

# The Birth of “Final Fantasy”: Square Corporation

Daiji Fujii

## 1. Introduction

“Final Fantasy” was one of the million selling series of role playing games (RPGs). Square Corporation, which might be known as Square Soft outside Japan, had been known as the Japanese software developer to release this series approximately every year. Square enjoyed large annual turnovers from the series and diversified their businesses including a CG movie production. Journalism shed a spotlight on this software factory as a member of the “Winners Club” in Japan’s economy under the futureless recession in the 1990s.

This heroic entrepreneurial company and its biggest rival, Enix Corporation Limited, known to be the publisher of “Dragon Quest” series (“Dragon Warrior” in North America), the other one of the twin peaks of Japanese RPG titles, announced to become one in November, 2002. The news became a national controversy, because the home video game was expected to be the last remedy to Japan’s trade imbalance of software industry.

According to the report published by Japan’s industry consortium, Computer Entertainment Supplier’s Association (CESA), the top 30 titles in terms of the total shipment between 1983–2002 included 13 RPG titles released by both Square and Enix, second to Nintendo’s 14 titles of various genres (See table 1).

Independent software firms had had powerful impacts upon Nintendo, which had the combination of Nintendo Entertainment System (NES) as a dominant platform and “Mario” as a killer content. In 1996, Nintendo’s hegemony in the platform market was rooted out by the re-alliances amongst software suppliers and almost dying PlayStation of Sony Computer Entertainment (SCE).

The consolidation drama seemed to strengthen the power base of software houses in the industry’s competitive landscape. A closer look into the table 1, however, showed the other side of the industry’s reality. While de facto standard platforms evolved from Nintendo’s NES and Super NES to SCE’s PlayStation and PlayStation2 with higher and higher computing capabilities, each platform had less and less titles and copies sold in table 1, i. e. 9 titles (29.5 billion copies), 9 titles (26.4 billion copies), and 7 titles (20.8 billion copies). This fact might tell us that the consolidation and the birth of new Square Enix Co. Ltd. reflected the industry’s self restructuring facing with the declining market and the ever fiercer global competitiveness.

From another point of view, the NES era was the industry’s peak; the height of entrepreneurial spirits. In 1983 when first generation of NES was born in Japan, a home video game was a “toy” and it used to be a niche

Table 1: Million Seller Titles developed by Japanese Software Houses

Rank	Title	Total Shipment thousand copies	Manufacturer	Platform	Date of release
1	Super Mario Bros.	6,810	Nintendo	F	Sep. 1985
2	Tetris	4,230	Nintendo	GB	Jun. 1989
3	Super Mario Land	4,180	Nintendo	GB	Apr. 1989
4	Dragon Quest 7	4,000	Enix	PS	Aug. 2000
5	Super Mario Bros. 3	3,840	Nintendo	F	Oct. 1988
6	Super Mario Kart	3,820	Nintendo	SF	Aug. 1992
7	Dragon Quest 3	3,800	Enix	F	Feb. 1988
8	Final Fantasy 8	3,630	Square	PS	Feb. 1999
9	Super Mario World	3,550	Nintendo	SF	Nov. 1990
10	Final Fantasy 7	3,280	Square	PS	Jan. 1997
11	Dragon Quest 6	3,200	Enix	SF	Sep. 1995
12	Dragon Quest 4	3,100	Enix	F	Feb. 1990
13	Super Donkey Kong	3,000	Nintendo	SF	Nov. 1994
14	Street Fighter 2	2,880	Capcom	SF	Jun. 1992
15	Dragon Quest 5	2,800	Enix	SF	Sep. 1992
16	Final Fantasy 9	2,780	Square	PS	Jul. 2000
17	Super Mario Land 2	2,680	Nintendo	GB	Oct. 1992
18	Super Mario Bros. 2	2,650	Nintendo	F	Jun. 1986
19	Final Fantasy 6	2,550	Square	SF	Apr. 1994
20	Gran Turismo	2,540	SCE	PS	Dec. 1997
21	Final Fantasy 10	2,480	Square	PS2	Jul. 2001
22	Golf	2,460	Nintendo	F	May. 1984
23	Final Fantasy 5	2,450	Square	SF	Dec. 1992
24	Dragon Quest 2	2,400	Enix	F	Jan. 1987
25	Baseball	2,350	Nintendo	F	Dec. 1983
26	Dragon Quest Monsters	2,300	Enix	GB	Sep. 1998
27	Mario Kart 64	2,240	Nintendo	N64	Dec. 1996
28	Super Donkey Kong 2	2,200	Nintendo	SF	Nov. 1995
29	Mahjong	2,130	Nintendo	F	Aug. 1983
	Everybody's GOLF	2,130	SCE	PS	Jul. 1997

Source: Computer Entertainment Software Association (2002) "CESA Game Hakusho (CESA Game White Paper)". The samples of this survey are 16 software companies who belong to the Association and the data provided were voluntary. The titles in the list were released after 1983 and the data of the total shipments in the past were calculated as of 31 / 03 / 2002 as with Nintendo and as of 31 / 12 / 2001 as with the other companies. Nintendo's "Pocket Monster" series which sold 22.6 million copies were not included, because the actual shipment datum of each title in the series was not available. Abbreviations were made as follows; namely F as Fami-Com, SF as Super Fami-Com, GB as Game Boy, N64 as Nintendo 64, PS as PlayStation, PS2 as PlayStation 2, and SS as SEGA Saturn.

The consumer products especially targeting at children in Japan tend to be released at a few specific times in a year. In January, children are given money from their families for New Year celebrations. In March, students have about two week offs and a school year starts in the first week of April. The week as of April 28 is full of national holidays, which is called "Golden Week". At the end of July, students begin to have about 40 day offs. In December, Japanese enjoy Christmas Eve whether they are religious or not and students have 2 week offs.

business targeted at families with small children. In 2001, however, Japan’s domestic market of the home video games including software and hardware mounted up to ¥485 billion and their global turnovers was ¥1,457 billion. It was reasonably presumed that no one had ever imagined such an upsurge and this unexpected growth illuminated how people in this industry had felt uncertain about their own future. Therefore, it might be worth while looking into the Square’s venturing twists and turns until the eventual consolidation with their own biggest rival. Starting with the development and sales of PC software, Square entered the home video game industry by observing the NES boom. “Final Fantasy” was literally their first and the last rejuvenation of their founding spirits. They experienced an instantaneous prosperity and also self-indulgence until they went almost bankrupt.

The purpose of this case is to provide its readers with a case study of competitive strategies under highly uncertain environments.

The points for the discussion will be how young markets, such as the home video game industry, are created, how startups in entertainment software industry develop their strategies, such as Square that was in effect founded in 1983, and how new entertainment software products can be developed and sold, such as “Final Fantasy” series that became one of the most popular Japanese RPGs worldwide.

Also for the readers with more historical interests in this industry, this case may be somehow informative of a few decades of twists and turns. The story will be organized from the perspectives of the people in the field so that the readers will be able to interpret the history as a process.

The origin of Square was the company owned by the father of Square’s founder. Kuniichi Miyamoto’s Den-Yu-Sha (“Den” means electricity and “Yu” means friends in Chinese characters) was located in Tokushima Prefecture, Shikoku–Island, in the west of Osaka Bay. The company as one of the affiliates of a local power company built power lines under regular contracts. Kuniichi’s securely run company was a very important customer to Shikoku Bank, headquartered in Kochi Prefecture also in Shikoku Island, because Shikoku Bank had just started retail banking services in neighboring Tokushima prefecture and Kuniichi had just broken up with his used-to-be main bank, Awa Bank, headquartered in Tokushima.

Kuniichi’s son, Masafumi Miyamoto had rather different ambitions from following his father’s footsteps. For example, he was thinking about starting women’s clothing manufacturing when he was in Waseda University, one of the best private universities in Tokyo. After he graduated from Waseda, in October 1983, he started computer game software development in one division of Den-Yu-Sha in Yokohama. This was the very beginning of Square.

At that time, electric computers in their infancy were becoming popular in a small niche market in Japan. Masafumi, however, was such a layman on computers that he started the business with only financial motivations. He thought, “I don’t understand how computers work but I do understand what a good computer game should be”. Masafumi Miyamoto retreated from the battlefield in the video game industry and sat the

position of President of the Miyamotos' family conglomerate established in 1988. This holding company established a women's clothing manufacturing business.

## 2. Background

It was needless to say that the biggest contributor to the outbreak of Japan's home video game industry was Nintendo. NES was, however, by no means new in terms of its technologies and basic product concepts. According to the manager of NES development team, Masayuki Uemura, "Basically we all knew what to do in the mid 70's." Therefore the strategic difficulties in this business rested evidently on the demand side of the market. Namely, it was very difficult to know customers' needs and wants because gaming was not of essential importance in human life. If lucky, some companies might enjoy booming but suffer instantaneous drops in sales as well since customers were very easily bored. In addition, the size and price constraints on products were very strict because hardware producers had to sell home video consoles at retail in contrast to pay-per-play arcade video games.

### 2. 1. Home video Game Industry in Its Infancy

It was said that the first home video game was Odyssey by Magnavox in 1972 priced at about \$100. The main body of Odyssey included circuited 35 transistors and its adapted cartridges were installed with different games on print circuit boards. Its input devices were small jog dials and the output devices were TV screens. Ten different games were available.

Around 1976, several firms such as General Instrument etc. started to release LSI chips on the market priced at approximately ¥10,000. This initiated the first booming of home video games, especially a tennis game. Players controlled white dots running right and left between two cursors on a TV screen. It was not surprising, however, that consumers got bored very soon.

On the other hand, LSI games mounted on arcade game machines gained high reputations. "Space Invaders" in 1979, Namco's "Galaxian" and "Pac-Man" in 1980 and Nintendo's "Donkey Kong" etc. gained global popularities. Taito Corporation and Sega's newly invented "Game Center (amusement arcade)" business model made them grow rapidly; those early entrants owned properties in towns throughout Japan and collected rents from latecomers who wanted to locate their arcade machines.

Shortly, LSI prices declined with an unexpected rapidness. In 1980, newly appeared the handheld LSI games with small LCD or florescent tube displays on them. Nintendo's Game & Watch released in 1983 with 4 bit LSI chips mounted was the decisive smash on this trend. The total shipment was 48 million boxes by 1987 with 70 different versions.

Around 1976, the distinctive TV connected machines seemed to appear in America, such as Video

Entertainment System by Fairchild and Video Computer System (VCS) by Atari and so on. Those machines were composed of multi purposed micro processors and software mounted on cartridges.

Japanese toy producers imported basic technologies from those American companies and manufactured and supplied similar products in the domestic market. Notably in 1981, Epoch, one of Japanese toy companies, released a new product, Cassette Vision, priced at ¥13,500. Consumers could buy a variety of game cartridges for the system and its software repertoires included “Galaxian” which had already gained popularity as an arcade game and was ported onto the new system. This movement, however, did not catch on greatly. The total shipment by 1982 was 0.3 million, which was far less than 5.3 million of Nintendo’s Game & Watch in 1983.

In America, on the other hand, in 1982 Atari enjoyed the biggest gaming boom that they had ever had. However, the boom was soon over because opportunistic entrants oversupplied new games with lesser qualities. The \$3 billion market shrank into \$100 million instantly. This historic Atari Shock became an incurable trauma to those in the industry.

## 2. 2. PC Games

As with Personal Computers (PCs), a small boom in the tiny niche segments in Japan began to appear in 1976 when NEC released their first computer assembly kit, TK-80. Computers in those days were called Mi-Com (a Japanese abbreviation of Micro-Computer and My-Computer). Because Office Automation (OA) movement was also under way in business segments, electronics companies released a series of down-sized computers with 8 bit microchips priced approximately at ¥1 million per set.

Sharp released 8 bit PCs such as MZ-80 in 1978 and NEC also released PC 8001 in 1979. Such PCs did not include Hard Disk Drives in their standard specifications. PC8001 had a RAM chip with only 16KB memory capacity, which meant programs had to be recorded on cassette tapes or magnetic discs every time its users input them on desktop keyboards. Any special display which could show only green numbers and characters cost more than PC’s main console itself.

Furthermore, there were no commercialised software packages available in the late 70s. Once you bought PCs you had to learn programming languages such as BASIC. So called PC schools collected a number of business people who were scared of missing the new OA trend. In effect, however, it was not so easy to learn computer languages for computer novices.

At first, programming simple games was the first and the last way for the people to use the luxurious computers after paying expensive tuition fees for the school. Interestingly, the people starting programming as a profession were not business people but students. They could not afford to buy PCs, but became preoccupied with trials and errors on the computer assembly kits which were much cheaper. They learnt machine languages from sample programs on the newly published technical magazines by a Japanese start up publishing company, ASCII Corporation and so on. Note that ASCII also meant American Standard Code for Information Interchange and this standard published by American Standards Association in 1963 was not related to ASCII Corporation.

“I/O” was first issued in 1976 and “ASCII” was in 1977.

As hardware became more compact and affordable, students practiced BASIC programming on sample PCs displayed at stores. Those PC shops bought the programs which such students developed for ¥20,000–30,000. That was a big amount of money for students at the time.

Around the time, new types of technical magazines appeared. “Login” first issued in 1982 was particularly focused on the hobby and entertainment usage of computers and raised rewards for the good game programs which its readers developed. Koichi Nakamura, the chief programmer of “Dragon Quest” and the founder of CHUNSOFT, used to be one of the regular winners of the prizes in his high school days and earned nearly ¥1 million a year.

It was fair, however, to say that the creativity such genius programmers demonstrated was rather limited. PCs in those days had serious limitations in performance and did not have much room for the young and talented programmers to experiment and create new concepts. They spent most of their time and energy to port onto PC operation systems the arcade video game concepts that had already gained popularity. The games were so different from the original in terms of appearance and quality but the applicants in the prize races competed in that techniques which could make a minimum difference. More important to the audience of the competition was that “We can play the game at home for free”. This game programming became more and more like a business when mail ordering services through magazine ads for PC games started and a software distributor, Japan Soft Bank, was founded in 1981.

In 1982, NEC released 16 bit PC9801 without compatibility with other machines. Despite this, NEC gained 50 % domestic market share and naturally a lot of 98 compatible games were developed. On the other hand, compatibility was the last resort of the desperate alliance which Microsoft and ASCII Corporation formed in 1983.

The alliance announced the first PC standard in Japan, MSX, which was said to stand for “Machines with Software eXchangeability”. One of the goals was to spread anti 9800 PCs out. The PCs mounted with 8 bit chips, slightly out of date, started being supplied cheaply as hobby PCs for less than ¥100,000 in comparison to NEC’s 9800 at nearly ¥1 million in one setup. The biggest winning chance was their possibility that a variety of software would be supplied for a number of potential users of various PCs based on the common standard. In reality, a lot of electronics companies in Japan and some abroad joined in this alliance and succeeded to a certain degree in constructing users’ communities. Retrospectively, although this ripple in the Far East seemed to become Tsunamis threatening American market, their effects turned out to be less impressive in terms of PC’s history in general.

It was high time that a PC gaming boom should come. Hudson, Soft System Soft, Koei were the top three that computer freaks adored. In 1981, Hisashi Suzuki, ex CEO of Square, started a part time job in Koei’s record rental shop when he was in Department of Economics at Keio University located in Yokohama, the best rival of Waseda University. Soon later, he started to help the porting of Koei’s biggest hit, “The Ambition of

Nobunaga”, a samurai war simulation series released in 1983. The software sales in those days were surreal, according to him;

We used something similar to audio cassette tapes to make copies because we didn’t have ROM memories in those days. The prime cost of a tape was less than ¥100 and we sold it for, say, ¥8,000 or ¥9,000. We all couldn’t stop laughing and said, “There can’t be a business like this!”

### **3. Foundation of Square**

Talking back to Masafumi Miyamoto, he was neither particularly fond of, nor good at programming even if he saw a business opportunity in it. He needed programmers. What he did then was to open a salon near Keio in Yokohama with dozens of PCs in store for rent, something similar to the modern internet cafes. This salon collected fees on per hour basis and became quite popular amongst Keio and other university students. The salon’s real purpose was, however, to get to know students with PC operation and programming skills.

Miyamoto met and recruited Suzuki in this salon. Suzuki began to help Miyamoto to find more skilled students. They posted a job offer on a classified ad magazine, “From A”, which was also first issued by Recruit in 1982, and first met Hironobu Sakaguchi as a job applicant. It gradually became apparent that Suzuki was relatively better at general administrations and Miyamoto’s support. Sakaguchi was a student of Department of Engineering at Yokohama National University and was a big fan of adventure games and RPGs working on Apple’s PCs. He soon became fully committed to leading Square’s programming teams and finally became the executive director of “Final Fantasy” series.

#### **3. 1. The First Encounter with RPGs**

RPGs were originally called table talk role playing games. Players threw a dice and created a fantasy in imagery worlds such as underground dungeons, lost ancient continents and so on. The most important feature of these games was that the players themselves became identified as the characters in their fantasies. Going through a series of battles with enemies and riddles to read, the players “grew” in accordance to the experience points they achieved. A group of little kids in the beginning of the game made a real “team” of warriors, scholars and maidens. They became so deeply absorbed in their noble missions to save the worlds in the climax of beating the biggest evils.

These types of games were quickly introduced to the world of PC gaming. Apple Computer released computers from underground MIS rooms, which made the computer gaming available to a wide range of general consumers. Independent software houses began to appear to supply original gaming programs. Since Apple’s PCs had Floppy Disk Drives installed in their standard specifications which had enormous memory capacities in those days, adventure games and RPGs requiring a large amount of data and not so complicated computing capabilities were suitable applications to the Apple’s. Suzuki explained how his colleagues encountered such

RPGs;

Mr. Miyamoto was quite enthusiastic about this business but didn't know much about video games. He said let's do this or do that but always missed the point. Imagine that such a person is your boss. It's a bizarre. Sakaguchi was the only person who could say "No" to Miyamoto because he had already demonstrated his leadership in technical terms. He claimed that "What we really love is the adventure game on Apple-II, isn't it? We need to create one and let people know that it's fun."

### 3. 2. Systematization of Software development

It was fun to play RPGs but sometimes took a few months to clear just one game in those days. They had very different natures from arcade games such as "Space Invaders" requiring less time but more responsiveness and alertness. Elaborating stories and plots in details which they called "universes" required a lot of time and energy.

Square's approach to do this task was the division of labor and the employment of professionals. Game programming in those days was usually conducted by one programmer. He (or she at times) designed how his game looked like, composed sound effects, wrote scenarios and programmed all of them in computer languages by himself. It was not too irrational because the things computers could do were so limited and the computer gaming market was a sort of self contained one amongst computer freaks. To Miyamoto, however, it seemed strategically wrong for Square as a follower simply to copy what early entrants were doing.

Miyamoto took different views on computers. He believed computers would evolve more rapidly, would become cheaper and faster and would handle more colours and sounds. It would be difficult for one person to handle all areas of creation of the games. In order to differentiate his start-up from other competitors, Miyamoto looked for and employed trained graphic designers, skilled programmers and professional story writers in advance of the times when such expertise would become the norm.

To create more attractive pictures, students from art universities started the drawing by dots (or pixels). Apart from ASCII Arts which consists of pictures from printable characters defined by ASCII code, drawing by lines used to be a popular way because it saved more memory and computing capacities at the sacrifice of realistic looking. When you wanted a red line from the top to the bottom right across the screen with the 3 pixel width, the old approach required roughly 5 data. The flag to tell you wanted a line, the coordinates of starting and finishing points, the colour code and the width. If various functions were given separately the CPU calculated and automatically drew the red line.

The new approach, what was called full graphics (or bit map) approach, required that every dot should be defined by coordinates with RGB data for color definition. This approach could greatly improve the quality of pictures but could deteriorate the quality of the game at the same time. Actually, the team was unanimously dissatisfied with the performance of their programs which took 60 seconds to show one 4 \* 4 inch<sup>2</sup> picture. The team employed a postgraduate student from Keio University and he succeeded in speeding it up to 20 seconds.



This was how Square’s first product “Death Trap” came out in 1984 and soon later the 20 seconds became 0.2 seconds. Japan’s first animated PC game was born in 1985 called “Will.” 100,000 copies were sold, which was commercially extremely successful in those days.

Imagine a cute girl blinking on a display when only still pictures were available elsewhere. In Akihabara, Tokyo, people stopped in front of the display and said “Oh my god, she is blinking!” Computer freaks and Japanimation freaks got together to buy our games. “Will” remained the best seller for months and became a historical record in the Soft Bank sales charts.

#### **4. Fami-Com Software Development**

It was in 1983 when the direct origin of today’s Japanese home video game industry was established. Nintendo released NES in that year, which was originally named Family Computer and abbreviated to Fami-Com more often than not. Its debut was not really as big an issue as people could imagine, despite the following prosperity of Nintendo’s empire. Interestingly, no single articles in any toy industry magazines seriously featured the birth of Fami-Com.

##### **4. 1. The Outbreak of Nintendo**

In the video game market picket battles began around 1982. Hobby PCs changed the concept of home video gaming. An economic newspaper reported how the industry saw it;

How can the video game console industry prosper? There are two different views. The first school thinks that a boom will come to ¥20,000 to ¥30,000 machines and then the focus will move onto more expensive PC games eventually. Against these video game proponents, the second school thinks that Japanese consumer product markets are so difficult to please that the machines need to function as PCs even at the cost of penetration pricing. Strangely not electronics firms but toy producers such as Takara or Tomy take this view positive to PC gaming. Other people, especially distributors such as whole sellers and retailers, are not interested in such a debate because they think that the only thing that matters is not hardware but software to be developed.

On the one hand, while Nintendo sold 5.3 million Game & Watch a year in 1983, they sought for their next gaming system. They remembered all of the variety of tennis games, space invaders and early LSI games that extinguished instantly. Nintendo’s product development department had two divisions and Division 1 was expanding in charge of Game & Watch, absorbing more and more resources from Division 2. New mission was naturally assigned to Division 2.

Before starting with Fami-Com, Division 2 had been in charge of Nintendo’s arcade game development. “Donkey Kong” was its biggest contribution to the company but this title did not survive long as usual.

However, according to the head of Division 2, Uemura, his men were not really nervous about this decline in sales of their products. They felt quite happy to be released from the rat race and have the time to start new projects.

Uemura remembered the day when President Hiroshi Yamauchi phoned him at night. Both of them were relaxed at home with a little bit of alcohols. Yamauchi said frankly that he was inspired by his various contacts with his distributors to think that Game & Watch would collapse soon. He told Uemura to start with the research on home video games such as Atari.

Yamauchi's war cry was "Reduce the price under ¥10,000." Secondly, Nintendo was stuck to the idea that it was a "toy." These points were a natural consequence for the company who had long produced playing cards, but there was a rationale that they did not want this delicate market to collapse like the earlier game booms or like their biggest trauma; Atari Shock. The collapses were always triggered by the low qualities of games as entertainments. Therefore, the problem for Division 2 to solve was balancing a low cost and a big fun.

There were lots of ideas put into Fami-Com. First of all, the project decided to minimize input devices attached. Fami-Com's competing machines had keyboards, but the new Fami-Com had two controllers with 4 buttons placed in a shape like a cross. Interestingly, Nintendo registered a patent for this cross configuration which became the de fact standard for various input devices, although Nintendo did not collect a single yen of patent royalty. Semiconductor memories were also installed at a minimum level. This input configuration made programming on this machine almost impossible (possible only with attachment kits), but contributed to cost reduction a lot.

A TV set as an output device could project any colors and sounds, but the number of colors which the console could display was strictly limited and only beeps were available for its sound effects. As its brain, Nintendo installed an 8 bit CPU, which was becoming outdated and cheap. Ricoh collaboratively developed a powerful graphic driver on the CPU and had a blanket contract for its production.

By all of these, the price proved to be ¥14,800, which was above the original target but reasonably cheap. Software was supplied as a ROM cartridge including two memories, character memory and program memory. The cartridges and the main console were only connectable with special keys which were only available to officially contracted software houses.

#### 4. 2. Third Parties

In the early days, only Nintendo supplied Fami-Com's software, but gradually they began to organize third parties for software development. Like the computer industry in general, the third parties were considered to make Fami-Com more attractive to consumers.

In the home video game industry, this third party software supply system was said to be first introduced by Atari in 1980. Atari in 1977 released VCS at \$250 with a CPU in the main body and also additional cartridges for software available at around \$30. A Japanese toy company, Epoch, imported this machine and sold it in

Japanese market. The configuration was inevitably known to Nintendo and became the basis of Fami-Com. Facing with this potential competitive threat in the Far East, VCS did not respond to it well. Atari hardly supplied attractive game software and began to have a very bad level of inventory loss. In 1980, a new solution to the problem was provided by an ex-employee who established Atari’s first third party software house, Activision. One of amateur historians of the video game industry explained this in his web site (see [www.ne.jp/asahi/cvs/odyssey/](http://www.ne.jp/asahi/cvs/odyssey/)) as follows;

Third party was the real key to the successful market penetration of Atari system. The system itself did not have impressive computing capacities but the third party software companies “excavate” the real potential of the system and created new ways of entertaining their consumers. In those days Atari was actually “one of many” but could have made difference since its third parties exceeded those of other systems in terms of the number of the parties, let alone the quality of the games supplied.

It might be necessary to explicate the word “excavation”. According to the report on Shigeru Miyamoto who created “Donkey Kong” and “Mario”, he defined the necessary conditions that game designers needed to satisfy in order to develop good games. You would have good concepts, make these concepts visible and program them within the limitation of computers and computer languages.

A video game was merely a lengthy series of numbers and letters programmed in computer memories. You had nothing unless you could write these numbers and letters to make your idea visible by knowing what computers could do and what they could not. In this mathematics, programmers conducted a series of creative problem solving as well as compromises to realise their ideas.

During this process, many things could happen. The technical limitations of machines were not always known at the time of development. Software engineers might compromise and gave up their overcoming technical obstacles well before reaching the technical limitations of the hardware which could be found later on. Hardware engineers might not know every single behavior of their artifacts and software engineers might find unexpected behaviors of the hardware during their trials and errors and debugging processes. The limitations were defined by abandonment, found by elaboration and redefined by chance.

For Fami-Com, Namco’s “Xevious” and Hudson’s “Lode Runner” were released in 1984. 1.27 million and 1.1 million copies were sold respectively. In the following year, mega ton class “Super Mario Bros” by Nintendo exploded selling 6.81 million copies in total. In 1986, Nintendo released rewritable Disk System (see section 4.5) and “The Legend of Zelda” which sold 1.69 million copies. Enix also released “Dragon Quest” that year, selling 1.5 million copies.

Faced with competitive pressures from the introduction of 16 bit machines by their rivals, Nintendo continued to sell their 8 bit Fami-Com until they safely introduced their own 16 bit machine, Super Fami-Com, in 1990. Nintendo’s hegemony needed much stronger rivals to be ended which would come in 1994. SCE released 32 bit

PlayStation this year although it took a few years from then for desperate SCE to overthrow the old regime.

### 4. 3. Square's Delayed Entry

Square released their first Fami-Com compatible software "Thexder" soon after the introduction of "Will" for PCs in 1985. This was not an early entry to the Fami-Com software business. They missed most of the booming period of Fami-Com, during which other software houses easily earned fortunes.

There were two peaks of home video games in 1986 and 1993, according to "Leisure White Paper" based on the annual surveys whose subjects were 3,000 people, over 15 years of age, living in the cities with more than 50,000 residents, and the response rates were 80% on average. The 28.9% of respondents said they had played home video games for their leisure or pastime at least once in 1986. Plausibly much larger percentage of actual population had played them because this survey excluded low teens and below as its subjects. The demand dropped once but 29.8% of respondents returned to video games in 1993.

Square's hesitant entry to the business was due to the misfit of their self identity. "Creators" in Square thought themselves as creating "computer" software. On the other hand, their honest opinion was that Fami-Com was only a "toy" for children produced by a "toy" maker and was not worth pursuing. Suzuki remembered those days as follows;

To tell the truth, all of our creators were very unwilling to develop Fami-Com games. We ignored Fami-Com from the beginning. We actually played it and found out it was a lot of fun, but we did nothing about Fami-Com in our labs, because we thought this was a toy. It was not a strange thing in our company, actually not at all. We started this business on PC-8800 series at first and we thought ourselves as the cutting edge of computer technologies.

But what turned out later was that Fami-Com was everywhere. We couldn't deny the pressing possibility that Fami-Com might expel PC gaming. This threat pushed our backs.

Square was agile and alert in the sense that they were the seventh third party company that made an official contract with Nintendo to develop and sell Fami-Com software following Namco, Hudson, Bandai, and other first movers. Such competitors except for Hudson were originally toy producers or arcade game developers and therefore could take advantage of the first Fami-Com boom without hesitation. Square, however, made nothing for one and a half year after signing the contract.

There were other reasons that kept Square away from Fami-Com. Square's technical advantage was to drive full graphics very fast which made "Will" commercially successful. On the other hand, Fami-Com was never comparable to PCs in terms of versatility and flexibility of configuration, but heavily concentrated on driving graphics by custom made CPUs.

Sprite (or object) approach had already been introduced in one of Namco's best selling arcade games, "Galaxian." Individual characters were broken into small pieces which were called "objects". Character's

movement was driven by the combinations of the parts, which could never have realistic and artistic expressions but could reduce required data for the characters running and jumping across the displays. We could see the shortcoming of this approach by playing one of Mario’s on a large TV screen. Mario would look like a pile of colourful bricks because the size of the pixels composing the objects was inflexible regardless of the size of the screen.

Like filming an animated cartoon, background movement was programmed independently. Two different teams of creators could collaborate and achieve maximum feasibilities in each and joint efficiencies as well. By doing all of these, there was no need any longer to have hundreds of still pictures drawn by pixels and drive them very fast.

Nintendo learnt this method to create an arcade shooting game similar to “Galaxian” but such a rehash which had more advanced technologies and a higher price, ¥1 million, did not appeal to its customers. These advanced technologies were, however, inherited to an arcade “Donkey Kong” and also to Fami-Com by the hands of Uemura and Shigeru Miyamoto. Suzuki analyzed this approach as making Fami-Com ever more appealing to consumers than more versatile and high power PCs;

Our bit maps on PCs could never be compared to Fami-Com’s action games. We had no experience of creating action games either. What was worse, in those days action games were 24 hours available in game centers before government restrictions, and this became our excuse not to develop Fami-Com software.

But Suzuki’s excuse was no realistic. Fami-Com’s super graphic driver had such a big impact on consumers that Nintendo had already sold 6.5 million Fami-Coms by 1986 when there were 38 million households and 14 million low teens according to Japan’s Census. As were Nintendo’s competitors concerned, Sega and Epoch made 370,000 and 90,000 shipments respectively.

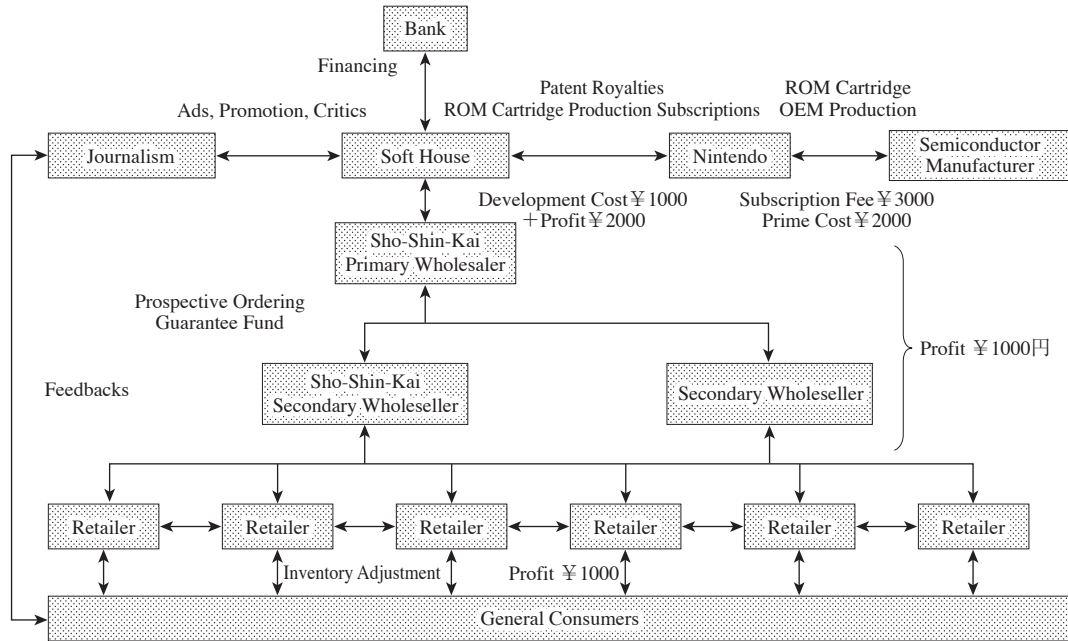
Soon after the release of their first Fami-Com’s game, Square as a division of Den-Yu-Sha was officially registered as an independent corporation. Suzuki and Sakaguchi were promoted from part-timers to full time employees. They continuously released Fami-Com games, three games in 1986 and 11 games in 1987. Their turnover went up to ¥3 billion and rented an en suite office in the middle of an exclusive area in Tokyo, Ginza. In a skyscraper, they walked on air.

#### 4. 4. Nintendo Model

For the third parties to prosper, Nintendo established an elaborated business model. In the contracts with Nintendo, the third parties were liable to the subscriptions in full to the OEM production of cartridges, which meant that amongst the third parties small start ups needed to solve a delicate financing problem (see Figure 1).

Underneath the so called Nintendo Model, there was an intention to control software supply in the home video game industry so that Atari Shock might not come again. Nintendo organized their third parties and distributors on the basis of their various cartridge production contracts. The actual contents of the contracts

Figure 1: The Distribution channel in The Fami-Com Era



Source: “Game Hiyou (Game Critics)” 01 / 03 / 2003, p.27 with some editions by the author. The amounts of money which the stakeholders receive in this diagram are calculated by an industrial magazine (“Nikkei Business” 19 / 02 / 1996) based on a hypothetical case: the target shipment is 100,000 copies and its price is set at ¥10,000 as of 1996.

varied depending on the past dealing histories but could be roughly explained as follows.

One software house could release no more than 4 titles in a year. They were liable to the royalty payment for the platform and custom development tools in advance of their actual development activities. ROM cartridges must be supplied through Nintendo by Nintendo’s affiliates such as Ricoh. The OEM production charges must be advanced in full.

The intention was evident underneath these incredibly tight contractual conditions. Nintendo wanted small and poorly resourced software companies out. Say a company wanted to sell 100,000 copies and the production cost of a copy might be ¥3,000. The company had to prepare at least ¥300 million in advance and surcharges for the commission for Nintendo’s platform and so on. Nintendo also carefully censored the contents of each game every time software houses approached them, but the entry control by money was the most effective way to spell out easy free riders on the boom.

The number of the games based on the Fami-Com platform increased year after year, but Nintendo took little risks for this expansion of the software repertoires. Then how could their third parties, especially small start ups, prepare for the risk capital?

The secret was in Nintendo’s distributor network. Sho-Shin-Kai (“Sho-Shin” meant original intention or young ambition in Japanese) was organized by Nintendo’s oldest distributors who had long dealt with

Nintendo's playing cards and other toys including Game & Watch. The contracts between the software houses and Nintendo required the software houses to distribute their cartridges through Sho-Shin-Kai network only.

Toy retailers were scattered throughout Japan and the order lot of each retailer was very small but might vary in response to the unpredictability of the toy market. Risk taking and arbitraging were common to this industry. These were the reason why a loosely connected distributor network was required to do the business economically and the Sho-Shin-Kai members could possibly gain a lot of distribution margins by accepting Nintendo's less evident governance. This distribution margins became the basis of the risk capitals for the small software start ups. Suzuki explained;

The wholesalers' association called Sho-Shin-Kai functioned like a guarantee fund for us during a certain period of time. Sometimes the subscription we had to pay was too big for us. If so, we asked distributors for drafts. Then we borrowed money from commercial banks on these drafts. Everybody in this industry did this business based on only an expectation that this bubble economy would collapse, but not now.

#### 4. 5. Rewritable Disk System

Although Nintendo effectively skimmed cream off the software business, they took their own risks for a new hardware development. In 1985, they introduced Disk System for ¥15,000 as an additional hardware to the original Fami-Com.

After the three years of their fast market penetration of Fami-Com, Nintendo wanted to update their platform. From their past experience, they knew that a new game console had only a few year life cycle. Let alone Atari Shock, consumers flooded toy stores for popular game machines and suddenly vanished away. For the technical updates of the system, they sought to introduce a new function. Fami-Com was not designed as a programmable computer, which meant there was no function for its users to rewrite or save new data. Nintendo tried to solve this problem by introducing RAM chips but gave it up because semiconductor materials were expensive by chance.

They next approached a magnetic memory disk called Quick Disk developed by Mitsumi Electric. This Quick Disk could save a larger volume of data, 112KB on both sides of the disk, than a ROM cartridge that could save only 32KB. This memory capacity shortage of ROM cartridges limited what creators could do on them such as graphics and music, not to mention that they could not rewrite new data.

Furthermore the production lead time of cartridges was a few months. Also something needed to be done to avoid consumers' boredom during the intervals without increasing the number of new titles under Nintendo's strict censorship. An answer to these could be the frequent supply of small and light puzzle games through the computer networks constructed by Sho-Shin-Kai members. Consumers could make a choice at toy stores between buying packaged software and downloading software, and save it on either blank or used disks. Uemura explained:

From the Nintendo's perspective, the software houses did very well to excavate the potentials Fami-Com had. This meant that no exciting or surprising games would be released on this platform in the near future. Fami-Com survived in this tricky market for 3 years and I think we did a good job, but we thought we needed to do something now to make new things happen.

For the retailers and the distributors, this new system would provide them with a detailed sales database to reduce unpleasant dead stocks thanks to more flexible supplies of software. This also could allow the software houses to save advance subscriptions and therefore to release games more easily.

In order to promote this new system, Nintendo prepared "The Legend of Zelda," which would become one of the best selling series developed Shigeru Miyamoto. "Zelda" was priced at only ¥2500 which was reasonably cheap judging from the fact that the 1992 ROM cartridge version of the same title cost almost double, ¥4800.

These Nintendo's efforts were not as positively evaluated as they had originally expected as a means to extend Fami-Com's commercial life. It was said that only "Zelda" was successful and worth playing but other titles developed for Disk System were not. There were some reasons. Certain technical problems were intrinsic to Disk System such as its clumsy data access. Also the relative advancement of ROM chip technologies succeeded in more memory capacities and less production costs in a short period of time.

The worst thing was that no incentive scheme was elaborated for the third parties. With more data storage capacities, Disk System inspired creators to develop better software with huge data, which was really obvious in "Zelda". It seemed to be Nintendo's first attempt to innovate some feature of RPGs with 256 KB data. The larger the software became, the more cost and the more men were required, but the price went down a half in comparison to its ROM cartridge version. What was worse, the consumers who had chosen to download software needed to pay only ¥500 for one title. The software houses found out no incentives at all.

Distributors could not find out any convenience either. They aggressively sold consumers their dead stocks combined with popular game titles almost compulsively. Some time later the government Fair Trade Commission required that they should not continue the illegal trade practices, but that was the reality of the industry.

Nintendo was also faced with another problem. As explained, the start-up software houses could easily develop new games for Nintendo's new system. "Puyo Puyo" released by Compile in 1991 was a good example. It was Compile's first and the last best selling title and a kind of revised version of "Tetris" which was said to be invented by a Russian scientist. A bad example, however, was the appearance of pornographic games. Quick Disk was installed on some MSX hobby PCs and some software escaped Nintendo's strict censorship. Thus Disk System could achieve less than expected and Fami-Com's booming started to cool down.

#### 4. 6. Market's Cool Down and Square's "Final" Fantasy

Ever since Nintendo entered the electric entertainment businesses, Yamauchi had kept saying that "What



determines if our products will sell or not? It’s the software.” It was the essential threat to Nintendo as a platform holder that home video games could never be necessities in human life. It was of the top priority to keep good relationships with the third parties that could release popular software, let alone their own creative development capabilities. This had been more so since they retreated from the arcade game business thanks to the outbreak of “Super Mario Bros”. Therefore, Nintendo started to loosen their original contractual conditions.

Nintendo originally allowed the third parties to release the limited number of games every year depending on how much contribution they had done to their big brother. Now that the early entrants were large and influential, Nintendo could never continue to reject their requests to loosen their contractual conditions.

It was understandable that Nintendo wanted to allow a few influential third parties to release more games. That seemed to be the last resort for Nintendo, but other third parties noticed that slight change. It was inevitable that more third parties should ask for the same conditions sooner or later.

During the peak of booming, Nintendo, the third parties and the distributors earned fortunes, but this triggered everybody to churn out a series of low quality games. This was exactly the same thing that had happened in Atari Shock. Nobody could stop the big trend. Square was no exception;

Yes, we did quite well. Every time we release a title, we sold a few hundred thousand copies constantly. But actually other third parties sold more than that. Million sellers were not rare at all in those days. Therefore we were always second rated in the industry.

We released many titles. Thirteen titles in 1985. We had released only one or two titles a year before, but to boost up our turnover, we split our teams and released tiny little indistinct games almost every month. In total, we sold a lot of copies, but if we split our resources like that, overhead became huge with thin margins under the Nintendo Model. The worst was the rent in Ginza. We were more or less working for the rent at that time.

Yamauchi was correct. Consumers gradually began to know the trick and market started to cool down in 1986.

In the following year, Square made their critical decision. They moved in a shabby office in Ueno, the old downtown in Tokyo and also laid half of the employees off. They concentrated remaining 30 members and all the little money on their own “final” fantasy. If not successful, the only way that remained was to close their company.

“Final Fantasy” was released on 18 December 1987. Their final shipment for that title was 510,000 copies for approximately ¥3 billion at retail. Suzuki thought this result was not too bad.

That was not a big success compared to the sales in the past few years. But the Fami-Com boom was about to end and we thought we did it when we received 400,000 copy orders from the beginning.

## 5. Foretastes of RPG Boom

In response to an interview by an industry magazine, Masafumi Miyamoto recalled the outcome of their last resort as a result of good luck. “Fami-Com Tsushin (Fami-Com Correspondence)” was one of the influential magazines published for Fami-Com lovers during the boom. This magazine featured Square’s “Final Fantasy” and inspired consumers to buy it, although this was a lucky thing for Square because they thought themselves as a second rated game maker. There was, however, a historical necessity, though. It was high time RPGs had broken out.

### 5. 1. Enix Limited.

Since 1976 when computers first appeared, RPGs had been on their trials and errors. It was after 10 years that the games appeared which experienced commercial successes such as Nintendo’s experimental “Zelda” and Enix’s masterpiece, “Dragon Quest”

Yasuhiro Fukushima founded Enix in August 1982. He graduated from Department of Architecture at Nihon University in 1970, and he started small businesses such as advertising, brochure publishing for property management, and so on. After spending some time in America, he decided to start a PC business because he noticed PCs were already very popular overseas.

Fukushima was not a big fan of computers. This was similar to the case of Masafumi Miyamoto of Square. Enix’s tactics for the entry to this industry were, however, quite unique. Yuji Horii, the scenario writer of “Dragon Quest”, said to an industry magazine that “Enix was very similar to the press company. They do not have programming capabilities within their organization. They even outsource game concepts and scenarios. Like publishing companies and writers, Enix established the concept of royalties between them and their contractors. This is their most important contribution to this industry.”

Fukushima confronted the same problem with Square. He did not know any of PC professionals. While Square opened a PC salon and soon later posted classified ads on job magazines but Enix planned a programming competition. During the two week application period, he tried to attract as many competitors as possible. For example, he contacted PC software distributors and said the prize was ¥1 million and would never do cheating like “No winners this time.” He also guaranteed good games would be commercialized and the programmers would receive royalties. 300 programs entered this competition in the end.

As he guaranteed, Fukushima did his best to commercialise selected programs like an editor in a publishing company. In addition to the arrangements for production and promotion, he gave his developers some critics on the in-process programs from a commercial point of view. Such editorial activities were rare in software houses like Square. Usually creators did their jobs because they enjoyed PCs in small offices full of junkies and it was understandable that such editorial people based on the commercial viewpoints were either simply absent or not welcome. It was needless to say that outsourcing was rare as well.

It was a natural consequence that Enix released a wide variety of games. Some had the style of adventure

games. Some featured popular comic characters. Some were somewhat adult oriented. Some of them were revised for Fami-Com. “Door Door” was one of Enix’s earliest Fami-Com titles developed by one of the winners in the PC game competition, i. e. Koichi Nakamura, a programming prodigy.

## 5. 2. The Birth of “Dragon Quest”

Enix recruited the key persons for “Dragon Quest” team through various routes. The first route was the game competition. Horii, a writer, was one of the applicants. After graduating from Waseda University, he regularly wrote serial columns as a freelance about computer games on a weekly comic magazine “Shu-Kan Sho-Nen Jump (Weekly Boy’s Jump).” This magazine was the best selling magazine in Japan which sold 6 million copies every week. He bought a PC for work, but soon later the PC became his hobby toy. As soon as he knew Enix’s competition in the Jump’s editorial room, he went back home and programmed a tennis game. He visited Enix for his columns and knew that his game became a finalist. At that time, Fukushima was looking for someone who could help him produce more Fami-Com games because Nakamura’s “Door Door” was not a bad start selling 200,000 copies. Horii and Nakamura were in the project.

Subsequently, the Horii’s colleague, Torishima, one of Jump’s editors, came in. He was as big a fan of video games as Horii. Torishima was an editor of the best selling comic “Dr. Slump” and the author, Toriyama, was invited in as a character designer.

Lastly, a professional musician, Sugiyama, was in. He used to play pop band music and in those days he was doing more backyard jobs like compositions and arrangements. He loved PC and other video games and sent a comment letter on one of Enix’s product, “Shogi (Japanese Chess)”. He was very pleased to come in.

Once upon a time there was a devil named Dragonlord (or DracoLord in a different version abroad) living on a continent called Alefgard. To save the people living in darkness, a hero named Roto (or Erdrick) descended from the heaven and vanished the devil with a divine sword. People got a light back, but before long darkness covered the reign of King Lars again. The revived devil deprived them of the Oval of Light, a symbol of peace, and of Princess Lora (Gwaelin) too. On the 16<sup>th</sup> birthday, “you”, a descendant of the hero Roto, were revealed to find and beat the revived devil. It was time to start your long and hard journey to save your beloved Alefgard.

“Dragon Quest” was said to be “a collection of pieces in the classic RPGs with a sensible refinement and integrity.” This critique might be too strict because Japanese consumer market did not really know what RPGs were and even only an introduction of a new style of gaming in this market could be a big contribution to the industry. The critics needed to take seriously the fact that RPGs were only available on PCs which sometimes cost almost ¥1 million and that difficult PRGs took months to clear. RPGs were toys for grown ups. Their biggest contribution was to port this mode of playing onto a children friendly platform with a simple interface and dynamic graphic drivers. Interestingly enough, “Dragon Quest” caught the minds of grown-ups too. The following is an extract of an interview with Suzuki looking back the time;

Apple II had a lineup of great adventure games such as “Ultima” or “Wizardry”. Honestly, we adored them from the bottom of our hearts and they were always our dreams. But this was a bad thinking in reality. We loved them too much to think about consumers. We did not want to be too commercial. Then we were so shocked by “Dragon Quest” in 1986. Enix gathered the best staff on the industry standard to make such a maniac game like a RPG more accessible to general consumers. Imagine. Toriyama, the most popular comic author designed the characters. The promotions were unfolded on the best selling weekly magazine. The music, nobody could forget that melody, was composed by a professional pop musician. We just couldn’t believe how they could do such a thing and learnt this was what commercialization was supposed to be like. We simply realized we had been wrong for long.

Initially Enix and other key figures thought “Dragon Quest” would hit the target of a million copies, but their first shipment fell short of that expectation. However, let alone Jump’s media mix promotions, their first sold 700,000 copies triggered more and more consumers to buy another 800,000 copies.

It was reasonable that there was a considerable opportunity loss behind the sales of 1.5 million copies. Within the Nintendo Model, the ROM cartridge production was fully conducted in advance of the first release of the game based on a rough demand forecast and also the production lead time was very long. Only publishers like Enix were meant to owe all the software development risks. Nintendo’s censorship also might have a negative impact on the production lot decision of ROM cartridges. It was possible that Nintendo might hesitate to give a go to Enix fully positively, simply because a RPG was a new genre. See subsequently released Roto’s trilogy’s sales. In 1987 “Dragon Quest 2” sold 2.4 million copies and volume 3 sold 3.8 million copies in 1988.

After finishing the trilogy, Nakamura left this project to concentrate on his own projects in his start-up. Horii continues to take a full charge of scenarios. Three years later, “Dragon Quest 4” was released. Journalism reported thousands of people queuing to buy it at video game shops in Akihabara. This insane booming was sometimes treated as a social problem. The government had to regulate the dates of releasing new titles by a new law because many students skipped classes to buy “Dragon Quest 4” and some of them even snatched it from those who bought it. The distributors’ illegal combined sales with dead stocks were also problematic. All of these reflected the thirst of the market for new RPGs.

This excessive demand and the shortage of new RPGs naturally encouraged dozens of third parties to copycat “Dragon Quest”. Even the famous “Final Fantasy” was treated in a Fami-Com magazine as “one of many” when Square first released it in 1987. Complete darkness and terror covered the whole world where the devil named Chaos commanded the four orbs named after the essentials comprising the world, i.e. earth, water, fire, and wind. Light Warriors carrying four darkened orbs formed a missionary to beat the devil and save the people living in the chaos. It was apparent that there was an urgent need for Square to differentiate themselves from other copycats. Suzuki remembered;

“Final Fantasy” achieved so much although it was ‘one of’ the copy cats. We were very much frustrated to be treated like

that. But Sakaguchi was a bit different. He knew that was going to happen and then determined not only to learn from “Dragon Quest” but also to seek for critical differences that we could make.

It was said that consumers did not notice much difference between “Dragon Quest” and “Final Fantasy”, but the difference gradually became more and more apparent as the two series unfolded their own universes. As with “Dragon Quest,” consumers’ evaluation was absolutely high; this series was said to be like a classic saga novel. On the other hand, the series of “Final Fantasy” became more like Hollywood movies.

The technical foretastes of that difference were found in both of the first volumes of the series. In “Dragon Quest” pictures were drawn from the viewpoint of the player. Therefore, you could not see yourself in your display. In “Final Fantasy”, on the other hand, pictures were drawn from the viewpoint of the outside observer. Square also introduced a window system; the party you controlled and your enemies could be both displayed in different windows at the same time. These changes made it possible to emphasize characters’ growth and physical conditions depending on the experience points or vital indices of the players. “Final Fantasy” also introduced louder acrobatics full of graphic and sound effects, since battle scenes with enemies often became repetitive routines for the players to get more experience points, money, arms and so on.

## **6. The Two Paths of Growth**

As the two RPG giants grew in size, they constructed more and more differentiated business systems within their companies. The following overview of these differences would illuminate their own theories in use, i. e. strategies, to lead and control their growth.

### **6. 1. Product Lines**

Although there were some exceptions, Enix tended to have broader product lines in terms of platforms they employed as well as the genres of games. On the other hand, Square tended to concentrate their development efforts on one platform at any time and to stick to RPGs.

Since Enix started this business with the game program competition and the commercialisation of the selected software, they released many titles from the beginning and the variety of the repertoires was large as well. In 1985, 35 titles were released and 19 titles in the next year. Among those PC games, only two titles were ported onto the Fami-Com platform in 1985. During the development of Roto trilogy between 1986, 1987 and 1988, they did not have other Fami-Com titles.

Other Fami-Com software had not appeared until an action simulation game, “Actraizer” for Super Fami-Com. PC games continued to be developed until 1993, although the number of titles decreased year after year. More and more number of Super Fami-Com software began to be released in 1992, among which various gaming styles were introduced such as action games, simulation games, and RPGs.

On the other hand, Square had always had the limited number of titles throughout their early days. Nearly at

the height of Fami-Com booming, they released three titles which promised financial prosperities, but the following 10 titles, however, turned out to be disappointing. They moved their office from the high street of city center to a less exclusive area in Tokyo. Once they experienced the partial success in “Final Fantasy,” they concentrated on the serials and released them almost every year such as volume 2 in 1988, 3 in 1990, 4 in 1991, 5 in 1992 and 6 in 1994 respectively. Around Nintendo’s successful heritage of old Fami-Com empire to their new Super Fami-Com regime, Square developed only RPG series for Super Fami-Com exclusively such as “Saga” trilogy between 1989–1991 which were called Final Fantasy Legend abroad, “Romancing Saga” since 1992, and “Seiken Densetsu” ported from Game Boy in 1993 to be one of their RPG series later on.

## 6. 2. Business Administration

The administration systems of both companies had become more distinctive since Nintendo introduced Super Fami-Com into the market in 1990. Hardware performance evolved continuously, while platforms competed with each other for market dominance such as Super Fami-Com (16 bit machine), PlayStation (32 bit machine) in 1996 and PlayStation 2 in 2000. This technical advancement of hardware made software development more challenging and more difficult due to the obvious technical overshooting. The excessive hardware capacity rapidly increased software development costs since the costs were roughly dependent on the time spent and the number of the creators involved. To manage the costs which nobody could ever stop increasing, the administration systems of both companies attained their own styles.

According to “Game Hihyou (Game Critics)” Square was characterized with their huge financial commitments to each project, strict scheduling of title releases and their in-house development policy. On the other hand, Enix was said to be cost sensitive, less time-constrained, and famous for their outsourcing policy.

Beyond the home video game industry, Square became famous for their aggressive incentive compensation scheme to make most of their in-house technical capabilities under the new government labor policy since 1988. Their technical creative experts who mounted to 80 % of their total employees were subject to this new scheme including flextime, royalty based annual salaries and bonus vacations. In 1991 when “Final Fantasy 4” and other new RPG series were released, their annual turnover reached ¥16.6 billion and the ordinary profit to turnover ratio was over 20 %. The new scheme seemed to be an effective way of boosting company’s performance at the first look, but in effect it was a foretaste of high labor cost constitution of the company.

As with the Super Fami-Com software development, Enix was a little behind Square and started around this time to catch up. The difference between these two firms had never become smaller, especially in terms of product release intervals. Originally “Final Fantasy” was a follower to Enix’s “Dragon Quest,” but both series released volume 5 for Super Fami-Com in 1992 at the same time.

Enix never changed their policy to allow their contractors to take their own time. Enix released volume 6 in 1995 and volume 7 in 2000. Volume 8 was released in 2004. In contrast, Square released volume 6 in 1997, volume 7 in 1997, volume 8 in 1999. Volume 11 released in 2002 was specially designed for the broadband which was still a cutting edge telecom technology.

Even though Enix elaborated strict accounting principles for their project management, it would be pointless if they had nothing to sell. This somewhat ridiculous thing happened in reality in 2000. Volume 7 was their first “Dragon Quest” for PlayStation released in August of this year. This title was known to be an insurance run following SCE’s come-from-behind homer in the platform competition with Nintendo, but it had an unpleasant undercover story as well.

Enix heavily advertised the release of this volume 7 in 1999, but they postponed the actual release three times. The sales did not contribute to the financial outcome in the fiscal year of 1999 (defined to end in March, 2000). It was not too bad at a glance that Enix had ¥18.3 billion as the annual turnover and 21% as the ordinary profit to sales ratio in 1999, but stock market did not like the figure since the turnover was about a half compared to that of the previous year. This was reflected on the stock price falling by 40% between March and April, 2000.

### 6. 3. Diversification

They also had a difference in the way they diversified their businesses. Square tended to concentrate on entertainment software businesses and liked to diversify vertically.

Square had the strategic alliance with SCE and established a new mode of software distribution by a newly founded DegiCube in 1996. They also started horizontal market exploitations overseas in 1995 and 1998, and the movie production based on their computer graphic capabilities in 1997. The movie named “Final Fantasy” was released in USA in July 2001, but its sales record was not so satisfactory that the huge debt settled in the previous year threatened this entrepreneurial company to go nearly bankrupt. DegiCube also claimed their liquidation to the Tokyo District Court in December 2003 due to their difficulties to survive in the ever worsening competitive environment such as the market shrinkage and the global competitiveness in this industry and their inefficient operation of publishing business.

Enix’s diversification tended to be horizontal. Core businesses were located around the “Dragon Quest” brand such as their character goods productions and sales, royalty management, magazines and comic books publishing, educational toy productions, and contents broadcasting services on mobile networks. Other businesses were rather distant from the core and Enix behaved like an angel toward venture start-ups. Music and food distribution and publishing businesses in Asian markets started between 1998 and 2000. R&D on finger print authorization systems had been conducted since 2000. None of them have earned the firm profits.

## 7. Epilogue

For a certain period of time from 1986, the home video game industry was trapped into a loop for self deterioration. Customers had become much wiser. A lot of software houses realized this fact but could not stop selling games of low quality to survive the crisis. “Final Fantasy” might have been one of those games but accidentally survived as one of the twin peaks of Japanese RPG series. Suzuki recalled in those days;

I couldn't help feeling that we were just stupid. Yes, this is a retrospect, but our failures were hardly unforeseeable, though. Our recovery shot was well hit and it should have seemed easy to do because we knew the causes of the failure perfectly. But you can imagine how difficult it is if you want to do the right things with the right timing. We were simply scared because we were about to close our company and really dying for a winning shot. Honestly we thought we were just lucky and I think so too even now.

Sixteen years had passed since the date of birth of "Final Fantasy" when Square and Enix's consolidation was flashed on the spot news at a little past noon on November 26, 2002 by the national broadcaster, NHK. In the press conference, members of the management teams of both companies confidently said both companies could survive alone but decided on this consolidation to continue to release good quality software and to pursue their industry leadership for the coming several years. No one must have imagined this to happen.

As these episodes told, Square seemed to thrive the turbulent video game industry. This case might have some lessons about companies' competitive and growth strategies under significant uncertainties. It might be worth thinking about the following questions.

1. Compare the strategies of Square and Enix in terms of their approaches to software development and administration systems.
2. If you were to manage a growing start-up under such a significant uncertainty as seen in the home video game industry, pick the more appropriate strategy of the two; Square's or Enix's, and justify your decision.

### References

All the sources of references are in Japanese language. Ask for the list to the author (dfujii@e.okayama-u.ac.jp) if required. If interested in the dedicated historical accounts from various perspectives, a free encyclopedia website called Wikipedia ([http://wikipedia.org/wiki/Main\\_Page](http://wikipedia.org/wiki/Main_Page)) is useful.

This research has been conducted with a financial support from Japan Society for the Promotion of Science (Grant Number: 15730187).



Table 2: Chronology highlight

	Enix Corporation	Square Co. Ltd.	Consumer Computers in General
1975	Fukushima started a company to provide council flats information publishing and services.		
1976			NEC released Assembly Kit TK-80 APPLE released APPLE I
1977			APPLE released APPLE II Commodore released PET-2001 Tandy released TRS-80-1 ASCII was founded in Japan The first video game (tennis games) boom
1978			Sharp released MZ-80K
1979			NEC released PC-8001 Space Invaders boom
1980			APPLE released APPLE III
1981			Fujitsu released FM-8 NEC released PC-6001 and 8801 Japan Soft Bank was founded
1982	Fukushima changed the trade name of his company into Enix.		NEC released PC-9801 (16bit machine) Fujitsu released FM-7 and 11
1983	35 PC games were released including Nakamura's "Door Door" and Horii's adventure mystery "The Serial Killer in Portpia Island"	Den-Yū-Sha established a software development division under the direction of Masafumi Miyamoto.	APPLE released Lisa IBM released PC/XT Microsoft in America, ASCII in Japan jointly announced MSX standard Nintendo released Family Computer Game & Watch boom
1984	19 PC games were released	"Death Trap" for PC was released (not sold abroad).	Nippon Telephone and Telegraph Public Corporation started the INS experiment and CAPTAIN Service APPLE released Macintosh
1985	13 PC games such as Horii's adventure mysteries and "Shogi" Their first Fami-Com Software was released such as "Door Door" and "Portpia Renzoku Satsujin Jiken (The Serial Killer in Portpia Island)" (not sold abroad).	"Thexder" for FC was released (not sold abroad).	Nippon Telephone and Telegraph Corporation (NTT) was founded.
1986	Dragon Quest 6 PC games were released	Square Ltd. was established. 3 FC games were released.	Compaq released 32 bit PC Nintendo released Disk System
1987	Dragon Quest 2 6 PC games were released. The number of PC titles would keep decreasing until they stopped PC game sales in 1993.	10 FC games were released. The headquarters office moved from Ginza in Chuo City to Ueno in Taïto City. Final Fantasy	
1988	Dragon Quest 3 Dragon Quest 2 for MSX PC	4 titles for FC was released. Final Fantasy 2	
1989		2 titles for FC were released	
1990	Dragon Quest 4	Headquarters office moved back to Akasaka, Minato City. Final Fantasy 3 for SFC	
1991	Enix first issued counter shares. Enix founded Enix Game School (Digital Entertainment Academy, Ltd. of now)	Final Fantasy 4	
1992	Dragon Quest 5 for SFC	Final Fantasy 5	
1993	Dragon Quest 1&2 for SFC		
1994		Final Fantasy 6 Square first issued counter shares.	
1995	Dragon Quest 6 for SFC	SQUARE LA INC. was established	
1996	Dragon Quest 3 for SFC	DegiCube was established	
1997		Final Fantasy 7 for PS Final Fantasy 4 for PS Final Fantasy Tactics for PS Final Fantasy 7 International for PS Square USA Inc, Honolulu Studio was established Square Pictures Inc. was established	
1998	Dragon Quest Monsters for GB Manix Entertainment Pvt. Ltd. (India) was established	Final Fantasy 5 for PS Square Electronic Arts L.L.C. was established Square Europe Ltd. was established.	
1999	Enix was listed in the First Section of Tokyo Stock Exchange. Dragon Quest 1&2 for GB Enix America Inc. was established Food Business in China was started.	Final Fantasy 8 for PS Final Fantasy 6 for PS Final Fantasy Collection 4,5&6 and 1 more derivative title	
2000	Dragon Quest 7 for PS Lenix Estate Guide Pvt. Ltd. (India) was established BMF Ltd. was established to commercialize the finger print authorization technologies.	Final Fantasy 9 for PS Final Fantasy 8 for PC Final Fantasy for WS and 1 more derivative title DegiCube was listed in Osaka NASDAQ Square was listed in the First Section of Tokyo Stock Exchange	
2001	Dragon Quest Monsters 2 for GB Dragon Quest Monsters 4 for PS	Final Fantasy 10 for PS2 Final Fantasy 2 for WS and 2 more derivative titles Sony Computer Entertainment accepted Square's newly issued stocks.	
2002	Dragon Quest Monsters 1&2 for PS	Final Fantasy 11 for PS2 and PC Final Fantasy 10 International for PS2 Final Fantasy 1&2 for PS Final Fantasy 4 for WS and 1 more derivative title	
2003		Square Enix Ltd.	

Figure2: Financial Highlight of Square

