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Diffusion of Intellectual Property (IP) Management after World War II: Role of the Japan Patent Association

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This paper examines the formative course of corporate patent management from the interwar period to 1960. The number of patent applications by Japanese companies has escalated since the end of World War II. This propensity to file a number of patents is one of the features of corporate patent management in Japan. The factors that influenced the development of this particular feature were the introduction of foreign technology and the activities of the Japan Patent Association. In particular, the association's efforts in organizing a special committee to study patent management and to diffuse the knowledge about patent management across Japanese companies played a decisive role. This is also one of the infrastructures for rapid economic growth.

Key words: patent, patent attorney, the Patent Control Specialist Study Team, introduction of foreign technology

1. Introduction

The purpose of this paper is to clarify the diffusion and features of corporate patent management in Japan, especially after World War II. The intellectual property (IP) system of each country is substantially embodied within the corporate patent management of that country, and its mechanisms and features vary with the manner of economic development, the adoption and outflow of technology, the extent of competition, corporate strategy, economic friction, and so on. This paper is part of a series of studies that examine global economic and business history through the analysis of corporate IP management.[1)]

1) Shigehiro Nishimura, "General Electric's International Patent Management before World War II: The 'Proxy

The evolution of Japanese corporate IP management, especially patent management, in the twentieth century can be divided into five phases. The first phase is before World War I, during which time, although laws on patents and other industrial property rights had been institutionalized, patent applications and enforcement by Japanese companies were inactive and undeveloped. In places where international technology transfers had taken place, foreign electrical companies, primarily US and German companies, had utilized Japanese patent laws and implemented their own patent management system. The second phase lasted from the 1920s and 1930s. This period marked the beginning of IP management by Japanese companies. The establishment of patent departments in certain Japanese companies was accelerated by the American companies that allied with them. Both the Japanese and American companies jointly entered into contracts for the management and exploitation of the patents of US companies in the Japanese market. Under these contracts, the flow of foreign technology from the US to Japan had escalated. Therefore, some Japanese companies organized themselves into a group comprising the people overseeing patent affairs, in order to resolve their disagreements. Through the activities of this group, patent management skills were diffused, especially in the electrical industry.[2] The third phase is the era of swift economic growth after World War II. Under government regulations, many Japanese companies adopted foreign technologies in various fields. Although the companies that were licensed by foreign companies developed a suitable patent management system, they did not enhance their capabilities to enforce their patent rights; rather, their ability was restricted to the application of the patent. The fourth phase occurred in around the 1980s and introduced the term "intellectual property disagreement," which described the relation between Japan and the US on account of the entry of Japanese inventions into the US market. Finally, the fifth phase took place in the 1990s, when Japanese companies struggled to obtain the organizational capabilities to exploit their intellectual property rights (IPR) across the world in the face of severe global competition.

In this paper, I primarily focus on the third phase and explain the diffusion of patent management among Japanese companies. This paper proceeds as follows. First, the features of Japanese patent management are identified from its long-term propensity of patenting. Second, the evolution of patent management, introduced

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Application' Contract and the Organizational Capability of Tokyo Electric," *Japanese Research in Business History*, Vol. 21, 2004, pp. 101-125; Shigehiro Nishimura, "Foreign Business and Patent Management before World War I: A Case Study of the General Electric Company," *Kansai University Review of Business and Commerce*, No. 11, 2009, pp. 77-97.

2) Nishimura, "General Electric's International Patent Management before World War II."

by some electrical companies during the second phase, is presented with reference to international technology transfer. Finally, the diffusion of knowledge about IP management across companies through the Japan Patent Association is described. The period of description ranges from World War I to 1960.

2. Historical Overview of IPR

The patent system was introduced in Japan with the Patent Monopoly Act of 1885. Back then, foreigners could not apply for patents for their inventions.[3] It was not until 1899, when Japan joined the Paris Convention for the Protection of Industrial Property, that foreigners could file and register their patents.[4] To modify the patent system prevailing in Japan in accordance with the changes proposed at the convention, the government of Japan amended the patent law, which stipulated that a non-Japanese person must nominate a patent attorney who is a resident of the Japanese Empire. Under the same law, provisions relating to applications claiming priority rights had been made, and thus, institutions where foreigners could file and register patents in Japan were established.[5] In addition to the patent law, the Utility Model Law had come into effect in 1905. The technology level of Japanese inventions at that time was quite low; as a result, many inventors could not protect their inventions under the patent law, whereas those invented by foreigners could be registered. To improve the situation and promote the industry, the government created an institution for the protection of minor inventions.[6]

In addition to this institution, a patent attorney system was enforced under the enactment of the rules for the registration of patent representatives in 1899. While there were agents to register patent applications prior to 1899, the regulation added a key subsystem that embodied the patent system within the whole. The number of patent attorneys registered by December 31, 1899, was 138, and consisted almost entirely of attorneys-at-law. A certification examination was introduced from 1902 to improve and maintain the quality of patent attorneys.[7] The number of patent attorneys grew from 138 in 1899 to over 1,000 by 1918; it

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3) Tokkyo cho [Japan Patent Office], *Kogyo Shoyuken Seido Hyakunen Shi* [One Hundred Years of the Industrial Property Rights System], Hatsumei kyokai [The Japan Institute of Invention and Innovation], Vol. 1, 1984, pp. 150-151.

4) *Ibid.*, pp. 201-205.

5) *Ibid.*, pp. 184-191.

6) *Ibid.*, p. 192.

7) Nihon Benrishi Kai [Patent Attorneys Association], ed., *Benrishi seido 100 nen shi* [One Hundred Years of the Patent Attorney System], Patent Attorneys Association, 2000, pp. 22-5.

increased to 2,666 by 1930 and peaked at 4,389 in 1937 before World War II.[8)]

Let us review the historical trends of industrial property rights. **Fig. 1** shows the long-term progress of patent registration in Japan. The volume of registrations increased in the 1920s and 1930s and soared in the 1960s and after the 1970s. One of the features of Japanese patenting is that the proportion of inventions by non-Japanese people has always been low. While the volume of patents invented by foreigners remained around 10,000, patent registration by Japanese nationals witnessed a marked increase, particularly after World War II, such that the percentage of patents registered by foreign inventors declined; the percentage of foreigners was about 35% in the 1960s, and this number fell to about 20% in the 1970s and 16% in the 1980s. This situation is quite different from that in the US where the corresponding percentage was about 35% in the 1970s, which increased to about 45% in the 1980s. **Fig. 2** indicates the trend in utility model registration. Prior to World War II, utility models were registered more often than patents in terms of absolute numbers, and registrations as well as the number of patents

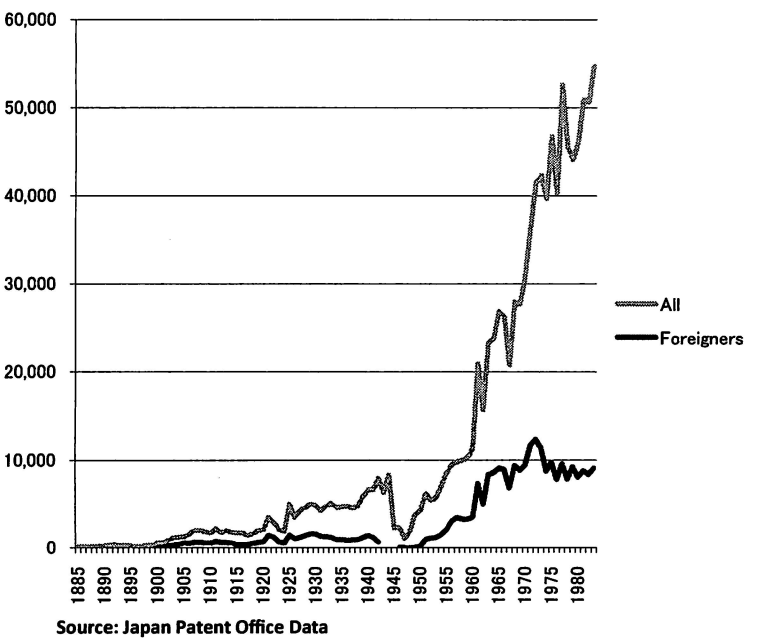

Fig. 1 Patent granted

8) The number of patent attorneys fell to about 500 in 1950. The number gradually increased to about 1,700 in 1970, 2,500 in 1980, 3,300 in 1990, and 4,300 in 1999. Nihon Benrishi Kai [Patent Attorneys Association], ed., *Benrishi seido 100 nen shi, bessatsu* [One Hundred Years of the Patent Attorney System, a separate volume], Patent Attorneys Association, 2000, pp. 256-259.

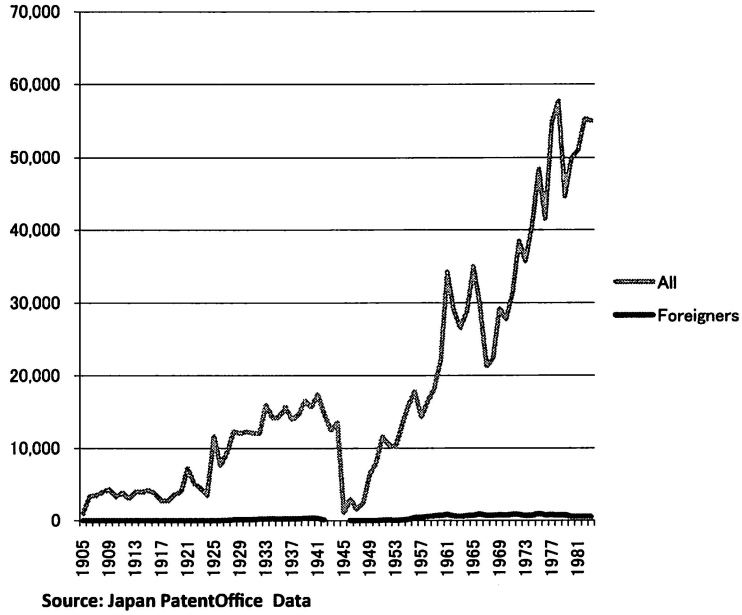

Fig. 2 Utility model registered

increased rapidly after the war. Almost all registrations were made by Japanese inventors, and the percentage of foreigner registrations was as low as 1.5% in the postwar period. **Fig.** 3 presents a comparison between the number of IPRs in Japan and the US. The number in Japan consists of both patents and utility models, whereas that in the US indicates the volume of utility patents. While the number of rights registered in the US exceeded that in Japan until the 1960s, the situation was reversed in the 1970s. Since, as previously mentioned, a majority of patents and utility models were registered by Japanese inventors, it can be said that the propensity of the Japanese to patent, or their inclination to apply for patents for their inventions, is outstanding in comparison to other nations.

Attention should be given to the ratio of patents applied and owned by firms to the total number of applications and grants. It was after the enforcement of the revised patent law in 1899 that corporate patent application was instituted. It was not until 1924, however, that corporate patent application exceeded 10% of all patents. This number increased gradually—exceeding 30% in 1937 and surpassing 40% at the height of World War II.[9] The growth of corporate patent application was remarkable after the war, where the percentage touched 64% in 1955 and

9) Japan Patent Office, *op. cit.*, p. 588.

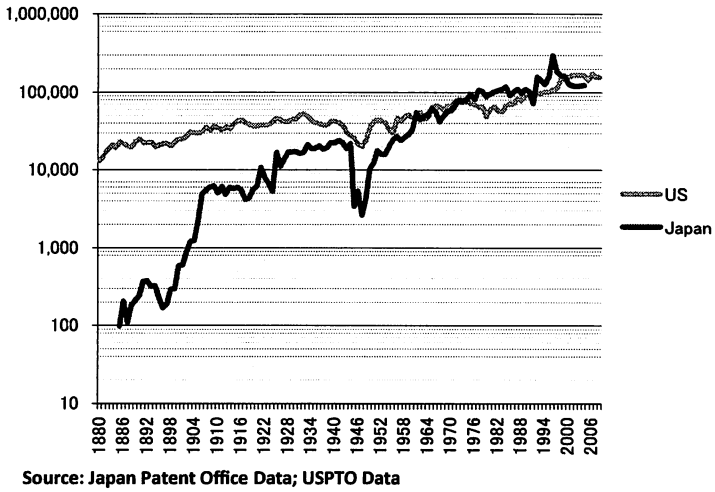

Fig. 3 International IP comparison

crossed 80% in 1980. It is obvious that this marked increase in the number of patent applications by the Japanese was because of the introduction of corporate patent management, especially with regard to application.[10]

3. Organization of the Japan Patent Association

3-1. Evolution of corporate patent management

One of the earliest cases in which a Japanese company possessed and managed its own property, which was protected by patent rights, was in the electrical industry. The Tokyo Electric Company began registering patents in the company's name in 1906 after the introduction of foreign technology. Although Tokyo Electric was involved in the lighting business, their technology level was so low that they could not compete with foreign-made lamps in the same market. In order to expeditiously bridge the technology gap between Japanese and foreign companies and to realize domestic production, Tokyo Electric concluded a contract with the General Electric Company (GE) covering capital participation as well as a patent and technical tie-up in 1905, and began introducing foreign technology.[11] A 51% share was acquired by GE, with Tokyo Electric effectively becoming a subsidiary.[12]

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10) *Ibid.*, Vol. 2, p. 744.

11) Shotaro Yasui, ed., *Tokyo Denki Kabushiki Gaisha goju nen shi* [A Fifty-Year History of the Tokyo Electric Company, Ltd.], Tokyo-Shibaura Electric Co., Ltd., 1940, pp. 97-100.

12) If stocks held by individuals are taken into account, the share of GE was over 70%.

Tokyo Electric was awarded an exclusive license for GE patents in Japan along with related technological information. After concluding the contract, Tokyo Electric promoted the research and development (R&D) of lighting and its manufacturing methods concurrently with the adoption of foreign technology. As a result, from 1906 to 1918, the number of patents filed and registered by Tokyo Electric increased to 16. The stimulation of technological development promoted patent management. Patents were filed in the company's name as early as 1906.[13] Although, in 1902, patent rights belonged to individuals, by 1906, corporations could also own them. The phenomenon, whereby a corporation holds patents in its own name as part of the corporate property, indicated an increase in the awareness of patents.

In addition to Tokyo Electric, Shibaura Engineering Works concluded a contract covering capital participation and technical tie-ups with GE in November 1909. GE invested money into Shibaura, acquiring about 30% of the shares.[14] The engineers at Shibaura Engineering Works had been engaged in the development of technology prior to the contract. Seventeen patents applied for by Shibaura were registered before 1911. Concurrently with Shibaura entered into the contract with GE, in 1912 Shibaura appointed a person to exclusively head patent affairs. Thereafter, all employee inventions to be patented were not to be filed and registered in the individuals' names but rather in the company's name, and thus, patent rights were not to belong to the inventors but to the company. Almost all the patents registered in the inventors' names were hitherto transferred to Shibaura and came under its administration.[15] Shibaura was also the earliest Japanese company to create a post for patent management within an organization.[16]

After World War I, Japanese corporate patent management embarked on its next step. This move was largely influenced by the international strategy of US companies. In accordance with GE's new policy, on June 2, 1919, the International General Electric Company (IGEC), GE's wholly owned subsidiary, negotiated a contract renewal with Tokyo Electric and Shibaura Engineering Works, thereby

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13) Specification, Japan Patent No. 10810.

14) Hoshimi Uchida, "Western Big Business and the Adoption of New Technology in Japan: The Electrical Equipment and Chemical Industries 1890-1920," in Akio Okochi and Hoshimi Uchida, eds, *Development and Diffusion of Technology: Electrical and Chemical Industries,* University of Tokyo Press, 1980, p. 154.

15) Assignments registered between March 29 and April 29, 1912. Patent Office, comp., *Tokkyo Koho* [Patent Gazette], several issues, 1912.

16) Kojiro Ozu, "Toshiba ni Okeru Tokkyo Senryaku [Patent Strategy in Toshiba]," in Kunio Ibori, ed., *Tokkyo Senryaku to Kanri Jirei Shu* [Cases of Patent Strategy and Management] Kigyo Kenkyukai, 1980, pp. 151-152.

concluding new agreements.[17] In the agreement between IGEC and the Japanese companies, some clauses with regard to patents were markedly different from the earlier agreement; for now, they included the international patent management contract for GE patents. This contract, also known as a "proxy application" contract, permitted Japanese companies to apply for patented technology owned by GE in Japan; hence, Japanese companies could apply for and acquire a patent in their own names, with themselves being the rightful claimants within Japan. In accordance with this contract, Tokyo Electric and Shibaura Engineering Works applied for, registered, and subsequently controlled GE patents in their own names; therefore, corresponding to the agreements, they enhanced their respective organizational capabilities in order to conduct patent management effectively. Between 1920 and 1924, both companies expanded their patent departments and recruited skilled specialists from the Japan Patent Office to head the department.[18]

3-2. A group of patent attorneys

The Japan Patent Association, now the Japan Intellectual Property Association, was one of the key institutions that influenced the development and establishment of patent management across Japan. The association was a result of a mutual system of managing the patent rights between the four companies in the field of electrical equipment and apparatus.

Since the 1920s, the number of patent attorneys employed by corporations and heading patent departments had increased. Some examples of patent attorneys were Rinji Fujii of Tokyo Electric, and Nobuchika Sugimura and Michizo Hirano of Shibaura Engineering Works. Apart from these two companies, Mitsubishi Electric formed an internal patent department during the mid-1920s and Fuji Electric had established a patent department since its foundation in 1923 with in-house patent attorneys to manage its patent affairs. The creation of a patent section in the two companies was motivated by patent agreements signed with foreign companies. Mitsubishi Electric concluded an agreement for patents, technical tie-ups, and capital investment with Westinghouse Electric Corporation in 1923, while Fuji Electric was organized in the same year as a joint venture between Furukawa Electric and Siemens of Germany. On the other hand, Hitachi, Ltd., which was not in alliance with any foreign company at that time, appointed two personnel to head patent management and formed a patent department within its organization in

17) Owen D. Young Papers, Box 59, Folder 202A, "Report of Foreign Business, November 22, 1918," St. Lawrence University, Canton, NY. The same report can be found in the Schenectady Museum and Archives.

18) Nishimura, "General Electric's International Patent Management before World War II."

1933.[19]

At that time, when leading companies were establishing their patent management facilities, the patent attorneys heading the patent departments of the four electrical equipment companies, namely, Shibaura, Hitachi, Mitsubishi, and Fuji, met in order to discuss and foster closer relationships and settle patent litigations among themselves through consultation.[20] At first, Mitsubishi's patent attorney, Masamoto Tokuhisa, approached the others with a proposal. After the mid-1920s, and as a result of intensive application for patents, these four companies addressed the large number of patent problems they shared. In order to better coordinate themselves, Tokuhisa approached Hirano of Shibaura and Bunju Ito of Hitachi, with the following idea:

> *In case any patent infringement happens to either of you, could you notify this unofficially and tentatively before proceeding for a trial? I believe we could then find a way to address the problem by discussion. What do you think?*[21]

Hirano indicated his approval to Tokuhisa's proposal. When Ito of Hitachi also responded favorably to Tokuhisa's approach, a system was established whereby the three companies coordinated the patent rights among themselves. Matsuji Takahashi of Fuji Electric also participated in this agreement, and as a result, it became the "four companies' preliminary patent meeting" agreement. Although it was limited to these four electrical equipment companies, a private settlement system had been formed for patent rights, which was guaranteed by the national trial system.

In other industries, such as those for incandescent lamps and radio tubes, however, this kind of autonomous settlement system had not been formed. The patent attorneys of the four companies thought that a harmonious coordination system that includes other electrical companies should be instituted; hence, they approached Fujii of Tokyo Electric inviting him to participate in the patent meetings. In the summer of 1935, Tokuhisa of Mitsubishi contacted Fujii, following

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19) IPR Administrative Office of Hitachi, Ltd., ed., *Hitachi no Chitekishoyuken Kanri: Kigyo no Shorai o Kizuku Chitekishoyuken to Sono Senryakuteki Katsuyo* [Intellectual Property Management in Hitachi: Intellectual Property and its Strategic Practical Use to Open a Future], Hatsumei Kyokai [The Japan Institute of Invention and Innovation], 1995, pp. 21-24.

20) Choyo-kai 15 Shunen Kinen Jigyo Iinkai [Choyo-kai 15th Anniversary Memorial Project Committee], *Choyo-kai 15 Nensi* [Fifteen-Year History of Choyo-kai], Choyo-kai, 1953, p. 15.

21) Reminiscence by Masamoto Tokuhisa, *ibid.*, pp. 100-101.

which informal talks together with Hirano and Ito were held regularly. Fujii, however, did not change his opinion that

> *...it is difficult [for companies such as those engaged in the lamps or radio business] to participate extensively in [such meetings] immediately. Rather, it is proper to insist on the right as a right and to settle matters through the ordinary procedure of the patent trial system.*[22]

This was because there was a strong tendency in the sector manufacturing lamps and radio vacuum tubes to fight trials exclusively over essential and important patents. Fujii had several critical patent litigations on his hands at the time of meeting Tokuhisa.

As the patent attorneys employed by industrial firms continued to deal with a greater volume of the patent management business, a motion was raised. Around 1938, a handful of patent attorneys from the Japan Patent Attorneys Association submitted proposals to modify the rules in order to prohibit patent attorneys from being employed. This was because the volume of business being managed by independent patent attorneys was on the decrease, while that being managed by employed patent attorneys was on the increase.[23] The patent attorneys employed by firms began a unified campaign against the proposal raised by the independent patent attorneys. In the face of this conflict, the patent attorneys of the four companies as well as Fujii approved of the objective and succeeded in defeating the proposal. The in-house patent attorney system, one of the features of Japanese corporate patent management, was instituted as a result of this opposition campaign.

Motivated by the recent campaign and reflecting the drift in industrial control and cooperation in general, the Choyo-kai, an organization created to promote mutual friendship and comprising patent attorneys heading corporate patent departments, was founded on September 9, 1938. The Choyo-kai was the immediate predecessor of the Japan Patent Association. The primary roles of the Choyo-kai were to coordinate opinions among the members concerned when patent infringement cases occurred before submitting the demands for the trial, coordinate patent licenses among each other, and support members in patent liti-

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22) Reminiscence by Tokuhisa, *ibid.*, p. 101.

23) Reminiscence by Kan-ichi Kodama, *ibid.*, p. 93.

Table 1 Members of Choyo-kai
September 9, 1938

Company	Member
Oki Electric	Kiyoshi Watanabe
Shibaura Engineering Works	Michizo Hirano
	Seiichiro Yoshinari
Tokyo Electric	Rinji Hujii
	Shozo Yamane
	Kazuo Inoue
Nippon Electric	Tadaaki Tomita
	Rinjiro Shimizu
Japan Radio Telegraph and Telephone	Mitsuo Takefuji
Hitachi	Takenobu Kotani
Fuji Electric	Matsuji Takahashi
Furukawa Electric	Reijiro Baba
Mitsubishi Electric	Masamoto Tokuhisa
	Masami Nakama
Sumitomo Electric	Hiroshi Takemoto
	Seisuke Shinohara

Source: *Choyo-kai 15 nenshi*, p. 15.

gations against outsiders.[24] Therefore, it can be said that the Choyo-kai extended the four companies' preliminary patent meeting system into other areas of the electrical industry.

In the 1930s, the creation of a system for the coordination of patent rights among a number of electrical companies benefited from the fact that it had been regulated by Japan's international relations. **Table 1** shows the original members of the Choyo-kai. From among them, Shibaura Engineering Works, Tokyo Electric, Nippon Electric, Japan Radio Telegraph and Telephone, Fuji Electric, and Mitsubishi Electric had been provided with patents and technology from foreign companies, namely GE, GE, Western Electric, Telefunken, Siemens, and Westinghouse, respectively. In many cases, the patent attorneys of these companies also administered the Japanese patents of affiliated foreign companies. From this point of view, it can be said that the members of the Choyo-kai coordinated among themselves for effective foreign patents that they administered via international contracts. The capabilities of Japanese companies regarding patent management expanded to some extent during this period.

24) Reminiscence by Mitsuo Satake, *ibid.*, p. 98.

4. Diffusion after World War II

4-1. Introduction of foreign technology

When the Pacific War broke out, patent license and technology transfer agreements between Japanese companies and those of the Allied nations had substantially been suspended, and the former stopped importing foreign technology. During the war, the US made great strides in industrial technology, and soon after the war, the Japanese realized that there were great technological gaps between themselves and the Americans than ever before. From the latter part of the 1940s to early 1950s, foreign patent rights and other properties which were considered as enemy property and disposed during the war were recovered and liquidated. After 1950, technology tie-up contracts and stock holdings, which had been concluded with foreign companies before the war, were gradually restored, and the technology aimed to fill the large gap was introduced.[25]

However, there were some aspects that were dissimilar to the prewar circumstances. First, while patent and capital investment contracts were concluded comparatively without any interventions before the war, they came under strict government regulations after the war. The Law for Foreign Capital was enforced on May 10, 1950, following which any investment or technical assistance contracts in Japan made by a foreigner had to be approved by the government. Until March 1963, the approved technologies adopted amounted to 1,998, which included technology transfer relating to 528 pieces of electrical equipment and apparatus (26.4% of the total).[26] It was now characteristic of many Japanese companies to contract more patent and technical assistance agreements with foreign companies than ever before.

Second, the nature of patent and technology agreements varied. Contracts between major electrical companies and foreign companies had thus far been comprehensive. Take, for example, the contract between Tokyo-Shibaura Electric and GE. Its terms covered almost all products and technologies, granted exclusive licenses for patent rights, and provided unlimited transfer of technology and technical information. In contrast, in the postwar period, different contracts were prepared according to the product, with each defining the scope of technology

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25) Toshiaki Chokki, "Denki [Electrical Equipment]," in Shin-ichi Yonekawa, Koichi Shimokawa and Hiroaki Yamazaki, eds., *Sengo Nihon Keieishi* [Business History of Japan after the War], Vol. 2, Toyokeizai Shinposha, 1990.

26) Eisuke Okazaki, "Denkiki no Gijutu Donyu ni Tsuite [On the Introduction of Electrical Apparatus Technology]," *Denki* [Electric Machinery], Vol. 181-182, 1963.

Table 2 Technology Introduction Contracts, Electrical Industry: 1950-1961

	Hitachi	Toshiba	Mitsubishi	Fuji	NEC	Oki	JRC	Matsushita	Sony	Sanyo
RCA	3	3	5	1	5	1	3	3	3	2
Western Electric	4	4	1	4	1	4	2	1	1	2
General Electric	4	10	1	1	1				1	
Westinghouse			5							
Siemens				2						
Philips	1	1			1			2	1	1
EMI		1			3					
Sperry Rand	1	1			1	1				
IBM	1	1	1	1	1	1		1		
Raytheon					1	1	1			
other	1	6	6		5	2	2	3	1	

Source: Nakamura, "1950 Nendai no Nihon Denki Kikai Sangyo", p. 54.

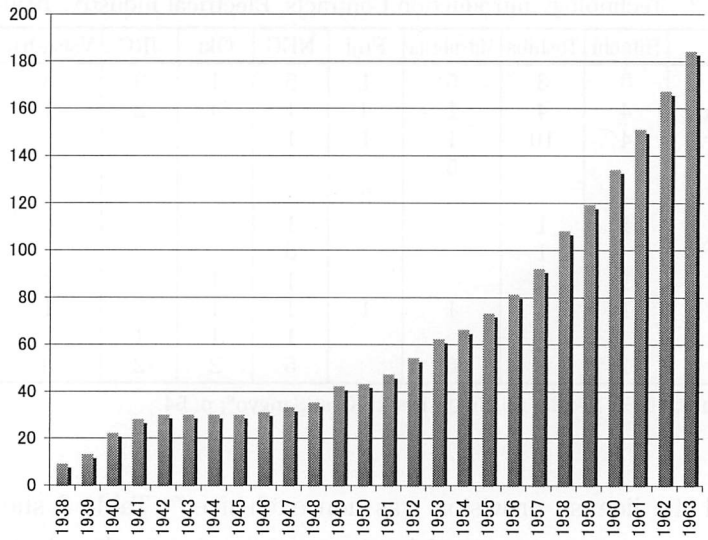
transfer, and the license provision was non exclusive.[27] **Table 2** shows the technology assistance contracts signed between companies in the electrical industry from 1950 to 1961. GE entered into contracts not only with Toshiba but also Hitachi, Mitsubishi, and a large number of other companies, while Toshiba signed contracts not only with GE but also with RCA, Western Electric, Philips, EMI, Sperry Rand, IBM, and others.

In accordance with the changing nature of agreements, the international patent management contracts between GE and Tokyo-Shibaura Electric also changed. It seems that the proxy application of GE patents by the patent department within Toshiba had continued until around 1955, even in the case of applications filed not in the name of Toshiba but of General Electric or its subsidiary, the International General Electric Company. The management and operation of GE patents by Toshiba, as if they were its own property, had gradually been abolished.

4-2. Activities of the Japan Patent Association

When the number of foreign technologies introduced across various fields increased and many companies entered into patent license agreements, those companies that had no experience in patent matters became conscious of the control and effective use of the patent system as a subject to be addressed by the whole company. Furthermore, the importance of patents was recognized in the course of enhancing development activities and seeking original technology while

27) This alteration had been affected by the anti-trust trials in the US at that time. See also Seiji Nakamura, "1950 Nendai no Nihon Denki Kikai Sangyo: Seicho Sangyo no Kyoso Chikuseki Kozo Bunseki [Japanese Electrical Machinery Industry in the 1950s: An Analysis of Competition and the Accumulation Structure of a Growing Industry]," *Tokyo Daigaku Keizaigaku Kenkyu* [University of Tokyo, Economic Review], University of Tokyo Press, 1977, pp. 49-64.



Source: Japan Patent Association, Nihon Tokkyo Kyokai 25 Nenshi, pp. 197-199.

Fig. 4 Number of members of the Japan Patent Association

harnessing foreign technologies; then, the term "patent management" was adopted in the 1950s.[28] The awareness and systematization of the patent management of largely Japanese designs was one of the institutions facilitating the introduction and development of technology after the war.

The diffusion of patent management depended largely on the activities of the Japan Patent Association. Although the association began as the Choyo-kai, it increased its membership profile in 1944 to include individuals as well as corporations as a step toward evolving into more than a mere informal group. In 1956, it christened itself as the Industrial Property Association of Businessmen, because the previous name, Choyo-kai, sounded like the name of a hobby group. Subsequently, it changed its name again to the Japan Patent Society in 1959 and became an industrial association representing Japan in name and substance.[29] Fig. 4 shows the augmentation in the number of member firms of the association. The number of members rose to 184 in 1963, whereas there were only nine members in 1938.

The Japan Patent Association was active in many aspects of the evolution of

28) Kazuo Inoue, ed., *Tokkyo Kanri* [Patent Management], Yuhikaku, 1966, p. 1.

29) Nihon Tokkyo Kyokai 25 Shunen Kinen Jigyo Iinkai [Japan Patent Association 25th Anniversary Memorial Project Committee], *Nihon Tokkyo Kyokai 25 Nen Shi* [Twenty-Five-Year Old History of the Japan Patent Association], Nihon Tokkyo Kyokai, 1963, pp. 50-65.

patent management in Japan.[30] First, the association undertook the task of making contact and coordinating with government and private organizations. It regularly held a liaison committee with the Patent Office to exchange information and assert its status as a corporate patent system expert. When the Council of Revision of Industrial Property Laws in the Ministry of International Trade and Industry (MITI) was established in November 1950, the association delegated some members as part of a special commission. In response to the council, the association instituted the patent committee to deal with the revision of industrial property laws and related matters.[31] This committee discussed practical and theoretical issues on the revision, obtained a consensus among the members, and offered it to the council. Bills for revisions of the patent law, the Utility Model Law, and the Design Law, that had partly reflected the opinions of corporate patent affairs, had been passed in 1959 and enforced in 1960. Second, the association undertook investigation and research into industrial property systems and provided member companies with relevant knowledge and information. Patent management was diffused across the leading Japanese companies was through the journals and materials that were issued periodically. Third, the association began research on corporate patent management after 1958. The institution of the Patent Management Committee within the association had been influenced by the report of the observation mission that visited the US and Europe the previous year.[32]

4-3. Observation mission

The Patent Control Specialist Study Team, which was organized by the Japan Patent Office, was dispatched to the US and European countries by the Japan Productivity Center as an observation mission for patent management.[33] With the aim of investigating the actual state of the IP management of companies in each country, they left Tokyo for San Francisco on May 30, 1957. This six-member mission was led by Sakae Haruki, the president of Fuji Photo Film. The other members were Mitsuya Ikenaga, chief of the examination section of the Patent Office; Kazuo Inoue, head of the patent department of Tokyo-Shibaura Electric; Ken'ichi Matsumiya, deputy head of the engineering management department of Hitachi Limited; Akio Washimi, head of the patent section of the Nippon Electric

30) *Ibid.*, pp. 35-48.

31) *Ibid.*, p. 82.

32) *Ibid.*, p. 110.

33) Nihon Seisansei Honbu [Japan Productivity Center], *Tokkyo Kanri* [Patent Control], Productivity Report 44, 1958, pp. 3-5.

Table 3 List of subject organizations

Name	Location	Industry or Business
(United States)		
Food Machinery & Chemical Co.	San Jose, CA	Food machine, etc.
Abbott Laboratories	North Chicago, IL	Pharmaceutical
Minnesota Mining & Manufacturing Co.	St. Paul, MN	Scotch tape, emery papers, etc.
Line Material Co.	Milwaukee, WI	Electric wire, switch, etc.
Kearney & Trecker Corporation	Milwaukee, WI	Machine tool
Allis Chalmers Manufacturing Co.	Milwaukee, WI	Electrical, etc.
Westinghouse Electric Co.	East Pittsburgh, PA	Electrical
Eastman Kodak Co.	Rochester, NY	Photographic chemistry
Stromberg Carlson Division	Rochester, NY	Communication apparatus
General Electric Co.	New York, NY	Electrical
Radio Corporation of America	Princeton, NJ	Electrical
American Cyanamid Co.	Stanford, CT	Chemical
Union Carbide & Carbon Corporation	New York, NY	Chemical
Stanford Research Institute	Menlo Park, CA	Research Institute
Universal Oil Products Co.	Des Plaines, IL	Research Institute
Wisconsin Alumni Research Foundation	Madison, WI	Research Institute
National Research Co.	Boston, MA	Research Institute
Massachusetts Institute of Technology	Boston, MA	Research Institute
Research Corporation	New York, NY	Research Institute
U.S. Patent Office	Washington, DC	Government
Government Patent Board	Washington, DC	Government
Bureau of Foreign Commerce, USDC	Washington, DC	Government
Civil Division, USDJ	Washington, DC	Government
National Research Council	Washington, DC	Government
International Cooperation Administration	Washington, DC	Government
American Council on Education	Washington, DC	Government
American Patent Law Association	New York, NY	Affiliate Organization
New York Patent Law Association	New York, NY	Affiliate Organization
Langner, Parry, Card & Langner	New York, NY	Affiliate Organization
(Great Britain)		
Electrical & Musical Industries, Ltd.	Middlesex	Electrical
Imperial Chemical Industries, Ltd.	London	Chemical
Patent Office	London	Government
National Research Development Corporation	London	Research Institute
Trade Marks, Patents & Design Federation	London	Affiliate Organization

(France)		
Régie Nationale des Usines Renault	Billancourt, and Flin	Automobile
Service de la Propriété Industrielle (SPI)	Paris	Government
Institut National de la Propriété Industrielle (IPI)	Paris	Government
Agence Européenne de Productivité	Paris	International Organization
Commissariat Général à la Productivité	Paris	Government
(Nederland)		
N. V. Philips' Gloeilampen Fabriken	Eindhoven	Electrical
l'Institut Internationale des Brevets	Den Haag	International Organization
(West Germany)		
Badische Anilin & Soda Fabrik	Ludwigshafen	Chemical
Siemens Schuckert	Erlangen	Electrical
Siemens Schuckert Berlinwerke	Berlin	Electrical
Deutchen Patentumt	München	Government
(Switzerland)		
Escher Wyss A. G.	Zürich	Machinery
Ciba Societe Anonyme	Basel	Chemical
Gebrüder Sulzer A. G.	Winterthur	Machinery
Bureau Federal de la Propriete Intellectuelle	Bern	Government
The International Bureau for the Protection of Industrial Property	Bern	International Organization

Source: Japan Productivity Center, *Tokkyo Kanri* [Patent Management], *Productivity Report 44*, 1958, pp. 9-13.

Co. (NEC); and Shozo Saotome of Mitsubishi Chemical Industries.[34] Therefore, it is obvious that the persons heading the patent affairs of the member companies of the Japan Patent Association had studied the practices and theories of foreign companies to improve their awareness of the same. **Table** 3 shows the companies and factories visited and investigated by the mission. They visited some laboratories, government organizations, and patent-related associations during their three-month long trip. On returning to Japan, they compiled and published their report in 1958; the report was widely read by the people involved in patent management.

Although the primary objective of the mission was to investigate the practices of patent management, they also focused on how the top management of Western companies view IP and make effective use of it. With this in mind, they created

34) *Ibid.*, p. 6.

relevant topics. From among the topics created, the following seven dealt with corporate patent management: (1) relationship between corporate management and patent management; (2) licensing and assignment, that is, their management policies and how to measure loyalty; (3) safeguarding against and redressal of infringement; (4) the patent department, that is, its organization, the number of staff, businesses, links to other sections, and necessary expenses; (5) how to manage in-house inventions; (6) cooperation with other outside organizations; and (7) maintenance of the official gazette, reports, and other materials.[35] The topics covered general policy, the role of patents in corporate management, and practical points.

Investigations in the US and Europe carried out by the mission made the members of the association aware of the necessity to study corporate patent management. Subsequently, the association created a special committee in 1958 to discuss patent management or control, and they accelerated to diffuse patent management capabilities among Japanese companies.

4-4. Features of IP management in around 1960

The Patent Management Committee of the association tried to understand the realities of corporate patent management in Japan, through a questionnaire survey administered to 123 member companies in 1960. This survey contained questions about the organization of the patent section, affiliated posts, the number of staff members, businesses, and the number of IPRs; however, there were only a few

Table 4 Subject discussed in the Patent Management Committee, 1963

a.	Reasonable relationship between research management and patent management
b.	Organization, formation, operation, extent, and authorized limit of rights of patent department
c.	Accountant's conduct of patent relating costs
d.	Documentation
e.	Public relations and education of patent management
f.	Reasonable way of application, in accordance with conditions of research and production; and relationship with proposal system
g.	Rationalization of operation of patent department
h.	Making a outline of formula of patent management
i.	A drastic measure for defending infringement
j.	Model case
k.	Other theme

Source: Japan Patent Association 25th Anniversary Memorial Project Committee, *Twenty-five-year History of the Japan Patent Association*, pp. 120-121.

35) *Ibid.*, pp. 18-19.

questions on operations and management, such as who will tackle the infringement, the existence of rules for the treatment of employees' inventions, and the existence of an in-house proposal system.[36] The fact that the survey did not include practical questions that would reflect the findings made by the observation mission shows that patent management in Japanese companies was still not sophisticated at that time.

The committee continued to study which patent management system would be most beneficial for Japanese companies. In their discussions, they laid down the aims of patent management as follows: (1) to produce useful inventions for a company, (2) to ensure research in order to enhance technological competitiveness and improve the business results of the company, (3) to secure corporate activities through the arrangement of rights with other companies, and (4) to increase the technology level by introducing new technology.[37] The subjects shown in **Table 4** had been studied under such a notion in 1963. From this table, it is obvious that they focused on the relation between R&D and patent management, emphasizing how to apply many patents of great value, and build and operate respectable organization. That is, they studied patent management from the perspective of its application rather than its enforcement and/or licensing control.

For many companies seeking technological assistance from foreign companies and at the same time absorbing ideas from foreign technology and developing their original versions, emphasis was placed on the management of patent applications—that is, the operation of proposals, the discovery of ideas, and internal evaluation—and not on enforcement. Against the backdrop of rapid technological advancements aimed at catching up with the West in the era of swift economic growth, patent application management was established without the need for any enforcement. This tendency was along the lines of the activities of the association.

On the other hand, with regard to the Japanese propensity to emphasize patent application, doubts were expressed by some in-house patent attorneys—one of whom was Akira Hirano, former manager of the patent department of Fujitsu—right from the early stages. In 1974, he contributed an article to the association's archives and claimed as follows:

Patent applications soared from year to year, pushed by self-developed

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36) Tokkyo Kanri Iinkai [Patent Management Committee], "Kakusha no tokkyo kanri no genkyou [Present States of Patent Management by Each Company]," *Tokkyo Kanri* [Patent Management], Vol. 10, No. 6, 1960, pp. 16-21.

37) The Japan Patent Association's 25th Anniversary Memorial Project Committee, *op. cit.*, pp. 120-121.

technology in addition to adopted foreign technology, and then, Japan became the greatest in the world with respect to the number of applications. ...about 20 years have elapsed since some people began to cry 'quality matters more than quantity' and 'improve the examination.' ... patents, utility models, designs and trademarks; those have unanimously beaten the world in the number of applications; those patents and utility models are two and a half times those of the US or of West Germany; designs are 10 times as numerous as those of the US; trademarks are about five to six times as numerous as those of the US and 10 times as numerous as those of West Germany, or more. Comparing the present conditions of the Japanese industry with that of these countries, who can assert that the numbers as stated above are suitable for industrial development? [38]

5. Conclusion

The evolution of Japanese corporate patent management in the twentieth century could be divided into five phases. The second phase, which lasted between the 1920s and 1930s, marked the beginning of patent management by Japanese companies. The establishment of patent departments in some leading Japanese companies was encouraged by the foreign companies with which they allied. At the same time, with the aim of settling disagreements some Japanese companies organized themselves into a group comprising people heading patent affairs. Through the activities of this group, patent management skills were diffused, especially in the electrical industry.

The third phase was the era of swift economic growth in the post-World War II period. During this period, corporate patent management had spread widely across Japanese companies and was generalized through the activities of the Japan Patent Association. Under government regulations, many Japanese companies adopted foreign technology in various fields. They needed to understand how IP could be managed. The association offered them valuable information about corporate patent management, which the former learned from Western companies. Although companies that were licensed by foreign companies developed a suitable patent management system, they did not enforce their patent rights but leaned toward

38) Nihon Tokkyo Kyokai 35 Shunen Kinen Jigyo Iinkai [Japan Patent Association 35th Anniversary Memorial Project Committee], *Nihon Tokkyo Kyokai Saikin no 10 Nen Shi* [Recent Ten-Year History of the Japan Patent Association], Nihon Tokkyo Kyokai, 1974, pp. 180-181.

the application of patents.

One of the features of Japan is the considerable number of patent applications. In the course of pursuing rapid growth by adopting advanced foreign technology and developing original technology, patent management, which is more application-based than enforced, has been promoted.

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