

# Using Technology to Tap New Markets – IP: Pillar of Corporate Strategy –

Interviewer: Okabe Hiroshi

CANON Inc. was quick to make intellectual property (IP) a pillar of its corporate strategy. Canon placed second only to International Business Machines Corp. (IBM) in terms of the number of patents registered in the United States in 2005, becoming the top Japanese firm in that field. Globally, Canon is now widely known as an IP giant. This originates from Canon's corporate culture since its founding of sticking to its own original technologies in developing new markets. Canon thinks an R&D project is still incomplete even after a product resulting from the project is put on the market. Canon believes the project is over only after IP rights are established for the technology used in that product. This philosophy forms the cornerstone of Canon's IP strategy. In an interview with Japan SPOTLIGHT, Tanaka Nobuyoshi, a senior managing director of Canon, discusses the company's and the Japanese government's IP strategies. As head of Canon's Corporate IP & Legal Headquarters, Tanaka is responsible for the company's IP strategy.



## Defend Japanese Industry's Int'l Competitiveness

The Japanese government launched a Cabinet-level task force led by the prime minister, the IP Strategy Headquarters, in 2003. This clearly shows that the government has placed IP as one of Japan's national strategies. How do you assess such a policy shift?

Tanaka: Japan became a major global base of production from the 1970s to 1980s as a whole, taking in US-developed technologies. This was true of the automobile and semiconductor sectors, for example. (As Harvard University Professor Ezra Vogel put it,) *Japan As Number One* was once a catch phrase for the country. In response, the United States strengthened its IP rights such as patents. It allowed foreign firms to use US patents but required them to pay royalties properly. Under this policy, some Japanese corporations became the target of US offensives. Affected by Washington's pro-patent policy, Japanese firms became increasingly aware that they must give priority to IP rights. From the 1990s onwards, the Asian region, backed by cheap labor costs, rapidly grew into a key production base replacing Japan. Considering how



Photo: Canon Inc.

to manage such a trend, Japan came to position the protection and development of IP as its national strategy from the perspective of defending the competitive edge of its industries, as the United States once did.

**China is now called the world's factory, while Japan faces growing voices of concern about the hollowing out of its production. Behind Japan's move to seriously tackle the IP issue as part of its national strategy was a sense of crisis in the country's industrial sector. What kind of significance do you see from the corporate point of view in grappling with IP as a national strategy?**

Tanaka: Even if a Japanese corporation accuses a foreign company of infringing its patents, the accused rival will not necessarily accept the claim immediately. Japan's IP rights can be protected internationally only after the country, as a sovereign state, has established its IP system and shown its basic concept about it. I could say it was inevitable in terms of historical trends that Japan, which is poor in natural resources, would come to make IP protection a national strategy.

## Unusually Fast Moves on Legal Front

**As part of its IP strategy, the Japanese government established the IP High Court in April 2005 and also promoted efforts to speed up patent examinations. How do you assess these moves?**

Tanaka: After the Basic Law on IP was enacted in 2002, as many as 22 IP-related laws were established by 2005. In 2006, three more related laws were legislated. In addition, four more bills were submitted to the latest Diet session. I have never seen such a fast passage of so many bills in such a short period of time. It can be given high marks as a result of enormous efforts by the govern-

Photo: Canon Inc.



Canon engineers developing a digital camera using a 3D-CAD system

ment ministries and agencies concerned. This shows that the IP issue is a matter of urgency for Japan today.

#### What do you think are the remaining issues to be resolved?

**Tanaka:** The government's IP strategy can be highly appreciated in that it spelt out policies in a crosscutting and comprehensive manner from a broad point of view. There really remain some problems yet to be solved in specific terms. But the government has worked out IP promotion plans. Under the plans, the government is supposed to review the policies and make up for uncovered points. The government has also increased the number of patent examiners to speed up screening work. What is important from now will be how to achieve international standards and wipe out pirated goods, among other things. Businesses are highly concerned about how the criteria for patent examinations are going to be unified globally. The United States has adopted the first-invention principle in patent examinations

while Japan and many other countries have adopted the first-to-file principle. Given such a difference in the patent examination framework, no global patent can be registered so easily. But the international community has already begun efforts to put feasible reforms into practice in a step-by-step manner. One example is the unification of formats of patent application documents.

## Write Invention Ideas Rather Than Reports

**I hear Canon was sued over its photocopying machine technology by Xerox Corp. of the United States that had seized an overwhelming market share but that Canon fought the court battle and won the patent suit. Canon was one of the first Japanese corporations to launch an in-house team of patent specialists and link**

**its IP strategy with other aspects of its corporate management. In that sense, I think Canon has played a leadership role in Japan's industry in promoting IP management. How does Canon see the role played by IP in its corporate management?**

**Tanaka:** Canon made a corporate debut as a venture business and thus has a strong awareness about patent rights. Since its founding, Canon has maintained a two-pillar management philosophy – “respect for human dignity” and “the use of its own technology in competing with other firms.” Canon developed the NP (New Process) electrophotographic technology to establish a new genre of photocopying machines. Such original technologies as the laser beam and ink jet have grown into pillars of Canon's core businesses. Digital cameras have also turned into a major business item. Canon's businesses were all created by itself. Canon has had a strong awareness to protect Canon-developed technologies as its property rights. This

philosophy forms Canon's corporate climate. Canon has made what was devised by Canon its own property. I think such a stance has led to a boost in the number of Canon's patent applications. Canon continues to urge its researchers and developers to be practical, telling them to "make up invention ideas rather than reports" and "read the official IP gazettes, not documents."

## Centralized Control of IP Portfolios

**How does Canon manage and operate its IP in actual corporate management?**

**Tanaka:** Canon has centralized its control of IP amid the globalization of R&D and production bases. Our IP headquarters is in charge of all contracts concerning IP matters involving not only the head office's R&D division but all business departments and those of Canon's group firms. From the standpoint of total optimization, the Corporate IP & Legal Headquarters is in control when Canon supplies its patents to other firms or when Canon concludes cross-licensing agreements with other companies. Some companies have come to manage their financial strategies in an integrated manner amid business globalization. Canon has also centralized its IP management in a bid to maintain its IP portfolios properly. What is more characteristic of Canon is that it was one of the first Japanese companies to establish an executive post in charge of IP matters, which is my current job.

**Your Corporate IP & Legal Headquarters comprises as many as 400 specialists. And people say many students majoring in technology wish to work for Canon's IP headquarters. What kind of human resource development policy do you have?**

**Tanaka:** It is a very difficult task to develop human resources. As a matter of fact, we have done it – teaching how to fill in the documents required to file for patents. But knowledge alone is insufficient. Personnel also need practical training in coordination, negotiations and court battles over IP issues. Patent applications were once the main mission for the IP headquarters. But now, the weight has shifted to duties concerning the use of IP such as responses to leakage of technology or lawsuits. Being armed with knowledge alone is not sufficient. Staff members at the IP headquarters need to be well versed in affairs at frontline business departments more than ever. The IP headquarters has dispatched staff to various business departments on a rotation basis. If sent to an affiliate, they are trained to deal with not only patent matters in their own area of expertise but also matters of design and trademark affairs.

## Well-Balanced Rewards for Inventions

**An increasing number of corporate researchers have filed suits in Japan seeking huge remuneration for patents acquired from their inventions. To secure capable researchers, many Japanese corporations have come to provide rewards or offer better working conditions for researchers whose inventions have helped to increase corporate earnings sharply. How does Canon treat inventions by its staff researchers?**

**Tanaka:** We have introduced our own rules on inventions by researchers since the 1960s. We have lifted ceilings on rewards. I think Canon was the first company in the Japanese industrial community to establish such rules. I do not think researchers going to court were

dissatisfied, from technological aspects, with their companies' assessment of their inventions. I think behind the spate of lawsuits filed by corporate researchers seeking huge rewards for their inventions might lie dissatisfaction with their treatment in terms of pay and benefits or personnel management involving promotions. I suppose such suits might have been motivated from matters of personnel management or corporate administration. What is important is to take the whole corporate organization fully into consideration in a well balanced manner before providing a huge amount of remuneration for employees' inventions. A corporate employee engaged in R&D can receive rewards for his or her inventions. No invention rewards are given to employees who work in personnel, sales or public relations sections. But there have been a good many employees whose innovative sales know-how or manufacturing techniques helped to push up corporate earnings. One such result is the so-called cell production system that improved Canon's productivity. A business success cannot be brought about by R&D alone. It is the result of all-out corporate activities in various fields such as personnel management, public relations and sales, together with technological aspects. Rewards for inventions must be given after fully looking into the whole corporate balance.

**Some say capable researchers will be head-hunted by rival firms unless they are given handsome rewards. Or, it may lead to a brain drain, with promising researchers going abroad for the last time.**

**Tanaka:** Even at Canon, a major R&D result that might lead to the development of a new business field can be produced only once every 10 years at the most. Therefore, some researchers cannot produce such key results during their corporate research career. It is not a surprise. But major fruit is usually produced after cooperative work among many researchers or after learning

Figure 1 Number of Canon's patents by year



Source : ©2006 Canon Inc.

lessons from various failures. To enter corporations and engage in R&D is to bear obligation and take responsibility for producing patents. It is unreasonable for them to argue for their rights only. I do not think there will be a brain drain at Japanese corporations simply because invention rewards are small.

## Business-Academia Collaboration

**Various technology-licensing organizations are promoting efforts to transfer universities' technologies to private-sector firms in order to strengthen the cooperation between the business and academic worlds. State-run universities are experiencing a change in their awareness about technology transfer after they were made independent administrative agencies by law. Do you know of any specific examples of successful business-academia alliances? What challenges do you feel remain in order to promote cooperation between businesses and universities?**

**Tanaka:** It is very important to strengthen business-academic collaboration in the field of IP strategies given the fact that Japan, a country short of natural resources, is required to import resources from abroad, process them, and sell the processed goods abroad if it is to survive. Canon has established a cycle of turning results from R&D projects into new business fields and passing the profits from them on to fresh R&D programs. When applied to the national level, the cycle calls for putting results from universities' R&D projects into new technologies or new businesses through business-academic collaboration, collecting money from corporations benefiting from them in the form of taxes or funds for commissioned research, and then earmarking such money for R&D expenses at universities. What is important is to overcome the conventional perception gaps between universities and corporations, and make their cooperation smoother in order to establish a national-level IP cycle. To achieve the target, only writing research articles is not enough for universities. They are required to acquire patents or tighten their grip on rights to their R&D results.

**What are the specific challenges for smoother business-academia cooperation?**

**Tanaka:** Many R&D results at universities are given basic patents, relatively speaking. Some Japanese universities only acquire domestic patents and do not try to obtain patents abroad. This is one of the major problems in strengthening Japanese industry's international competition. A Japanese corporation is required to pay royalties to a university if it uses the university's patented technology to produce some goods for sale on the domestic market. But it is a major problem if that university has not obtained a patent abroad for the same technology. A foreign corporation is not required to pay royalties to the university if it produces goods with the technology and sells them outside Japan. If the Japanese firm tries to sell the products abroad, the foreign maker's goods are more competitive thanks to the absence of royalty requirements. Japan's industry loses international competitiveness due to technologies developed by Japanese universities. University researchers need to manage their patents from a broader point of view – that is how to strengthen national competitiveness. **J.S**

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