

9 Present Situation of Japan's System for Development of Intellectual Property Human Resources ^(*)

In the "Intellectual Property Strategic Program 2011," it was suggested that, with the coming global network age, an Intellectual Property Human Capital Development Plan that meets the needs of the time should be established and implemented swiftly for the purpose of increasing the competitiveness of Japan's intellectual property system. Based on this suggestion, the Expert Panel on Strengthening Competitiveness by Intellectual Property and International Standardization prepared an Intellectual Property Human Capital Development Plan. In the "Intellectual Property Strategic Program 2012," it was decided to steadfastly implement the plan.

In this research study, the present situation was looked at with respect to the curriculum for development of intellectual property human resources offered by organizations, associations or universities to achieve the Intellectual Property Human Capital Development Plan in Japan; and the basic material to realize a new system for developing intellectual property human resources was prepared.

I Introduction

1 Purpose and Necessity of this Research Study

In the "Intellectual Property Strategic Program 2011 (decision of the Intellectual Property Strategy Headquarters on June 3, 2011)," it was suggested that, with the coming global network age, it was necessary to establish and swiftly implement an Intellectual Property Human Capital Development Plan that meets the needs of the time for the purpose of increasing the competitiveness of Japan's intellectual property system. Based on this suggestion, the Expert Panel on Strengthening Competitiveness by Intellectual Property and International Standardization prepared an Intellectual Property Human Capital Development Plan. In the "Intellectual Property Strategic Program 2012," it was decided to steadfastly implement the Intellectual Property Human Capital Development Plan.

In the plan, it was found necessary to "provide a curriculum for training business-strategic, intellectual-property-management human capital" to those who are active on the front lines.

Therefore, the realization of the Intellectual Property Human Capital Development Plan requires examinations of a new curriculum and training system for developing intellectual property human resources. To this end, it is of utmost necessity to understand and analyze the present situation of the system for developing intellectual property human resources, i.e., the

curriculum for developing intellectual property human resources and a training system offered by organizations, associations or universities in Japan.

Accordingly, this research study was conducted with the purpose of understanding the curriculum for development of intellectual property human resources and the training systems in Japan and for preparing the basic material to realize an intellectual property human resources development system required in the Intellectual Property Human Capital Development Plan, such as the provision of a curriculum for training business-strategic, intellectual-property-management human capital.

2 Contents of This Research Study

(1) Searches on Domestic and International Public Information

Documents related to the contents of this research study were surveyed by using books, academic papers, leading cases, research study reports, council reports, database information and information on the Internet, etc. and the subjects constituting the curriculum for development of intellectual property human resources and a training system offered by organizations, associations, and universities in Japan were understood, organized, analyzed and then summarized.

The term "curriculum for development of intellectual property human resources and a training system" as referred to in this research study shall include the curriculum for

(*) This is a summary of a FY2012 JPO-commissioned research report on the issues related to the industrial property systems.

development of human resources and the training systems related to business strategy and international harmonization strategy, but shall be limited to those offered mainly to working adults.

In analyzing the research, data was mapped out on a table with two axes, based on the information on subjects researched and organized, and thereby the state of the distribution of subjects constituting the curricula for development of intellectual property human resources and training systems offered by organizations, associations, and universities of Japan was visualized.

(2) Domestic Interview Surveys

A domestic interview survey was conducted with a total of 30 people, comprising personnel responsible for the organization of a development curriculum or training system, personnel in charge of such organization, and lecturers of the organizations, associations and universities offering a curriculum for development of intellectual property human resources and training systems that were selected with reference to the search results on domestic and international public information.

In setting up this research study, we conducted examinations from diverse perspectives and interviewed people on points that could not be clarified through searches on domestic and international public information alone, i.e., requirements for taking lectures or lecture hours, as well as the perspective that would serve as the axis of a table with two axes.

In addition, to verify the adequacy of the table's axes, five out of the 30 people surveyed in the domestic interview survey were interviewed again.

II Organizations, Associations, and Universities Offering Curricular for Development of Intellectual Property Human Resources

Surveys were conducted on the curriculum for development of intellectual property human resources and the subjects constituting the curriculum offered by the following organizations and universities.

- Eight organizations involved in the Council for Promotion of Development of Intellectual Property Human Resources: the Association of Intellectual Property Education (AIPE), Institute of Intellectual Property (IIP),

Intellectual Property Association of Japan (IPAJ), Japan Intellectual Property Association (JIPA), Japan Federation of Bar Associations (JFBA), Japan Patent Attorneys Association (JPAA), Japan Institute for Promoting Invention and Innovation, and the National Center for Industrial Property Information and Training (INPIT)

- Universities involved in the Japan Association of Universities for Intellectual Property Education and Research
- Some of the universities that are involved in the MOT Council of Japan and are offering courses on intellectual property
- Some of the universities that are involved in the Japan Association of Law Schools and are offering courses on intellectual property

III Two-axes Table Showing the Subjects Constituting the Curriculum for Development of Intellectual Property Human Resources

1 Overall Table

The horizontal axis of the two-axes table shows the attributes of the personnel targeted by the curriculum for development of intellectual property human resources. Such attributes were classified into four categories: universities, companies, professional jobs, and administrative or judiciary branch.

The vertical axis of the two-axes table shows the type of personnel to be developed. The type of personnel to be developed was classified into four categories: intellectual property basic human capital, intellectual property specialist human capital, intellectual property management human capital, and human capital for overseas expansion.

2 Table of Subjects Offered to Human Resources of Companies

(1) Attribute of the Target Personnel (Horizontal Axis)

In table 1, the attribute of the target personnel as shown in the horizontal axis is "company" and the type of personnel to be developed as shown in the vertical axis indicates the distribution of subjects offered to "intellectual property basic human capital" and "intellectual property specialist human capital."

As shown in table 1, the category "companies" representing the attribute of the

target personnel as shown in the horizontal axis was subdivided into five categories: (i) management; (ii) corporate planning department; (iii) legal affairs and intellectual property department; (iv) research, development and production department; and (v) operational department.

(2) Subjects for the Development of Intellectual Property Basic Human Capital and Intellectual Property Specialist Human Capital (Vertical Axis)

In table 1, the category "intellectual property basic human capital" representing the type of personnel to be developed as shown in the vertical axis was subdivided by two subjects, which are necessary for the development of intellectual property basic human capital: (i) foreign languages related to intellectual property;

and (ii) basic knowledge on laws.

The category "intellectual property specialist human capital" also representing the type of personnel to be developed as shown in the vertical axis was subdivided by the following 11 subjects necessary for the development of intellectual property specialist human capital: (i) patent and utility model; (ii) design; (iii) trademark; (iv) copyright law; (v) relevant laws (i.e., Civil Code, Code of Civil Procedures, Unfair Competition Prevention Act); (vi) Paris Convention for the Protection of Industrial Property, Patent Cooperation Treaty, and Patent Laws of the U.S., etc.; (vii) acquisition of rights in foreign countries; (viii) acquisition of rights in Japan; (ix) maintenance and management of rights; (x) document search; and (xi) strategy for establishment of right.

Type of personnel to be developed	Intellectual property specialist human capital	Establishment of rights	Strategy for establishment of rights	BBb1	BBb2	BBb3	BBb4	BBb5
			Document search			BBa3	BBa4	BBa5
			Maintenance and management of rights			BB93	BB94	BB95
			Acquisition of rights in Japan			BB83	BB84	BB85
			Acquisition of rights in foreign countries			BB73		
		Application of laws	Paris Convention, PCT, and Patent Laws of the U.S., etc.			BB63		
			Relevant laws			BB53		
			Copyright Act			BB43		
			Trademark			BB33		
			Design			BB23		
			Patent and utility model			BB13		
	Intellectual property basic human capital	Basic knowledge on laws	AB21	AB22	AB23	AB24	AB25	
		Foreign languages related to intellectual property			AB13	AB14	AB15	
	Subject			Management	Corporate planning department	Legal affairs and intellectual property department	Research, development and production department	Operational department
			Company					

Scale

0

0 (Hours)

1

1 ~ 2

2

3 ~ 5

3

6 ~ 10

4

11 ~ 20

5

21 ~ 50

6

51 ~ 100

7

101 ~ 200

8

201 ~ 500

9

501 ~

Scale	
0	0 (Hours)
1	1 ~ 2
2	3 ~ 5
3	6 ~ 10
4	11 ~ 20
5	21 ~ 50
6	51 ~ 100
7	101 ~ 200
8	201 ~ 500
9	501 ~

Table 1: Distribution of Subjects for Intellectual Property Basic Human Capital and Intellectual Property Specialist Human Capital

(3) Subjects for the Development of Intellectual Property Management Human Capital (Vertical Axis)

In table 2, the attribute of the target personnel as shown in the horizontal axis is "company," and the type of personnel to be developed as shown in the vertical axis indicates the distribution of subjects offered for "intellectual property practical human capital."

As shown in table 2, the category of "intellectual property specialist human capital"

representing the type of personnel to be developed as shown in the vertical axis was subdivided by the following 10 subjects necessary for the development of intellectual property specialist human capital: (i) litigation rescinding a trial decision; (ii) infringement litigation; (iii) ex parte trial; (iv) inter parte trial; (v) contracts and negotiations; (vi) finance; (vii) intellectual property strategy; (viii) standardization of technology; (ix) technology strategy; and (x) business strategy.

Intellectual property specialist human capital	Management	Business strategy	CBa1	CBa2	CBa3	CBa4	CBa5
		Technology strategy	CB91	CB92	CB93	CB94	CB95
		Standardization of technology	CB81	CB82	CB83	CB84	CB85
		Intellectual property strategy	CB71	CB72	CB73	CB74	CB75
		Finance	CB61	CB62	CB63	CB64	CB65
	Contracts and negotiations		CB51	CB52	CB53		
	Trial	Inter parte trial			CB43		
		Ex parte trial			CB33		
	Litigations	Infringement litigation			CB23		
		Litigation rescinding a trial decision			CB13		
type of personnel to be developed	Subject		Management	Corporate planning department	Legal affairs and intellectual property department	Research, development and production department	Operational department
	Attribute of the target personnel						
			Company				

Scale	
0	0 (Hours)
1	1 ~ 2
2	3 ~ 5
3	6 ~ 10
4	11 ~ 20
5	21 ~ 50
6	51 ~ 100
7	101 ~ 200
8	201 ~ 500
9	501 ~

Table 2 Distribution of Subjects for the Development of Intellectual Property Management Human Capital

The subjects dividing the three categories, "intellectual property basic human capital," "intellectual property specialist human capital," and "intellectual property management human capital," respectively, as shown in the vertical axis of the two-axes table mentioned above were set with reference to the information on the category

of subjects offered at organizations, associations or universities obtained in the searches of domestic and international public information. They were further amended based on the opinions obtained from the interviews conducted with the organizations, associations, and universities.

(4) Subjects for the Development of Human Capital for Overseas Expansion (Vertical Axis)

In table 3, the attribute of the target

personnel as shown in the horizontal axis is "companies," and the type of personnel to be developed as shown in the vertical axis indicates the distribution of subjects offered for "human capital for overseas expansion."

Human capital for overseas	Development of foreign human capital overseas	DB31	DB32	DB33	DB34	DB35
	Development of foreign human capital in Japan	DB21	DB22	DB23	DB24	DB25
	Development of domestic human capital overseas	DB11	DB12	DB13	DB14	DB15
Type of personnel to be developed	Pattern	Management	Corporate planning department	Legal affairs and intellectual property department	Research, development and production department	Operational department
	Attribute of the target personnel	Company				

Scale

0	0 (Hours)
1	1 ~ 2
2	3 ~ 5
3	6 ~ 10
4	11 ~ 20
5	21 ~ 50
6	51 ~ 100
7	101 ~ 200
8	201 ~ 500
9	501 ~

Table 3 Distribution of Subjects for the Development of Human Capital for Overseas Expansion

As shown in table 3, the category of "human capital for overseas expansion" representing the type of personnel to be developed as shown in the vertical axis was divided into three categories based on the patterns of training for overseas expansion: (i) development of domestic human capital overseas; (ii) development of foreign human capital in Japan; and (iii) development of foreign human capital overseas.

The category of "development of domestic human capital overseas" assumes a development curriculum where the human resources employed in Japan are dispatched overseas, where they receive training on local laws, establishment of rights, practical use of rights (contracts), litigations, strategies, and cultures and customs; and then they put that training into practice in Japan or overseas after completing the curriculum.

The category of "development of foreign human capital in Japan" assumes a development curriculum where the human resources employed overseas are accepted by Japan, where they receive training on the laws of Japan, establishment of rights, practical use of rights (contracts), litigations, strategies, and cultures

and customs; and then they put that training into practice in Japan or overseas after completing the curriculum.

The category of "development of foreign human capital overseas" assumes a curriculum where the human resources employed overseas are accepted overseas, where they receive training on the local laws, establishment of rights, practical use of rights (contracts), litigations, and strategies; and then they put that training into practice overseas after completing the curriculum.

(5) Method of Mapping

In mapping the subjects on a two-axes table, research shall be conducted on the curriculum for developing intellectual property human resources, which was offered to company personnel in 2012. This kind of curriculum was offered by the Association of Intellectual Property Education (AIPE), Intellectual Property Association of Japan (IPAJ), Institute of Intellectual Property (IIP), Japan Intellectual Property Association (JIPA), and the National Center for Industrial Property Information and Training (INPIT).

Then, the subjects constituting this curriculum are examined. By referring to the syllabus or brochures, the most applicable category mentioned above shall be decided for each of these subjects. Then, the most applicable category shall be allotted the number representing the lecture hours by minutes. When a subject falls under several categories, each category is allotted the number representing the lecture hours.

In this way, the appropriate cell in the two-axes table shall be searched for each subject constituting the curriculum. Every subject constituting the curriculum shall be examined and the numbers representing the lecture hours allotted to each cell shall be added up. By shading each cell on a 10-point scale from white to black in accordance with the lecture hours added up, mapping on a two-axes table would be achieved.

3 Table of Subjects Offered for Human Resources of Professional Jobs

The category of "professionals" representing the attribute of the target personnel as shown in the horizontal axis of the overall table was subdivided into the following five categories in order from left to right: (i) patent attorneys; (ii) attorneys-at-law; (iii) certified public accountants; (iv) small-and-medium enterprise management consultants; and (v) certified specialists of intellectual property management.

Training offered by the Training Institute of the Japan Patent Attorneys Association in 2012 was investigated as curriculum for developing intellectual property human resources offered to patent attorneys. At the same time, training offered by the Japan Federation of Bar Associations in 2012 were investigated as curriculum for developing intellectual property human resources offered to attorneys-at-law.

Training offered by the Association of Intellectual Property Education in 2012 was investigated as curriculum for developing intellectual property human resources offered to certified specialists of intellectual property management.

4 Table of Subjects Offered to Human Resources of the Administrative or Judiciary Branch

The category of "administrative or judiciary branch" representing the attribute of the target personnel as shown in the horizontal axis of the

overall table was subdivided into six categories in the following order from left to right: (i) examiners; (ii) trial examiners; (iii) judges; (iv) public prosecutor and police officials; (v) custom officials; and (vi) personnel in charge of intellectual property in administrative organs. Personnel in charge of intellectual property in administrative organs include officials of the central government, officials in charge of intellectual property in local governments, and staff and personnel in charge of research operations of public research organizations.

At the same time, training offered by the National Center for Industrial Property Information and Training in 2012 was investigated as the curriculum for developing intellectual property human resources offered to personnel that fall under the category of "administrative or judiciary branch."

5 Table of Subjects Offered to Human Resources of Universities

The category of "universities" representing the attribute of the target personnel as shown in the horizontal axis of the overall table was subdivided into six categories: (i) undergraduate students; (ii) graduate students (other than those specified); (iii) graduate students (law schools); (iv) graduate students (MOT); (v) graduate students (intellectual property specialist); and (vi) staff of University Research Administrator (URA), intellectual property headquarter or Technology Licensing Organization (TLO) of the university.

The subdivided categories "graduate students (law schools)," "graduate students (MOT)," and "graduate students (intellectual property specialists)" cover the graduate students attending law schools, those attending the graduate schools involved in the MOT Council of Japan, and those attending the graduate schools involved in the Japan Association of Universities for Intellectual Property Education and Research, respectively. The category of "graduate students (other than those specified)" is composed of graduate students who do not fall under the categories "graduate students (law schools)," "graduate students (MOT)," and "graduate students (intellectual property specialists)."

The subjects concerning intellectual properties offered by the graduate schools involved in the Japan Association of Universities for Intellectual Property Education and Research as well as the graduate schools involved in MOT

Council of Japan and graduate schools involved in the Japan Association of Law Schools as mentioned above were investigated as curriculum for developing intellectual property human resources offered to personnel that fall under the category of "universities."

V Analysis

1 Method of Analysis

Analysis was conducted through the following method.

First, it was examined whether there were any subjects with a blank cell or subjects of significantly smaller scales than other subjects.

If there were any such subjects, it was further considered whether or not they were necessary for the development of intellectual property human resources. Where such subjects were found necessary, further examination was conducted to find whether any subjects corresponding to such subjects were offered by other organizations, associations or universities. Where any corresponding subjects were offered by other organizations, associations or universities, it was examined whether such subjects could be used as supplementary subjects. Where no corresponding subjects were offered by other organizations, associations or universities, examination was conducted on whether or not new educational material should be developed.

The two-axes table shall be analyzed in this way to develop reference material for examining a new curriculum for the development of intellectual property human resources.

2 Table of Subjects Offered to Human Resources of Companies

(1) Distribution of Subjects for the Development of Intellectual Property Practical Human Capital

As shown in table 2, the scale of subject of the "standardization of technology" was smaller than other subjects. Therefore, it was examined whether or not the subject of "standardization of technology" is necessary for the development of intellectual property practical human capital.

In the "Example measures" listed for the establishment of a system to promote an intellectual property human capital development plan in the "Intellectual Property Strategic Program 2012," the following proposal was made:

"Promoting holding of seminars on international standardization or intellectual property management as well as improvement in participants and themes." Therefore, the subject of "standardization of technology" is found necessary for the development of intellectual property human resources.

Next, it shall be examined whether the subject of "standardization of technology" is offered by other organizations, associations or universities.

As the scale of the subject of "standardization of technology" offered by graduate schools involved in the Japan Association of Universities for Intellectual Property Education and Research to graduate students (intellectual property specialists) was 8, the subject of "standardization of technology" may be found to have been offered by other organizations, associations or universities.

Following this, it shall be examined whether the subject of "standardization of technology" offered by the graduate schools involved in the Japan Association of Universities for Intellectual Property Education and Research can be used as a supplementary subject.

As the graduate schools involved in the Japan Association of Universities for Intellectual Property Education and Research offer a "non-degree students system," applicants may take the subjects they wish to on a subject-to-subject basis.

Therefore, if the subject of "standardization of technology" is covered by the "credit auditor system," company personnel may take the subject "standardization of technology."

(2) Distribution of Subjects for the Development of Human Capital for Overseas Expansion

As shown in table 3, the scale of categories "development of foreign human capital in Japan" and "development of foreign human capital overseas" was 0. Thus these categories shall be examined whether they are necessary for the development of intellectual property human resources.

Because it is stated in the Intellectual Property Human Capital Development Plan that "development and retention of global intellectual property human capital are necessary," the subject of development of global intellectual property human capital is deemed necessary.

However, the Intellectual Property Human

Capital Development Plan does not provide any specific explanation on the images of global intellectual property human capital nor on the training to be used for developing such human capital.

In the domestic interview surveys, several opinions were given in this point. For example, one respondent stated, "Every person has different ideas for the term 'global.' It may vary according to business type, corporate strategy or corporate culture. Specifically, what does global human resources mean? Does it mean that the person can speak in English on site, or can understand the local language or culture? Or does it perhaps mean that the person can control the whole business without going to the site?" At the same time, some raised questions such as, "Does global human resources refer to a Japanese person going overseas or does it refer to using foreign personnel there?," or stated opinions such as, "I believe global human resources means sending Japanese workers overseas after training them to understand the culture and customs of the place to which they are sent, " or, "I am of the opinion that global human resources means making the local personnel understand the culture and customs of Japan."

Meanwhile, the Japan Intellectual Property Association summarized the qualifications and skills required of global intellectual property human resources in the JIPA journal, *Chizai Kanri* (IP Management) Vol. 62, No. 4, p. 549-557 (2012) and stated that "Global intellectual property human resources should not necessarily be supplied from Japan; and the human resources at the location of business as well as their future developments should be examined."

In light of the type of personnel presumed from these opinions and the abovementioned training patterns for the development of human capital for overseas expansion, although there were subjects to obtain the skills "to speak English on site," "to understand the local language and culture on site," "to go overseas," and "to send Japanese workers overseas after training them to understand the culture and customs of the place to which they are sent" for the training pattern of the "development of domestic human capital overseas," no subjects were offered for acquiring the skills to "use foreign personnel on site" or "to have the local personnel understand the cultures and customs of Japan."

If global intellectual property human capital requires the training offered based on the

"development of foreign human capital in Japan" and "development of foreign human capital overseas," such subjects are found necessary.

Next, examination shall be conducted on whether subjects similar to the above are offered by other organizations, associations or universities.

The scale of the subject for the training pattern of "development of foreign human capital in Japan" offered by the graduate schools involved in the Japan Association of Universities for Intellectual Property Education and Research to the "graduate students (intellectual property specialists)" was 5. These subjects are offered to foreign registered working adults and thus personnel of companies overseas can take them.

While large-scale companies could offer these subjects through the training curriculum in the company, it is found necessary to newly establish a subject to enable the training pattern of "development of foreign human capital in Japan" and "development of foreign human capital overseas" that would be widely available to companies.

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