

Study on Global IP Activities, commissioned by Japan Patent Office (JPO)

Summary of the Report

May 2013

Institute of Intellectual Property (IIP)

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I INTRODUCTION

1 Abstract of this project

(1) Purposes of this project

In the context of economic globalization, expansion of the markets in emerging countries, etc., the global deployment of Japanese companies is progressing, too. In these situations, Japanese companies are also working on intellectual property (hereinafter sometimes referred to as IP) activities vigorously, for example, aiming at the aggressive acquisition of a right in China, Korea, and emerging countries as well as the conventional acquisition of a right in the developed countries such as Japan, the United States and Europe.

Furthermore, as a result of accelerated information distribution and innovation competition with IT development, the technological catch-up by competitors is carried out in a short time, and it has become difficult to link intellectual property to competitiveness of a company only by the conventional intellectual property management. The sophistication of the intellectual property strategy plays an increasingly important role in reinforcing the competitiveness of a company, and it is critical to realize a variety of latest intellectual property strategies of companies to reinforce their international competitiveness.

Additionally, the grasp of latest intellectual property strategies is also critical to study the future policy and system of the Japan Patent Office based on such latest strategies in order to support company activities for pushing forward the global deployment.

Accordingly, the purposes of this project are based on investigations and analyses of the actual situations of the latest intellectual property strategies of companies in Japan and foreign countries to propose the form of intellectual property strategies for strengthening the international competitiveness companies to provide companies etc. with results of the investigations and analyses and the proposals, and to provide basic data for studying policy and system which the Japan Patent Office is expected to construct.

(2) Outlines of this project

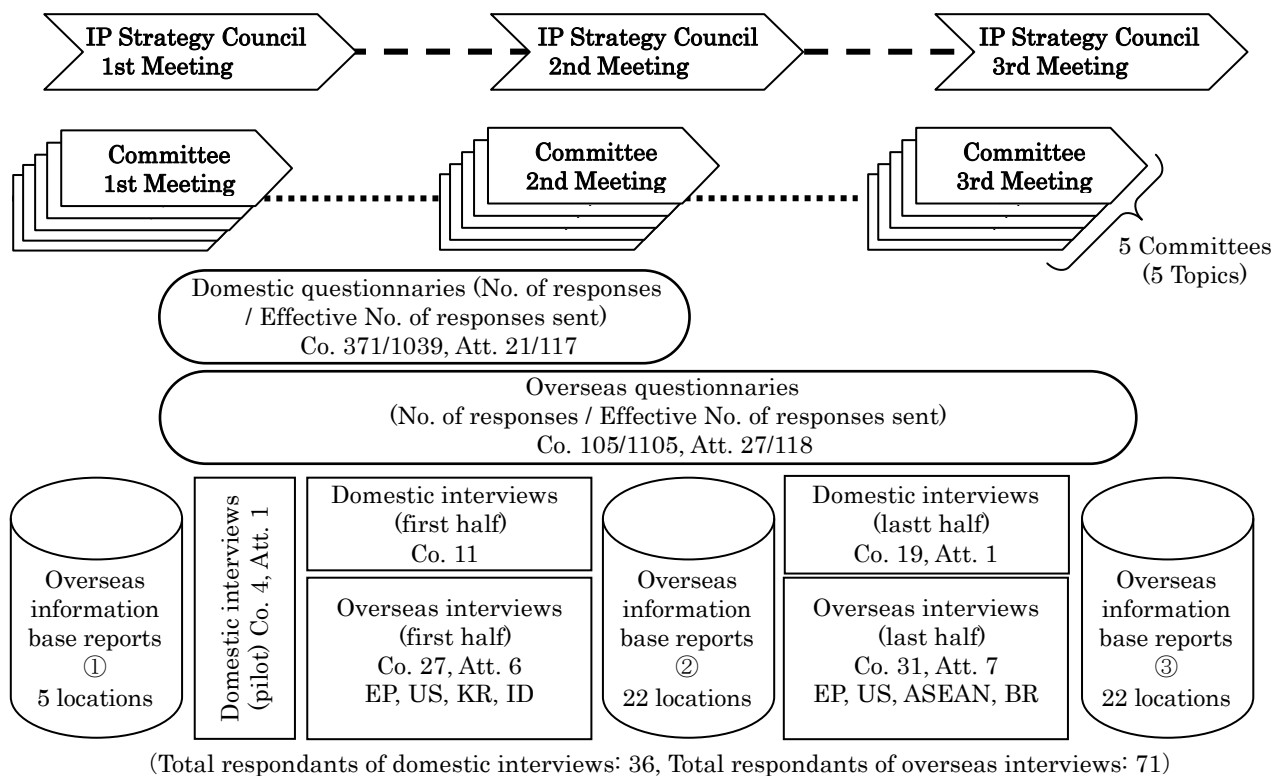
This project consists of a research about global intellectual property strategies on the following 5 topics and a global intellectual property strategy council.

- [Topic 1] Strategy for IP Resources Acquisition
- [Topic 2] Strategy for IP Rights Designing
- [Topic 3] Strategy for IP Rights Prosecution
- [Topic 4] Strategy for Securing and Managing Human resources for IP creation
- [Topic 5] IP Strategy Integrated with an International Atandardization Strategy

2 Implementation methods and results of this project

The global IP strategy council was established to analyze and discuss latest intellectual property strategies etc. in Japan and overseas from a technical viewpoint and to transversely examine, analyze and give advice about each topic.

Questionnaire survey, interview survey, and information gathering from overseas information bases (overseas information base reports) were conducted to obtain information regarding each of five research studies. Also, a committee for the research was established, and each investigation methods etc., results of the surveys, and analyses had examined by the committee.



II GRASP OF THE PRESENT SITUATION

An intellectual property strategy plays an increasingly important role in reinforcing competitiveness of companies and it is desired to sophisticate the strategy. Also, in order to reinforce international competitiveness of the whole of industry, it is necessary to sufficiently realize and analyze latest intellectual property strategies including those of foreign companies and the actual situations of IP management for fulfilling the strategies.

In considering of the above background, this research study project focused on 5 situations which relate to aspects of acquisition, protection / exploitation of intellectual property, and human resources who manage these strategies, about intellectual property strategies for reinforcing international competitiveness, and then research about these divided 5 topics was conducted.

III RESULTS OF THE RESEARCH

1 Strategy for IP resources Acquisition (Topic 1)

External acquisition of IP resources becomes active by transformation and diversification in business models, and the speed of business is

increasing.

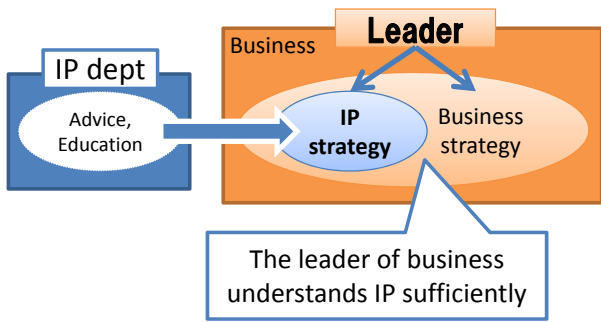
Thus, it is necessary to examine activities relating to IP strategy (including not only acquisition of an intellectual property right, but also know-how and skills around it, human resources for manipulating them, or acquisition of a company or business), as activities for procuring IP resources in a broad sense, and to research / analyze them, and thereby, examine the form of strategy in the funding aspect for enhancing international competitiveness in the light of various viewpoints.

(1) Investigations and analyses

(i) Integration of an IP strategy with a business strategy

It was found out that as a policy for incorporating IP viewpoints into a business model, the leader who is responsible for the business conducts the strategy management of both business and IP, so that activities for incorporating IP strategy into business strategy are conducted.

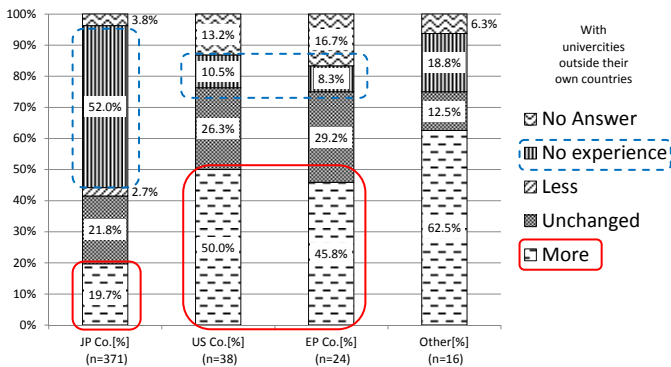
[Fig. 1] Example of top-down cooperation



(ii) IP procurement from outside organizations, joint R&D with outside organizations

The investigation showed a tendency that while both domestic and foreign companies are aggressive about joint research and development within their own countries, Japanese companies replied “No experience” at a higher rate and “More” at a lower rate than European and North American companies did about joint research and development with companies and universities outside their own countries. It is thought that European and North American companies are more globalized than Japanese companies about the cooperation in joint research and development with outside organizations.

[Fig. 2] Tendency of joint research and development (last 10 years)

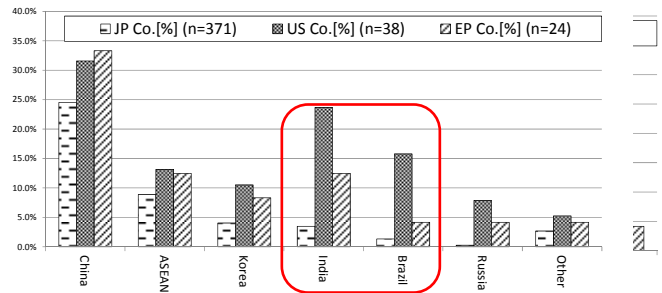


(iii) Global R&D and design development

Japanese companies more expanded and newly established research and development bases mainly in China and ASEAN among emerging countries. On the other hand, European and North American companies reinforce and establish such bases in not only China, but also India, Brazil, etc. which are geographically and culturally close. Further, U.S. companies conduct research and development in

India, Brazil, etc. to deal with global markets. Thus, the importance of research and development bases in emerging countries is growing.

[Fig. 3] Movement of reinforcement of research and development bases in emerging countries (last 10 years) (Japan, U.S. and Europe by area)

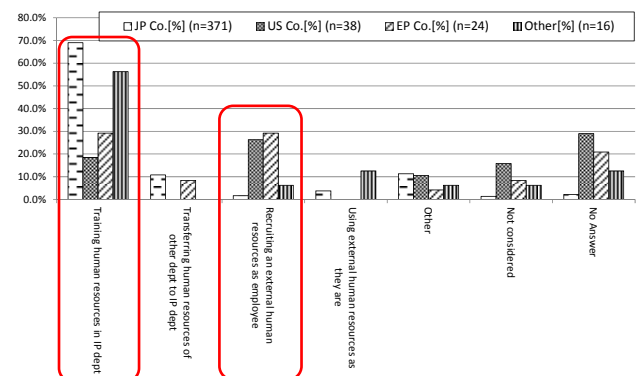


* The vertical axis represents a rate of companies which have more expanded and newly established research and development bases to the total number of companies which replied the questionnaires by country.

(iv) Human resources in charge of IP creation, IP procurement, and joint R&D

As human resources who will be needed in the future for procuring IP resources, many companies in both Japan and foreign countries chose humane resources who can fully understand the business strategy and can lead IP creation, IP procurement, and joint R&D accordingly. On the other hand, means for ensuring such human resources is attributed to their culture, however, the data showed that Japanese companies end to have a higher rate of in-house training while overseas companies tend to have a higher rate of external recruitment.

[Fig. 4] Means for ensuring human resources needed for procuring IP resources.



(2) Conclusions

Based on the results of the investigations and analyses, we provide the following proposals about the form of strategy for IP resource acquisition for enhancing international competitiveness.

- Should consider a business model including an IP viewpoint
Use of IP is very efficient to keep profits
- Should carry out IP management by top management or transfer the responsibility
Management of IP strategy by a person in charge who understands business strategies sufficiently is deemed to be effective.
- Should consider IP acquisition from outside
For speed-up in business, consider acquiring IP resources based on business strategy
- Should consider employing IP human resources from outside
Although overseas examples may not be always better, consider recruiting human resources or using human resources from outside as one means.

2 Strategy for IP Rights Designing (Topic 2)

When a company expands its business globally, it is important to solve a problem related to decision on policies for protecting intellectual property, for example, multiple protections including design etc. Moreover, when focusing on the global acquisition of a right, there are shown different tendencies that the foreign applications by Japanese applicants are filed more against European and North American countries and less against countries / regions other than Japan, United States, Europe, China, and Korea. With respect to IP human resources, as a result of transformation in innovation models etc, it is needed to train and ensure not only conventional “human resources specializing in IP” but also “human resources utilizing IP” and “global IP human resources”. The present situation is that there are domestic companies which take advanced actions, for example, actively conducting global acquisition of a right while there are still many domestic companies falling behind.

(1) Investigation and Analyses

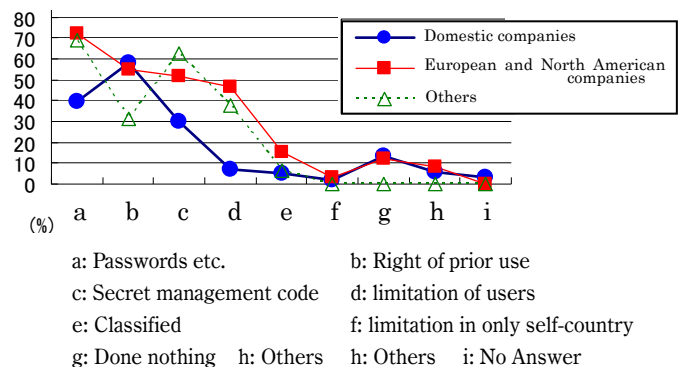
(i) Determination of IP protection policy

With respect to multiple protections for intellectual property, the hearing survey showed

company strategies for protecting products multilaterally by well combining with multiple intellectual properties such as design as well as techniques. In order to differentiate products by protecting them multilaterally and enhance the effectiveness of exercise of a right, it is desirable to try for protection of intellectual property, thus it is believed to be needed to plan business strategy with a viewpoint of this filing strategy.

Furthermore, with respect to know-how management, a difference between European and North American companies and Domestic companies in a policy of limiting know-how users was shown because European and North American companies have higher concerns against leakage of technologies due to employees’ movements ([Fig. 5]). Additionally, Japanese companies have a lower job separation rate compared to European and North American companies.

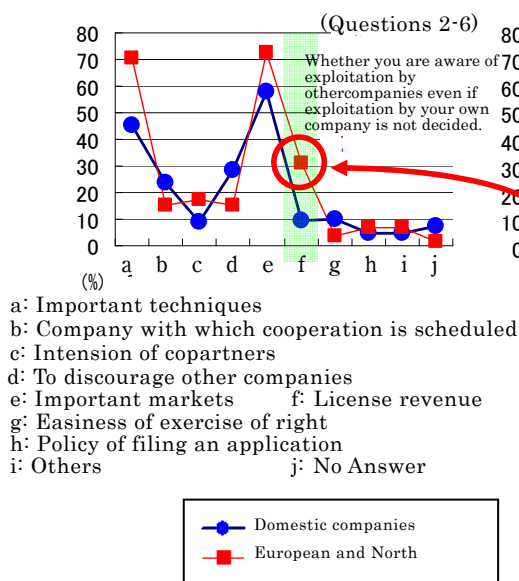
[Fig. 5] Management methods of secret inventions (Questions 2-5) <Multiple responses allowed>



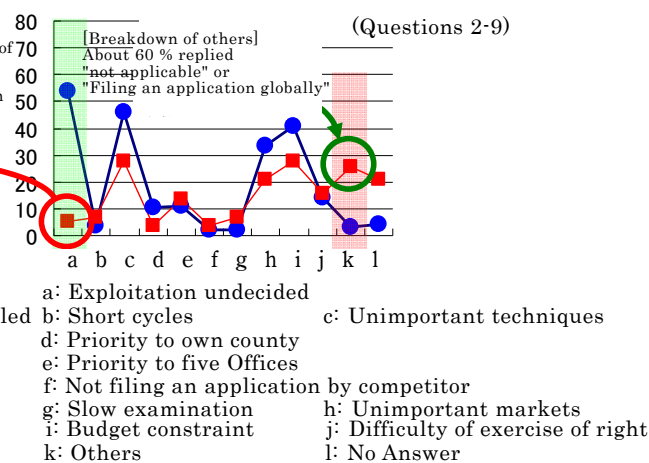
(ii) Acquisition of IP rights globally

There is a tendency that European and North American companies give weight to “license revenue” compared to Japanese companies regarding to the reasons for foreign filing (without regard to major nations and other nations) ([Fig. 6]). Further, it is deemed that while Japanese companies think “not filing an application to abroad because implementation is not decided yet”, European and North American companies do not let the situation ambiguous “undecided” and judge marketability or aim license revenue ([Figs. 6 and 7]).

[Fig. 6] Reasons for filing an application to other countries than major nations



[Fig. 7] Reasons for not filing an application to other countries than major nations



< Multiple answers allowed for both: up to 3 >

* Although Figures are about other than major nations, similar results were also obtained for major nations.

Epecially, the hearing survey showed comments from European and North American companies in which they pay attention to India, Russia, and Brazil as future markets and are scheduling the increase in the number of filing, and they do not hesitate to file an application because upgrading the systems is expected in these countries in the future like China 10 years ago and thus the effectiveness of enforcement will be secured. It is found out that European and North American companies are strongly aware of potential for markets and systems in those countries.

Since there is an outlook in which the number of middle-income groups in BRICs will peak by the 2030s and also there is a movement in which, compared to Japanese companies, European and North American companies establish research and development bases over a large area including South American countries etc., it is needed to make a vision toward the 2030s. Considering a 20-year patent right, it is deemed that now is an important turning point for movement.

(iii) Utilization of IP human resources in application

The results of questionnaires showed that European and North American companies also seek outside human resources who are capable of filing an application in comprehensive

consideration of techniques, designs and brand. On this point, when producing a product, it is necessary to consider which parts should be kept secret or by which parts a right is acquired to protect and monopolize the product, which parts should be opened, from which parts a profit is generated, in addition, how to enhance the presence as an attractive product in consideration of the design and also brand, in order to grow certain revolutionary techniques or design as seeds into business. Because human resources having such a talent for production are rare, it is seemed that even if those human resources can not be trained in-house, European and North American companies have an idea of recruiting them from outside if needed.

(2) Conclusions

- Should consider a strategy for filing an application with a purpose of license revenue as a means for enhancing competitiveness depending on business conditions.
- Should study BRICs markets which are expected to grow in the future as countries where to file.
- Should prepare countermeasures against leakage of technologies (countermeasures with consideration of employee's mobility, etc.)
- Might need to train human resources capable of comprehensively considering a design /

brand, business models, etc as well as techniques.

3 Strategy for IP Rights Prosecution (Topic 3)

The acquisition of an intellectual property right contributing to management is increasingly important. In order to acquire an intellectual property right which has the effectiveness contributing to management, it is thought to be essential to acquire the right with a thought of its use.

Although the definition of intellectual property right contributing to management can be different according to business, products, etc., it is necessary for each company to strategically make a plan for how to use intellectual property right acquired for what purpose in accordance with specific circumstances etc. of own company. Furthermore, comprehensive use with the inclusion of not only patent but also designs / trademarks etc. is important.

(1) Investigations / analyses

- (i) Strategy for acquiring effective IP rights
 - ① Purposes and actual situations for utilizing rights

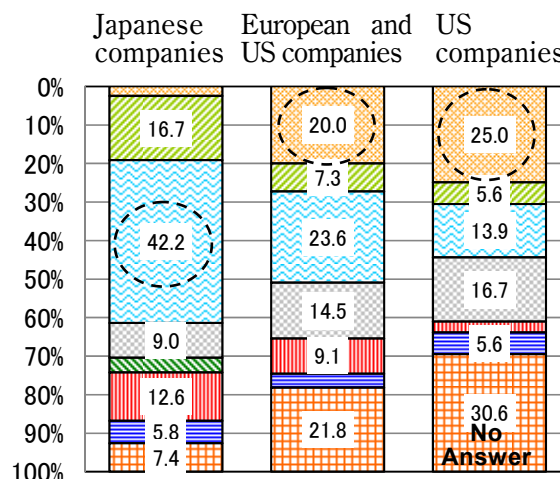
(a) Purposes for using a right

In considering an effective strategy for acquisition of a right, a strategy for acquisition of a right depending on purposes of using a right to be acquired is needed.

(b) Action for practically using a right

According to the results of questionnaires etc., it is judged that while Japanese companies have a tendency to basically try to solve a problem by negotiations to avoid a suit, European and US companies, especially US companies, have a tendency to exercise a right with a policy not to hesitate a suit eventually. There might be a difference between Japanese companies and foreign companies in judgment at a point of final decision of filing a suit ([Fig. 8]).

[Fig. 8] Responses when discovering infringing products



- a Filing a lawsuit
- b Holding negotiations with the possibility of litigation in mind
- c In principle, sending a warning and holding negotiations to prevent litigation
- d Proposing a meeting for licensing negotiations
- e Taking no action
- f Taking a completely different action depending on the case and the country
- g Others

② Acquisition of a right for constructing a barrier to entry

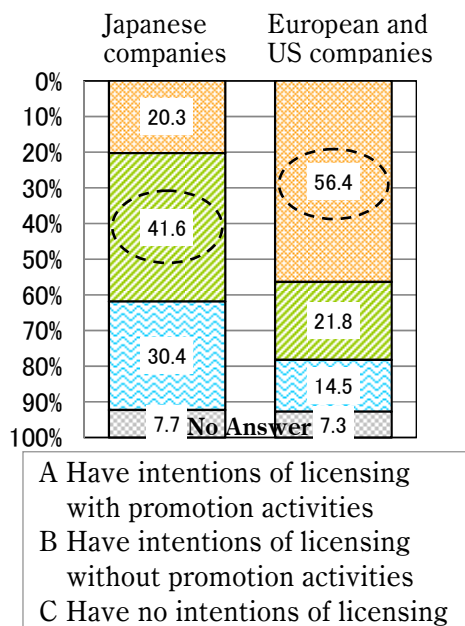
There are many companies which acquire a right with the intention to construct a barrier to entry. On the other hand, there are also many companies which are not clearly aware of intended use, of such as construction of a barrier to entry, and the rate of Japanese companies is higher than that of European and US companies. It seems that there are still many cases of acquisition of a right only for ensuring self-implementation. It is important to recognize the aggressive use of intellectual property, for example, of ensuring superiority of own companies, such as exclusive superiority and competitive superiority.

③ Acquisition of a right for licensing out

There is a tendency that Japanese companies do not practice an activity for licensing even if they are willing to licensing out, compared to European and US companies, and there is a tendency that European and US companies practice an activity for licensing compared to Japanese companies. It is important to clearly define how to position licensing out as a

management strategy and study possible ranges for licensing out ([Fig. 9]).

[Fig. 9] Activities for licensing



(ii) Specific measures in the strategy for IP rights prosecution

① Writing Specifications / Claims etc.

In order to acquire an effective right, acquisition of a right linked to business strategy and research and development strategy is needed, and development of ability of specification writers (training human resources) and cooperation with other departments are important.

② Acquisition of a right of design / trademark

It is also important to consider using a design right as a tool for protecting a product brand, etc. Further, it is necessary for B to B companies to enhance the value of their private brand by using the design right.

③ Translation

A cost burden of translating expenses is unavoidable in a way. However, if the right includes mistranslation, the value of the right would come to nothing, therefore, cautious dealings with translation are required.

④ Right protection in individual countries

Since the systems / operations in individual countries are different in examination and use, it is ideal that the scope of right is matched to operation of each country. However, the scopes of right are preferred to be identical in terms of

cost and management, so that it could be said that it is strongly desired to harmonize the systems / operations of individual countries.

⑤ Human resources / Organization

Since it is desired to handle acquisition of a right accordance with business strategy, human resource training and organization / systems for accomplishing it should be upgraded. Further, it is important to attempt to maintain eagerness / motivation of a person in charge for acquisition of a right linked to business strategy.

(2) Conclusions

- Should acquire a right based on clear purposes of use without aiming acquisition of a right itself
- Should use a right positively in accordance with the purposes of use
- Should accelerate the harmonization of systems and operation for global acquisition of a right

4 Strategy for Securing and Managing Human Resources for IP Creation¹ (Topic 4)

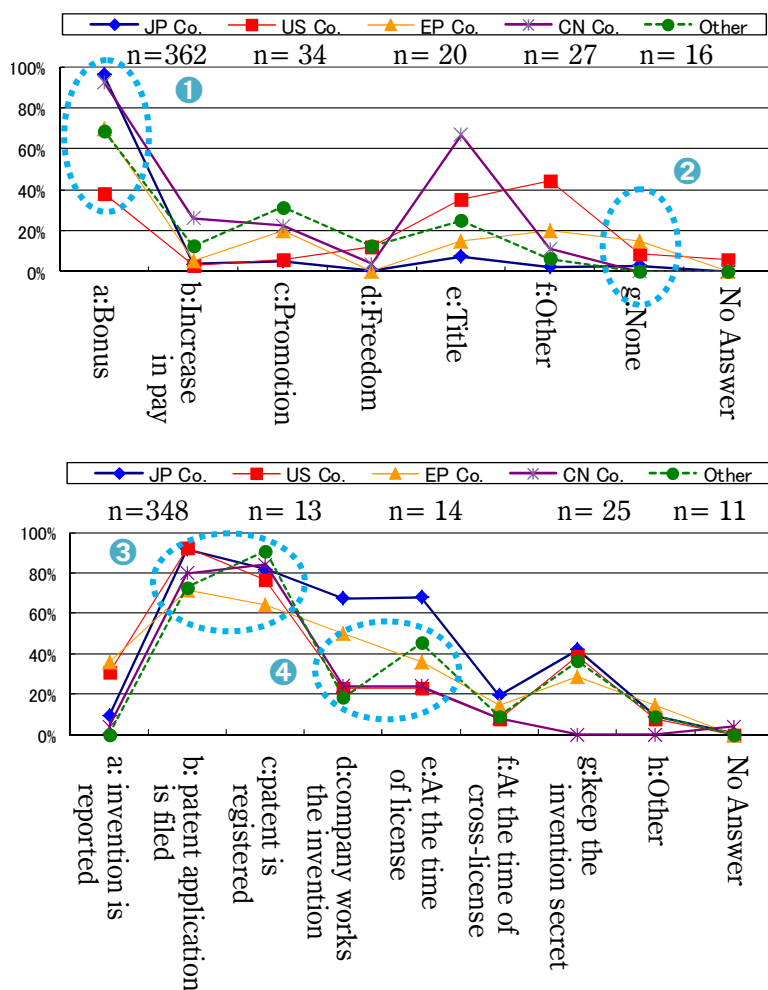
There are some cases where even though they have advanced technologies and many patents and capture a market in an earlier stage of product development / launch, Japanese companies are caught up by overseas companies and have no choice but to withdraw from the market. Under this change of circumstances, it could be said that it is an important agenda to recognize, as one of IP strategies, an inventive systems for invention which is proper as one of approaches for creating innovations (to further encourage inventions contributing to enhancement of corporate profits and international competitiveness)

(1) Investigations and Analyses

(i) Actual situation of inventions by employees, etc., made at a home-country base

Regarding the reward for invention itself, it was found out that even in countries where a system of inventions by employees is not stipulated by law, a rate of “a: Lump-sum cash payment” is high (①). Additionally, there is only an extremely low rate of companies which chose “g: no special compensation”, including foreign companies (②).

[Fig. 10] (Above) Kinds of invention rewards (Q4-1.)
 (Below) Times of invention rewards (Q4-2.)



There are many examples in which both Japanese and foreign companies pay a rewards “b: When a patent application is filed” and “c: When a patent is registered” (③). On the other hand, overseas companies pay larger amount of reward at the time of filing but have a lower rate of payment (or actual rewards) of “d: When our company works the invention” and “e: When our company gains a monetary income from the invention by licensing it or assigning the patent right.”, compared to Japanese domestic companies (④).

creating activities by employees other than inventors, respectively by well combining different kinds, “financial rewards”, “nonfinancial rewards” and “personnel treatment”. Additionally, it was found out that many overseas companies give a reward of invention by nonfinancial rewards and personnel treatment.

(ii) Management of human resources for IP creation

Regarding management of the whole IP creating human resources, it is necessary to choose a method suitable for a reward of invention to inventors and evaluation for IP

[Fig. 11] Methods and kinds of invention rewards

Methods of rewards	Definiteness of evaluation objects	Value of reward	Objectivity of the Value	Regulation by law
Bonus	Has	Has	Has	Appropriate
Nonfinancial reward	Has	Depending on individuals	A little	Not appropriate
Personnel treatment	Partially has	Has	Partially has	Possible

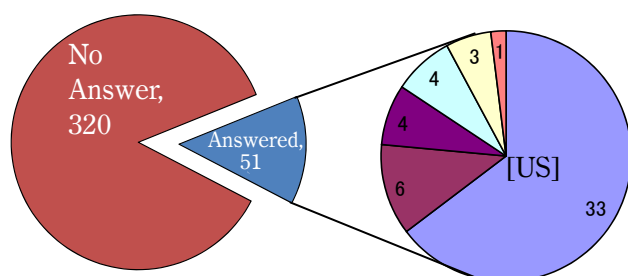
(iii) Actual situation of inventions by employees, etc., made at an overseas base, etc

Overseas companies are needed to construct a country-specific system of invention rewards, as well.

Furthermore, both Japanese and overseas companies supported that the system of inventions by employees in U.S. is desirable. However, it is needed to recognize that the system reflects various social systems in US.

[Fig. 12] Desirable system of inventions by employees (Q4-14)

[Answer of JP Companies]



(iv) Form of strategy for securing and managing human resources for IP creation

Japanese companies think that “Inventors’ ability and inspiration” and “Education and training of human resources by the employer” are important as a factor contributing to corporate profits and international competitiveness. On the other hand, US companies think that “Inventors’ ability and inspiration” and “Recruitment of talented workers by the employer” are important and choose “To attract talented engineers from other companies” as a purpose of invention rewards.

It is important to set a purpose of invention rewards based on factors in which the invention contributes to corporate profits and international competitiveness, and give an invention reward optimal for the purpose.

(2) Conclusions

- Should take suitable rewards/evaluations for IP creating activities including an inventive activity as an important factor contributing to corporate profits, and international competitiveness
- Each company should consider constructing an in-house system including a necessary inventive reward by optimizing combination of time, kind (financial/nonfinancial/personnel treatment, etc.) and eligible person for a reward for IP creation in order to effectively use the whole human resources for IP creation including inventors
- Should study an in-house system reflecting the system of inventions by employees and the characters of labor/social environments in each country and various situations of each country when constructing an in-house system including inventive rewards corresponding to global company activities
- Should consider as a factor the systems of inventions by employees of other countries and the legal system of labor and labor/social environments in each country with consideration for the whole company activities including treatment to employees such as inventors and global IP creating activities when the system of inventions by employees of our country is reviewed

5 IP strategy integrated with an international standardization strategy (Topic 5)

There is a need to construct an IP strategy integrated with strategy for international standardization for reinforcing international competitiveness. The need for human resources capable of making excellent use of organization/system and strategy for that is increasing.

However, there are not many “companies which recognize that international competitiveness

is reinforced by IP strategy integrated with strategy for international standardization” among Japanese companies which address the standardization. On the other hand, there are some successful examples of overseas companies which reinforced competitiveness by integrating strategy for international standardization with IP strategy. There are also quite a lot of cases where a success was proved by adapting international standardization strategy / intellectual property strategy to management strategy. Further, many of companies which have leaders responsible for standardization and intellectual property recognize that international competitiveness were increased by intellectual property strategy integrated with strategy for international standardization.

(1) Investigations / Analyses

From the present investigations, a remarkable relationship between the form of standardization/intellectual property activities and international competitiveness was recognized. Some of matters had been recognized by persons in charge, but the meaning that this relationship was supported by cross-industrial quantitative data is thought to be a great deal.

(i) Standardization activities (staff, system, collaboration with the IP department, specific actions taken in the course of the activities, etc.)

- Establishment of organizations for standardization / intellectual property and organization specializing in the mutual cooperation

In both Japanese and overseas companies, it was found out that more than half of companies which recognize that ”international competitiveness was increased ”by IP strategy integrated with standardization strategy have organizations / departments specializing in standardization / intellectual property and link both of standardization activities and intellectual property activities.

- Establishment of leaders in charge of international standardization / intellectual property

Among companies which recognize that “international competitiveness was increased” by IP strategy integrated with standardization strategy, 54.5% of Japanese companies and 16.7% of overseas companies have leaders responsible for both standardization activities and intellectual property. In addition, it was found out that the percentages become higher when companies which have leaders

responsible for international standardization and leaders responsible for intellectual property, respectively are included: 63.6% for domestic companies and 83.4% for overseas companies.

(ii) Application and registration strategy for inventions related to standardization technologies

Companies which recognize ”international competitiveness was increased ”by IP strategy integrated with standardization strategy change the timing of filing/acquisition of a right and contents of acquisition of a right between standardization relating patents and other patents. Companies which replied “international competitiveness was increased” show significantly higher percentages in the categories of “filed an application so that the patent will likely become a standard essential patent” and “filing an application and acquiring a right so that the patent will become a peripheral patent to a standard specification after the standard specification is decided” compared to other companies.

(iii) IP strategy for increasing international competitiveness

In both Japanese and overseas companies, about 80% of companies which recognize that “international competitiveness was increased” by IP strategy integrated with standardization strategy clearly define the position of the company’s own patented technologies against standardization technologies. These companies emphasize either of 3 types of a, b, and c below.

Both Japanese and overseas companies which do not join the standardization activities initiatively show that the total of 3 types is about 20% and it is greatly different from the total of neither of 3 types and No Answer of about 80%.

(Explanatory note) ① initiative join, ② general join, ③ Company having leaders in charge, ④ Companies which got increased international competitiveness

- a A type of standardization activities that aim for a situation where standardization technologies and our company's own patented technologies overlap each other
 - b A type of standardization activities that aim for a situation where standardization technologies exist as peripheral technologies of our company's own patented technologies
 - c A type of standardization activities that aim for a situation where standardization technologies are used to make our company's own patented technologies more appealing
 - d None of the above
 - e Others
- No Answer

(2) Conclusions

It was found out that companies which replayed "international competitiveness was increased" have remarkable characteristics compared to other companies in many respects about activities of standardization/intellectual property. This shows that there are general teachings and policies about activities of standardization/intellectual property for "enhancing international competitiveness". Japanese companies need to learn examples and teachings about standardization/intellectual property from leading industries. To learn teachings obtained from previous examples, some sort of teaching material and opportunities will be needed.

In light of the results of investigation and analyses, we present 5 proposals below.

- Should further reinforce activities for linking to standardization and intellectual property
- Should learn examples and teachings of standardization/intellectual property from leading industries
- Should continuously investigate and analyze a recent tendency of standardization / intellectual property
- Should educate human resources who have skills in both the aspects of standardization and intellectual property
- Should involve agencies in integrating standardization strategy with IP strategy

IV Prospect of future measures

There is a need to plan and practice global IP strategy which strengthens business models in order for industry to fully use IP in business toward reinforcement of international competitiveness. And, it is thought that the practice has three main aspects: "ensuring

intellectual property", "using intellectual property", and "upgrading organization systems / human resources". Furthermore, it is necessary that the government constructs and upgrades infrastructure with which the industry can smoothly conduct these practice activities.

Accordingly, regarding consideration of measurements to be taken by the companies and the government based on the results of the investigations, it is thought to the directions for which Japanese companies should head to reinforce international competitiveness are as follows.

(Awareness of intellectual property)

Intellectual property strategy is one of strategies in management and business, and it is effective to use intellectual property for keeping a profit in a business model which embodies the strategy. Thus, it can be said that business managers should strongly understand that intellectual property is a tool for generating a profit continuously. Furthermore, it can be thought that such understanding should be shared with not only companies but also partners including universities which consider the use of intellectual property jointly. And, if intellectual property strategy is one of management strategies, it is important to have a clear awareness of the reason why intellectual property acquired with a cost is used in business and how to make the value of intellectual property effective, and to encourage / realize the effective IP action which meets the purposes by the whole organization.

(Regarding specific IP strategy)

Regarding IP strategy, there are many previous cases that we should learn from foreign countries. However, it is necessary to

sufficiently understand that those cases could have backgrounds more favorable to European and North American countries than Japan, and consider whether or not to introduce them individually with use of our strength.

Since the ways of acquiring intellectual property and generating a profit and fighting by using intellectual property, and the competitors' movements are changing, purposes of using intellectual property and methods for practicing IP should also be necessarily shifted against the changes, and it is needed to construct IP strategy which is optimized about use and management so as to correspond to individual business.

(Organization systems, human resources)

Organization systems relating to acquisition and use of intellectual property should construct a system which the organizations can take action integrally and functionally, based on each strategy. Also, it is useful to construct an in-house system optimized about personnel treatment to make use of human resources effective for enhancing IP creation activities.

(Matters to be done by the government and government - industry collaboration)

The government which takes charge of IP administration should also have the same understanding and should develop a policy with the above viewpoints. Especially, it is strongly desired to address earlier provision of appropriate examination results, acceleration of harmonizing systems / operations of individual countries, environmental improvement for training human resources in charge of IP functions and reduction of burdens of procedures in emerging countries, etc. so that intellectual property rights in individual countries can be customized.

It is also possible that it is useful to address a high level of training of IP management human resources which is difficult to be done by companies themselves in cooperation with industry-government-academia. Especially, it is important to create an environment so that companies can utilize immediately effective human resources who are capable of giving advice for IP strategy and conducting a strategy for external resources use.

V PROPOSALS

Japan is facing a situation where it is difficult to survive international competitiveness with a conventional model of earning by in-country

manufacturing using our technological strength and storing intellectual property as defense means. Thus, it is indispensable to aggressively exclude competitors by taking full advantage of intellectual property created in-house and intellectual property procured from universities, etc. or to shift to a model of generating license revenue against overseas subsidiaries and other companies. Then, flowing a profit generated by utilizing global IP back to our country permits technological trade surplus to greatly increase, the profit to be reinvested into innovation, and innovation cycles of Japanese companies to be accelerated.

In order to nationally boost a structural readjustment to such business model of making a profit by utilizing IP, there is a need that leaders of individual companies spearhead addressing IP strategy and also the government backs up the actions of these companies and conducts upgrading IP environments for supporting global corporate activities etc.

Based on the above understanding and the results of this research, we make the following proposals to industry and the government.

(Industry)

1 A new way to thinking to intellectual property

In Japanese companies, management leaders should enhance awareness of all employees about importance of intellectual property, properly instruct the way of utilizing intellectual property in business strategy, and further realize a situation of intellectual property use by receiving a report regularly. Furthermore, it is necessary that under a powerful policy of management leader, all staff of not only IP department but also operating department, research department, etc. work with strong intention for enhancing a corporate profit by using intellectual property in global business activities.

2 Promotion of global IP strategy

Japanese companies should further sophisticate and promote IP strategy as part of management strategy with learning previous cases from overseas countries in order to survive in global markets. With recognition of social / historic backgrounds of other overseas companies and also with consideration of using Japanese companies' strength, individual strategy should be decided.

3 Promotion of global IP resource procurement

Japanese companies also should promote departure from in-company management with regard to IP resource procurement to survive international competitiveness. Especially, they should aggressively utilize research outcomes and potential of universities, and should more aggressively utilize intellectual property, productive facilities, human resources, etc. retained by other companies in Japan and foreign countries.

4 Upgrading in-house systems for using IP in business strategy

To incorporate IP strategy into business strategy and conduct the strategy accurately in Japan and foreign countries, each company should upgrade the in-house system based on each strategy so that the organization can act integrally and functionally.

5 Training / ensuring human resources for using IP in business strategy

To incorporate IP strategy into business strategy and conduct the strategy accurately, human resources capable of understanding business strategy and practicing IP strategy are needed. Each company should make an effort to train and ensure such human resources.

(Government)

1 Support for global acquisition of a right and use of a right

The government should promote harmonization of IP systems / operations of individual countries to smooth global acquisition of a right and use of a right by each company.

Furthermore, the government should make an effort to expand an international cooperation scheme for enhancing convenience of global IP activities of users such as Patent Prosecution Highway and attempt to increase the use.

2 Upgrading IP environment in the markets in emerging countries

The government should further aggressively address upgrading IP infrastructure and training IP human resources in emerging countries etc., especially markets in which companies are interested, in cooperation with the local governments.

Furthermore, the government should fulfill the provision of IP information contributing to

smooth acquisition of a right and effective use of a right in emerging countries etc. (actual situations of operating systems and IP movements in the local industry, etc.).

3 Support for training human resources

It is important to experience IP strategy planning, international negotiations, etc. in order to train human resources. The industry, government and academia should cooperate with each other and provide such opportunities for training human resources.

4 Continuation of research

The research on IP strategy of Japanese and foreign companies should be continued. Especially, it is necessary to concretely study obstacles to embodiment of the above proposals and the solutions for them.

¹ Human resources for IP creation refer to human resources relating to every activity for creating a value of intellectual property. That is, it includes, for example, human resources who research rights of other companies, human resources who file an application and acquire a right, human resources who implement inventions (productization), human resources who enhance the brand power as well as inventor.