

# 4

## Corporate Patent Strategy

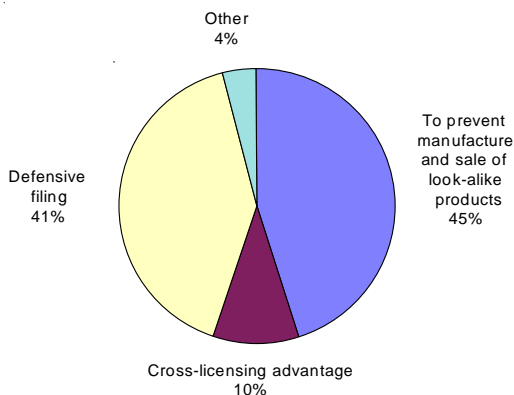
What are Japanese companies' patent strategies? Looking at their reasons for filing, 45% cited the desire to block the development and sale of look-alike products. In effect, they want to keep other companies from making the same things that they are making. This is the traditional reason for obtaining a patent.

Another 10% said that they obtain patents because they expect them to work to their advantage in cross-licensing arrangements. Cross-licensing is often needed in manufacturing sophisticated products. Yet at the same time, the relationships among the parties and patents are not always clear, with the result that companies try to hold as many patents as possible, to strengthen their negotiating hands. In some recent cases, companies have refused to license technology to companies that do not have patented technology of their own to cross-license. It is thus very much to a company's advantage to hold patents on technologies that other companies will want.

In addition, some companies hold patents for defensive reasons. These are patents on technologies that the company does not plan to use itself, but wants to prevent other companies from using. Thus, they file a patent application to stake out a claim, and to keep the technology out of competitors' hands. Some 41% of patent filings are for defensive reasons. Even if Japanese companies obtain good patents, about 65% of these technologies are not commercialized right away. Yet the idea of holding exclusive rights that you do not plan to use runs counter to the spirit of the patent system, and may even be in violation of the Anti-Monopoly Law. (*Chart 4-1*)

### 4.1 Management Strategy

Corporate patent strategy in the 21<sup>st</sup> century has to cover all four bases of management strategy, technology strategy, international strategy, and legal strategy. It is instructive to look first at management strategy.

**Chart 4.1 Why Japanese Companies File Patent Applications**

Source: *Corporate Intellectual Property Right Trends*, JPO, March 1998.

Patents are an important management tool. U.S. companies, for example, have long seen patents as an important weapon in their management arsenal. Patent rights are very useful in corporate management, and good patents can be formidable competitive weapons. Conversely, it may be very difficult for a company to survive if it is the other side that holds these weapons.

There is no point to patents that do not help management. In the United States, management and shareholders alike look first to see if a company's patents are contributing to its bottom line. As such, a company's patent department - which is charged with obtaining and monitoring patents - is moving from being a cost center to being a profit center. Happily, patents are also a form of "goods," and it is possible to earn royalties on both patents and products.

### Hitachi's Patent Strategy

Hitachi earned 455 million dollars in patent royalties in 1996. In the same year, it paid some 91 million dollars in patent licensing fees. Thus, it made a profit of about 364 million dollars that year in its patent trade, and patents made an important contribution to the company's bottom line. Indeed, Hitachi is the Japanese company that has earned the most from patents. Why is Hitachi able to earn so much from its patents?

When Hitachi was founded, its first President, Namihei Odaira, was a firm believer in the idea that "inventions are an engineer's lifeblood," and he made a

strong effort from the very beginning to encourage the company's inventors. Seeking to ensure that Japan had its own technology, invented by its own people, he soon had a staff of specialists working on patents. From the beginning, he urged his technical people to apply their engineering skills to inventing things. He was very much of the opinion that they should devise their own technology, and this same spirit animates the company even today, accounting for its reputation for good technology.

After the Second World War, Hitachi, like everyone else, turned to foreign technology in an effort to close the technology gap. Gaining access to such basic technologies as those used in semiconductor manufacture, computer production, television manufacture, and nuclear power generation, Hitachi worked hard to improve upon these technologies and to develop the ability to compete successfully. And it then aggressively sought to patent these improvements in Japan and overseas.

In 1970 alone, Hitachi filed 20,000 patent applications. All of the company's technical achievements were reported to the patent department, which then checked them and filed the appropriate applications. The emphasis was on sheer number more than the quality of each patent. Of course, Hitachi was not alone, and all Japanese companies competed fiercely in the patent area, each company filing large numbers of applications.

Also in 1970, Hitachi adopted the policy of opening its patents. At the time, the company's patent trade was very much in the red - it earned a mere 5 million dollars but paid out 95 million dollars in licensing fees, putting it about 91 million dollars in the red overall. Hitachi recognized that this situation was untenable and decided that, once it had obtained a patent, it would make the technology available to other companies at a fair price. In part, this would help to recoup some of the massive investment needed to develop new technology. Hitachi was thus the first Japanese company to open its patents to other companies.

The company ran into its first patent problem in 1979, when Westinghouse charged Hitachi, a Hitachi-GE joint venture, Siemens, and a few other companies with patent infringement and petitioned the U.S. ITC to block the import of circuit breakers from Japan. Although Westinghouse had sought to stop imports from Japan on the grounds that Hitachi was infringing on its patents - and although the ultimate outcome was a ruling that the Westinghouse patent was not valid - Hitachi decided to counter-attack by seeing if Westinghouse might not be violating some Japanese patents. Hitachi already had several dozen U.S. patents for electrical power transmission equipment, but it found that they were all patents for features distinctive to Hitachi products and were not the kind of basic patents that other companies would have to use. There were thus no grounds for counter-suing Westinghouse for patent infringement.

This was a bitter lesson for Hitachi, and it initiated a campaign in 1981 to double the number of its strategic patents. Patents are valuable, of course, when the company uses them, but their true value shows up when other companies have no choice but to use them. Hitachi realized there was no point in obtaining a mountain of patents if they were not going to give the company any competitive leverage in crunch situations.

Hitachi then divided its strategic patents into three categories, designated gold, silver, and bronze. Those that other companies could not get around and that covered world-class, basic technology were in the gold category. Hitachi was one of the first companies to recognize the value of strategic patents, to beef up its patent effort, and to make patents part of the overall corporate strategy. As a result, its patent bottom line gradually improved until it went into the black in 1985.

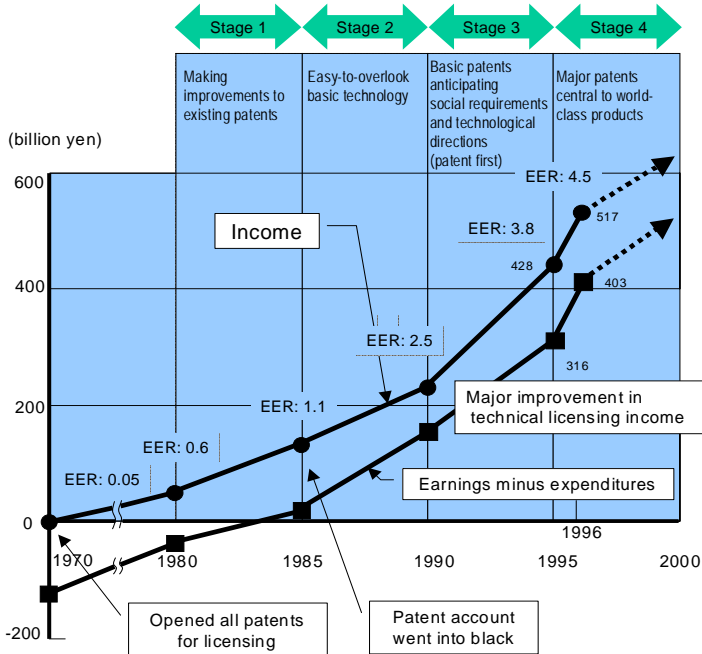
Hitachi's second big patent problem was in 1986, when Texas Instruments sued a total of nine Japanese and Korean semiconductor manufacturers. Although the Japanese companies had signed a contract with Texas Instruments in 1970, to cover patent licenses, the contract came up for its third renewal in 1986 when the semiconductor industry was deep in recession and there was considerable friction between Japan and the United States over semiconductors. In the corporate negotiations, Texas Instruments argued that the licensing fee was too low, that it could not renew the contract on those terms, and that it wanted to set the licensing fee for DRAM manufacturing technology at 10% of sales. It then filed suit with the U.S. ITC and with the Texas courts. Hitachi counter-sued in the Texas courts and in Japan, charging Texas Instruments with infringing upon Hitachi patents. In the end, Texas Instruments had to admit the justice of Hitachi's charges and the two sides settled out of court, at a licensing fee considerably less than Texas Instruments had originally asked. This was a major victory for Hitachi's strategic patent campaign.

In 1985, Hitachi embarked upon its second campaign to double the number of strategic patents. This was a program to patent basic technology that might otherwise be overlooked or taken for granted, and it was crucial to ensuring that Hitachi's patent trade stayed in the black. A third campaign was launched in 1990, to double the number of strategic patents yet again. Working under a "patent first" slogan, this was an effort to patent the basic technology that would be needed to meet emerging market requirements and open up new technology streams. Because it had its own strategic patents, Hitachi was able to beat back a suit by Motorola, which was trying to force Hitachi out of the microcomputer market.

The fourth campaign to double the number of strategic patents was initiated in 1995. This was an effort to gain global patent coverage for the company's world-class products and technologies. Hitachi has worked hard on its patents, and it is

today firmly in the black in its patent trade. This is one company that sees patents as a key managerial resource, to be developed and exploited. (Chart 4.2)

**Chart 4.2 Hitachi's Patent Strategy**



Note: The earnings:expenditures ratio (EER) is calculated by dividing patent license earnings by patent license expenditures.

## Making Patents Available for a Stronger Industry

Momofuku Ando, of Nisshin Food Products, is one person who has succeeded with the strategy of obtaining patents for his instant-noodle processing technology and then licensing that technology to other companies, so that more of them would enter the market and thus cause the segment to grow. Nisshin Food Products is a venture start-up that Ando founded from scratch. After its first success with chicken noodles, the company found that every time it put a new product on

the market, others quickly followed, with look-alike products. The history of the instant-noodle industry is a history of intellectual property rights.

When Nisshin Food Products first rolled out its chicken noodles in 1958, it proved an immediate hit, provoking a spate of copycat, same-name products from other companies. Although Ando was prompt in applying for patents on the manufacturing process and for trademarks and other protection for the packaging, he still found look-alikes from other companies.

The patent on the manufacturing process was finally granted in 1962, making it impossible for other companies to make and sell flavored instant noodles without the permission of Nisshin Food Products. As a result, many of these other companies criticized Nisshin Food Products, accusing it of hiding behind its patents. Obviously, people were still not that aware of the importance of intellectual property rights. This same process was then repeated when Nisshin Food Products came up with its very popular Cup Noodle products. When the company obtained its patent on chicken noodles, it was intending to use the patent to keep other companies out of the market. But it soon realized that it would end up isolated, and ostracized within the industry. It also realized that having a large number of companies competing in the market would cause the market to grow, to everyone's advantage. Just because a process is patented, it does not mean you have to shut it up forever. Rather, the company realized the dangers of becoming complacent if it relied too much on its patent protection and decided to license the technology. Chairman Ando found that licensing was the path to prosperity.

## Seeing Patents as Products and Earning from the Rights

Patents can contribute to a company's bottom line. In fact, those that do not contribute to the bottom line are pretty much useless. It is very expensive to buy technology. When Texas Instruments licensed the Kilby patent for integrated circuits to Japanese companies, Japanese newspapers estimated that, at a 3% royalty fee and with the semiconductor market worth some 25 billion dollars a year, the licensing alone would cost about 727 million dollars a year. Over the 20 year life of the patent, that adds up to about 15 billion dollars. In the United States again, IBM's licensing operations are over 600 million dollars in the black. A world leader in computer-related patents, IBM fully intends to use these rights to further improve its bottom line. There is big money in patents.

There are a number of Japanese companies that have decided to make money by licensing their technology. NEC, for example, has set up an Intellectual Property Division with a staff of 20, and charged it with becoming a patent profit center. At present, NEC is about breaking even on its patent trade, yet it has set itself the target of being 91 million dollars in the black in three years. Fujitsu is another

company that is aware of the value of patents, and it has adopted the policy of aggressively protecting its valid patents and being quick to sue anyone who infringes upon them.

Hitachi has taken the strategic position that patents are products and, as mentioned, earns about 364 million dollars a year from its patents. With a total staff of 350 at the main offices, Hitachi has the largest intellectual property rights department in Japan, and the company is clearly intending to earn from both its patents and its other products, and to set up a positive feedback loop by investing those earnings in still more advanced research and development.

At Ricoh, the target is to have licensing income account for 10% of current income. NTT is stepping up its effort to patent the technologies involved in new telecommunications services. And in the multimedia society of tomorrow, it is likely that even the smallest of services will entail the use of intellectual property rights and will be expected to generate income for the patent-holder.

## 4.2 Technology Strategy

In the race to secure strong patents, there is fierce competition among all players to develop patentable technology. Patents are a crucial part of everyone's technology strategy.

### The Great Mistake by the Father of Television

Just as filing promptly can confer considerable advantages, the failure to file and obtain a patent can prove disastrous. Kenjiro Takayanagi is often referred to as the father of television, but he failed to obtain a patent and paid dearly for his mistake.

Born on a farm in Hamamatsu, Shizuoka prefecture, he dreamed of being able to transmit pictures through the air and intensively researched television technologies. In 1926, when he was still just an associate professor at Hamamatsu Technical High School, he perfected the world's first electronic television. But if you ask most people who made the world's first electronic television, they will tell you it was Dr V.K. Zworykin at RCA in the United States.

Even though Takayanagi was the first to succeed, he did not tell the rest of the world about his accomplishment. He kept it a secret, because he thought that releasing word of his television experiments before he filed for a patent would make it impossible for him to obtain a patent. Thus, it was only in the fall of 1927, a year after his successful experiments, that he filed an application for patents on two methodologies: deflection and synchronization. The reason it took him a whole

year was that he went through a long trial-and-error process of writing the applications and documentation himself, because he did not have the money to pay for professional help. He studied patent law and then studied how to draw up the very detailed documentation that he wanted to submit. He had the final draft copied out by his wife.

But the U.S. practice was to file for a patent on the basis of the idea alone, and not to wait to do experiments or trials. RCA's Zworykin filed for patents as soon as he had the ideas for the iconoscope camera and cathode-ray tube receiver. And he received his patents. Later, Takayanagi realized his mistake, and around 1930 he switched to applying for patents simply on the basis of ideas.

## Patents Encourage Technological Development

The patent system is essential for the generation of new ideas and new technologies. Technological development would not progress in an environment in which people were free to copy every promising idea that came along and if there were no major advantages in having the idea first. This has been borne out by long centuries of experience. Modern patent law is said to have its roots in the 1624 Statute of Monopolies in the U.K. At the time, British technology lagged behind that of continental Europe, and the Statute of Monopolies was enacted to encourage inventors and to enable Britain to catch up. With this patent system, Britain developed its own proprietary technology and commercialized a number of new technologies, including mechanical looms, powered looms and the steam engine. This was the start of the industrial revolution.

The patent system was further developed in the United States, which declared its independence from Great Britain in 1776. Like Britain before it, the United States was then technologically backward compared to the continental European nations, and American leaders were painfully aware of the need to develop an independent technological base if the new nation was to be able to keep its independence and to make its own way in the world. This is eloquently demonstrated by the fact that patent protection for inventors was written into the Constitution.

There has been considerable discussion about the actual workings of the patent system, with some who contend that patents should not confer exclusive rights on the inventor and others who argue that conferring monopoly rights will lead to a vast outpouring of good ideas, thereby shortening the useful lives of machines and proving uneconomical in the long run. But it is only when you are secure in the knowledge that your idea will be recognized as yours and yours alone, for a set period of years, that you can truly devote yourself to the creative process. History has shown that this system encourages the emergence of one new idea after another. It was thus the consensus in the recent WTO negotiations, that it is to

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everyone's advantage to ensure that patents are observed worldwide and to protect the fruits of human intellectual endeavor. This is also why the WTO is structured so that countries that do not observe global patent rights are judged to be unqualified to take part in free trade.

## **New Drugs Save Lives**

The scope of intellectual property rights protection has gradually been expanded. For example, Japan instituted the necessary legal amendments to make pharmaceuticals patentable in 1975, and Japanese pharmaceutical companies started to make a determined research and development effort in 1976, after the system of patents for substances was established.

This was a mere two decades ago, and because the adoption of the patent system for drugs made it impossible to produce copycat products, the Japanese companies had no choice but to beef up their R&D. In the last 20 years, Japanese companies have improved their technical positions, such that they now rank third worldwide, behind only the United States and Great Britain. If good pharmaceuticals can be developed, it may be possible to cure formerly incurable illnesses. Stomach ulcers are a case in point, and the development of new pharmaceuticals has now made it possible to cure many patients who would once have required surgery.

In the 45 years from 1947 through 1992, the Japanese life span has grown 20 years. It is estimated that at least half of that is due to the availability of newly developed pharmaceuticals. Yet drug research is a high-cost, high-risk business. It may take 10 years and cost over 91 million dollars to develop a single new drug. It would be impossible for pharmaceutical companies to invest that kind of time and money in new product development if pharmaceuticals were not patent-protected and if there were no guarantee that the investment could be recouped on the market. The patent system is thus extremely important to the pharmaceutical industry.

## **Raising the Reward Level for Inventions**

Patents also encourage technological development within the company. Patents motivate employees and provide incentives for the people in research and development. Yet for this to work, it is essential that the company should properly reward its people for their inventions.

The tradition in Japan has been that patents on employees' inventions are compeleyesd and paceutical in-

But these rewards were generally nominal, and it often happened that the rewards for subsequent patent use also amounted to little. The company position has been that the research and development that led to the invention and the filing were all done as part of the person's job and that the basic payment was already covered by the person's salary. To provide substantial rewards for patents would, in effect, be paying someone twice for the work, which would not be fair to the employees who do not have access to such incentives.

This approach may work for technologies and inventions that simply represent improvements over the existing state of the art, and where work is often done in teams, but it is essential that companies be prepared to reward the individual researchers who come up with significant new technologies that contribute substantially to the company's bottom line. The time is past when just putting the researcher's name on the patent could be seen as adequate reward, and it is imperative that corporate patent incentives be beefed up, to motivate more research and to enhance the company's international competitiveness.

In electronics, medicine, chemicals, and virtually every other industry, the lead-

Takeda Chemical Industries, a system was adopted in 1997 whereby a researcher who comes up with a saleable new pharmaceutical is eligible for sales-pegged awards of between 68,000 and 455,000 dollars, over a five-year period.

## Patents Protect Technology

The company that has its own proprietary technology is in an advantageous position, and it is important that inventions be patent-protected. Because it costs a lot of money for venture start-ups to build factories and to employ workers, one common strategy is to concentrate on selling their brain-power. In such cases it is essential that they use the patent system wisely, so that their hard-won inventions are not copied.

When an SME invents a new product or technology, big companies will often go to them, proposing joint development, offering to handle sales, or otherwise wanting a piece of the action. It is rumored that there have been cases in which an unwary SME revealed the patent details to the big company, which then outsourced production to one of its subsidiaries, leaving the SME that invented the product out in the cold. SMEs are increasingly aware of the need to protect their inventions and technologies with patents.

## Learning Technology from Patents

Patent information is becoming increasingly valuable, since it represents a treasure trove of technology. A recent study by the European Patent Office found that European SMEs waste 20 billion dollars every year duplicating research and development work that has already been done elsewhere, and that they could have accessed by simply checking the patent records. Such is the cost of failing to monitor patent information. It is definitely worth monitoring and mining patent information, both to avoid wasteful duplication and to access useful technology.

Although some people find patent information difficult to read at first, an SME needs to develop a wide range of innovative products if it wants to survive. Using patent information can vastly facilitate this process. Oddly enough, filing for a patent is an easy way to access the best technology the world has to offer because, if an inventor applies for a patent on something that has already been opened to the public or patented, the JPO will reject the application and send back a notification with information on the relevant prior patents. In effect, the patent examiner will tell the SME about the relevant technology, and the extent to which its own technology is innovative, or not.

The Japanese Patent Office currently employs 1,600 examiners. They have a vast database at their disposal, with 40 million patents in it. The first thing they

check is whether or not essentially the same invention has already been patented. Obviously, it cannot be patented twice and the application will have to be rejected if it is already patented. Looking at this information will enable the SME to judge how its invention compares. Sometimes this may lead to a decision to license that particular technology. Sometimes it may be that the two inventions only look alike but there are actually a number of significant differences that make the later one better.

In the past, applicants had to go to the JPO and go through the *Patent Gazette*s one by one, but this entire system has now been computerized and it is very easy to use the database to retrieve patent information.

### Using Patents to Track the Competition

It is also important to use patents to track the competition. If you know how far a company's patents have gone, you have a pretty good idea what the company is doing. In developing a new product, for example, a company usually starts by creating a prototype. Then it develops the production technology. It then makes the machinery and equipment, and then the parts. Only after all of this is done does it apply for the appropriate registrations. Patent applications follow the same set of steps. The development stage goes from the creation of the prototype to the development of the production process. So if a company starts filing for patents on the machinery and equipment, you know they are very close to making prototypes. Once they start making parts, mass production is not far behind. If you watch a company's patent filings, you should be able to get a pretty good idea what new products they are developing and how close they are to commercialization. If they just make a prototype and stop there, you can conclude that they will not be rolling the new product out anytime soon. Today, it is possible to monitor the competition's patent information with computer searches. The flip side of this, of course, is that other companies can monitor your activities just as easily, and so it pays to be careful.

## 4.3 International Strategy

With market globalization, patents are an increasingly important part of the company's international strategy as well. Under the WTO/TRIPs Agreement, the patent system has spread worldwide. It may be that strong relationships of trust mitigate the need to worry too much about people you deal with regularly in the domestic market, but international business is much more legalistic and you should be prepared for trouble. Indeed, patents are often your only protection in international business.

Because companies all over the world are trying to guard their profits and positions with patents, the more internationally active a company is, the more it will find other companies with patents and products that look like its own, and the more patent friction it will encounter. In fact, other Asian countries are rapidly becoming more technologically proficient, and there has been an outpouring of counterfeit products. This is a very dangerous situation. But if a company has the proper patents, it is easy to stop counterfeits from entering its home market. It is essential that all companies have watertight international patent strategies.

Both companies and their filing patterns are becoming more international. NEC has been making an effort in 1999 to get more U.S. patents than any other company, and they have effected a major increase in the number and quality of their patent filings. With the international community moving to strengthen patent protection, it is very likely that both licensing fees and damage awards in the event of infringement will go up, and NEC wants to be ready by expanding its patent assets. In 1998, NEC filed a total of 2,500 patent applications with the U.S. Patent and Trademark Office - an increase of 10% over the previous year. Of these 2,500 applications, 1,500-1,600 are expected to be granted by the end of 1999. If NEC can continue to improve the quality and number of its applications, it should be able to eclipse the two leaders (IBM and Canon) and take over the top spot for having the most patents granted in the U.S.

As part of this drive, NEC has sharply increased its budget for patent filing and has changed its system from having the head office handle all patent applications, to having the semiconductor, telecommunications, and other divisions handle their own patent applications. Giving these divisions the necessary budgetary authority and making them responsible for filing their own patent applications is expected to make everyone more aware of the importance of patents. It is estimated that it costs about 18,000 dollars per application in the U.S. NEC is already Japan's top domestic patent-winner, and it budgeted some 91 million dollars in fiscal 1998 for patent-related work alone.

Formulating a strong international strategy also changes the role of the intellectual property department. Following the war, Japanese corporate intellectual property departments largely concentrated on finding out what patents were available overseas, checking to see how strong the patent was, and then negotiating to license the technology. In effect, they were charged with administering and supervising the patent side of technology imports.

But Japanese companies have recently become technology licensors as well as licensees, and the intellectual property department has also been charged with filing for overseas patents, licensing the technology, and taking care of the contracts and other legal details involved. In addition, with the increasing number of products made overseas that infringe on Japanese patents, the intellectual prop-

erty department has also had to monitor markets and watch for infringements. This is all pivotal to the company's international patent strategy.

## 4.4 Legal Strategy

### Patent Disputes Demand Crisis Management

While they are seen in Japan as incentives for the inventor, patents are perceived in the United States as weapons in the war of business. And because increased patent friction is more likely as business relations become more global, it is important that every company has a legal strategy for patents.

There have been cases in which counterfeit products, in blatant violation of a company's patents, have cut into the company's sales so much that they have driven the company bankrupt. Conversely it has happened that companies have infringed on other companies' patents, have been taken to court, lost the case and been fined so heavily that their very survival was jeopardized. In the patent dispute between Polaroid and Eastman Kodak in the United States, the damages awarded were well over 909 million dollars - a substantial amount of money. In a case involving a Japanese camera company (Honeywell vs. Minolta), the latter was found guilty and ordered to pay 155 million dollars, ending up in the red for the year as a result. A game software company was also fined millions of dollars by a U.S. court for copyright piracy. These amounts are eloquent testimony to the fact that patent infringement can have very serious consequences. The intellectual property department therefore has to be an important part of the corporate management process. Indeed, there are a number of Japanese companies that are following the U.S. lead and combining their intellectual property and legal departments.

U.S. and Japanese companies treat their intellectual property departments differently. In the U.S., the intellectual property department is generally part of the legal department at the head office. As such, it is independent of the sales, research, production, and other departments. The head of the intellectual property department is responsible for advising management on legal issues and overseeing compliance, and the department's standing is at least equal to that of other departments within the company. Compliance is especially important, because infringing on another company's patents can put the entire company at risk. At the same time, monitoring patent information can contribute importantly to the company's bottom line. The American intellectual property department plays both offensive and defensive roles.

By contrast, in the average Japanese company, the intellectual property department is often seen as a purely defensive player in an effort to keep other

companies from obtaining key patents and hemming the company in. In Japan, the intellectual property department is typically part of the research department or the technical division, and is seen as being responsible for handling the paperwork for obtaining a patent when the research and development people have come up with something interesting. In the Japanese company, it is the legal department that is part of the administrative structure, and the legal and intellectual property departments are perceived as being in different streams. Traditionally, the pattern has been for legal issues relating to intellectual property rights to be handled by the technical and development departments.

In an American company, the intellectual property department will be headed by a patent attorney, and many of the people in the department will be licensed attorneys, such that the company has a strong staff, fully capable of handling intellectual property administration from the legal side. By contrast, the Japanese company usually separates the general-issues legal department and the intellectual property legal department. The company does not employ many lawyers in-house, and legal issues are usually handed over to an outside legal office. There is thus a major difference between the U.S. and Japanese company legal strategy. (*Table 4.3*)

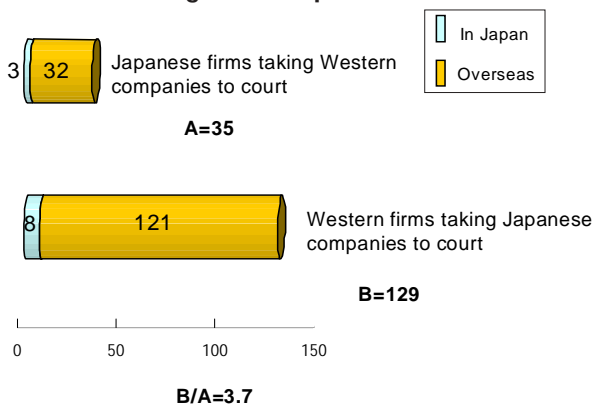
**Table 4.3 Comparison of Japanese and U.S. Corporate Intellectual Property Policies**

	Japan	United States
Basic approach	Defensive to keep technology out of competitors' hands	Aggressive to monopolize market
Intellectual property department's location	Mainly affiliated with research and development departments	Mainly affiliated with legal department
Intellectual property department orientation	To obtain intellectual property rights	Advises on corporate strategy
Use of patent attorneys and other attorneys	Use outside patent attorneys	Rely on in-house legal staff

*Source: Compiled by the Japanese Patent Office from Guide to U.S. Patent Litigation (Hideo Ozaki, Japan Machinery Exporters' Association, 1991), How Western Companies Manage their Patents (JETRO, 1993), and Issues in Japanese Corporate Handling of Intellectual Property Rights (Tomonori Anegawa, Japan Machinery Exporters' Association, 1993).*

Japanese companies have filed only 35 patent infringement cases against U.S. and European firms in recent years. By contrast, U.S. and European companies have filed 129 patent infringement cases - 3.7 times as many - against Japanese firms. While opinion is divided on whether the U.S. and European companies are engaging in legal harassment or whether the Japanese companies are failing to protect themselves, this much is clear: the U.S. and European firms are very aggressive about protecting their rights and the Japanese firms would rather settle things quietly. Yet whatever approach is adopted, the company that fails to formulate a firm legal patent strategy puts its survival at risk. (*Chart 4.4*)

**Chart 4.4 Patent Litigation Comparisons**



**Source:** *Corporate Intellectual Property Trends, JPO, March 1998*

Legal issues are also very important in technology development. This is illustrated by the effort to create *de-facto* standards, for example. With the digital era representing an amalgamation of technologies from many different fields, it will be impossible to establish industry-wide standards unless many different companies pool their proprietary technologies. How much these *de-facto* standards reflect a given company's technology depends, in large part, on the strength of that company's legal position.

Canon assigns about 400 people to its intellectual property department and earns over 91 million dollars a year from patent licensing fees. At the same time, this offensive strategy is balanced by a defensive strategy, mounted by a special committee established in 1987 and charged with keeping the company out of legal trouble. Indeed, it would not be possible for Canon to mount an aggressive global strategy were it not for this committee's work.

## Realistic Practice with Mock Trials

Many companies stage mock trials, so that they will be ready when trouble happens. Kao, for example, has held a number of in-house mock trials so that it would be prepared for patent litigation. The company picks a real-life theme, divides the in-house specialists into the prosecution and the defense, and they argue just as strenuously as though it were the real thing - with a jury of disinterested laymen giving verdicts. While such mock trials are a common practice at U.S. law firms, Kao is a very unusual Japanese company in holding in-house courts.

Kao's first mock trial was in February 1998 and was held at one of the company's Tokyo offices. The three lawyers for the plaintiff, the three lawyers for the defense, and the judge were all played by people from the Kao patent department. The four-person jury that decided whether or not the patent had been infringed were ordinary employees, not specialists. With eleven people to a team, these groups focused on actual cases from Japanese and foreign case law, spending a total of six hours arguing each case. These mock trials are seen as part and parcel of the intellectual property department's training curriculum, and people spend half a year getting ready for their "day in court." In addition to being engaged in fierce litigation over European patent procedures, Kao is also busy in the Japanese courts as well. Patents are a system for exposing your proprietary technology to assessment by the patent authorities and the courts, and these mock trials are intended to teach Kao's people how to emerge victorious from such encounters.

## 4.5 Developing Patent Prowess

It is important that the company has a coherent patent strategy and develops strength in patents. In fact, there are a number of corporate rankings now that classify companies by how well positioned they are to win disputes over intellectual property rights. Once a company develops a reputation for having the ability to win such disputes, competitors are less likely to risk infringing on the company's patents. Conversely, a company that is known as a patent push-over, runs the risk of having its patents violated. It is important that the company develop a reputation for patent strength.

### Assessing your Patents

Generally speaking, Japanese companies make a considerable effort to obtain patents but then do not pay very much attention to the patents, once they have them. Yet with the recent spate of patent disputes, infringements, and other prob-

lems, an increasing number of companies have started looking again at how they are using patents and what infringements might be under way.

The major Japanese automakers, for example, have all started work on ascertaining that other companies' technology does not infringe on their patents. With U.S. and European automobile companies becoming increasingly assertive about their patent rights, this is an effort by the Japanese auto firms to redefine how far their patents extend and to make it easier to fend off infringements. At the same time, it is an effort to highlight questionable areas and practices, to calculate appropriate licensing fees, and to pay and be paid these fees. Even so, the automakers lag behind the electrical machinery industry and other industries in their patent awareness.

Toyota, Japan's largest automaker, recently reached a patent-confirmation agreement with Mazda and Mitsubishi Motors and has started cross-checking technologies and patents with Nissan. When Honda turned up a number of specific areas where other companies were suspected of infringing on its patents, they entered into negotiations, to settle out of court. Of course, the companies are also discussing methodologies for checking technologies and patents.

There are very few cases of patent disputes among the leaders in the automobile industry internationally, and patents are mainly seen as defensive instruments in Japan and elsewhere. Yet as companies and societies become more environmentally aware and safety-conscious, new technologies will be developed for electric automobiles, hybrid engines and the like, and all of the major automakers are currently hard at work readying their next-generation product lines. U.S. and European companies in particular are beefing up their patent strategies and mounting a two-pronged offensive, based on aggressive sales and proprietary technology. Faced with this challenge, the executives responsible for intellectual property rights in Japanese companies are agreed on the need to restructure their patent strategies and to be more aware, on a daily basis, of what patents they do or do not own. Once they have figured out their own patent positions, they will then be ready to think about cross-licensing and other elements in their patent strategies.

## **In-House Patent White Papers**

Until recently, Japanese companies have been largely content to obtain patents and forget them. But some companies have started doing comprehensive in-house studies to see how they are using their patents. The next step is for these companies to publish their own "Patent White Papers" detailing their four patent strategies (management, technological, international, and legal) and providing an overall assessment of the company's strengths and weaknesses.

The first thing that the Patent White Paper has to consider is the amount of money that the company spends on patents, whether or not it has any licensing income, and whether patents make a positive or a negative contribution to the company's bottom line. The money spent on patents includes both the fees paid to the JPO, to obtain and maintain a patent, and the money paid to license other companies' patents.

The second thing that the Patent White Paper should cover is whether or not patents contribute to strengthening the company's technological competitiveness. How does the company go about documenting the technologies that come out of its research work and filing patent applications on them, including requests for examination? What is the ratio between applications filed and patents granted? How many patents does the company currently hold? Do these patents make the company stronger technologically? Does the company have key patents or only peripheral patents? How does the company measure up in patent terms against its Japanese and international competition? Does the company provide adequate incentives for in-house inventors? Does this include recognition? Promotion? Money? Anything else? It is important to check and make sure that the incentive level is appropriate.

The third thing that should be in the Patent White Paper is international benchmarking. All companies are inevitably becoming more active on the international stage. As the company's business becomes more global in nature, is it obtaining patents overseas, as well as in Japan? Is it sure its patents are not being violated in other markets?

And the fourth thing is to look at the company's relations with other companies. In the patent field, what oppositions has the company lodged with other companies? What oppositions have other companies lodged against the company? Companies routinely remind each other to stay away from patented technology. Is this being done? Is there any patent litigation pending? It is crucial that these legal issues be reviewed and re-thought.

When all of this analysis is done, it is then necessary to assess the place of intellectual property within the company, to compare this to the situation in other companies, to identify potential problems, and to get management to address the issues and to come up with solutions.

## **Human Resources Development**

Human resources development is an essential element, as the company moves ahead in formulating and implementing its patent strategy, and it is important that the company is innovative in its training programs.

As patent issues have become increasingly important in the workplace, Fujitsu, for example, has produced an educational CD-ROM utilizing a popular animated

and had a success rate of 96.3%. Yamaha was closely followed by Hitachi Construction Machinery, Chisso, Kawasaki Heavy Industries, and Mitsubishi Rayon. Japan is clearly moving from an era in which companies sought to overwhelm the competition with the number of patent applications filed, to a new era in which companies will try to patent core technologies and make the most effective use of their patent portfolios.