishment of one or two persistent centers of production. Anyone who thinks that Silicon Valley is a distinctly modern sort of creation should look at the fascinating monograph, 'The Localization of Industries,' contained in the 1900 U.S. Census." (29) "Indeed, surely there is a kind of product cycle, in which emergent new industries initially flourish in

localized industrial districts, then disperse as they mature."(30)

Internalization theory does not work in the T.V. game video industry. Intrinsic profitability does not accrue from overseas subsidiaries. It arises from organizational efficiency in the headquarters involving the value chain and integrated architecture. For that reason, it may be that there is a theoretical leeway to be extensively re-investigated in order to further refine internalization theory.

3 Intermediate Market

SCE hardly made use of the overseas intermediate market, except for MPU supplied from LSI Logic, a U.S. company. There are two factors influencing SCE did not depend on the overseas intermediate market. The first is that SCE did not seek for the profit from hardware (PS). SCE regarded hardware (PS) as a money-consuming platform for software which was lucrative to the T.V. video game business, taking into consideration that hardware (PS) would incur a huge loss until it sells well in the future. Theoretically speaking, "Internalizing internationally in SCE was not created because the domestic production cost was invariably and deliberately expected to exceed the profit", as opposed to the premise by the Reading school maintaining that internalizing will occur when the profit goes beyond the cost.(31)

The second factor is that software is an intangible asset which cannot be transplanted overseas. The production of software is a group-based work with well-aligned division of labor in Japan. Those who must be engaged with producing software are all Japanese because they must frequently and coherently interact with one another until the work is accomplished. The process requires a laborious and subtle communication. This is another reason why the overseas intermediate market for software was not established through OEM.

Conclusion

It is summarized in this paper that the primary success of PS lies in the two management strategic streaks conducted by SCE: integrated architecture which is a centripetal orientated production system and the value chain system which encompasses SCE, the Sony Headquarters, Sony affiliated companies and supporting business entities. This is the management core competence for SCE. If SCE had depended on module architecture which is directly connected to the outsourcing way, and unless SCE made the most of the value chain, this company would not have won over the T.V. video game industry. In sum, SCE produced a win-win strategy making a good tripartite nexus between a nucleus organization (SCE), internal organizations (Sony groups), and external organizations (shop owners, distributors and the related suppliers).

Notes

(1) Sega Enterprises changed the registered company name to SEGA on November 2000. SEGA was consolidated into Sammy on October 2003 because of its chronic loss of game business.

(2) In the 1970s, some toy makers and IT manufacturers produced T.V. video games. However, youngsters hardly paid attention to these machines. Production was one-shot business based.

(3) The first prototype characteristic of the contemporary features of T.V. video games originated from "Channel F", which was produced by Fairchild in the U.S. in 1976. See, http://www.geocities.co.jp/Playtown-King/8341/cv.html

(4) The Atari Corporation supplied numerous poor-quality video software to the market. The game contents were so boring that many players were disappointed by video games. The reaction was dreadful. The more boring

games supplied, the less the sales of consoles produced by Atari Corporation. The population playing video games drastically plunged. Many game makers and game shops crashed. This was called "Atari Shock".

(5) Shukan Toyo-Keizai, March 3 is sue. 1990.

(6) Shukan Toyo-Keizai, January 25 issue, 1992.

(7) Shukan Toyo-Keizai, April issue, 1996.

(8) David, William H., Marketing High Technology: an insider's view. Collier Macmillan, 1986. p. 82.

(9) Asakura, Reishi, Sony no Kakumeiji-tachi, IDG, 1998, p. 87.

(10) Under the oligopolistic condition of that time, SME had to create an audition system for promising candidates who wished to become pop stars and groups in order to seek for a new contract and distributing channel system.

(11) Clayton M. Christensen, The Innovator's Dilemma, HBS Press, 1997.

(12) ditto, Cristensen, p.xvii.

(13) This section draws on the site of comments on advertising strategies of SCE at http://www.netlaputa.ne.jp/~braumaz/game-ad/adv983-1.html

(14) The multi-platform system means that third parties can freely contract with SEGA, Nintendo, and SCE without being bound by any single format holder.

(15) A jingle is a short, simple tune which is used to advertise a product on T.V.

(16) See the site at http://www.developer.com/mgmt/article.php/3338791

(17) Ibuka Seishin Keisho Kenkyu Kai, Ibaka Masaru Goroku, Sony Magajinzu, 1994, p.55.

(18) Nihon Keizai Shinbun, June 1, 1995.

(19) Shukan Toyo-Keizai, April 30-May 7, 1994. p. 135.

(20) Asakura, Reishi, Sony no Kakumeiji-tachi, IDG, 1998, pp. 215－216.

(21) An interview with Mr. Tadashi Takezaki. The interview was made on December 10, 2001. Mr. Takezaki was a general manager of marketing division, SEGA Inc.

(22) Ogawa Kousuke, Maaketingu Jyouhou Kakumei, Yuuhikaku, 1999 p. 94.

(23) This section draws on the data issued by VIDEO RESEARCH, a Japanese advertisement research company. Gross Rating Point (GRP) is a unit for indicating the total advertising exposure on viewers. It can be said in theory that if GRP indicates 100 points, a viewer is presupposed to have an opportunity to watch a commericial, and it is presumed that the commercial cannot be recognized by the viewer before GRP indicates over 600 points. With respect to GRP used in this paper, the calculating unit is yearly based.

(24) See Clark, K. B and Fujimoto, Takahiro, Product Development Performance, Harvard Business School, 1991.

(25) Takahashi, Dean, Opening the Xbox, Roseville, CA: Prima Publishing. 2002. p. 197. Todd Holmdahl was a director of hardware design of the Xbox and at the same time he was in charge of manufacturing logistics for the Xbox in 2001 before the X box was released.

(26) Jackson Tim, INSIDE INTEL, Writers House Inc. 1997.

(27) See the following publications written by the exponents espousing evolutionary views on multinational corporations. Perlmutter. H.V., "The Tortuos Evolution of Multinational Corporations ", Columbia Journal of World Business, Jan-Feb, Vol. 4. No.1. 1969. Young S. Hamil, J. Wheeler C. Davis Jr., International Market Entry and Development Strategies and Management, Hermel Hempstead, 1989. McKierman, Strategies of Growth, Routedge. 1992. Peter Buckley, Foreign Direct Investment and Multinational Enterprises, Macmillan Press, 1995.

(28) Michael Porter, "On Competition", Harvard Business Review Book, 1998 p. 323.

(29) Paul Krugman, Geography and Trade, The MIT Press, Cambridge, Mass. 1991. p. 61.

(30) ditto, Krugman, 1991. p. 63.

(31) See, Buckley, Peter and Casson, Mark, The Future of Multinational Enterprise, Macmillan, 1991.

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