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- Under Intellectual Property Strategies in a Global Age -

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How we can define the required skills of Intellectual Property human resource in the future?

- Under Intellectual Property Strategies in a Global Age -

Yoshitoshi Tanaka*

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1. Introduction

Along with the progress of globalization and open innovation, the industrial world is entering many new phases over the intellectual property system and its operation. The business to be handled by the intellectual property department of the enterprise is becoming complicated and diversified, and it is not possible to contribute sufficiently to corporate management by merely dealing with the right of intellectual property and its legal exercise. Traditionally, intellectual property department has been working with the responsibility how to

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file intellectual property applications, how to obtain intellectual property rights, how to make enforcement based on intellectual property rights, which were the main roles in the past. In the field of intellectual property rights, it was mainly to carry out legal procedures described in intellectual property related laws such as patent law, design law, trademark law and detailed rules thereof. However, with the globalization of businesses, there are situations in which intellectual property rights are closely related to solve business problems faced by companies, such as issues accompanying M&A and technology transfer, new competing situation with emerging countries, necessity to accelerate open innovation, establishment and involvement on technology standard, and the expanded responsibility of the intellectual property department.¹⁾

Therefore, in this paper, we will review changes in the relationship between intellectual property rights and business, and related issues to intellectual property activities. The objective is to present a new viewpoint as a message to the experts engaged in the company's intellectual property department. As a matter of course, understanding of new perspectives as a result of globalization of business will confirm the necessity of carrying out tasks based on these new perspectives. And there is a need for human resources who can solve those new problems. Through such discussion, we are expecting that the awareness about the capabilities and skills that the experts in the intellectual property field should possess will be increased in the future, then, the more advanced intellectual property personnel will be developed.

1) 田中義敏「知財価値を高めるための知財戦略－戦略策定の基本に立ち返った知財戦略の策定を－」, 特許懇No.255(pp.45－59), 2009

2. Nine cliffs for intellectual property activities

Going back to the principle that a creation can be born from criticism on the current status, let's conduct critical observations regarding intellectual property strategies and activities up to now. How intellectual property strategies have been formulated within corporations? If a strategy is a basic guideline for actions that indicate a major direction, it becomes necessary to define and understand the concrete actions along with the strategy. However, what are concrete objectives and targets of intellectual property departments, and how have they managed so far? These points differ greatly for each corporation, and it is difficult to express them in a general manner, but upon summarizing interviews and hearings from a certain number of corporations, the following points can be focused, and described as critical cliffs, which shall be sincerely recognized by intellectual property people.

1.1 Lack of strategy formulation processes

For the past behaviors by existing intellectual property departments, intellectual property people have collected the examples of intellectual property strategies from other corporations, and defined them as their own strategies, without having the fundamentals of strategy formulation process. The basics of strategy formulation process has been developed and organized in the field of business administration, which is very useful for intellectual property department's strategy and activities to be integrated with corporate business strategy and activities. In order to formulate a strategy, the external environment analysis surrounding the company and internal resource analysis of itself are necessary, then, the opportunities and risks, and strengths and weaknesses will become

visible, which are necessary for strategy formulation. Here, it is expected to move forward with discussions within corporations by the basic process for strategy formulation. Most of intellectual property department people agreed that they have not considered the fundamentals of strategy formulation process.²⁾

1.2 Nonexistence of intellectual property strategy for each business unit

Most of big enterprises having quite big size of intellectual property department have their business diversification with multiple different business units. Each business unit has its outside environment and their special internal resources organized to support the said business unit. However, intellectual property strategy has been defined at a corporate level without thinking of the different condition of each business unit. Therefore such corporate intellectual property strategy does not represent the strategy based on the products and market characteristics of each business unit. Furthermore, the past, present, and future predictions of each business unit are not taken into consideration as the materials for intellectual property strategy formulation. Analysis of the external environment and the internal resources of each business unit are definitely necessary. Most of intellectual property people agreed with the necessity to define intellectual property strategy at each business unit depending on the uniqueness of product and its market, and they also agreed that they have never been discussing intellectual property strategy on each business unit so far. Even if big enterprises just started intellectual property strategy discussions at each business unit.³⁾

2) 田中義敏「ビジネス強化・成長のための知的財産の活用」, 日本知的財産協會, 知財管理Vol. 54-5, 555-566, 2004.

3) 田中義敏他「企業經營に連携する知的財産部門の構築; 企業内機能部門との連携に

1.3 No clear relations with corporate strategy

Traditionally, as already explained, intellectual property department has been working with the responsibility how to file intellectual property applications, how to obtain intellectual property rights, how to make enforcement based on intellectual property rights, carrying out legal procedures described in intellectual property related laws and regulations thereof. Their main roles were very practical works like drafting specifications of intellectual property applications, following the practical regulations described in the related laws. These characteristics of their jobs have made intellectual property people separated from strategic issues and corporate level of discussions. Even if intellectual property strategy has been defined, there has not been the opportunity to have discussions to integrate intellectual property strategy with corporate strategy, only having confirmed the consistency with laws and regulations. Therefore, the relationship between intellectual property strategy and corporate management strategy has not been fully discussed so far. Although intellectual property strategy is positioned to carry out and realize corporate management strategies, the intellectual property strategy is closed within the field of intellectual property, and no clear relations with corporate management strategy. Unless the management objectives of the entire company are incorporated as strategy goals for intellectual property field, the activities of the intellectual property department will not be linked to management strategy. The head of intellectual property department shall be assigned from corporate level of management, or intellectual property experts should have additional training and experiences to understand the corporate level of business subjects.⁴⁾

向けて」, (社) 発明協会, 2007

1.4 Intellectual property strategy does not exist in the company

Also, some companies have not discussed intellectual property strategy. When Japanese intellectual property strategy headquarters was established in 2002, it may be strongly influenced by shouting intellectual property strategy with intellectual creation cycle consisting of creation, protection and utilization of intellectual property. It seems that many companies are misunderstanding the intellectual creation cycle as their intellectual property strategy. In reality, when we ask to many companies "What is your intellectual property strategy?", most companies explain the creation, protection, and utilization of intellectual property. Companies that do not define their own intellectual property strategy just follow the activities of intellectual property practical works such as preparing patent application documents based on invention proposals, procedures to the patent office, etc. And in this case, the goal of intellectual property department goes away from the viewpoint of activities for contributing to business and strengthening business, since achieving the number of patent applications is the most serious matter for them. Furthermore, utilization of the right after registration is also limited into the practical procedures such as invention fee apart from business. As a result, many companies have never used the legal effect of monopolistic exclusive rights which is the most important role of intellectual property rights. It is important to have an intellectual property strategy as the first step.⁵⁾

4) Yoshitoshi Tanaka, "How can we integrate INTELLECTUAL PROPERTY Strategy with Corporate Strategy? Combining INTELLECTUAL PROPERTY strategy with Management Strategy Making Process", Contemporary Private Law, IAITL 2012

5) Minoru Masujima, Yoshitoshi Tanaka, "Why Japan boasts of the most patent

1.5 Limited behaviors within intellectual property practices by intellectual property staff

Many intellectual property experts engaged in procedures for acquiring intellectual property rights are organized in the intellectual property department at a large company. The work of most intellectual property experts is to receive invention proposal from inventors, to evaluate whether the proposed invention has novelty and inventive step compared to the prior arts, and to make a proposal of patent claims and the other details to draft patent specification. The most important thing of this process is to listen carefully to the voices from the inventors, to understand the essence of the invention, and express it with sentences and drawings in the document. The problem here is that there are few opportunities to think about the business perspective, such as the business impact that the proposed invention brings, the position on the patent portfolio against competitors, the competitive relationship, and so on. In other words, it is not clearly understood what to acquire the right for, and it is the object to make the invention useful. In some cases, the intellectual property experts in the intellectual property department do not fully understand the importance of intellectual property strategy without considering the intellectual property right to fulfill business strategies and promote corporate growth. Normally in a big company, each member of the intellectual property department is in charge of the business division or product group and has the authority to decide the performance of the application procedure of the invention, but it has difficulty in viewing the relationship with the business. In many cases, it falls into a routine that considers only the relationship

applications in the world", International Journal of Liability and Scientific Enquiry, Vol. 4, No. 3, 2011, pp185-201

with the cited documents presented by the patent examiner.^{6),7)}

1.6 Lack of collaborations with other functional departments

If cooperation between the intellectual property department and other functional departments in the company is insufficient, the activities of the intellectual property department deviate from corporate activities. Particularly, it is necessary to collaborate with related departments in the enterprise in businesses that the intellectual property department cannot independently carry out, such as M & A, standardization, inter-company business alliance, etc. The necessity of the trinity of the business department, the R & D department, and the intellectual property department has been screamed at many opportunities since the intellectual property strategy headquarters was established, but there is a real situation that it cannot cooperate fully with other departments. Integration of corporate management strategy and intellectual property strategy is required. The intellectual property department has to enter into discussion of management strategy and it is necessary for management to recognize that intellectual property is a big factor shaking the whole company. In order for the intellectual property department to share corporate management strategies, the introduction of a balance scorecard will also be one consideration.^{8),9)}

⁶⁾ Minoru Masujima, Yoshitoshi Tanaka, "What are the Reasons Why Japanese Enterprises File so Many Patent Applications without Request for Examination?", Portland International Center for Management of Engineering and Technology (PICMET) 2011

⁷⁾ Yosuke Towata, Yoshitoshi Tanaka, "Analysis of the Matching between Customer Needs and Patent Application Portfolio about Unmanned Aerial ", Portland International Center for Management of Engineering and Technology (PICMET) 2016 Proceeding, pp. 1619-1629, 2016

⁸⁾ Tanaka, Yoshitoshi, "Intellectual Property as a Key to Growth and Strengthening of the Enterprise", International Conference on Managing

1.7 Delay for open innovation era

In recent years, the importance of open innovation has been strongly screamed. In the business and development departments, there are many discussions such as acquisition of new technology, reduction of time and expense, expansion of business through business alliance. However, the necessity of retaining confidential information before disclosure and prevention of outflow of know-how, which is carried as a characteristic of the intellectual property department, is delaying efforts to open innovation. Although I can hear a cheek, in the real intellectual property department, important decision on open innovation seems to have been overlooked. Cross-licensing of owned intellectual property rights is done normally in certain fields due to the necessity of business. However, there is not enough discussion on how the intellectual property department should tackle open innovation for launching new business and developing new products. It is necessary to discuss the ways to participate concretely as intellectual property department in company-wide efforts such as joint development, international standards, technology leakage prevention, patents and know-how protection. Members of the intellectual property department may need to reform their awareness and formulate new rules.

1.8 No serious concerns by intellectual property people for emerging countries

Creativity and Innovation (ICMCI2009), Innovation Management, MACMILLAN, pp. 136-153, 2009.1.

- 9) Yoshitoshi Tanaka, "Collaboration between INTELLECTUAL PROPERTY Department and Other Departments promote INTELLECTUAL PROPERTY Utilization", Contemporary Private Law, IAITL 2012

Patent applications in emerging countries are rapidly increasing. However, the intellectual property department and the management team seem to be unable to share this sufficiently as a sense of crisis. Although the number of applications from emerging countries has increased rapidly, it seems that there is no need to worry too much because the quality of the invention to be filed is bad. In China, the total number of domestic applications concerning patents, utility models and designs already exceeds 2.5 million per year, and the number of applications from China in Europe, the US and other emerging countries is also increasing. As a matter of course, overseas applications from China will increase, and a certain number of applications will be increasing to Japan in the near future. The world market, which is also important for Japanese companies, is threatened by proactive application from emerging economies. If this continues, it will not be long before the difficulties of getting overseas due to intellectual property protection. Although Japanese companies have been trying to increase the number of applications in overseas, still not enough. The intellectual property department people must promptly shift into consciousness to acquire rights in the world from traditional mind to acquire rights in Japan.
10), 11)

1.9 Lack of consideration of basic inventions

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- 10) Tanaka, Yoshitoshi, "Research on the Factors How to Avoid Un-utilized Patents to Support Strengthening Technology Management", Portland International Center for Management of Engineering and Technology (PICMET) 2010 Proceeding, pp. 2160-2168, 2010.7.
 - 11) Hirokazu Matsuno, Yoshitoshi Tanaka, "Empirical research on the characteristics of unutilized patents based on PLDB data focusing on a leading enterprise", International Journal of Liability and Scientific Enquiry, Vol. 4, No. 3, 2011, pp252-264

In Japan, we have filed a number of patent applications in the 1970s and 1980s and have promoted a catch-up type of industrial policy to keep up with the technologies of Europe and the United States. There are no doubt that many improved technologies based on the basic technologies in Europe and the US, have contributed to the creation of high quality products in Japan. Facing on the intense market competition, it is also true that fine-grained improvement technology to capture consumer needs and to meet the needs. However, because of the limited growth of the domestic market, it is necessary to develop business in the world market, strengthening the business against both competition in developed countries and competition in developing countries. It is expected to compete against advanced European and US's technology by acquiring basic patents based on new technological combinations and is expected to shift into front-runner type technology development. Meanwhile, developing countries will be forced to compete based on improved patents that meet their respective market needs. In the future, we will have to develop corporate activities that will overcome competition in the global market with the proper balance of basic patents and improved patents, enriching the world market.^{12),13),14)}

From the nine perspectives above, we have criticized intellectual

12) Yoshitoshi Tanaka, Daphne Jue Wang, "Granted patents have the same level of inventive step? A new approach to distinguish patent protection based on the level of inventive step", *International Journal of Intellectual Property Management*, Vol. 4, No. 4, pp270-282, 2011

13) Nagatsuka, Hiroaki & Tanaka, Yoshitoshi, *Research on Management of Patent Applications about Long Life-Cycle Electric Appliances*, Portland International Center for Management of Engineering and Technology (PICMET) 2010 Proceeding, pp. 2218-2225, 2010.7.

14) Hiroaki Nagatsuka, Yoshitoshi Tanaka, "Management of patent applications for digital camera considering the product life cycle", *International Journal of Liability and Scientific Enquiry*, Vol. 4, No. 3, 2011, pp218-238

property activities from past to present. This is because the intellectual property department has dared to make a critical view to sharing new issues in globalization. These nine tasks are items that are undergoing major changes and evolutions at present, and must take necessary actions at an early stage. In order to recognize the sense of crisis seriously, we express these as "Nine cliffs for intellectual property activities". Some companies may say that some of these tasks have already been resolved. Each company has its own tasks different. Each company will make a decision on the viewpoint focused on. In this approach, it is necessary to arrange personnel with knowledge, experience and skills different from the intellectual property talent so far. It is necessary to discuss the necessity of intellectual property with required competency in order to overcome these cliffs, and to develop personnel to be active to take necessary actions quickly. With conventional intellectual property personnel, unfortunately we will not be able to overcome these cliffs.¹⁵⁾

3. Competency to overcome 9 cliffs

Thus far, we extracted nine major crisis factors "cliffs" in the intellectual property field. And we will think about what kind of human resources are needed to get over these cliffs. Common to the nine cliffs, these crisis factors are not related to expertise or skills concerning intellectual property rights. Rather than expert knowledge, it depends on the level of skill "competency" of the behavior possessed by human resources. Therefore, in this report, we would like to summarize how to

¹⁵⁾ 田中義敏「知的財産戦略策定の基本－知的財産戦略の崖を乗り越える－」, 日本知的財産協會, 知財管理Vol. 63-4, 549-562, 2013.

define the competency necessary to overcome these barriers and make a message including awareness reform of human resources active in the intellectual property field.¹⁶⁾

Here, we will use the competency model shown in the following table organized from McClelland's competency theory to arrange the competency necessary to overcome the cliff.

	Relationship with self	Relationship with others
Recognition	Self-relative Self-rating Confidence	Empathy Organization sensory power Service orientation
Behavior	Self control reliability Integrity Adaptability Achievement orientation Foresight	Fostering ability leadership Interpersonal impact Communication skills Transformation driving force Adjustment of interest Building relationships Teamwork

Source: Hay Group's competency model

We extracted the actions required for intellectual property by deductive reasoning from the points of the cliffs and organized the competency to induce those behaviors as follows.¹⁷⁾

¹⁶⁾ Richard E. Boyatzis, "The Competent Manager - A Model for Effective Performance", John Wiley & Sons, Inc., 1982

¹⁷⁾ Lyle M. Spencer, Jr., PhD, Signe M. Spencer, "Competence at Work - Models for Superior Performance", John Wiley & Sons, Inc., 1993

	Precipices	Required attitudes and behaviors	Competency
1	Lack of strategy formulation processes	Sharing corporate strategy Analytical skill for outside environment and internal resources Business management Idea generation	Self-relative Adaptability Achievement orientation Organization sensory power Transformation driving force Adjustment of interest Building relationships Teamwork
2	No IP strategy for each business unit	Business understanding Communication with business unit Footwork to jump into business Product market oriented	Adaptability Organization sensory power Service orientation Communication skills Building relationships
3	No clear relations with corporate strategy	Conceptual understanding Integration between IP with corporate strategy	Achievement orientation Foresight
4	No IP strategy	Broaden the sight from legal to business Review and change current responsibility	Integrity Transformation driving force
5	Limited behaviors within IP practices by IP staff	Sharing knowledge and experience Leadership and involvement	Self control Communication skills
6	Lack of collaborations with other functional departments	Communication with other department Integration of mutual objectives	Communication skills Building relationships
7	Delay for open innovation era	Broaden the sight beyond existing framework Technology scouting	Foresight Communication skills
8	No serious concerns by IP people for emerging countries	Broaden the sight globally Maintain sense of crisis	Self-relative Foresight
9	Lack of consideration of basic inventions	Challenging breakthrough Challenging leading position	Self-rating Foresight

4. Reform of awareness of the intellectual property department evolves intellectual property strategy

Here, we will discuss the competency that intellectual property talent should possess, corresponding to overcome these nine cliffs.

First of all, it is necessary for the intellectual property talent to break away from the way of work relied only on the expertise of intellectual property. As the most important field, they must master the basics of strategy formulation. The goal for the intellectual property department should be regarded as realization of company-wide management goals. And we must acquire the methods of external environmental analysis and internal resource analysis necessary for strategy formulation. In

addition to the practice of the intellectual property department so far, it is necessary to introduce a viewpoint of new strategy formulation. Therefore, you need a competency to recognize the point lacking in your skills seriously, work on the new field without hesitation, lead the team of the intellectual property department, and achieve the evolution of the new intellectual property department.

In the past, it was a vague discussion of the company's intellectual property strategy, but originally, for each business department our company has, it is necessary to formulate intellectual property strategies. To that end, we need to jump into each business division, increase opportunities for communication with human resources supporting business, understand products and services, and even the market. Therefore, for this purpose, it is necessary to have flexibility to have high communication ability and to have deep relationship building capabilities with human resources of other departments.

The organization as a whole must act towards one goal. Many functional departments are organized in large organizations, but if each department moves in different directions, the outcome of the whole organization will be reduced. Sharing companywide strategies and strategies of each department is an important key to growth and outcomes. It is necessary for human resources who share strategies with the idea of performance-base by sufficiently discussing what strategy sharing is, what kind of organization and talent are needed for that purpose.

The intellectual property department has traditionally focused on rights from intellectual property applications. This was a practice of proceeding with procedures in accordance with laws and regulations in compliance with related laws and regulations. There is no room for building a strategy in practice as required by law. We must broaden

our sights from the legal framework to the business domain and change the way we work our intellectual property department so far. To that end, leadership is needed to integrate different areas and to lead the existing organizations into new concepts.

In the intellectual property department so far, there were no human resources capable of discussing intellectual property strategies. Therefore, we could not have enough opportunity to share knowledge about strategy formulation. In the future, it is important for human resources who can develop business and strategy in addition to expertise in the intellectual property field to share their knowledge within the organization. The people who can control themselves in an open attitude and can improve the ventilation within the organization are required.

Business areas that intellectual property departments must engage are expanding. At the same time, in order to carry out these tasks, it is necessary to closely cooperate with related departments within the organization. Until now, the intellectual property department, which was rather closed due to confidentiality, should try to communicate with other departments and make efforts toward achieving the goal through collaborative work. High communication skills and relationship building ability are required for future intellectual property talent.

Under open innovation, it is required to explore and acquire other companies' superior technologies and to build their business alliance by providing their own technologies to affiliated companies. By doing so, it is possible to build a system that can provide targeted new products and services in a short period of time with less investment, ahead of other companies. It requires human resources capable of taking quick action with a sharp antenna.

Basic principles of intellectual property rights are the principle of

territorialism and independence of intellectual property rights. Each country needs to undertake procedures under its own system, which has hampered the construction of global skills of intellectual property talent. From now on, from the attitude of leaving delegates of other countries to the institutions of other countries, it will be necessary for human resources who can build an intellectual property strategy in the global market and can carry out this strategy. Among other threats are measures and cooperation for emerging countries. Intellectual property talent who has international awareness and can look to the world is required.

The way to protect cutting-edge technology and intellectual property in developed countries and the way of commodity technology and intellectual property protection in developing countries are each in a unique environment, and it is necessary to develop their own strategies. Technology is progressing rapidly and has a certain product life cycle. The technology just introduced to the market is a basic patent, and at the mature stage many improved patents are born. Based on the unique nature of developed countries and developing countries, a balanced intellectual property strategy with advanced technology leading the world and refined technologies reflecting detailed market needs is necessary, and we can honor the fundamentals and improvements. Human resources that combine analytical skills are needed.

5. Results of the above observations, and the voice from Industry representatives

By summarizing the discussions on the issues faced by intellectual property activities discussed at the beginning and the ability to hold

intellectual property human resources necessary to overcome those tasks, the following direction can be obtained.

Along with the progress of the true globalization of the social economy, the management challenges faced by enterprises have also undergone significant changes and evolutions, and in response to this, traditional intellectual property activities have also entered a new evolutionary phase there. New major issues are roughly classified into three categories: tasks related to intellectual property strategy, measures to the age of open innovation, response to environmental changes accompanying globalization including emerging countries, work performance by collaboration with other divisions in the company, qualitative transformation from improved to fundamental. However, within the organization of the conventional intellectual property department, there is a shortage of intellectual property personnel to solve these new problems. In particular, despite the growing need for intellectual property strategy formulation to show the direction of intellectual property activities, in reality, discussion of intellectual property strategy formulation is not sufficient in corporate intellectual property department.

Regarding the direction of developing intellectual property human resources obtained from the above discussion, we conducted an interview with the executives of the industry. As a result, it turns out that the company side generally agrees with the above discussion.

> Automobile industry

Management issues in the automobile industry worldwide are conversion from combustion engines to electricity or new energy drive, establishment of automatic driving technology, utilization of AI and ICT,

compliance with environmental regulations, and response to the global market including emerging markets. In the automobile industry field, the above-mentioned technological innovation is currently being promoted in a short period of time. Therefore, effective promotion of R & D will separate the success or failure of the company's competitiveness. The direction and outcome of future technology development will greatly influence the above-mentioned tasks. We must merge technology development strategy and intellectual property strategy and launch more efficient and high quality new products so that they will not be late for other Western companies. In the automotive field, since many patents are used in one product, one patent tends to be considered low in value. Actually, this is a mistake, basic patents on proprietary technology owned by each company have great value to competing companies. Moreover, the core technology of each company is not covered by cross licenses, and it secures originality. It seems that each company shares with each other about improvement technologies. Therefore, it is very important to set the balance between the basic patent and the improved patents to maintain competitiveness. Intellectual property experts are also required to expand their perspectives and participate in discussions on strategy formulation through collaboration with other departments. Future intellectual property experts are human resources who can play an active part in the integrated field of technology, business and law.

> Electrical machinery industry

The Japanese electronics industry has been forced to change its structure from the conventional vertical integration industry to the horizontal module type industry. It is a consequence of the evolution of

industrial competitiveness of the world and innovation. In the future, however, strategies and practices aimed at building a new role will be required. Specific tasks include rebuilding the innovation promotion structure, upgrading and shifting the business model, changing from an enlarged organization to an appropriate organization scale, selection and concentration, restructuring of the information base, stable energy supply, cyber security countermeasures, contribution to social infrastructure development, industrial creation utilizing ICT technology, and so on. There are so many issues. Regarding the future of the electrical industry, it is important not to rely solely on the domestic market, but how to participate in the global market. Although it is not a discussion only in the intellectual property field, it is necessary to cultivate international human resources throughout the organization. Sharing the strategies of each department formulated by different functional departments within the organization throughout the organization, it is important to create an integrated organization to realize a new role. In the personnel of the intellectual property department, it is required to reconstruct the role of their own organization by collaborating with all other departments within the company.

➤ Pharmaceutical industry

The pharmaceutical industry is an industrial field where social needs are extremely large and will continue to form a huge market. Specifically, we will further strengthen the international competitiveness of research and development of innovative pharmaceuticals, protect patent of new drugs as deliverables, expand to pharmaceutical-related patents, industry-academia collaboration, drug repositioning, clinical

testing system, The paradigm shift of the pharmaceutical industry accompanying changes in society, research and development for next-generation medical care, challenge for innovative medical treatment beyond the boundaries of conventional medical industry, etc. Compared to other industrial fields, the pharmaceutical industry has a very large value and necessity of patent protection, which greatly influences the expansion and contraction of enterprises. Even in the acquisition of venture companies holding special overseas technical seeds, the intellectual property department must demonstrate its power in relation to appropriate intellectual property value evaluation and necessary legal confirmation matters. It is important to draw a long-term road map. That is, in each process of pharmaceutical development, which takes a long time for development and clinical trials, the role of intellectual property experts is expected from the early development stage to the market entry stage. Furthermore, patenting of application invention by repositioning during the right period is also an important issue.

Although it was an interview to a limited industrial field, I think that any industry agree about the skills required for the intellectual property talent obtained from this discussion. In particular, we are highly expected to formulate strategies, collaborate with other departments, and participate in creating new business models. While it is still necessary to maintain traditional intellectual property activities that respond to matters required by laws and regulations, at the same time, it is expected to develop areas as experts by looking the global market and other industrial fields widely in the future.

6. Summary

In the true global era, it is required to develop and implement intellectual property strategy, and also important to effectively function intellectual property rights and intellectual property activities toward realization of corporate strategy. And how to produce human resources who can grasp management and business in a bird's view from professional human resources familiar with legal practices related to intellectual property rights is an important issue. Advances in globalization and open innovation will require unprecedented wide range of intellectual property activities, for example, in connection with M&A, international standards, technology transfers across national borders, and so on. It is necessary to clearly define what kinds of human resources are required and promptly undertake a fundamental review to foster them. There are many tasks for that, such as necessary consciousness reform within the organization, human resource development plan, ability of human resources and evaluation of performance. We concluded the required competencies for intellectual property human resource to make further effective and valuable roles in respect of the realization for corporate business strategy. We hope the results of this research will generate upgrade intellectual property human resource in the future.

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【Abstract】

How we can define the required skills of Intellectual Property human resource in the future?

- Under Intellectual Property Strategies in a Global Age -

Yoshitoshi Tanaka

Along with the progress of globalization and open innovation, the industrial world is entering many new phases over the intellectual property system and its operation. The business to be handled by the intellectual property department of the enterprise is becoming complicated and diversified, and it is not possible to contribute sufficiently to corporate management by merely dealing with the right of intellectual property and its legal exercise. In this research, by summarizing interviews and hearings from a certain number of corporations, we extracted nine major crisis factors "cliffs" in the intellectual property field, and we tried to define what kind of human resources are needed to get over these cliffs. We feedback these results to the industry of the extracted list of competencies required for future intellectual property human resource. We think that any industry agreed the competencies required for the intellectual property human resource obtained from our discussion. In particular, it is highly expected to formulate strategies, collaborate with other departments, and participate in creating new business models. While it is still necessary to maintain traditional intellectual property activities which respond to matters required by laws and regulations, at the same time, it is expected to develop areas as experts by looking the global market and other industrial fields widely in the future. Through such discussion, we

concluded that the awareness about the capabilities and skills that the experts in the intellectual property field should possess will be expanded more in the future, then, further advanced intellectual property personnel will be developed.