

A Company That Utilized Information to Become One of the Most Sustainable and Profitable Companies in Korea - The Case of Nongshim Corporation -

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I. Introduction

On October 18th, 2001, Mr. Bertrand Pointeau, a managing partner of Bain & Company, presented his research paper on Korean corporations at the 2nd World Knowledge Forum, sponsored by the Maeil Business Newspaper in Korea. This study identified what he called "sustainable profitable growth companies," which fulfill the four criteria of (1) real revenue growth larger than 5.5%, (2) real net profit growth larger than 5.5%, (3) average annual total shareholder return larger than the cost of equity, and (4) annual total sales revenue larger than 1 billion US dollars, all during the period of 1991 through 2000. Mr. Pointeau announced that four companies, namely Samsung Electronics, SK Telecom, Samsung Fire & Marine Insurance, and Nongshim made the cut. This announcement graced the first page of the Maeil Business Newspaper on the following day, and economists and business managers were surprised to find

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out that a company that produced such a trifling product like ramen, instant fried noodles, was one of the four most successful businesses in Korea.

Objectives of this Paper

This paper will show how the top managers of Nongshim led their company so successfully to become one of the four most "sustainable profitable growth companies" in Korea. The premise of this paper is that a long-term business success requires the top managers to establish a long-range goal for their company and adopt a long-term method to pursue the goal. This paper calls the long-term method a *roundabout approach*, and *the objective of this study is to examine the contents and elements of the approach, and the drawbacks of the approach.*

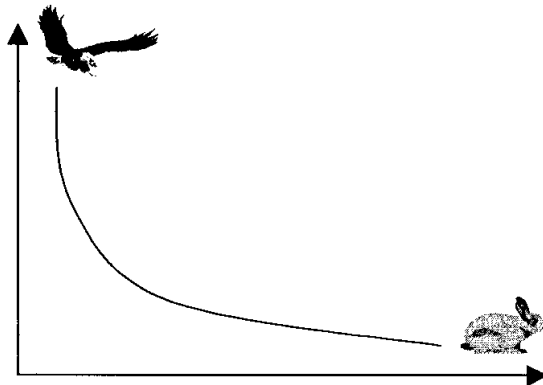
II. The Background of the Roundabout Approach

Many scientists and philosophers have maintained that human beings can draw intelligence from nature, since nature is the embodiment of an indwelling reason, doing nothing in vain, being even frugal or economical employing the fewest means to achieve its ends(Adler, 1977. P.1170). The Dutch scientist, W. Snell proved that when light passes from one medium(e.g. air) to another (e.g., water), the refraction of the light takes place in such a way as to minimize the time the light takes to reach its destination(Hewitt, 1993. P.498). Ilya Prigogine won the Nobel Prize in chemistry for his work demonstrating the capacity of certain chemical systems to regenerate to higher levels of self-organization in response to environmental demands. From these new discoveries and developments has emerged what they call the '*new science,*' asking today's scholars and managers to pay attention to, and learn from the nature.

How the Eagle Minimizes the Time

Let's examine the way an eagle minimizes the time it takes to snatch a prey. When an eagle spots a prey from the sky, the eagle, instead of dashing directly towards the prey, makes a vertical dive at first as depicted in <Figure 1>.

<Figure 1> An Eagle Hunting a Prey



As the eagle nears the ground, it changes its course smoothly into horizontal direction to snatch up the prey. Because the gravity works vertically, the eagle can increase speed most effectively by making a vertical dive, and turn the speed into kinetic energy. The kinetic energy then is released to accelerate the eagle on the horizontal portion of the path. In this way, according to some zoologists, the eagle's speed can approach 200 miles per hour (Grambo, 1999, P.16), enabling the eagle to catch the prey in the shortest possible time. Physicists call the path of this fastest descent the *Brachistochrone* curve (Encyclopedia Britannica, "Brachistochrone" on CD-ROM 1998). It is what mathematicians call the *cycloid curve* on which a body subjected only to the force of gravity will slide down between two points in the least possible time. Geometrically, the *Brachistochrone* is a 'roundabout' path inasmuch as it is not the shortest distance between the two points. But it becomes the shortest path in terms of time due to the *acceleration* created on it.

III. The Roundabout Approach and Its Mechanisms

Let us turn to what economists call the "roundabout" production. No one will have trouble to see that if men had to work with their bare hands on barren soil, productivity would be very low indeed. Land and labor are often called 'primary factors of production,' for the reason that neither land nor labor is regarded as a result of the economic process, but instead exists primarily by virtue of physical and biological processes. Capital, which is the word often used to refer to capital goods in general, is a different kind of production factor. A capital good differs from the primary factors in that it is an input which is itself the output of the economy. As a matter of fact, over a long time advanced economies have amassed a vast stock of equipment, plant and housing, inventories, and drained land (Samuelson, 1998). The production processes using these intermediate capital goods (i.e., indirect methods) is called 'roundabout processes.' Clearly the whole Industrial Revolution and the factory systems were created by the conviction and philosophy that we could get higher productivity (or efficiency) by using the roundabout methods.

The Means to Facilitate the Roundabout Process

Nowadays, the pressures to generate short-term financial profits for the stock market make it difficult for the managers to pursue long-term goals. Thus, managers are in need of a managerial means to accomplish their long-term goals in the shortest possible time. Let us call this means a managerial catalyst, a name derived from the science of chemistry. In chemistry a substance that, when added to a reacting system, facilitates the reaction without itself being consumed, is called a catalyst. For example, enzymes in most animal stomachs are naturally occurring catalysts that help digestive juices do their work more efficiently (Brady, 1993). Scientists have found many catalytic substances from nature and used them in the processes to make gasoline, plastics, fertilizers, and many other products that have become our

everyday necessities. For example, in the process to produce solid shortening out of vegetable oil, engineers add nickel powder to the heated vegetable oil, and hydrogen gas is bubbled through to hydrogenate the oil. In this process the nickel powder functions as a catalyst and eventually is screened out at the end of the process for reuse. Without the addition of the catalyst, hydrogenation of the vegetable oil will take too long to be practically feasible.

How to Implement the Roundabout Approach

In order to achieve a long-range goal in the shortest possible time, the managers should invent a certain catalytic means to accelerate the process. In other words the creation of the catalytic means that will be most effective to the given goal is an important element in implementing a roundabout approach. Hence, the managers must think in time streams in order to carry out a long-range goal. The first step to think in time-streams is *visualizing the desired future of the organization in terms of some factors that can strengthen the competitiveness of the organization*. Usually business corporations visualize their desired future in terms of markets, products, technologies, and trust relationships with customers. Once managers can visualize the desired future of their organization in terms of either products, or technologies, or trustful relationship, the next step is to *identify a catalytic means to facilitate the realization of the desired future*. The following example will clarify the process..

In the late 1970s, the former Chairman W. C. Kim of Daewoo (bankrupt in 1999) visualized the desired future of his company in terms of an emerging market. At that time Daewoo had about 15,000 construction workers stationed in Libya. In order to feed this number of employees, Daewoo needed beef, a favored staple for the Koreans. However, Daewoo could not buy beef in Libya since it is a Muslim country. Thus, Daewoo had to import beef from overseas. On this occasion, Chairman Kim came up with an idea: he decided to import the beef from an East-European country with which Korea could not get in

touch because of the ideological confrontation. However, Chairman Kim wanted to build up "goodwill relationship" with the country to open business when the "cold war" would thaw. Through a Libyan importer he imported the beef for more than 6 years from Hungary. As he expected, when the cold war began to thaw in 1985 and thanks to the 'good feeling' Hungary felt toward Daewoo, Chairman Kim could immediately start business with Hungary, and at his request, Hungary became the first East-European country that established diplomatic ties with South Korea. The "goodwill relationship" was created for a catalytic means. Now, let us turn to the case of Nongshim and see how they implemented roundabout approaches.

IV. The Case of Nongshim Corporation (I)

The General Background of the Case

Nongshim, founded in 1965 as a small business, continued to grow by producing and distributing ramen as its primary product. Ramen, first commercialized in Japan in 1958, is a convenience food item that consists of noodles fried in oil, and dehydrated soup in a granulated form. Ramen was first introduced to Korea in 1963 by Samyang Foods. Because it allowed people to have a whole meal at a relatively low price during times of economic hardship, and because there was no need for side dishes or washing dishes afterwards, the demand for ramen grew more than 30% each year in Korea. As ramen became a popular product, many companies jumped into the ramen business following Samyang Foods, and Nongshim was another one of the latecomers to the game. However, since ramen was a low-priced product, only the leading company that already controlled 80% of the entire ramen market was able to make profit through the economy of scale, and all the latecomers suffered losses. Nongshim continued to lose money for 4-5 years due to its poor market share, and even the survival of the company itself came to be in question. The founder and CEO of Nongshim, Mr. Choonho Shin, and his

executives had to invent a special approach to save the company.

Visualization of the Future in Terms of a Non-Ramen Product

Chairman Shin and his executives thought that a head-on collision in the field of ramen was not the way to go. Instead, they began to visualize the future of the company in terms of a non-ramen product that can roundabout the head-on collision. Nongshim's thinking in time-streams was as follows: If this new product succeeded and brought in money, the profits could be invested in improving the quality of the ramen to increase its competitiveness, which would then lead to a larger market share that would resuscitate the company. Nongshim began to search for a product that was not ramen, but still could use the distribution channel in common with ramen. Nongshim came to think of a snack food for children. Unlike adults, children do not feel satisfied with three meals a day since they are still growing. So children enjoy snacks when they are studying or at play. Nongshim selected children as the target consumer for its new product, and started studying what the most popular snacks were. At the time, children enjoyed popped rice, made in a popping machine on the streets by vendors, and snacks that they could buy in stores, such as donuts fried in oil, and cookies. According to the study by Nongshim, eating too much greasy snacks fried in oil led to stomach troubles and diarrhea. And cookies that usually contain a higher amount of sugar were not only expensive, considering the economy of the times, but also had the disadvantage of causing cavities and poor appetite in children due to the higher amount of sugar. In contrast, popped rice did not include any oil or sugar, and therefore no undesirable ingredients for children's health, and since it was of 100% grain, it was considered beneficial for the health of growing children.

After considering these facts, Nongshim decided to mass-produce a popped-rice-type snack in factories, which had until then only been produced in small-scale on the spot by street vendors. But while the most popular popped snack was popped rice, the Korean production of rice did not even

reach 60% of the national consumption. The Korean government had been importing flour from the United States, trying to encourage the consumption of flour-based foods. Nongshim decided to take these conditions into account and produce a popped snack with flour as the main ingredient. The only question was: would the children indeed like the flour-based snack as much as popped rice? So Nongshim decided to add another ingredient to the flour to create a new taste that would be better than that of popped rice. Nongshim's development team went around countless restaurants specializing in flour-based foods within Seoul, to find the ingredient that would be the perfect match with flour. After several days of searching, the team discovered that the fragrance and taste of "prawn soup noodles" was perfect for the snack they were developing. Fortunately, prawn was abundant in Korean fisheries, and it already had a national image of being tasty as well as nutritional. Therefore, Nongshim decided to develop a flour-based popped snack including prawn as an ingredient.

Collecting Technological Information

So the basic concept for a new product was formed, but the problem was the production technology to make it into an actual product. Nongshim, which had only produced ramen so far, did not know anything about how to make snack foods. Nongshim decided to visit foreign snack markets around the world to collect technological information. After purchasing snack foods made by the popping method in Japan, Nongshim searched for machinery manufacturing companies that could make the necessary equipment for their venture. After much hard work, the company obtained information on a popping method that uses salt as a heat-transfer medium. This method, called parching technology, cuts up dough made from flour (containing crushed prawn) into small pieces, dehydrates them, then rotates them with salt heated up to 200 degrees Celsius in an oven to obtain a homogeneous expansion with a crispy texture. Nongshim ordered a parching machine from Japan and started experimentation. However,

test production using the machine did not produce the desired product. Nongshim even invited and discussed the problem with the technical staff of the machinery manufacturing company, but since they were only the makers of hardware, they did not know the detailed know-how for making snack foods using the machine properly. While this know-how could be obtained by a licensing collaboration with a snack manufacturing company, Nongshim did not have the financial capability to pay for them.

Self-Development of Technology for a Catalytic Means

Nongshim decided to discover the know-how involved in the production of popped snacks through experiments by in-house engineers. All through the experimentation the parching machine produced countless different types of inferior products, depending on the meteorological conditions such as ambient temperature and humidity. Some were not popped at all, some were not popped enough, and there were even some that were burnt from too much heat. For each inferior product, the researchers conducted countless experiments to find its cause and how to eliminate the problem. Through these experiments, the researchers found that the homogeneous expansion of the pieces of dried dough depend on the following four variables: (1) the amount of protein in the flour used for the dough, (2) the amount of moisture remaining in the dried dough that is to put into the parching machine, and (3) the temperature of the salt, and (4) the time spent in the parching process. The research team resolved to find the optimal values for these decision variables through searching experiments. Remembering the story of Thomas Edison who finally found the material for the filament of the light bulb after thousands of experiments, the researchers continued to experiment tirelessly, sleeping by the machine at night, disregarding even Sundays and holidays.

The flour expended during these experiments amounted to more than 80 truckloads at 4.5 tons each. The cost was a difficult burden to bear, considering the financial situation of Nongshim at the time, but Mr. Shin, the

founder of the company, continued the material and emotional support. On December 1971, after more than a year had passed, the long-awaited new product, the popped flour snack, was born and christened "Sae-oo-kkang"(Prawn Crackers). In Korean, "sae-oo" means prawn or shrimp, but the last syllable of the product, "kkang," has no particular meaning. The final syllable was added because it was easy to pronounce, even for three-year-olds. It is said that the hint for the name came from Mr. Shin's (then) three-year-old daughter. When singing the song "Arirang," the child was unable to pronounce the last syllable of the repeated word in the song, "rang," so sang "arikkang, arikkang" instead. Prawn Crackers, which was tasty without containing sugar and grease which laid undue stress on one's digestive system, became a hit with child and adult alike.

Release of the Energy from the Roundabout Accumulation

The kinetic energy of the eagle following the *Brachistochrone* curve began to be released. The success of Prawn Crackers was immediately shown in Nongshim's sales figures. The total sales of the company increased by 350% within only 3 months of developing the new product. While the rotation period for accounts receivable had been about 3 months, it was reduced to about 20 days on average after the advent of Prawn Crackers. This was because most of the transactions for the highly popular snack were made in cash. Some buyers even begged for Prawn Crackers, carrying their cash in advance. In Korea in the 1970s, the practice of selling popular items in tandem with less popular ones was possible and in vogue. So Nongshim sold one box of Prawn Crackers only if the buyer bought five boxes of ramen as well, and consequently the sales for ramen increased as well. At that time, if a truck carrying Prawn Crackers started for a regional office, more than ten bicycles could be seen frantically following it. They were retailers who were following the truck on bicycles to lay their hands on the Prawn Crackers as quickly as possible. If they did not have the popular Prawn Crackers, the retailer could lose the

patronage of his juvenile consumers.

Thanks to the success of Prawn Crackers, Nongshim was able to develop other new products, and could invest more money for the infrastructure and quality improvement. After the arrival of Prawn Crackers, different snacks using the same ending syllable 'kkang' such as "Gamja-kkang"(Potato Crackers, December 1972), "Yangpa-kkang"(Onion Crackers, August 1973), and "Goguma-kkang"(Sweet Potato Crackers, December 1973) were introduced, starting the "Age of Kkang" in Korean snack food history. Thanks to the continued improvement in quality, Prawn Crackers is still a bestseller among Korean snack foods today, even after 30 years.

V. The Case of Nongshim (II)

A Challenge from an Environmental Change

Nongshim began to invest the profits from Prawn Crackers to raising the quality of ramen and increasing its distribution channels. As a result Nongshim's market share in ramen rose to 30% by 1975. It was the time when the nation's total production of rice(Korea's staple food) was less than 60% of the total consumption, and hunger was widespread. During these hunger-prevailing days ramen allowed the poor to take care of an entire meal at a cheap price, and consequently ramen consumption continued to grow about 30% each year. Then, a research project undertaken by the Korean government to develop a strain of rice with high yield, finally bore fruit. In 1977, the rice strain I.R. 667(International Rice No. 667), called "Reunification Rice," solved the food shortage in Korea, and the total production of rice finally surpassed the demand, to eventually lead to overseas exportation. Also, the national income level rose as the result of the economical development that the government had been promoting. The time had passed when people who wanted rice but couldn't afford it ate ramen as a substitute. This development was a serious threat to ramen producers. While the leading producer of ramen,

Nongshim kept in their mind that this phenomenon was manifested in Japan when the national income level reached \$1600. Nongshim waited until 1982 when the Korean national income level reached that point.

Cultural Products as Catalytic Means

However, Nongshim decided as its "container," not the "cup" that had been successful in Japan, but rather a "bowl." This decision resulted from the opinion that a bowl was more fitting for the Korean culture. The Japanese eat while holding the rice and soup bowls with their hands, but Koreans eat with all the dishes on the table. So Nongshim decided to develop "Sabal-myeon," meaning "bowl ramen."

During the winter of the first year the sales figures for Sabal-myeon were high, but they dropped sharply with the arrival of March. Research showed that the reason for the seasonal fall in sales was due to the removal of stoves where water could be boiled. So Nongshim developed a hot water container in tandem with an electrical appliance company, and distributed it to the stores. Despite such efforts, the sales growth of the unfamiliar new product was slow, because Koreans at that time were not used to instant foods. To overcome this obstacle, Nongshim decided to alter the concept of the container ramen from an indoor food to a treat for outdoors, such as sports stadiums. Since the outdoors meant cool winds, the design of the taste of the soup was to be changed from light to spicy.

In 1988, Nongshim volunteered to become an official sponsor of the 24th Seoul Olympic Games, and supplied its "container ramen" to all the sports venues. As the sight of countless athletes and spectators from all around the world eating Nongshim Sabal-myeon was broadcast on the American channel NBC, the Nongshim "container ramen" started its movement toward becoming an international brand.

Nongshim's market share continued to rise and passed 50% in 1985, but the company did not rest on its laurels. Instead, it started designing to make a

product that would show Korean culture. Because ramen originated from Japan, its basic flavor was light, fitting the taste of the Japanese consumers. Nongshim decided to make a ramen that would have a traditional Korean taste, hot and spicy, combining more than 60 ingredients such as red pepper, garlic, and green onion. "Shin Ramen," launched in 1986 as the result of this effort, has become one of the most successful products in Korea's processed food history. Shin Ramen has become a truly global brand, and it is exported all over the world to nations such as China, Japan and Russia. One of the reasons why Nongshim has paid so much attention to cultural aspects in product design may have to do with the traits of its founder Mr. Choonho Shin. Since his childhood Mr. Shin was given an education that respected the oriental tradition and culture.

Trust as Catalytic Means

Until 1979 Korean ramen producers used cow fat imported from the U.S. to make their products. They later found out that the cow fat was classified for industrial use in the United States. According to the rules of the World Health Organization, only the cow fat that is harvested from a healthy cow and recognized as fit for human consumption by a veterinarian can be used for food products. There was a shortage of the first grade edible tallow that fulfilled this standard. Korean companies were unable to import anything else than the industrial cow fat. So they used the imported cow fat after several steps for refining it. However, Mr. Shin of Nongshim, who lay great importance on honesty and integrity, said "Even though we refine it thoroughly, how can we use something that the producers have labeled as industrial use?" He instructed the company to give up cow fat and find a substitute. Nongshim exchanged the cow fat with vegetable oil, putting up with a rise in cost of \$84 per ton.

Ten years passed and the news that industrial cow fat was being used in food products by some ramen makers exploded through mass media on

November 4th, 1989. Nongshim, which had already started using vegetable oil as a substitute ten years earlier, was safe from the nation-wide "cow fat crisis." Nongshim's design to sacrifice the maximization of short-term profit for a long-term optimization allowed the company to avoid the crisis in ten years. As a result Nongshim has steadily developed its corporate image as a company of integrity.

VI. Conclusions

As we have noticed through the Nongshim cases, roundabout approaches seem to be effective: (1) when for some reason, a company is already in a crisis and needs to create a momentous new business to escape that crisis; and (2) when a change in the environment threatens the current competitiveness of the company, and an appropriate response is needed. However, in either case the roundabout approach has its drawbacks. These drawbacks come from the nature of the approach as a tool for long-term optimization. Most long-term optimal goals can only be achieved at a cost of short-term benefits. In order for a long-term optimum to be realized, the short-term benefits should be sacrificed. Thus, the organization pursuing a long-term goal should be in possession of the willingness of the people to wait for the long-term returns to realize. This willingness belongs to what they call the organizational culture.

Geert Hofstede interpreted the Confucian values of thrift, savings, patience, and self-discipline as the long-term orientation that puts the benefits of tomorrow ahead of those of today (Hofstede, 1992). Korea is a country where the Confucian culture is still very strong. Most Korea's successful businesses such as the semiconductors of Samsung, the shipbuilding of Hyundai, the mobile telecommunications of SK, etc. may owe their successes to the business practices of pursuing long-term goals, while forgoing short-term profits.

Institutional systems such as a company's financing methods combined with the performance evaluation systems are also important factors affecting the

viability of the long-term oriented managers. If the performance evaluation system favors only short-term financial performance, the managers may not be able to pursue long-term goals. So far in Korea, business financing through banking loans has been more prevailing than through the stock markets. This may be one of the reasons why the roundabout, long-term oriented approaches have been so successful in Korea.

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