11 Reference Guidelines for Strategic Acquisition and Management of Intellectual Property by Companies

In the global market environment of recent years, a company is required to recognize intellectual property in its business strategy as a source of its competitiveness and incorporate it into its business activities. By conducting business under such policy, the company would be able to strengthen its competitiveness and maximize profitability and corporate value. However, in Japan, there are concerns that few companies have top management that is formulating business strategy, R&D strategy and intellectual property strategy as a triune unity and strategically acquiring and managing intellectual property.

In this study, in accordance with the direction of the Intellectual Property Policy Outline, in order to obtain basic information applicable in developing “reference guidelines” that a company may refer to in designing a program for global strategic acquisition and management of intellectual property, we conducted a comparison of patent registrations in the United States by Japanese, American and European companies and a quantitative analysis of the relation between the number of Japanese patent registrations and the profitability of Japanese companies. Based on such actual data, we made an analysis and study about how strategic acquisition and management of intellectual property should be designed and implemented.

Introduction

As for the acquisition and management of intellectual property by companies in Japan, as compared with the cases of companies in Europe and the United States, there are concerns that fewer companies are dealing with intellectual property strategically. In addition, the Intellectual Property Policy Outline contains instructions to develop reference guidelines for companies to formulate their own strategic programs on global acquisition and management of intellectual property.

This study aims to obtain basic information applicable in developing reference guidelines (hereunder, “Reference Guidelines for Acquisition and Management”) for domestic companies to refer to when formulating their own strategic programs.

Background to Developing Reference Guidelines for Acquisition and Management

1 Intellectual Property and Business Management

In the market environment characterized by globally intensifying market competition, expanding opportunities for technological innovation such as IT or biotechnology, and strengthening worldwide protection of intellectual property, a company must establish an intellectual property strategy that is unified with its business strategy and R&D strategy in order to be able to improve R&D efficiency and enhance its corporate value.

(1) Positioning of Intellectual Property Strategy in Corporate Management

In order to incorporate intellectual property into the business strategy as the source of competitiveness of the company and utilize it for its business operations, it is necessary to establish an intellectual property strategy that is unified with business strategy and R&D strategy. Meanwhile, as can be seen in the TRIPS Agreement and others, strengthening of the protection of intellectual property has been a worldwide trend. Furthermore, it is also required to develop a system that enables a company to technologically innovate for the creation of new businesses or markets and cope with strengthened protection of intellectual property.

To respond to these requirements, it is vital that inventions attained through intellectually creative work are properly protected as intellectual property. That will work to improve the competitiveness of products and services.

(2) Efficiency of R&D

Regarding the relation between R&D and Japan’s competitiveness, according to the OECD data comparing the 1980s and 1990s, contrary to other developed countries on a macro-basis, the rate of technological progress has decreased remarkably in Japan, in spite of increased investment in R&D. This implies that Japan as a whole has been unsuccessful in improving R&D efficiency in spite of the requirements of this era in which high quality R&D is necessary for coping with intensified global market competition and strengthened intellectual property protection.

(*1) Organization for Economic Cooperation and Development
(*2) Science, Technology and Industry Outlook Special edition 2001(OECD) P.54
Further, on a micro basis, from the study on the correlation\(^{(3)}\) between R&D expenses and ROE\(^{(4)}\) (Return on Equity) for each year in Japan, it has been pointed out that, in the 1990s, R&D efficiency had a great effect on corporate profitability. This implies that the correlation between R&D efficiency and corporate profitability has increased from the 1990s on, and that improved R&D efficiency will bring higher profitability. Meanwhile, it has also been pointed out that R&D efficiency has decreased for each company.\(^{(5)}\)

(3) Comparison of R&D expenses and patent applications made by trilateral countries or regions

Comparing the R&D expenses\(^{(6)}\) of major countries in 1998, the figure for the United States was more than double that of Japan, and the figure for Europe was about one and a half times that of Japan. There are also data\(^{(7)}\) indicating that Japanese companies, while they have many Japanese patents, have much less foreign patents.

2 Reference Guidelines for Acquisition and Management and the Intellectual Property Policy Outline

The Reference Guidelines for Acquisition and Management is not supposed to be a manual for intellectual property departments but will be designed, in accordance with the Intellectual Property Policy Outline, as reference guidelines for management of corporation to incorporate intellectual property in management strategy.

The Intellectual Property Policy Outline indicated as a task of the Ministry of Economy, Trade and Industry that “with the aim of enabling companies to increase profit and maximize corporate value by considering intellectual property as a source of competitiveness in their management strategy and to design a strategic program for obtaining and managing intellectual property based on a global strategy, the GOJ will design reference guidelines by the end of FY 2002, taking the actual conditions of individual companies into account.”\(^{(8)}\)

In response to the above-mentioned task, the Reference Guidelines for Acquisition and Management was prepared as reference guidelines that take the actual conditions of individual companies into account so that each company can design such a strategic program. Therefore, the Reference Guidelines for Acquisition and Management is not a manual on acquisition and management for the intellectual property personnel of a company. Rather, its contents and construction are designed to be read by the company’s management. Therefore, it is hoped that each company will design a strategic program under the direction of its management.

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Purpose and Need of Commitment by Companies

1 Need of “Selection and Concentration”

How a company conducts “selection and concentration” of its business is a key to its competitiveness, and “selection and concentration” in a business is closely related to R&D strategy or intellectual property strategy. Consequently, the top management of a company is expected to formulate a business strategy while giving full consideration to the situations of related R&D and intellectual property.

(1) “Selection and concentration” of business

Since the 1990s, while Japanese economic growth has slowed down, it is true that some excellent companies have continued to be highly competitive, and have attained high profitability.\(^{(9)}\)

(3*) Report of Study on R&D Correlation Analysis (Daichi Kangin Research Institute, Mar 2001) P. 53
(4*) ROE is an indicator for how efficiently capital has been used to produce profit. The formula is “net income divided by stockholder’s equity.” The ROE of Japanese companies averaged 10% formerly but has been on downward trend in recent years. On the other hand, the figure for US companies has been on upward trend and the difference between Japan and the United States is increasing.
(5*) Kiyonori Sakakibara “Deteriorating Efficiency of R&D” TEIKUOFU (All Nippon Airways, Summer 2002, No. 99) P. 18; Michikazu Murakami “Innovation Management invoked by the Sense of Crisis” WORKS (Recruit, No.37, 1999/12-2000/1) P. 11.
(6*) Main Science & Technology Indicators (MSTI) database, Economic Analysis & Statistics (EAS), Economics Analysis/Statistics Section, OECD
(7*) WIPO Statistics (1999)
(8*) “Intellectual Property Policy Outline” (Strategic Council on Intellectual Property, 2002/7/3) P. 36
(9*) “Study on Japanese Excellent Companies” (Research Institute of Economy, Trade & Industry, 2002/6) listed in P. 1 are, Toyota Motor, Canon, Kao, Mabuchi Motor, Shin-etsu Chemical, Nintendo, Yamato Transport, Shimano, Honda Motor as having ROA value higher than the industry average.
(2) “Selection and concentration” of R&D and intellectual property
Considering that, to implement the selection and concentration of a business, the selection and concentration of R&D and intellectual property is also necessary, we wanted to form a picture of the current intellectual property strategies of Japanese companies, and, based on the available data, we made the following analysis:

(i) Analysis of corporate intellectual property strategy using data on patents obtained in the United States
In order to shed light on the differences in intellectual property strategies of individual companies, we plotted the number of U.S. patent registrations for each of patent classification number, making comparison of Japanese and foreign companies that are considered to be in a competing relationship in each industry. That is, we plotted the total patent registration numbers from 1997 to 2001 for each class of U.S. patent classification number.

As the results, the peaks on the chart differed depending on the industry. As a whole, it could be observed that companies with high profitability tend to have the peaks in particular technical fields. Further, the number of patents necessary to protect a product is small for single technology industries (mainly, material industries like pharmaceuticals, chemistry, glass, and others), but tends to be larger for multiple technology industries (mainly IT/machinery industry such as electronics, business machines and others).

(ii) Analysis of R&D efficiency and intellectual property strategy based on the number of Japanese patent registrations
As mentioned above, on a micro basis, R&D efficiency had a greater effect on corporate profitability in the 1990s. Therefore, in order to obtain a comparative analysis of the correlation between R&D efficiency and intellectual property strategy of each company, we plotted for each company “the number of patents divided by R&D expenses” on the horizontal scale and “operating profits divided by the number of patents” on the vertical scale, which are the “operating profits divided by R&D expenses” factored by the number of Japanese patents.

This analysis, while having the weakness of not eliminating other factors affecting operating profits, revealed that, as an overall tendency, while the number of patents per R&D expense is low for single technology industries, companies with high quality patents have higher operating profits per R&D expenses. On the other hand, while operating profits per patent is generally low for multiple technology industries, companies with a large number of patents tend to have higher operating profits per R&D expenses.

2 Intellectual Property Strategy as Business and R&D strategy

Business strategy, R&D strategy and intellectual property strategy are to be formulated as a triune unity strategy. In other words, an important point for future business management will be that a company makes effective use of its intellectual property in formulating its business strategy and R&D strategy, and utilizes intellectual property effectively to protect the core competence of its business.

The objective that future intellectual property management is encouraged to focus on is attaining and keeping the competitive edge of the business by having a closer relationship with business strategy and R&D strategy. Additionally, since the degree of importance of intellectual property strategy may differ depending on individual companies, it is important for a company to recognize intellectual property strategy properly as an item for discussion in formulating its business strategy. It should also be firmly kept in mind that if the measures taken from the standpoint of intellectual property are inadequate, the company could be forced to withdraw from its business.

Therefore, it is important that before the top management of a company formulates and implements a business strategy and an R&D strategy, it should have a good understanding of the status of intellectual property not only of the company but also of other companies.

3 Companies the Reference Guidelines for Acquisition and Management is Directed to and its Application

The companies the Reference Guidelines for Acquisition and Management is directed to are those that want to strengthen their competitiveness by creating a new business or market based on their technology, and the Reference Guidelines will take into consideration the difference between single technology and multiple technology industries.

The incorporation of intellectual property strategy into business strategy should not be treated in a uniform way across all industries. Rather, a strategic program for acquisition and management of intellectual property should first be worked out, while taking into consideration the characteristics of each company or industry, and then implemented. Although intellectual property strategy is considered to apparently differ according to the type of business, the point is what

technology to make use of to create a new business and market. Therefore, while this report focuses on matters common to industries, it will refer also to the differences in intellectual property strategy among different kinds of businesses or industries, that is, the difference between single technology and multiple technology industries.

4 Scope of Intellectual Property to be Considered

The Reference Guidelines for Acquisition and Management will first focus on the acquisition and management of patents and then refer to the checkpoints for trade secrets. Further, as for design patent, trademark right and copyright, although points applicable mutatis mutandis will be clarified for each of these measures, the point is how effectively each intellectual property is exploited for expanding the business domain.

It is necessary to have a perspective that enables the company to select the most suitable intellectual property to protect the results of its R&D, which will lead to the expansion of its business domain.

Ⅲ Measures for Each Company’s Reference

1 Formulation of Basic Principle and Strategy

It is important for top management to clearly indicate a management policy that places importance on intellectual property.

(1) Clear indication of management policy placing importance on intellectual property

It is important for top management itself to present the basic principle that places importance on intellectual property, and share it with people not only of its own company but also of group companies, customers or other business connections including those overseas. It is inconceivable that a company would be able to strengthen its competitiveness based on intellectual property without a basic principle of respecting its own rights and those of other companies.

It is also important that a company includes in its basic principles on acquisition and management of intellectual property, the basic position on giving licenses to other companies, and, the basic position of requiring respect for the rights when there is an infringement of the company’s rights, and present them as the “Basic Principles on Intellectual Property,” which will indicate, both inside the company and externally, the company’s basic position of placing importance on intellectual property.

(2) Formulating intellectual property strategy based on management policy

It is important to make clear the intellectual property strategy or the strategy of acquisition and management of intellectual property under the direction of top management and based on the basic principle or management policy. It is also important to formulate intellectual property strategy as an integral part of the business strategy or R&D strategy based on the long-term management policy, and then for each business target to work out and implement an individual intellectual property strategy from the short-term standpoint, modifying it from time to time in accordance with changes in the environments for continuing implementation.

2 Formulation of Business Strategy and R&D Strategy based on Intellectual Property Rights

Information on intellectual property can be a valuable and important tool in formulating corporate R&D strategy or business strategy such as an analysis of technological strength, selection of R&D themes, business alliance with other companies or M&A, etc. Therefore, it is contemplated that the intellectual property department working closely with the business department, the R&D department and other related departments will lead to business management with intellectual property as the core of the business.

(1) Coordination with business strategy

While the “selection and concentration” of business is required in order to improve corporate profitability, it is important to promote “selection and concentration” of intellectual property as well. That is, it is important to investigate effective acquisition of intellectual property from various angles.

(i) Coordination from the standpoint of protecting company products

① Promoting patent acquisition from the standpoint of protecting developed company products in the market in parallel with market research and product planning
② Foreseeing alternative technologies and promoting patent acquisition that could exclude alternative products to prevent other companies from entering the market with such alternatives
③ Promoting patent acquisition on peripheral technologies such as manufacturing apparatus or the production method of company products, forming a group of patents protecting the products
④ Promoting patent acquisition also in countries where production of the product is expected or countries where the product is going to be
marketed.
(i) Coordination from the standpoint of coping with other company's patents

- Making a survey of intellectual property applications and acquisitions by other companies, getting information on patent applications or patents acquired by other companies on the product to be developed, and gaining understanding of the strength and weakness of the company and analyze the intellectual property position of the company, in parallel with market research and product planning.
- Evaluating the validity of a patent application or a registered patent owned by another company if such application or patent exists.
- Investigating if it is possible to technically circumvent a patent application highly likely to be registered or a registered patent owned by other company if such application or patent exists.
- If it is impossible to technically circumvent it, studying whether to try to invalidate it, take a license, have it transferred or give up the development.

(2) Coordination with R&D strategy

Information on intellectual property of the company or rival companies would be highly useful in formulating the business strategy or R&D strategy or for analyzing the technological strength of the company. Coordination from the standpoint of protecting company products and coordination from the standpoint of coping with other company’s patents are to be carried out in accordance with the stage of R&D, such as basic research, applied or development research or product development.

(3) Coordination of business strategy, R&D strategy and intellectual property strategy

For the sake of the triune unity activity of business strategy, R&D strategy and intellectual property strategy, coordinated relationships should be developed at every level from top management to the persons in charge of each strategy.

3 Organizing System for Acquisition and Management within Company

It is important to set up an internal organizational system for an efficient implementation of strategic acquisition and management of intellectual property with clear definitions of responsibility.

(1) Setting up an organizational system

(i) Involvement of top management in decision making concerning intellectual property activities and construction of related organization

It requires managerial judgment to clearly incorporate intellectual property strategy into business strategy and actually implement it. Therefore, it is required to construct an organization (counseling body) such as a management council directly attached to the top management to decide on corporate strategy or policy, and then to set up an organizational system that will implement the corporate business strategy or R&D strategy in accordance with management decisions after full investigation of these strategies from the standpoint of intellectual property.

(ii) Construction of organization and system

The construction of a flexible personnel and organizational system that will facilitate realizing coordination within each department or among related departments, and also budgetary distribution, are important to respond to the environmental changes of the time such as shorter product lifecycles and implement business strategy, R&D strategy and intellectual property strategy as a triune unity strategy.

(iii) Positioning of intellectual property department

With the differences in scales of businesses and characteristics of industries etc., the ideal organizational system for properly implementing the acquisition and management of corporate intellectual property may differ for each individual company. Therefore, it is important to investigate how the intellectual property department should work in the corporate organization and set out a clear description on this.

A corporate intellectual property department could bear the function of coordinating interests of business divisions or group companies from the corporate standpoint, as well as other overall controlling functions, and also look after problems that relate to corporate level interests that are difficult for an individual business division to handle. In addition, it could bear the function of taking action on infringements of rights by other companies, and brand management.

(2) Intellectual Property Management under Group Management

In the case of intellectual property management under group management, it is important to try to increase the combined intellectual property strength through the synergy effect of group companies as a whole. The intellectual property department could play an important role of formulating the intellectual property strategy or coordinating the interests of business divisions from the standpoint of group management.

(3) Acquisition and management of intellectual property under global management

Foreign patent applications are expected to grow more than ever in the future in line with the progress of globalization of Japanese companies. To cope with this trend, it will be necessary to have an intellectual property department that can deal with foreign intellectual property systems, and it is considered important for the intellectual property department to become actively involved in decision making on overseas business strategy.
(4) Thorough risk management
(i) Risk management in business process
It is necessary from the point of risk management to think ahead about possible effects on corporate management when a company has infringed an intellectual property right of another or its intellectual property right has been infringed by another. It is important to conduct a survey of infringing acts on its intellectual property rights, e.g. by investigating products or product advertisements of other companies, not only within the intellectual property department but also company-wise through joint efforts with other departments that are collecting information on other companies' products on regular basis such as the sales department or R&D department. As for rights of other companies, it is important to make efforts not to infringe them by collecting information on a regular basis, e.g. by watching patent publications and sharing intellectual property information within the company.
(ii) Construction of system to prevent infringement overseas
The damage incurred from infringements of intellectual property rights in overseas markets is serious.\(^\text{(*)1}\) Therefore, it is important for a company to construct a system to prevent infringements of intellectual property rights in overseas markets and keep its overseas business from being adversely affected. Since actions towards the government may also be needed, the planning for collecting information or taking actions in this regard, should not be handled only by the intellectual property department, but should be conducted by constructing a corporate level system that includes the top management of the company.

4 Effective Implementation of Acquisition and Management

In order to utilize intellectual property as a source of competitiveness of the company, it is important to have a strategy for each stage of acquisition, management and exploitation, etc. Additionally, recruiting and fostering intellectual property department staff to support these activities is important.

(1) Acquisition
(i) Securing information
In order to protect the R&D results of the company by securing intellectual property rights for them, conducting acquiring activities based on the knowledge of the level and trend of the technology of the company and its rivals is important. For securing information on intellectual property, it is important to make effective use of the Industrial Property Digital Library (IPDL) of the Japanese Patent Office. Further, for information obtained by the members of the company, it is important to enhance the environment that will enable the whole company, including top management, business divisions and other related departments, to share the information, thus building up a system that facilitates investigation from a broad perspective.
(ii) Establishing policy for making applications
For making patent applications, etc., it is important to establish a policy for making applications based on the principle of “selection and concentration,” i.e. evaluating the necessity of obtaining rights, and to have a clear criterion of judgment at the time of making a patent application, etc. The judgment of making a patent application or making a request for examination should not be made by the business division, the R&D department or the intellectual property department alone, but should be made by multiple departments including the sales or marketing department, while taking into consideration the evaluation\(^\text{(*)2}\) from each perspective. In addition, efforts should be made to obtain a group of patents on company technology including peripheral technology to protect company products for the sake of adequate protection of company technology by the intellectual property system.

In addition to making patent applications, it would also help to reduce to documents the information to be protected including trade secrets and contracts on technology. Especially with small and medium enterprises, there are cases in which intellectual property is left infringed because it is not documented. It is important for a company to have measures studied in advance to preserve its intellectual property.\(^\text{(*)3}\)

(iii) Policy for foreign applications
The policy for making foreign applications


\(^\text{(*)2}\) An example of factors to be evaluated are “Indicators for evaluation of patents (for technology transfer)” (Japan Patent Office, 2002/12). The indicators are intended to be used as indicators regarding the possibility of technology transfer for a patent and the like, but can be applied to such evaluation.

\(^\text{(*)3}\) The Ministry of Economy, trade and Industry has prepared the Guidelines for the Management of Trade Secrets as the Reference Guidelines for companies to refer to in designing strategic programs to strengthen the management of their trade secrets. (http://www.meti.go.jp/policy/competition/downloadfiles/ip/030130guideline.pdf)
should be clearly set out while taking into consideration exploitation of rights and cost-benefit performance. The judgment should be made, with the involvement of top management, along the line of overseas business strategy and R&D strategy, and taking into consideration, (①) the market of company products, (②) the location of the production base of the company and those of other companies, (③) the export countries and potential markets, (④) the relation with the long-term business strategy.

(ii) Management and exploitation

(1) Management of intellectual property

It is necessary to make efforts to reduce the cost of maintenance or management of intellectual property rights by periodically taking inventory of pending and acquired intellectual property and stop the payment of patent fees for inventions judged unnecessary. On this occasion also, as it is at the time of making applications, it is important that the decision be made not only by the intellectual property department, the business or R&D department alone, but rather be made based on the evaluation by multiple departments including the sales or marketing department and others that are also in the position to foresee future business.

(ii) Exploitation of intellectual property

The main objectives of exploitation of intellectual property are securing exclusive rights to implement the invention, keeping other companies from coming into the market with competing products and maintaining the competitive edge of the company’s business in the market. (1) It is important that licensing to other companies or cross-licensing be made only after due consideration of securing freedom of business or R&D for the company. Licensing should be made through integral corporate management judgment with due consideration given to possible effects to its business, and the construction of an organizational system to sustain such deliberation is important.

(iii) Introduction of trade secrets

Upon introduction of trade secrets, e.g. by a license agreement for the technology of another company, there will quite likely be improvements of the technology or a fusion with related technologies, thereby obscuring the scope of technology under the confidentiality obligation. Therefore, a position that will not allow easy disclosure of confidential information is necessary, aside from, looking into the future, that information that is considered highly necessary for the business, and, when introducing a trade secret, it is required to conduct careful negotiations and considerations of the contract language to secure the freedom of the company’s original R&D activities as much as possible.

(3) Fostering and securing human resources

(i) Fostering and securing top management

It is important to foster and secure human resources for top management and technology management that can be responsible for and manage each business strategy, R&D strategy and intellectual property strategy, and that can participate in business judgments from the standpoint of intellectual property strategy on the occasion of corporate decision making, e.g. at board meetings.

(ii) Fostering and securing inventor and intellectual property personnel

It is important to foster and secure researchers with an awareness of intellectual property, and intellectual property personnel that can make patent applications useful for the business development of the company or prevent infringement of other companies’ patents. It is also important to treat employee inventors properly in accordance with the degree of contribution to the business.

(iii) Fostering and securing agents

It is important to foster and secure agents such as lawyers or patent attorneys, both domestic and foreign, who can deal with broad international intellectual property assignments. It is also important to create a long-term relationship of trust with the agents, adequately sharing with them the intellectual property strategy of the company. For overseas operations, it is important to secure plural agents for a country in case of possible conflicts of interest. Further, another important standpoint is to conduct regular evaluation of the agents and deal with them in accordance with their ability and achievements.

(iv) Recruitment of external staff

As for human resources, another item to be considered is recruiting intellectual property staff from other departments of the company or from outside the company those with good knowledge of R&D activities, with the qualification of patent attorney or with reasonable competence in a particular academic field.

5 Thorough Follow-up and Review

It is important to regularly examine policy on acquisition and management of intellectual property or its specific implementation status, and to construct a follow-up system, by cooperation among related departments, that is effectively workable to cope with the problems that may be found through the examination.

(1) Construction of follow-up system

After the intellectual property strategy is formulated for the selected business based on the policy of “selection and concentration,” a corporate-wide follow-up should be conducted regarding whether the strategy has been implemented.

(2) Reviewing (evaluation)

(i) Evaluation of intellectual property

It is important to conduct an evaluation activity from the standpoint of how intellectual property has benefited the corporate business. Therefore, it is important to conduct a multifaceted evaluation not only by the measure of the amount of income from licensing but also by the measure of the sales amount of the products based on the technology protected by intellectual property or other measures.

(ii) Evaluation of intellectual property department’s activities

Evaluation of the activities of the intellectual property department and the agents is also important. The intellectual property activities within a company include not only making applications and conducting searches but also planning intellectual property strategy linked with future business strategy and R&D strategy, and these activities should also be appreciated as added value of the intellectual property activities.

6 Reviews by Top Executive

In order to make sure that the basic policy on acquisition and management of intellectual property continues to be proper, reasonable and effective, it is important for the top executive of an organization to examine and review the basic policy or its specific implementation status on regular basis.

(1) Periodical review

It is important for the top executive of an organization, to require periodical reports, examine the basic policy and actual implementation and review them as often as necessary.

(2) Documentation

As for by whom and how often the follow-up activity should be conducted, it is recommendable to make a rule on it and document this, so that the policy of the top management is understood properly throughout the company.

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