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INCREASING AWARENESS AND UTILIZATION OF IP AMONG INDONESIAN SMES: LEARNING FROM JAPAN'S EXPERIENCE

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Abstract

This study aims to comprehensively examine the intellectual property (IP) support system for micro, small, and medium enterprises (MSMEs) by using Japan as the main case study and Indonesia in a comparative context. To achieve this goal, the research uses a qualitative approach through policy analysis, literature studies, review of training materials organized by the Japan Patent Office (JPO), and interviews with one of the participants of the IP Acceleration Program for Startups (IPAS). This approach allows researchers to understand the relationship between policy design, institutional implementation, and IP utilization behavior at the business actor level.

The findings of the study show that Japan's IP ecosystem is characterized by strong cross-agency coordination, evenly-distributed public services, and strategic mentoring programs such as IPAS that integrate business, technology, and legal aspects. This systematic structure allows SMEs and startups to obtain support according to their level of readiness, so that IP is not only treated as an instrument of protection; but also as a strategic asset for added value and business expansion. On the other hand, the use of IP in Indonesia still faces significant challenges including low IP literacy, a limited number of experts, financial barriers, and fragmentation among institutions which makes it difficult for SMEs to access consistent services. A comparison of the two countries reveals structural and operational gaps that have a direct impact on the behavior and capacity of SMEs in utilizing IP.

Based on these findings, this study recommends strengthening inter-institutional coordination, increasing the capacity of IP experts, establishing regional-based one-stop services, and developing strategic assistance programs for innovative SMEs. This study also identifies opportunities to strengthen IPAS in Japan, especially as related to improving participants' basic literacy and evaluating long-term impacts. Overall, this study emphasizes the importance of a systemic approach in building an inclusive and sustainable IP ecosystem in Indonesia.

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List of Abbreviations

BRIN	Badan Riset dan Inovasi Nasional
DGIP	Directorate General of Intellectual Property
GDP	Gross Domestic Product
EPO	European Patent Office
EIB	European Investment Bank
EUIPO	European Union Intellectual Property Office
Himbara	Himpunan Bank Milik Negara
INPIT	National Center for Industrial Property Information and Training
IP	Intellectual Property
IPAS	Intellectual Property Acceleration Program for Startups
IPR	Intellectual Property Rights
JCCI	Japan Chamber of Commerce and Industry
JPAA	Japan Patent Attorneys Association
JPO	Japan Patent Office
KADIN	Kamar Dagang dan Industri Indonesia
KUR	Kredit Usaha Rakyat
METI	Ministry of Economy, Trade and Industry
MPDP	Marketing–Patent–Design–Promotion
MSMEs	Micro, Small, and Medium Enterprises
NIS	National Innovation System
OECD	Organisation for Economic Co-operation and Development
R&D	Research and Development
SMEA	Small and Medium Enterprise Agency
SMEs	Small and Medium-sized Enterprises
WIPO	World Intellectual Property Organization

Chapter 1: Introduction

1.1 Problem Consciousness

Micro, Small and Medium Enterprises (MSMEs) form the backbone of Indonesia's economy. They contribute 61% to the Gross Domestic Product (GDP), and account for 97% of labor absorption (Yusuf, et al., 2022; DJPB, 2024). However, the full potential of SMEs is often hampered by a lack of intellectual property (IP) utilization (Khawand, et al., 2024). Intellectual property, such as trademarks, patents, and copyrights, is not just a legal instrument; but a strategic asset that can increase competitiveness, protect innovation, and add business value. Low awareness and utilization of IP make SMEs vulnerable to imitation, and limit growth opportunities in domestic and global markets (WIPO, 2021).

The problem of low IP utilization among SMEs is not an issue that only occurs in Indonesia. Many developing countries face similar challenges, where SMEs are the pillar of the economy but have not fully utilized IPR for business growth (WIPO, 2021). Common barriers include financial limitations, lack of knowledge, and complex bureaucratic processes (Asri, et al., 2020; Maftuchah, et al., 2018; OECD, 2021; Sukania, et al., 2025; WIPO, 2021). The government, in this case, has tried to provide stimulus programs for the development of SMEs. One of these is through the Directorate General of Intellectual Property (DGIP), namely by implementing a special IP registration tariff for SMEs. Socialization and promotion have also been carried out through various programs involving related ministries/institutions, the SME community, universities, and e-commerce.

In addition to these programs, there are also policies that aim to encourage the development of the business climate—especially for SMEs—and namely through Law Number 20 of 2008 concerning Micro, Small, and Medium Enterprises. However, it turns out that these efforts have not been able to increase intellectual property registration among SMEs, which only reached 11% of the 64 million total SMEs[1] (CNN, 2023). Therefore, a study is needed to identify the obstacles faced by Indonesian SMEs in IP in order to increase their IP awareness and utilization, as well as to formulate policy recommendations by learning from Japan's experience. Japan was chosen as a reference because not only does it have a strong IP system; but it is also known for successfully

[1] There are notable discrepancies in the reported data on MSMEs, which arise from differences in definitions and counting methodologies. Government administrative data from Ministry of MSMEs typically include formally registered enterprises only, resulting in a total of 30,178,617 firms, whereas broader estimates that incorporate the informal sector—such as those reported by CNN Indonesia—place the figure at approximately 64 million.

fostering local SMEs to understand and strategically utilize IP through collaboration among governments, professional institutions, and the private sector (WIPO, 2021; JPO Status Report, 2025).

1.2 Research Objective

This study addresses the central problem of the low awareness and underutilization of IP among Indonesian SMEs. The research will explore the specific barriers that prevent these enterprises from protecting their intellectual assets, and leveraging them for business growth. The core issue lies in a fundamental gap: while Indonesia's economy is heavily reliant on SMEs, the legal and institutional framework for supporting their IP needs is not yet fully effective; and their understanding of IP's strategic value is limited.

This study aims to learn from countries with a strong history of successful intellectual property systems. Japan, with its robust and long-standing IP system, offers a compelling case study. The Japanese government and private sector have developed effective policies, support systems, and a strong IP culture that has enabled its SMEs to become global innovators. By examining Japan's experience, this study aims to identify transferable lessons and best practices that can be adapted to the Indonesian context through the following methods:

1. Study the IP support systems for SMEs by the government
2. Analyze the current state of IP awareness and utilization among Indonesian SMEs
3. Identify the key barriers, including legal, financial, and educational challenges, that Indonesian SMEs encounter in using IP
4. Conduct a comparative analysis of the IP support systems for SMEs in Japan and Indonesia
5. Identify suitable strategies to increase IP awareness and utilization for SMEs in Indonesia, based on Japan’s experience

1.3 Expected Outcome and Contribution

This section explains the expected outcomes of the study, and the contributions that it aims to provide. Described here are the knowledge and insights which the research intends to generate, as well as the practical recommendations it seeks to offer in order to improve intellectual property support systems for SMEs.

1.3.1 Expected Outcomes

a. Greater understanding of the current IP support systems for SMEs in Japan and Indonesia
b. Identification of the gaps and challenges within IP support systems for SMEs
c. Provision of recommendation to increase IP awareness and utilization for SMEs

in Indonesia, based on Japan’s experience

1.3.2 Expected Contribution

The study expects to provide specific recommendations to the government in increasing IP awareness and utilization for SMEs in Indonesia, while considering their distinct characteristics based on Japan’s experience.

Chapter 2: Basic Information and Previous Study

This chapter provides an overview regarding the characteristics of SMEs in Japan and Indonesia, the institutional framework that influences the use of intellectual property (IP), and important findings from previous studies. This presentation is the basis for understanding how the two countries build an ecosystem that supports SMEs—especially regarding the aspect of protecting and utilizing IP.

2.1 Basic Theory of SMEs and Innovation

Understanding the dynamics of innovation in the SME sector is important as a basis for seeing how IP policies work in various countries, including Japan and Indonesia. Before comparing institutional support among countries, this section provides an overview of the main theories that explain the relationship between business size, innovation capacity, and the tendency to exploit IP rights.

2.1.1 Characteristics of SME Growth

SMEs generally have different characteristics from large companies in terms of resources, organizational structure, and long-term orientation (Storey, 1994). The literature states that SMEs tend to operate with limited resources, focus on daily operational continuity, make decisions quickly and informally, and have simpler managerial and technological capabilities (Sulistyastuti, 2004). The SME growth model is often explained through the stages of the growth model, which describes that SMEs move through the stages of survival, stabilization and expansion. In the early stages, innovation is not a top priority. Rather, the focus is usually on cash flow, marketing, and customer retention. This explains why the level of technical innovation of SMEs globally tends to be low (OECD, 2021).

2.1.2 Innovation Theory

In classical innovation theory, Schumpeter distinguishes innovation as the creative force that drives economic growth. He initially saw large companies as the main actors of innovation because they had research laboratories, capital, and structures that supported R&D activities (Schumpeter, 1942, as discussed in Caeldries, 1993). In the context of SMEs, incremental innovation includes gradual product improvement, improved process efficiency, design adjustment, and simple technology adaptation. This type of innovation is more common in SMEs because it is relatively easier to achieve without large investments. However, incremental innovation does not always result in patent-worthy inventions, so it is not automatically reflected in the number of IP applications (especially patents).

2.1.3 Company Size, Innovation Capacity, and IP Registration

Based on various studies, there is a strong correlation between company size and the tendency to utilize IP. Large companies tend to be more active in R&D, have a formal structure for IP management, and regularly file patents, designs, and trademarks (Schumpeter, 1942, as discussed in Caeldries, 1993). On the other hand, SMEs often have lower innovation capacity, unstructured IP strategies, and the tendency to choose more accessible IP like trademarks and designs (OECD, 2021; WIPO, 2021). In other words, innovation capacity is the main prerequisite before SMEs make maximum use of IP (OECD, 2021). This explains why SME patent applications in many countries, including Japan and Indonesia, tend to be low. This is not because IP services are unavailable, but because SMEs are structurally not yet at the stage that allows them to produce technical inventions that are ready to be protected.

2.1.4 Global Trends in the Utilization of IP by SMEs

In recent years, international institutions such as WIPO and the OECD have shown that SMEs around the world face similar challenges. These include low R&D investment, limited access to IP information, a lack of internal staff who understand IP, a preference for trademarks over patents, and a low level of commercializing innovative products.

In many countries, IP registration by SMEs tends to be concentrated on the following types of IP:

1. Trademarks, which are directly related to marketing
2. Industrial design, especially within the creative and light manufacturing sectors
3. Trade secrets for culinary, services, and simple techniques

Meanwhile, various international studies show that the proportion of patent applications filed by SMEs in many countries is in the range of 10–20% of the total number of applications (EPO & EUIPO, 2019). For example, EPO and EUIPO studies note that SMEs and individual inventors account for only about 20% of patent applications in Europe, while the share of SMEs within the field of 4IR technology is even in the range of 10–16% (EPO & EUIPO, 2019; EPO & EIB, 2022). This figure is in line with a steady trend in Japan, where the contribution of SMEs to patent applications stands at around 16% (JPO, 2025). This trend shows that the low patent output of SMEs is not a country-specific problem, but a global phenomenon related to the nature of SMEs and their innovation structure (Pitkethly, 2012).

2.2 Overview of SMEs and Their Characteristics

2.2.1 Definition and Global Importance of SMEs

SMEs are generally defined based on the amount of labor, capital, and turnover, although the limits differ by country. Despite these differences, SMEs are globally known as the pillars of the economy. Around 90% of business units around the world belong to the SME category, and absorb more than half of the workforce (United Nations, n.d.). In addition, SMEs are a very important source of creativity and innovation, so the issue of IP protection is becoming increasingly relevant.

2.2.2 SMEs in Japan

Japan defines SMEs through limitations on the number of employees and capital, which are different for each sector (SME Basic Act, 1963/1999). SMEs account for about 99.7% of the number of companies, and 70% of employment (SME Agency, 2016; Japan Finance Corporation, 2025). However, Japanese SMEs also face challenges: namely, productivity stagnation and the need for digitalization. Such conditions have encouraged the Japanese government to develop a highly-structured support ecosystem, including support in the field of IP to ensure that SMEs remain competitive in the global market (JPO, 2025).

2.2.3 SMEs in Indonesia

In Indonesia, SMEs are regulated through Law No. 20 of 2008 and its derivative regulations. SMEs number more than 30 million units (Ministry of MSME, n.d), and contribute more than 61% to national GDP (Anatan & Nur, 2023). Despite their huge numbers, Indonesian SMEs still face classic challenges: access to financing, technological capacity, and relatively low levels of innovation (Nugraheni et al., 2025; Ratnaningtyas et.al., 2025). Most SMEs still focus on the sustainability of their daily business, not on innovation-based growth—a condition which affects how they view IP. Many SME actors do not see IP as a strategic asset, but simply an administrative matter.

2.3 Institutional Support Framework for SMEs

2.3.1 Institutional Support Framework in Japan

The foundations of modern Japanese IP policy were built in the early 2000s, when the government set a new direction through the Intellectual Property Strategy Headquarters (IPSH) under the Prime Minister's Office. Through the IP-Based Nation Strategy (2002) policy document, Japan affirmed its commitment to building an innovation-oriented ecosystem and strengthening IP protection. This strategy marked an important turning point, wherein IP policy shifted from merely an administrative function to an instrument of economic development.

The strategy emphasizes four main pillars, namely:

1. Creating a strong and efficient legal environment
2. Encouraging innovation and commercialization of technology
3. Strengthening the education system and dissemination of IP information
4. Building cooperation mechanisms among institutions at the national/regional levels

It is within this framework that JPO, METI, SME Agency, local governments, and supporting institutions such as INPIT have begun to carry out complementary mandates.

The Ministry of Economy, Trade and Industry (METI) functions as a determinant for the direction of economic policies, which includes increasing the competitiveness of SMEs. METI sets the outline of national strategies and priorities, wherein SME policies and innovations run within one consistent framework. Under METI lies the Small and Medium Enterprise Agency (SMEA), which is a special institution for the development of SMEs. SMEA develops programs, provides facilitation, and ensures that various types of government support can reach business actors in a practical manner.

At the same time, IP issues are handled by the Japan Patent Office (JPO), which is also under METI. The JPO manages aspects of IP policy, provides registration services, and supports the use of IP through various mentoring programs. With this structure, wherein METI is the policy director, SMEA is the implementer of the SME program, and the JPO is in charge of IP policy, support for SMEs and IP in Japan moves within a single unified strategy. This integrated approach allows efforts to increase innovation and the use of IP in a more targeted and consistent manner at all levels, whether central or regional. Such coordination also ensures that IP policies are in line with the direction of the national economy.

To clarify the institutional configuration described, Figure 1 illustrates Japan's coordinated framework for SME IP support, adapted from official training materials of the Japan Patent Office. The figure situates the Ministry of Economy, Trade and Industry as the central policy authority, under which both the Small and Medium Enterprise Agency and the JPO operate within a unified strategic direction. It also highlights the nationwide implementation mechanism involving regional bureaus, local governments, chambers of commerce, and specialized support bodies such as the National Center for Industrial Property Information and Training.

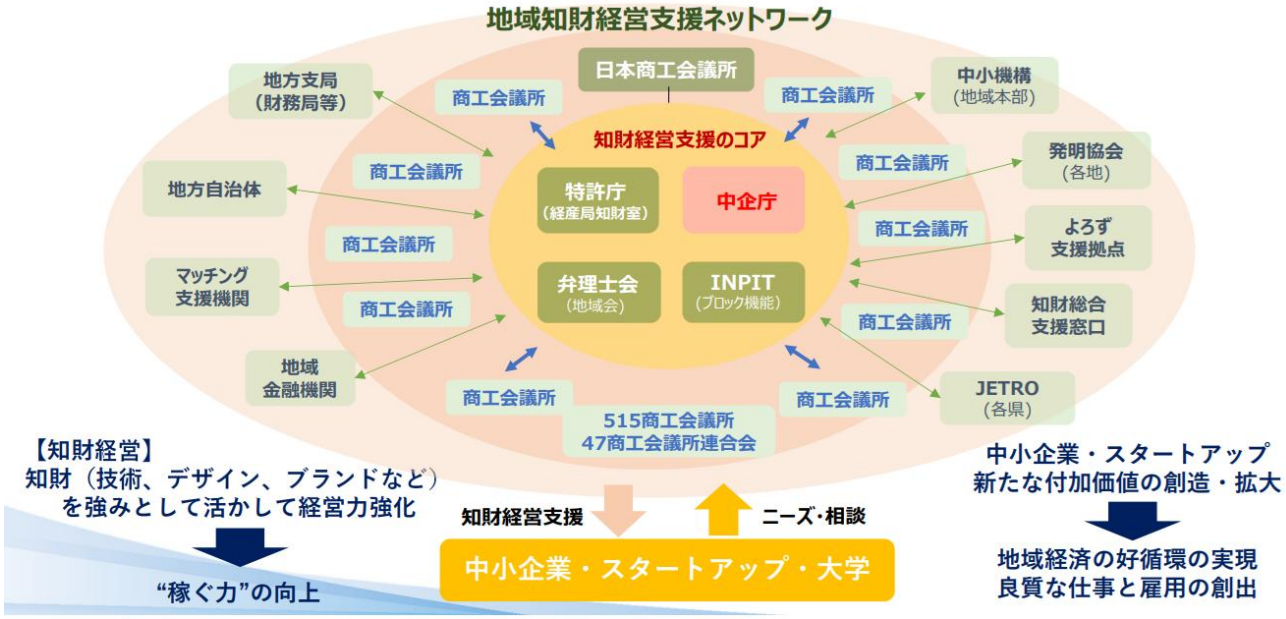

Figure 1. Coordinated Institutional Support Framework for SMEs' IP Utilization in Japan

(METI, INPIT, JCCI, JPAA, 2025)

2.3.2 Institutional Support Framework in Indonesia

Support for SMEs in Indonesia is spread across various ministries and institutions, with the Ministry of MSMEs as the main policy designer, as well as the provider of capital, technology, and market access services. In addition to formal government bodies, there are also non-governmental and semi-governmental institutions that play an active role, such as the Indonesian Chamber of Commerce and Industry (KADIN), which provides various mentoring, training, and business capacity building programs for SME actors. Another important entity is the association of state-owned banks (Himbara), whose member banks not only provide financing; but also foster SME groups through advisory programs and business coaching. The Government's Kredit Usaha Rakyat (KUR) is distributed through Himbara, making these banks one of the central channels through which SMEs gain access to financing and business support.

At the regional level, local governments also provide various forms of support through training, business promotion, mentoring, and the provision of business incubators. However, most of the support—whether from ministries, local governments, KADIN or Himbara—still focuses on general aspects of business continuity and capacity-building, while the issue of intellectual property is not yet a major concern. And while the existence of many of these actors shows that SMEs have great opportunities to obtain various supportive services. On the other hand, the lack of coordination and differences in

program objectives among these institutions has the potential to lead to policy fragmentation. As a result, various support often runs independently, without being integrated; meaning that intellectual property protection has not consistently become part of the mainstream agenda.

Meanwhile, in the field of IP, the Directorate General of Intellectual Property (DGIP) under the Ministry of Law is present as an institution that organizes the formulation and implementation of policies in the field of intellectual property. The duties and functions of DGIP are not only limited to receiving and managing intellectual property applications, but also include intellectual property protection and education.

DGIP has made several important breakthroughs as an effort to provide support to SMEs, which are namely the following:

1. Provision of IP education platforms (EKII)
2. Online IP application and payment services
3. Issuance of special tariffs for trademark applications, industrial designs, utility models and patents filed by SMEs
4. Maintenance fee reductions for patents
5. An accelerated process for trademarks, industrial designs, and utility models

These initiatives show strengthened support for SMEs, but they have not had a direct relationship with increasing SME innovation. IP education and mentoring programs still tend to be administrative, and do not touch on technical aspects such as product development or innovation feasibility assessment. In addition, the absence of a central IP coordination body such as that which exists in Japan makes Indonesia's IP policy fragmented, and less directed nationally. Therefore, coordination among institutions in Indonesia still needs improvement so that IP interventions are more closely connected to SME policies as a whole.

Figure 2 synthesizes the institutional landscape for SME IP support in Indonesia based on the author’s analysis of policy documents, highlighting the fragmented distribution of responsibilities across ministries, DGIP, financial institutions, business associations, and local governments.

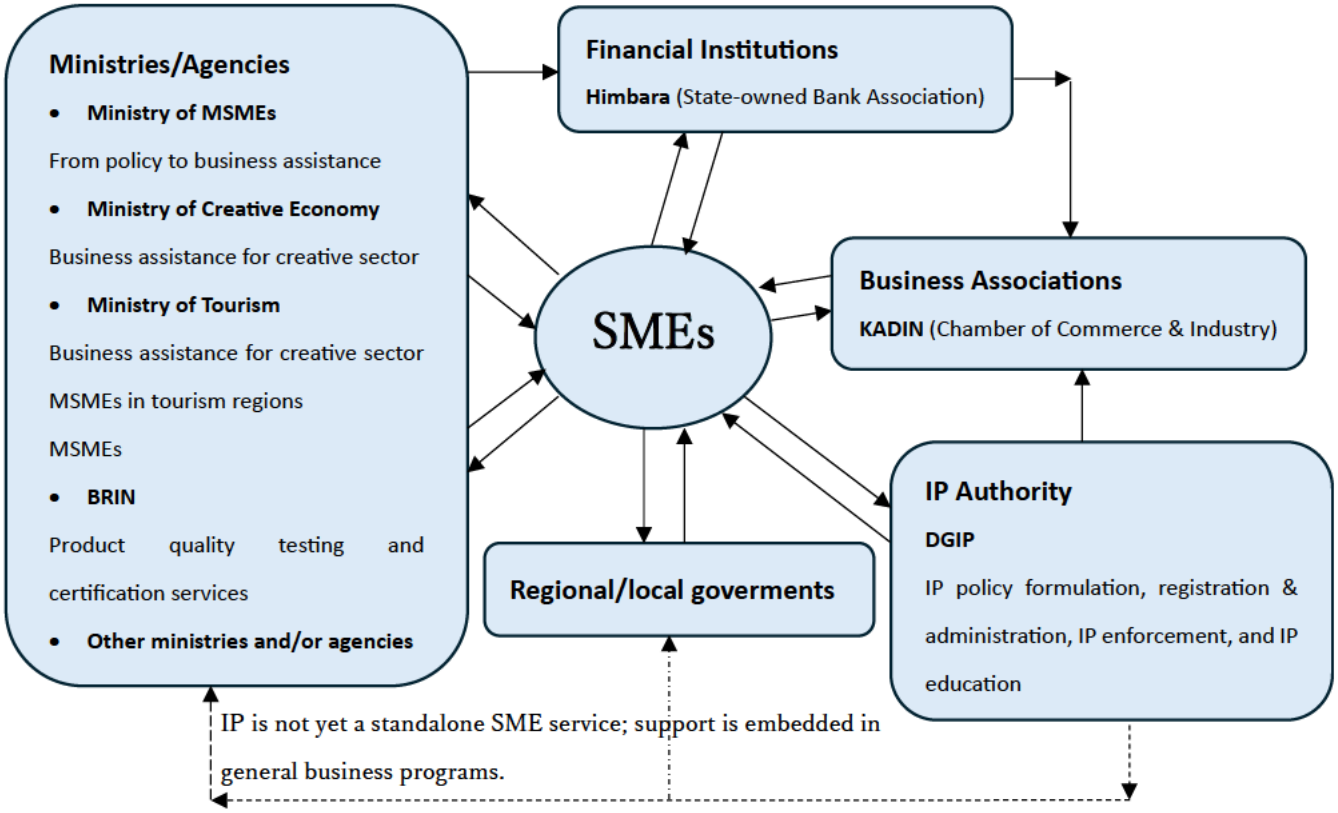

Figure 2. Fragmented Institutional Support Framework for SMEs' IP Utilization in Indonesia[2]

2.3.3 Comparative Summary between Japan and Indonesia

In contrast to Indonesia, Japan has a highly-coordinated support system for SMEs and IP under the same ministry (METI). Institutions such as SMEA and JPO move in one strategic direction, resulting in SME and IP programs strengthening each other. Japan also has a regional service network and even a help desk, which makes access to IP services easier.

Support for SMEs in Indonesia is indeed extensive and diverse, but it is spread across multiple ministries, which makes coordination less cohesive compared to Japan. IP services have made a lot of progress, but they still tend to be concentrated in large cities and have not been fully integrated with SME policies. To clarify the differences in the structure and policy direction of the two countries, the following table provides a brief overview.

[2] Figure 2 presents an analytical mapping prepared by the author based on publicly available documents and institutional mandates.

Table 1. Comparison of IP Policy and Support Frameworks for SMEs in Japan and Indonesia

	Japan	Indonesia
Policy Coordination	METI, SMEA, JPO	Fragmented Ministry of SMEs vs DGIP
Policy Orientation	Economy-driven, innovation-oriented	Administration-driven
Access to Services	Easily accessible and available across regional areas	Still limited and unevenly distributed
Focus	IP strategy, product innovation, and commercialization	Basic IP registration and literacy
Relevance of Services for SMEs	Strong and based on the needs of each sector	Still broad and mainly administrative

This comparison shows that Japan has an IP ecosystem that is simultaneously built both top-down and bottom-up. Meanwhile, Indonesia builds it bottom-up only, without any strategic integration.

2.4 Role of Patent Attorneys

Patent attorneys in Japan (*benrishi*) have a very important position in the intellectual property (IP) ecosystem. They not only carry out their functions as legal advisors, but also act as strategic partners for business actors including SMEs. Under the supervision of the JPO, the Japan Patent Attorneys Association (JPAA) collaborates with INPIT in providing professional consulting services through the Intellectual Property Management Support Network and IP Comprehensive Helpdesks (Japan Patent Office, 2025; INPIT, 2025). Benrishi's authority covers a broad spectrum of services, including the preparation and submission of patent, design, and trademark applications; the implementation of prior art searches; full representation in examination, objection, and appeal procedures before the JPO; drafting of license contracts; and provision of guidance related to IP valuation and portfolio strategy. With this professional mandate, benrishi not only ensure compliance with legal provisions; but also support business actors in the management of intangible assets and the formulation of long-term IP strategies. This role is in line with Japan's IP policy philosophy, which emphasizes collective work among

government agencies, professionals, and the industrial sector to ensure that IP becomes an operational, effective, and accessible resource.

As of the end of May 2023, Japan had more than 12,000 registered patent attorneys (Japan Patent Attorneys Association, 2023), who are all subject to mandatory membership in the JPAA and requirements for continuous professional training. By contrast, the number of IP consultants in Indonesia remains very limited, amounting to only 1,059 individuals (DGIP, 2024), not including those who have passed away or entered retirement age. The gap becomes even more evident when considering their uneven geographical distribution, which is concentrated in several major cities, particularly Jakarta (776 individuals), West Java (124 individuals), and Banten (116 individuals). This situation indicates that the profession of IP consultants in Indonesia still lacks adequate public visibility and has yet to obtain an optimal position within the national innovation ecosystem.

Substantively, there are important differences between benrishi in Japan and IP consultants in Indonesia in terms of legal authority, professional functions, and strategic roles within the IP ecosystem. Benrishi possess official representation rights in examination and appeal procedures before the JPO and play an active role in the administrative appeal procedures. In practice, they may also provide strategic services, including patentability assessments, the formulation of portfolio strategies, and support for commercialization. Meanwhile, IP consultants in Indonesia generally focus on the preparation of application documents and other administrative aspects, with a scope of strategic roles that remains limited and not yet fully integrated into government support programs. These differences indicate that although both professions share basic functional similarities, their levels of professionalization, authority, and contributions to the IP ecosystem differ significantly.

2.5 Awareness and Utilization of IP by SMEs

The level of IP awareness is directly related to the ability of SMEs to protect and develop innovation. IP awareness in Japan is relatively high due to the very accessible education, consultation, and mentoring ecosystem. In Indonesia, various studies show that IP awareness is still low and is often considered irrelevant by some SME actors. A number of government initiatives are starting to show positive results, however, as seen in particular within the increase in trademark registrations during the past decade. Examples such as Jogjamark in Yogyakarta show that local government support can have a significant impact.

2.6 Types of IP and Their Relevance to SMEs

For SMEs, the selection of the type of IP is greatly influenced by their business character,

innovation capacity, and business goals. While IP comes in many forms, such as patents, trademarks, industrial designs, copyrights, and trade secrets, not all of them have the same level of relevance for SMEs. This subsection outlines the relevance of each type of IP for SMEs in Japan and Indonesia and also provides concrete examples and supporting data from official institutions.

2.6.1 Trademarks

Among the various forms of IP, trademarks are the most frequently-used type by SMEs—which is consistent in almost all countries. WIPO (2021) suggests that trademarks represent the most commonly used form of IP protection among SMEs worldwide. In Indonesia, DGIP (2024) similarly notes that IP filings by SMEs are largely concentrated in the culinary, fashion, and craft sectors, with trademarks being the dominant category. This makes a lot of sense, since trademarks have a relatively low registration fee and a simple process, and are also directly related to marketing. Concrete examples are local brands such as Makuta, Janji Jiwa, or Kebab Baba Rafi, which use trademarks as a foundation for business expansion.

In addition, the OECD (2021) gives the following explanation regarding some of the main reasons why trademarks are the most popular among SME business actors:

1. SMEs tend to be more market-oriented than technology-oriented
2. Trademark registration makes an instant impact on branding
3. There are no technical documents required
4. The cost is lower than patents
5. There are fewer business risks

Given these reasons, it is understandable that trademarks often become an entry point for SMEs to begin learning about the IP system.

2.6.2 Industrial Designs

Industrial design is highly relevant for SMEs that focus on product design, aesthetics, and physical form. WIPO (2022) notes that SMEs in the fashion, furniture, handicraft, and retail packaging sectors rely heavily on industrial design to maintain product differentiation. In addition, industrial design is one of the more popular types of IP in Japan, with the JPO reporting in 2025 that more than 20% of industrial design applications come from SMEs. Japan has a strong design culture, and many SMEs concentrate on

enhancing product aesthetics—especially in the household goods, kitchenware, stationery, and small electronic device sectors. Industrial design applications have also increased significantly in Indonesia,, particularly from the sectors of craft and rattan, fashion, home décor, and packaging design. According to DGIP (2024), industrial design is the second most frequently filed type of IP by SMEs after trademarks. This is understandable, given that many Indonesian SMEs operate in creative sectors that prioritize visual appeal.

2.6.3 Utility Models

In some countries, utility models are used as an alternative to patents for simple or incremental innovations. Utility models are suitable for SMEs that do not have high R&D capacity, but still produce technical improvements that deserve protection. The SME Agency (2016) said that utility models expand opportunities for SMEs to protect innovations that do not meet the requirements for novelty or inventive steps which are as high as patents.

2.6.4 Patents

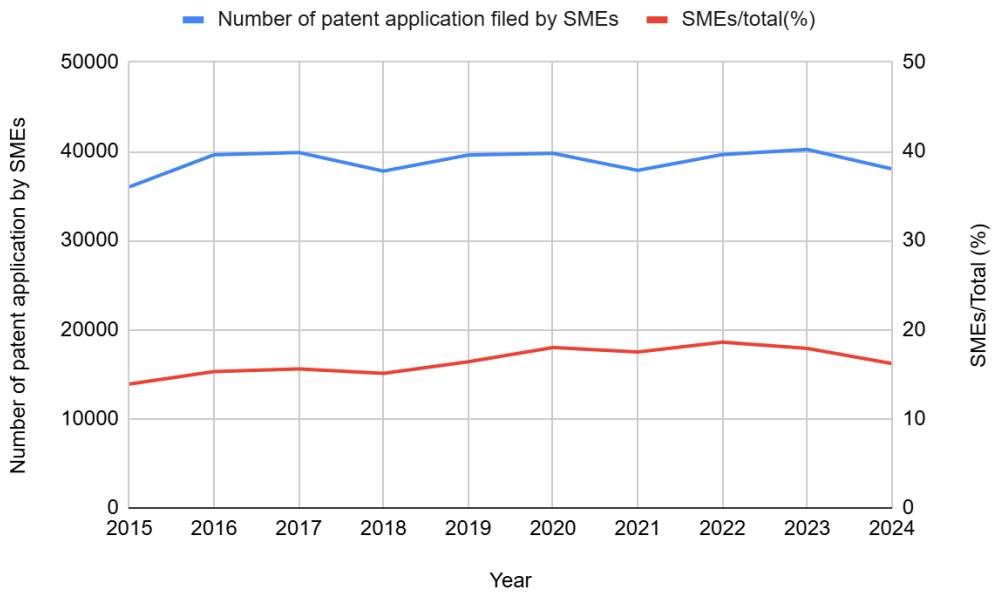

Figure 3. Trend of SME Patent Share in Japan (2015-2024)

Source: JPO Status Report 2025 (2015-2023); JPO training presentation, 8 October 2025 (2024)[3]; visualization prepared by the author.

[3] Data for 2015–2023 are taken from JPO Status Report 2025. Data for 2024 are based on a presentation delivered by NEOI Takuya, IPR Expert at JPO, during the JPO Short-Term Training on Support for SMEs,

Patents are the most complex and expensive, but also the most strategic form of IP for technological innovation. Both Japan and Indonesia have had difficulty encouraging SMEs to apply for patents. Although Japan's IP system is very mature, the contribution of SMEs to patents has remained stagnant at 16% for a decade (JPO, 2025). This is because SMEs focus more on incremental innovation, high patent costs and complex filing processes, as well as a lack of internal R&D capacity. The following figure shows the trend of patent fillings from SMEs in Japan.

Although the proportion of patent applications by SMEs in Japan tends to be stable over the long term, the Indonesian context requires a more in-depth empirical review. Before elaborating on the factors causing the low participation of MSMEs, it is important to first look at the development of patent applications which have been submitted through the MSME tariff category over the past decade. The following figure summarizes the trend of patent filings in these categories and provides a preliminary overview of the structural gap between policy objectives and the actual participation rate of MSMEs.

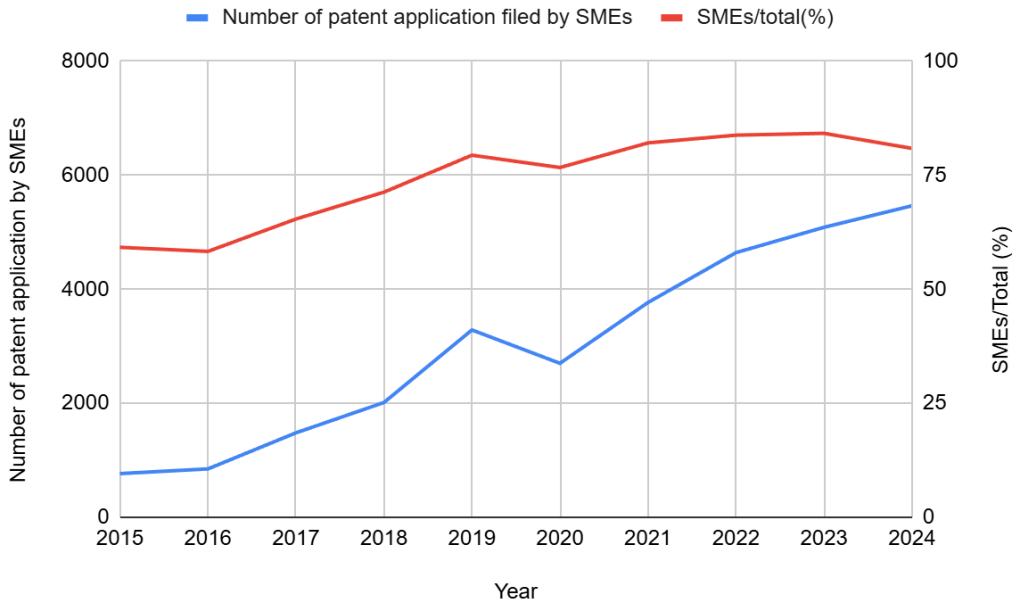

Figure 4. Trend of Patent Applications Under the SME Tariff Category in Indonesia
Source: DGIP Satu Dekade Kekayaan Intelektual dalam Angka (2015-2024); visualization prepared by the author.

held on October 8, 2025. Data for 2024 should be regarded as provisional, as they were obtained from training presentation materials rather than from an official statistical publication.

Indonesia faces much greater structural challenges compared with Japan. Although the number of patent applications submitted under the SME tariff category has increased over the past decade—reaching 30,494 applications, or around 31.2% of total domestic filings—this figure does not exclusively represent applications from SMEs. This is because the tariff category also applies to universities as well as public research and development institutions (DGIP, 2025). In practice, most patent applications originate from universities and research institutions (Maftuchah et al., 2018; Ratnaningtyas et al., 2025; Sukania et al., 2025). This situation is closely linked to the low level of patent literacy among SME actors, as well as the limited availability of IP experts or consultants who can provide adequate support (Khawand, et al., 2024).

2.6.5 Copyrights and Trade Secrets

Copyright and trade secrets are the two forms of IP that are most widely used by SME actors in the creative and culinary sectors. Copyright automatically applies without registration, so it is very relevant for digital content actors, graphic designers, musicians, photographers, software developers, and creative media SMEs. WIPO (2022) notes that digital SMEs worldwide record their creations mostly through copyright rather than by filing patents or industrial designs. Meanwhile, trade secrets are very popular in the culinary sector. In Japan, many local food manufacturers use trade secrets to protect hereditary recipes. In Indonesia, the same thing is very common for culinary SMEs, because trade secrets are considered more practical than patents.

2.6.6 Why SMEs Prefer Trademarks Over Patents

SMEs in general prefer trademarks over patents due to a number of structural reasons related to their business character and innovation capacity (OECD, 2021; WIPO, 2021). Most SMEs are market and marketing-oriented, so trademark is a top priority. Trademark registration directly supports these needs, both in building a reputation and differentiating products from competitors. In addition, the trademark registration process is much simpler; and the required costs are relatively low compared to patents. In many cases, SMEs do not have the technical capacity or adequate human resources to prepare patent documents that require technical descriptions, claims, and in-depth analysis of novelty.

In terms of innovation, SMEs tend to produce incremental innovations such as small improvements to products, design adjustments, or more efficient work processes. Such innovations often don't meet the standards of novelty and inventive steps required in patents, so trademark registration is a more realistic and relevant alternative for most

SMEs. Trademarks also have a direct impact on sales and consumer relationships, while patent benefits are usually felt only after going through a long commercialization process. In addition, the risk of errors in trademark registration is relatively small, whereas errors in patent documents can have a significant impact on the validity of protection.

Finally, the low utilization of patents by SMEs is also influenced by the lack of experts available to help them (Khawand, et al., 2024). Both WIPO and the OECD note that most SMEs in developing and developed countries still face limited access to IP consultants or patent attorneys who are able to translate innovations into legally strong patent documents. This condition makes trademarks the most dominant form of IP chosen by SMEs, insofar as they are more in line with their capacity, business needs, and resources.

2.7 Previous Studies and Research Gap

Previous research in Indonesia highlighted cost constraints, bureaucracy, lack of understanding regarding IP, and limited access to mentoring as the main obstacles (Asri et al., 2020; Maftuchah et al., 2018; Sukania et al., 2025). On the other hand, international studies show that IP can be a source of competitive advantage if managed strategically. There are some research gaps, however, which are as follows:

1. There is still a limited number of studies examining the role of institutional design in influencing the use of IP by SMEs
2. Comparative analysis of SME support systems in Indonesia and Japan remains limited
3. There is still little analysis of how Japan's successful practices can be adapted to the Indonesian context
4. The aspect of IP utilization (commercialization) is rarely addressed within SME studies in Indonesia

This study aims to fill that gap by examining Japan's experience, and exploring the opportunities for adapting it to Indonesia's context.

Chapter 3: Methodology

This chapter outlines the research design, data collection methods, and analytical techniques used to examine support for SMEs in utilizing IP in Japan and Indonesia. The methodological approach is structured to provide a comprehensive picture of policy practices, and opportunities for their adaptation.

3.1 Research Design

This study adopts a descriptive–comparative qualitative approach. The qualitative method allows for a deeper exploration of policy dynamics, institutional roles, and field experiences that cannot be captured through numerical data alone. Meanwhile, a comparative approach is used to look at the differences and similarities between IP support structures in Japan and Indonesia, so that best practices can be identified more clearly.

3.2 Data Collection Method

Data was collected through three main methods: namely, document review, participation in training, and semi-structured interviews. These three methods complement each other to provide a more thorough contextual understanding.

3.2.1 Literature Review

The document review was carried out by examining various official sources and academic literature, such as policies and reports from METI, SME Agency, JPO, and INPIT, as well as documents from DGIP and related ministries in Indonesia. In addition, scientific journals, research reports, and international publications on SMEs and IP are also used to build a conceptual framework for research. Documents have been selected based on their relevance and credibility.

3.2.2 Attending the Training Course

Participation in the JPO/IPR Training Course on Support for SMEs provided important insights into the implementation of IP support in Japan. The course provided an understanding of policy strategies, public service mechanisms, the roles of supporting institutions, and case studies illustrating how SMEs use IP within business development. The training materials serve as contextual evidence, helping to clarify how IP policies are applied in practice.

3.2.3 Interview

Semi-structured interviews were conducted to obtain a first-hand perspective from individuals who have experienced the benefits of IP support in Japan. In this study, an online interview was carried out with Mr. MURAKAMI Shinnosuke—an IPAS

participant and the Representative Director of One IP Tohoku Co., Ltd. His combined experience as a startup founder and program beneficiary provided a well-informed viewpoint that aligned with the specific focus of this research. Although limited to a single interview, the insights drawn from his direct involvement offer sufficiently rich and relevant information for the exploratory scope of this study.

3.3 Research Analysis Method

3.3.1 Content Analysis

Data from documents, trainings, and interviews were grouped into themes such as IP awareness, access to services, institutional support, and the use of IP by SMEs.

3.3.2 Comparative Analysis

A comparison was made between IP support structures in Japan and Indonesia, especially as related to institutional coordination, service reach, and the effectiveness of support.
The results of the two analyses were used to prepare realistic recommendations in accordance with the Indonesian context, while considering the institutional capacity and characteristics of SMEs in Indonesia.

3.4 Research Limitation

This study has several limitations that should be considered when interpreting the results of the study. Access to some data sources, especially English-language literature and policy reports, is still limited; meaning that a thorough analysis of some aspects of policy cannot be carried out. In addition, primary data collection through interviews involves only one key informant. Nevertheless, the informants were selected purposively because they had direct experience as program participants and business actors, which allowed them to provide empirical insights that were relevant to the research objectives. This interview is not intended to produce generalizations, but rather to gain a contextual understanding of IP support policy mechanisms and practices from the perspective of program users.

In qualitative research that focuses on policy analysis and institutional design, the use of strategically-positioned key informants is a commonly-used approach to identify patterns of program implementation and stakeholder interaction. To maintain the validity of analysis, the interview findings are not used independently. Rather, they are triangulated with JPO training materials, official policy documents, and relevant academic literature. The differences in policy context and technical terminology between Japan and Indonesia were also carefully taken into account in the analysis process. Through such an approach, this study seeks to minimize potential bias and ensure that the findings which are presented remain academically accountable.

Chapter 4: Results and Analysis

This chapter presents the research findings based on materials from the JPO/IPR Training Course on Support for SMEs, an interview with a participant of the IPAS program, and an analysis of their relevance to the Indonesian context. These findings not only illustrate how Japan has developed an IP support ecosystem for SMEs, but also provide concrete insights into actions, policies, and field practices that may serve as lessons for Indonesia.

4.1 Overview of the Information from the Lectures on SMEs IP Support

The training program organized by the Japan Patent Office (JPO) provides a comprehensive understanding of how Japan's IP policies and ecosystem function in supporting small businesses and startups. The results of the training show that Japan's IP system is built on a coordinated institutional architecture, with a clear role between the central government, local governments, supporting agencies, and IP professionals. This coordination structure does not only expand access to services, but forms a pattern of interaction that allows SMEs to make strategic use of IP rights—not only as a protection mechanism, but also as a business instrument.

This initial understanding is important insofar as it provides an entry point to analyze how Japan’s policies are shaped and operated, as well as how these structures result in mentoring programs that are very different from the Indonesian context. The training also shows a multi-level approach ranging from national policy transformation, improvement of the administrative system, and provision of support schemes to technical assistance that is close to the needs of business actors. Thus, the analysis of the Japan’s experience does not stop only at the description of the program, but also at how the program is sustained by complementary policies, systems, and actors.

The analytical framework in Chapter 4 then links the training findings with empirical data, interviews with an IPAS participant, and JPO policy publications in order to further dissect how the Japanese system works and how relevant it is to Indonesia. This study places the Japanese experience not as a model that must be adopted directly, but as a source of learning about policy design, coordination patterns, and strategic approaches in empowering SMEs through intellectual property.

The next sections in this chapter elaborate on the institutional journey of JPO, the fundamental challenges of Japanese SMEs, IP support mechanisms, the role of professional actors, and the relevance of all these findings toward building a stronger intellectual property ecosystem in Indonesia.

4.2 Theoretical Framework for Interpreting the Japan–Indonesia Findings

The theoretical framework discussed in Chapter 2 provides an essential foundation for understanding how intellectual property (IP) policies and services function within the context of micro, small, and medium enterprises (SMEs). The literature on SME innovation shows that the utilization of IP cannot be separated from two key factors: (1) the internal innovation capacity of SMEs, and (2) the quality and accessibility of IP services provided by the state. Accordingly, improvements in IP services—regardless of how well they are designed and implemented—do not automatically lead to an increase in patent filings if SMEs lack sufficient innovation capability.

In the context of Japan, this theory helps to explain why the number of patent applications submitted by SMEs has not shown a significant increase over the past decade, despite an IP system that is highly advanced and supported by relatively strong institutional arrangements. This stagnation does not reflect a low effectiveness of IP policies, but rather, the structural limitations of SMEs in producing technical innovations that are eligible for patent protection. In other words, innovation capacity becomes the critical point that determines the extent to which IP services can be optimally utilized by business actors.

Meanwhile, these challenges are even more complex in the context of Indonesia. The innovation capacity of SMEs continues to lag, and available IP services are not yet fully integrated within the broader SME development policies. This situation means that service improvements, including procedural simplification or the provision of cost incentives, have not been sufficient to drive a significant increase in the registration of IP rights—particularly patents and industrial designs that require higher technical capabilities. This framework also helps explain why various government initiatives have not produced commensurate changes in SME participation within the IP system.

This theoretical approach therefore serves as the foundation for interpreting the findings presented in this chapter. An analysis of Japan's policy landscape, and of Indonesia's conditions, needs to take into account the reciprocal relationship between SME innovation capacity and the effectiveness of IP services. Such a perspective enables a more comprehensive reading of the dynamics that emerge in the IP ecosystems of both countries and provides a framework for understanding why certain outcomes occur and what their implications are for policy formulation in Indonesia.

4.3 JPO's Institutional Shift and the Fundamental Challenges of Japanese SMEs

The development of IP policy in Japan in recent years shows a fundamental change in the way the JPO positions its role for business actors, especially SMEs and startups (JPO

Status Report, 2025). This institutional shift was born from the need to make SMEs and startups the main actors in the dynamics of national innovation, while responding to the long-term stagnation in domestic patent applications (JPO, 2025). This transformation not only includes overhauling systems and regulations, but also changing the orientation of the JPO from a passive administrative institution to an institution that proactively facilitates the management of rights, acceleration of examinations, and legal protection for technologically capable SMEs and startups (JPO, 2025). This new policy framework forms the basis for an analysis of the structural challenges faced by Japanese SMEs, as well as an entry point to understand how JPOs respond to their needs through cost reform, acceleration of the examination process, and the establishment of special support programs (JPO, 2025).

4.3.1 JPO's Policy Transformation

The change in JPO policy from 2017–2019 shows a shift in the role of this institution from merely a system manager to a strategic actor in supporting national innovation. A published article which includes an interview with the JPO Commissioner during that period explained that the decline in the number of domestic patent applications, along with the weakening interest of global companies to file patents in Japan, prompted the JPO to look for new user groups—namely, SMEs and startups.[4] This perspective highlights the understanding that SMEs have the potential to be a source of economic dynamics through disruptive technology. With this view, the JPO began to design policies that not only focused on filing rights, but also on strengthening the ability of SMEs to manage and utilize patents strategically (JPO, 2025).

Similar reforms are reflected in JPO's efforts to improve information accessibility and the "customer journey." Information that was previously difficult to understand created obstacles for small business actors. In response, the JPO improved the website, clarified the fee scheme, and improved access points for new applicants. These changes led to a more beginner-friendly system and expanded the participation of SMEs within the patent ecosystem (JPO, 2025).

The next transformation was seen in the introduction of the Super Accelerated Examination scheme, which was developed to meet the needs of fast-moving startups. This scheme shortens the examination time to about 20 days for the results of the first

[4] Author's notes from the second advisory meeting with Mr. NAKAHATA Minoru (October 31, 2025), referring to the interview publication by Naoko Munakata, former Commissioner of the Japan Patent Office, which was later shared with the author by email.

examination, allowing startups to obtain the right to support funding and market strategies more quickly (JPO, 2025). The acceleration of this audit is an economic policy instrument—not simply an administrative simplification—since it provides strategic value at the time of acquiring rights for startups (JPO, 2025).

Legal reform also strengthens the protection of SMEs. Changes to the Patent Law allow for the calculation of compensation based on potential licenses, not just the actual production capacity of SMEs; thereby increasing economic justice (Japan Patent Attorneys Association, 2019). These reforms are in line with international practices that emphasize the importance of protecting small-scale technology owners in a market dominated by large corporations.

Another aspect of the JPO transformation focuses on increasing the capacity of IP experts in startup mentoring. The publication underscores the need for IP experts who are able to provide cross-functional strategic support, as well as the idea of providing alternative compensation such as stock options to attract more contributing professionals to the startup ecosystem[5] (JPO, 2025). Thus, the transformation of JPO is comprehensive: it includes regulations, procedures, access to information, and strengthening of the expertise ecosystem.

The series of reforms clarifies how the JPO is moving toward a more strategic role in supporting innovation and national industrial dynamics. With its broader institutional role, the JPO contributes directly to the direction of Japan's innovation policy (JPO, 2025). The next section discusses how this role is reflected in national policies in a more macro way.

In addition to its strategic role in policymaking, the JPO also strengthens the IP support ecosystem through an operational partnership with INPIT, which manages the IP Comprehensive Helpdesk. This resource serves as a one-stop support point across 47 prefectures, with more than 94 regional and 8 central level personnel handling advanced consultations free of charge (Keobounphanh, 2024).

During the 2020-2024 period, the program handled more than 110,000 consultations, demonstrating the high demand for IP support at the local level (INPIT, 2025). The implementation of this Helpdesk confirms that Japan's national IP policy not only operates at the strategic level, but is also realized through a well-distributed public service infrastructure throughout the region.

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[5] Advisory meeting with Mr. Nakahata (Oct. 31, 2025), referring to the interview publication by Naoko Munakata.

4.3.2 JPO's Role in National Policy

In the context of the institutional shift discussed in the previous section, the role of the JPO in national policy occupies a position that goes far beyond the administrative function of the patent office. The JPO operates as a strategic institution that contributes to the formation of policy directions related to intellectual property within the framework of Japan's economic and industrial development (JPO, 2025). The position of JPO under the Ministry of Economy, Trade, and Industry (METI) allows IP policies to always be connected to broader goals, such as increasing productivity, strengthening industrial competitiveness, and regional revitalization (JPO, 2025; OECD, 2021). Thus, IP support for SMEs is not treated as a separate activity, but rather as an integral part of the overall industrial development strategy.

In practice, the role of JPO policy is carried out through very strong cross-actor coordination. The training material shows the existence of a collaboration model of five institutions involving METI, SME Agency, JPO, local governments, and also supporting institutions such as INPIT, chambers of commerce, and the Japan Patent Attorneys Association (JPO, 2025; WIPO, 2021). This institutional network functions not only in policy formulation, but also in the provision of services and implementation on the ground. This kind of collaboration ensures that strengthening the capacity of SMEs in utilizing IP runs in the same strategic orientation, at both the central and regional levels.

To ensure coherence in policy implementation, the JPO developed regional performance indicators (regional KPIs) that are used to monitor how each prefecture provides IP support for SMEs (JPO, 2025; OECD, 2021; WIPO, 2021). This approach has two important impacts: first, the existence of a measurable evaluation mechanism to determine the effectiveness of support in each region; second, there is an encouragement for local governments to develop IP policies and services that are responsive to the character of the local industry. Thus, strengthening the IP ecosystem depends not only on central policies, but also on dynamics and commitments at the regional level.

Policy integration and equitable distribution of services are one of Japan's main strengths. This allows SME actors—both in metropolitan and in rural areas—to access IP services with relatively uniform quality (JPO, 2025). Furthermore, stable cross-actor coordination makes the JPO not just a regulator, but also a policy driver which ensures that IP policies are aligned with the direction of the national economy, including by encouraging innovation within the manufacturing, technology, and creative industries sectors (JPO, 2025).

4.3.3 Patent Application Trends Among Japanese SMEs

Over the past decade, the volume of patent applications filed by Japanese SMEs has demonstrated a relatively stable pattern (JPO, 2025). The training data shows that the contribution of SMEs toward total national patent applications is much lower than that of large companies and has not increased significantly from year to year (JPO training presentation, 2025). This trend raises concerns because SMEs are an important component in the dynamics of innovation, especially in Japan's strong industrial structure within the manufacturing and technology sectors (OECD, 2021).

However, the low number of patent applications does not fully reflect the absence of innovation. Many SMEs have the technological capacity but are unable to translate this into formal protection systems. This gap between innovation capacity and IP management capabilities shows that the main problems lie in the lack of resources, limited access to experts, and strategic challenges in understanding the value of patents for business growth (Khawand, et al., 2024; WIPO, 2021). Thus, trend analysis cannot be separated from the institutional context, or the need for more comprehensive support to strengthen the ability of SMEs to utilize the patent system (OECD, 2021; WIPO, 2021).

4.3.4 Analyzing the Stable Trend of SME Patent Applications in Japan

The relatively stable pattern of patent applications among Japanese SMEs is closely related to the structural characteristics of the national economy (JPO, 2025; OECD, 2021). Many SMEs operate as suppliers in large production chains, so they do not have a strong incentive to manage patents independently. In many cases, the technical innovations produced by SMEs are in contractual mechanisms with large companies, so the rights to these innovations are not managed through the patent system by the SMEs themselves (JPO, 2025).

In addition to structural factors, the limitation of IP literacy and perception of costs also affect the participation of SMEs. The findings of the IPAS program from trainings and interviews shows that some business actors still consider patents to be a complicated process, and less relevant to the early stages of the business (JPO, 2025). Access to IP experts is also uneven among regions, which means that SMEs outside the industrial center find it difficult to obtain adequate strategic assistance (JPO, 2025; WIPO, 2021). This combination of factors puts SMEs in a paradoxical situation: they need patents to strengthen their business position, but the capacity to file them is still limited (Khawand, et al., 2024).

This condition emphasizes that policy interventions cannot stop at simplifying procedures or cost incentives, but requires more targeted support on strengthening the strategic

capabilities of SMEs (WIPO, 2021; OECD, 2021). By understanding these dynamics, the next analysis needs to move to the systemic level through the perspective of the National Innovation System (NIS) in order to see how interactions among actors determine patent behavior at the SME level (Khawand, et al., 2024; OECD, 2021).

4.3.5 Perspective of the National Innovation System (NIS)

Within the NIS framework, the relatively stable pattern of SME patent filings in Japan can be seen as the result of complex interactions between government agencies, businesses, research institutions, and coordination mechanisms that connect all these actors (OECD, 2021). The National Innovation System (NIS) approach provides an analytical framework that helps understand how interactions between actors affect the performance of national innovations. NIS views innovation not as an individual outcome, but as a product of the relationships among government, industry, universities, institutions of expertise, and knowledge infrastructure (OECD, 2021). From this perspective, the JPO is not only an administrative institution; but also a key component in Japan's innovation architecture (JPO, 2025).

In the context of SMEs, the NIS points out that low participation in the patent system is not only due to internal company factors; but also to relationships and incentives in the ecosystem. Access to IP experts, policy clarity, financial support, and mentoring infrastructure are integral parts of the environment that shapes the behavior of SMEs (Khawand, et al., 2024; WIPO, 2021). Thus, strengthening the innovation system cannot be done partially; but requires consistent and structured cross-actor coordination (OECD, 2021; WIPO, 2021).

The NIS also explains why the JPO’s role in national innovation is expanding. The JPO needs to ensure that the patent system does not just function as a custodian of rights, but as a tool that helps business actors compete globally. This includes the JPO's ability to align inspection policies, information services, acceleration systems, and assistance programs with the needs of industries and SMEs (JPO, 2025). With this new orientation, JPO serves as a system integrator in Japan's innovation ecosystem (JPO, 2025).

For SMEs, the NIS approach emphasizes the importance of systemic support. Without coordination among the JPO, local governments, supporting agencies, patent attorneys, business accelerators, and technology incubators, the ability of SMEs to develop IP strategies will remain limited (Khawand, et al., 2024; WIPO, 2021). Therefore, programs such as IPAS can be understood as an effort to strengthen inter-actor relationships within the NIS by providing a cross-disciplinary mentoring mechanism (JPO, 2025).

This approach makes the analysis of Japan relevant for Indonesia because it shows that a strong IP policy requires system integration—not merely administrative improvements (OECD, 2021). Weaknesses in the support system will result in low participation by SMEs in IP management, as may be seen in the level of patent applications by Japanese SMEs before the reform was carried out (JPO, 2025).

This perspective of NIS shows that the success of strengthening SME innovation is highly dependent on how various public institutions are able to coordinate effectively. However, the effectiveness of such coordination cannot be understood without looking in more detail at how relevant ministries and agencies play a role in the development of innovation and IP. Therefore, the next discussion outlines the institutional positions of the main actors in Japan's innovation ecosystem (OECD, 2021).

4.3.6 Relevance for Indonesia

Japan's experience through the perspective of NIS provides a number of direct implications for Indonesia, especially in understanding how the role of ministries and government agencies shapes the effectiveness of innovation and IP support for SMEs (OECD, 2021). The findings on JPO's shifting role, the structural dynamics of Japanese SMEs, and the importance of cross-actor coordination show that the success in strengthening the IP ecosystem is not only determined by service reforms, but also by the quality of policy integration among institutions (JPO, 2025; Khawand, et al., 2024). With this framework, the following section outlines the relevance of Japan's findings for Indonesia in fixing the SME support system that remains fragmented and has not fully placed IP as a core part of the business development strategy (OECD, 2021; WIPO, 2021).

First, Japan's experience shows that a robust patent system requires coordinated and responsive institutional support for the needs of small business actors (JPO, 2025; OECD, 2021). Indonesia has various SME support programs, but there is no integrative mechanism that systematically connects DGIP, the Ministry of SMEs, National Research and Innovation Agency (BRIN), local governments, and IP experts within a single policy ecosystem.

Second, Indonesia faces a similar challenge to that of Japan: namely, low IP literacy among SMEs (WIPO, 2021). However, unlike Japan—which has expanded the role of JPO in the development of SME strategies—Indonesia still places DGIP mainly as an administrative body. Such a low level of policy integration causes SMEs to not view IP as a strategic part of their business model (JPO, 2025; Khawand, et al., 2024).

Third, the availability of IP experts is also an important issue. The number of Indonesian

IP consultants is still very limited and has not been evenly distributed throughout the region. This obstacle is also experienced by Japan, but is able to be overcome there through intensive mentoring and the involvement of business-oriented IP professionals (JPO, 2025; WIPO, 2021). This approach is particularly relevant for Indonesia, which requires reforms in the professionalization aspect of IP services (OECD, 2021).

Fourth, Japan's experience shows that improving IP policy requires not only legal reform, but also transformation of processes and services. Indonesia can benefit greatly from improving the customer journey, accelerating examination mechanisms, and providing information services that are friendly to beginners (JPO, 2025). The relevance of Japan's IP reform for Indonesia therefore goes beyond the technical aspect, and touches on structural issues in the development of an innovation ecosystem (Khawand, et al., 2024; OECD, 2021).

4.4 Japan’s IP Protection Framework and Its Implications for SMEs

The IP protection framework in Japan is built on a strong, standardized, and relatively stable legal system. The training materials emphasized that Japan implements a three-tier judicial system—District Court, High Court, and Supreme Court—with special jurisdictional arrangements for IP cases, including patents, which are handled primarily by the Tokyo District Court and the Osaka District Court as the primary courts for technical cases. The system is equipped with the IP High Court, which serves as a special division to handle IP appeals; as well as lawsuits against JPO decisions. The existence of this structure creates a more consistent, transparent, and predictable law enforcement process for business actors (Samejima, 2025, presented at a JPO/IPR Training Course on Support for SMEs).

The training material also mentions that most judges have a background in general law, rather than science or technology. For this reason, they are supported in patent cases by judicial research officials from JPO Examiners or certain patent attorneys in order to ensure that technical aspects can be accurately assessed. This mechanism provides assurance for SMEs that technical disputes will be handled professionally, even when the court does not have direct technical expertise (Samejima, 2025, presented at a JPO/IPR Training Course on Support for SMEs).

In terms of process, Japan is known to have a relatively fast case resolution time. The average handling of patent cases in the District Court lasts about 12–18 months, and 6–12 months in the IP High Court if the case proceeds to the appellate level (Samejima,

2025, presented at a JPO/IPR Training Course on Support for SMEs). This speed and time certainly is an important factor for SMEs, which generally have limited resources and cannot bear the uncertainty of legal processes that are too long.

In terms of enforcement, the presentation material showed that about 40% of cases are resolved through settlement, and that the patentee success rate can reach about 45% when peaceful settlement is also considered (Samejima, 2025, presented at a JPO/IPR Training Course on Support for SMEs). A relatively stable and predictable litigation environment like this increases confidence among MSMEs to utilize law enforcement channels in the event of a violation.

From the aspect of remediation, Japanese courts apply three main formulas in the calculation of damages: namely, patentee profit, infringer profit, and average royalty. This provision is important for SMEs that do not always produce or commercialize their technology directly, as the royalty system allows them to still receive fair compensation (Samejima, 2025, presented at a JPO/IPR Training Course on Support for SMEs). Thus, Japan's indemnity system structurally supports even small-scale patent owners.

In addition to litigation channels, Japan's IP protection system provides administrative mechanisms such as customs suspension to prevent the entry of counterfeit or infringing goods, as well as various non-litigation dispute resolution options such as mediation (JPO, 2025). This diversity provides flexibility for SMEs to choose the completion path that best suits their cost capabilities and business strategy.

Overall, the IP protection framework in Japan shows that effective legal protection is not only a regulatory instrument, but also part of a national innovation strategy (JPO, 2025; WIPO, 2021). With certainty, technical support in litigation, and an inclusive compensation mechanism, the system provides incentives for SMEs to engage in research, development, and commercialization of technology.

Japan's experience provides three important lessons for Indonesia. First, the need to strengthen the position of MSMEs in IP disputes through a fairer compensation mechanism that can be applied toward various MSME business models. Second, it is important to provide a fast, affordable, and diverse dispute resolution pathway to avoid reliance on lengthy litigation. Third, the IP protection framework should be designed not only for the benefit of law enforcement, but also as a policy tool to encourage the participation of MSMEs in national innovation (JPO, 2025; WIPO, 2021).

4.5 Role of IP Experts in Japan

Intellectual property experts play an important role in supporting Japanese SMEs and startups to develop effective IP strategies (JPO, 2025; WIPO, 2021). In the context of the Japanese ecosystem, Patent Attorneys are not only tasked with taking care of patent administration; but also acting as strategic advisors who help businesses associate IP with their business goals (Japan Patent Attorneys Association, 2019; Samejima, 2025). The training shows that experts in Japan work in a support network consisting of government agencies, professional associations, business accelerators, and other commercial institutions. This network ensures that small businesses can access expertise that fits their technological needs and product development plans (INPIT, 2025; JPO, 2025; Samejima, 2025).

However, the distribution of patent attorneys in Japan is uneven. An interview with Mr. MURAKAMI Shinnosuke, one of the IPAS participants from Tohoku, showed that some regions have very few active patent attorneys. Although Japan has more than 10,000 patent consultants nationwide, most are concentrated in Tokyo and other metropolitan areas (JPO, 2025). This gap creates challenges for SMEs outside the industrial centers, as they have difficulty accessing appropriate assistance. This condition shows that the availability of experts is one of the key elements in the development of an effective IP ecosystem (WIPO, 2021).

To address these gaps, Japan developed a participatory approach involving patent attorneys as part of a multi-disciplinary mentoring team. In the IPAS program, for example, patent attorneys work side-by-side with business consultants and industry analysts to provide intensive assistance to startups. This cross-disciplinary approach allows for more holistic mentoring, where IP strategies are not only stand-alone; but are combined with market, financial, and technological strategies (JPO, 2025). This helps businesses to understand the strategic function of IP more deeply and make more informed decisions.

There is also a policy-level push to strengthen the professionalization of patent attorneys, including a proposal to explore additional incentive mechanism, such as stock-option-based compensation. The goal is to increase the patent attorneys' motivation to support startups over the long term, beyond conventional service relationships.[6] This approach

[6] Advisory meeting with Mr. Nakahata (Oct. 31, 2025), referring to the interview publication by Naoko

shows that Japan understands the important role of experts in empowering SMEs and continues to look for ways for them to make a greater contribution.

The inequality in the distribution of IP experts in Japan is also addressed through the IP Comprehensive Helpdesk network, which connects more than 1,000 registered experts to support SMEs on a wide range of issues including patents, trademarks, designs, finance, and management (JPO, 2025). With 47 helpdesks across the prefecture, SMEs in rural areas can gain direct access to experts, even when the number of local patent attorneys is very limited. This mechanism confirms that the capacity of experts depends not only on geographical distribution, but also on the ability of the system to create an integrated and accessible network of experts.

Indonesia can take important lessons from this Japanese model. The number of IP consultants in Indonesia is still much smaller than in Japan and is not evenly distributed throughout the country. In addition, IP assistance in Indonesia tends to focus on administrative services; not on the development of IP-based business strategies (WIPO, 2021). If Indonesia wants to develop a strong innovation ecosystem, efforts are needed to strengthen the capacity of IP experts, expand professional incentives, and encourage cross-disciplinary collaboration in assisting SMEs (JPO, 2025; OECD, 2021).

4.6 Government–Private Sector Coordination in Supporting SMEs

Coordination between the government, supporting agencies, and the private sector is an important element in Japan's IP ecosystem. The training organized by the JPO showed that Japan has a clear collaboration structure through a five-party system involving METI, the SME Agency, JPO, INPIT, and local governments. This structure ensures that national policies, technical support, and community services run in harmony and complement each other (INPIT, 2025; JPO, 2025). With such coordination, SMEs can obtain consistent services from the central to regional levels.

At the operational level, local governments have a significant role in implementing national IP policies. They are responsible for providing consulting services, supporting IP education programs, and facilitating SMEs to access industrial networks. Local governments also participate in the development of regional performance indicators (regional KPIs), which are used to evaluate the effectiveness of IP support in each region (JPO, 2025). In this way, Japan's IP support system functions not only vertically, but also

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horizontally through the relationship between local governments and local actors.

The private sector also plays an important role in this system, especially through professional associations, IP consulting offices, incubators, and business accelerators. Such entities provide technical assistance, support technology commercialization, and facilitate cooperation between SMEs and investors—a collaboration that strengthens the role of the government by complementing existing public services (OECD, 2021; WIPO, 2021). Support for SMEs therefore does not only come from only one source, but is formed within a mutually-strengthening ecosystem.

Japan's coordination model is quite relevant for Indonesia, which is still facing fragmentation in the provision of SME support services. Programs from DGIP, the Ministry of MSMEs, BRIN, and local governments are still running in parallel, without a strong integration mechanism, which makes it difficult for SMEs to obtain consistent and sustainable support. By building cross-agency coordination, as Japan has done, Indonesia can increase the effectiveness of IP program implementation and reduce policy overlap (JPO, 2025; OECD, 2021).

4.7 Success Story of MPDP and Its Limitations

ENGINEER Inc. is a real example of SMEs that have succeeded in utilizing IP as a business driver. Through the concept of Marketing–Patent–Design–Promotion (MPDP), the company harmonizes product development, IP protection, and marketing strategies in an integrated manner. The impact is evident from the increase in sales and global reputation (Mitsuhiro Takasaki, 2025, presented at a JPO/IPR Training Course on Support for SMEs). Based on the explanation in the training, however, it is important to understand that the success of MPDP is a special success case and does not necessarily represent the majority of Japanese SMEs. Many SMEs still face limitations in technical innovation, so not all are able to produce patents or innovative products such as Neji-saurus. This shows that patent ownership alone does not automatically have an impact on commercial success. MPDP provides inspiration, but its implementation requires certain conditions such as innovation capabilities, market understanding, and a strong marketing strategy—which most SMEs do not have.

4.8 The IPAS Program as a Strategic Support Model for Startups

The IP Acceleration Program for Startups (IPAS) is one of the real examples of how Japan has developed a mentoring mechanism that is strategic, not just administrative. In contrast to conventional public services, IPAS is designed as a three-month intensive program that

combines IP specialists, business experts, and industry analysts in one companion team (JPO, IPAS Operation Guide, 2024). This structure allows startups to receive comprehensive, case-based mentoring, so that individual recommendations are tailored to each company's business and technology needs. This kind of approach shows that IP strategy cannot be separated from business strategy or product development direction.

Another key feature is the emphasis on cross-disciplinary collaboration within the mentoring team. Startups not only obtain an explanation of patents or industrial designs, but also assistance in developing value creation strategies, market mapping, and commercialization steps. Thus, IP becomes an integral part of formulating business models (JPO, IPAS Operation Guide, 2024). This approach breaks down the assumption that IP is only relevant once the product is ready to enter the market. On the contrary, IPAS emphasizes that IP strategies must emerge from the early stages of innovation in order to form the foundation for subsequent technology and business decisions (JPO, IPAS Operation Guide, 2024).

The effectiveness of IPAS is largely determined by the selection mechanism of the experts who are involved in the program. Startups are given the opportunity to select the experts who best suit their needs, which ensures the emergence of a match in communication styles, technological understanding, and business expectations (JPO, IPAS Operation Guide, 2024). This freedom of choice is one of the factors of the program’s success, as acknowledged by the IPAS participants interviewed in this study. A fit between experts and startups not only increases the effectiveness of mentoring, but also builds the trust necessary for high-level strategic discussions.

In addition, IPAS provides greater space for startups to understand how the technical decisions they make may affect their patent feasibility and competitive position in the market. The interviewee explained that through discussions with experts, companies can identify intellectual assets that have been unaware of them, as well as understand the priority of submission based on the direction of technology development. The long-term impact is the formation of a decision-making culture that considers the IP aspect, even after the mentoring program is completed (JPO, IPAS Operation Guide, 2024).

Since its launch from 2018 to 2023, IPAS has supported 104 selected startups through an intensive mentoring process involving one business mentor and one IP mentor (JPO, 2024). In addition to the main assistance, IPAS also invites external experts in certain fields such as finance or regulation when startups face specific technical issues. This multi-mentor approach not only strengthens the quality of mentoring, but also provides opportunities for junior IP consultants to develop strategic competencies through

knowledge-sharing among mentors that are routinely held by JPO (JPO, IPAS Operation Guide, 2024).

The IPAS model has important implications for Indonesia. SME assistance in Indonesia is still largely administrative and does not yet provide a combination of expertise that connects business, technology, and law. In addition, SMEs are rarely given the opportunity to choose a suitable IP advisor. By emulating the strategic aspects of IPAS—especially the cross-disciplinary approach, personalization of mentoring, and freedom of expert selection—Indonesia can improve the quality of IP mentoring for SMEs and technology startups (JPO, IPAS Operation Guide, 2024).

4.9 User Perspectives on the IPAS Program, and Implications for Indonesia

An interview with Mr. MURAKAMI Shinnosuke, as one of the IPAS participants in this study, provides an understanding of how the program works from the perspective of business actors. The interview findings confirm that prior to participating in IPAS, many startups did not have an adequate understanding of the patent process—including basic procedures such as examination requests or the importance of connecting IP strategies to product development paths. This shows that the IP literacy gap does not only occur in Indonesia, but is also experienced by Japanese startups even though they are in an advanced innovation ecosystem. The findings of the interview are consistent with the results of Keobounphanh's (2024) research, which states that many Japanese startups follow IPAS in conditions of very low IP literacy, even without an understanding of the risk of information leakage or the importance of managing publication time before patent application. This causes some mentoring sessions to start with the introduction of basic concepts before entering into IP strategy. Thus, the user perspective and research data point toward the same challenge: the urgent need to increase the basic capacity of IP before advanced strategies can be built.

One of the key points of the interview was that IPAS helped form a new mindset within the company. Participants explained that before participating in the program, technical decisions tend to be made without considering the IP aspect. After intensive mentoring, however, IP began to become a strategic factor in business decision-making. In fact, understanding how a company's technology can be linked to value creation strategies is one of the largest benefits felt. This confirms that effective IP mentoring not only provides technical information, but also shapes a long-term way of thinking.

The interview additionally revealed that the biggest challenge is not the patent process

itself, but rather limited access to business-oriented experts. Participants come from areas with a limited number of patent attorneys, so it was previously very difficult to find experts who were able to provide strategic assistance. The IPAS program addresses these challenges by providing relevant experts, while also building discussion spaces that allow startups to explore strategies without high-cost pressures (JPO, IPAS Operation Guide, 2024).

In addition, interviews show that IPAS encourages the internalization of knowledge within organizations. Participants stated that after participating in the program, the internal team became more sensitive to the aspects of technology that can be patented; and were able to prioritize patent applications independently. This shows that the impact of IPAS does not stop at three-month mentoring, but builds long-term capacity for companies. This internal capability building is one of the program's biggest added values compared to traditional consulting services (JPO, IPAS Operation Guide, 2024).

From a user's perspective, IPAS is not simply a mentoring program; but a strategic learning tool that strengthens the relationship between business and technology. This makes IPAS relevant as a model for Indonesia, which still lacks similar mentoring programs—especially those that focus on building the strategic capacity of technology startups (JPO, IPAS Operation Guide, 2024).

4.10 Comparison Between Japan and Indonesia: Institutional, Operational, and Cultural Dimensions

A comparison between Japan and Indonesia reveals a number of fundamental differences in IP policy approaches, institutional capacity, and culture of IP utilization by SMEs (OECD, 2021; WIPO, 2021). At the institutional level, Japan has strong cross-agency coordination, a complementary policy system, and ongoing support from central to local governments (JPO, 2025). On the other hand, Indonesia's ecosystem is still fragmented and is characterized by programs that run independently without clear integration among DGIP, the Ministry of SMEs, BRIN, and local governments.

At the operational level, Japan has developed strategic assistance mechanisms such as IPAS, while Indonesia is still focusing on administrative facilitation such as registration management. Although initiatives such as the IP Clinic and various trainings have been running, mentoring models that integrate business, technology, and legal aspects are still very limited. As a result, Indonesian SMEs are unable to obtain the necessary support to build a long-term IP strategy.

In terms of the capacity of IP experts, Japan has a much larger and more diverse range of consultants. Despite the uneven distribution, Japan addresses these shortcomings through strong mentoring and coordination programs with supporting agencies (INPIT, 2025; JPO, 2025). Indonesia still faces major challenges in this regard, with a very limited number of IP consultants. In addition, most SMEs do not have access to technical or strategic assistance. This has an impact on the low quality of applications and IP strategies on the part of Indonesian SMEs (OECD, 2021; WIPO, 2021).

The cultural dimension also plays an important role. The concepts of quality, reliability, and technological protection are deeply rooted within Japanese business culture (JPO, 2025; WIPO, 2021). On the contrary, Indonesian SMEs still tend to view IP as an administrative requirement, not a strategic asset. This can be seen from the low level of IP commercialization, and the lack of patent use in the business decision-making process. These cultural differences affect how policies in each country are accepted and implemented at the level of business actors.

By understanding these differences, Indonesia can identify priority areas for reform such as strengthening mentoring services, building an IP expert ecosystem, and providing incentives for SMEs to make more strategic use of IP (OECD, 2021; WIPO, 2021). The Japanese model does not need to be directly imitated, but its strategic principles can be adapted according to the Indonesian context.

To summarize the structural, operational, and cultural differences between Japan and Indonesia, Table 2 presents a comparative overview that highlights key systemic gaps and policy implications.

Table 2. Comparative Overview of the Key Systemic Gaps and Policy Implications between Japan and Indonesia

Aspects	Japan	Indonesia	Implication/Analysis
IP Policy Coordination	Integrated: METI – JPO – INPIT – SME Agency – Local Governments, with regional KPIs for monitoring	Fragmented: DGIP, the Ministry of SMEs and local governments operate in parallel, without any centralized coordination mechanism	Indonesia requires cross-actor coordination to ensure consistency in services and policy direction
IP Support Services	Two layers: mass support through the IP Comprehensive Helpdesk (47 prefectures), and strategic support through IPAS	The focus is still on administrative services. IP Clinics and training have yet to provide strategic, cross-disciplinary support.	Indonesia needs to develop a hybrid model: a basic helpdesk combined with a strategic support program similar to IPAS
SME Access to IP Expert	Over 10,000 registered IP experts (patent attorneys); a national network through INPIT; and an effective inter-agency referral system	The number of IP consultants is limited to 1.059 and is unevenly distributed, with almost no national referral network	Indonesia's main challenge is the shortage of IP experts, and the lack of coordination in their deployment
IP Utilization Culture	High among large industries. SMEs are increasing, but still face patent stagnation. IP awareness is growing through education and JPO programs.	Low. IP is viewed as administrative rather than a business strategy, and commercialization remains limited.	Business-oriented education and the integration of IP into product development are needed.
Startup Assistance	IPAS, 3 months intensive mentoring, IP mentor + business mentor, *knowledge-sharing*, strict selection process	There is no IP-based strategic mentoring program for tech startups.	Indonesia can adapt the IPAS model for priority sectors.
Legal Protection System	Modern redress mechanisms (based on licensing potential), diverse dispute resolution pathways, and more predictable litigation processes	Enforcement mechanisms are weak, procedures are lengthy and costly, and compensation is often disproportionate	IP enforcement reforms are needed to provide a sense of security for SMEs
Public Service Infrastructure	National Helpdesk, free consultation, three-month follow-up, regional KPI, >110k consultation/year	IP public services are not yet standardized, and a dedicated national IP helpdesk is still absent at the regional level.	Indonesia needs a decentralized public-service model that is uniform and easily accessible.
IP–Business Relationship	Very powerful; IP is considered a strategic asset (for investment, expansion, negotiation)	Weak; SMEs do not see IP as a tool for value creation or business leverage	Education needs to be focused on "value creation through IP", not just registration

4.11 Key Lessons Learned from Japan's IP Ecosystem

An analysis of Japan's approach provides several important lessons that can be used to strengthen the IP ecosystem in Indonesia. First, IP policy must be integrated with national economic strategies and not stand as a single-sector policy. A coordinated approach involving various institutions is the key to Japan's success in increasing the capacity of SMEs to utilize IP (JPO, 2025). This shows that Indonesia needs to create a stronger and measurable cross-agency coordination mechanism.

The second important lesson is the importance of providing strategic assistance that is personalized for SMEs and startups. Japan proved that one-way approaches such as mass socialization or general training are not enough to encourage behavior change. An intensive mentoring program that is tailored to business needs is much more effective in increasing the understanding and ability of SMEs to manage IP (JPO, IPAS Operation Guide 2024). The same may be said for the importance of an ongoing evaluation mechanism in the IP support program. For example, the IP Comprehensive Helpdesk implements a three-month follow-up system after the consultation to assess the effectiveness of the service, and to monitor the additional needs of SMEs. Performance indicators are set differently for each prefecture according to the context of the local industry (INPIT, 2025; JPO, 2025). This approach provides an important lesson for Indonesia, wherein the success of IP programs is determined not only by the provision of services, but also by the extent to which they are evaluated and adjusted on an ongoing basis.

Third, Japan shows that investing in an ecosystem of experts is essential. IP consultants play a strategic role in helping SMEs formulate IP strategies that are aligned with business goals (INPIT, 2025; Japan Patent Attorneys Association, 2019; JPO, 2025). Indonesia must expand the capacity and number of IP experts, as well as create incentives that encourage them to be involved in the SME ecosystem.

Fourth, programs such as IPAS show that good IP mentoring must integrate business and technological aspects. Thus, SMEs understand not only what can be patented, but also why and how IP strategies support business direction (JPO, IPAS Operation Guide, 2024). Indonesia can adopt this principle by developing a mentoring model that combines various experts in a team, allowing the quality of service to be significantly improved.

The final lesson is that an effective IP policy must be long-term-oriented. Japan is building various reforms gradually by strengthening the legal foundation, improving administrative processes, improving access to information, and expanding assistance support. This systemic approach creates sustainable behavior changes, while building SMEs' trust in IP (JPO, 2025; WIPO, 2021).

4.12 Implications for SME Development in Indonesia

The implications of this analysis for Indonesia are vast. First, Indonesia must shift the orientation of its IP policy from administration to strategic support. SMEs not only need registration facilities, but also assistance in understanding how IP can increase business value. Mentoring programs such as IPAS can provide inspiration to create similar services

that are more comprehensive, structured, and supported by competent experts (JPO, IPAS Operation Guide, 2024).

Second, policy reform should be based on multi-actor coordination (JPO, 2025). Without strong integration among DGIP, the Ministry of SMEs, BRIN, local governments, and the private sector, SMEs will not receive consistent support. By building a stronger coordination mechanism, Indonesia can bring together programs that have been running separately in order to create a more effective support ecosystem.

Third, Indonesia needs to strengthen the capacity of its IP experts, as the limited number of IP consultants makes it difficult for SMEs to obtain adequate assistance. The government can consider strategies to expand its expert base through measures such as a more structured certification program, and incentive mechanisms for consultants who assist SMEs throughout the country.

Fourth, Indonesia should expand access to legal protection for SMEs. Significant reforms can be made by strengthening redress mechanisms, providing alternative dispute resolution pathways, and reducing cost barriers to registration and rights maintenance. These measures will increase the confidence of SMEs to invest in technology and innovation.

The IP Comprehensive Helpdesk and IPAS show that effective IP support requires a combination of one-stop services at the regional level, intensive assistance at the national level, and data-driven evaluations. Indonesia can use two models simultaneously: The Helpdesks as a front-line service for access and literacy, and IPAS-style strategic mentoring programs for innovative technology startups or SMEs (INPIT, 2025; JPO, IPAS Operation Guide, 2024). The combination of these two approaches can create a more balanced IP service ecosystem offering mass services, as well as high-value strategic support.

Finally, Indonesia needs to build a culture of using IP as a business strategy tool. By strengthening IP education that is oriented towards business value, SMEs will better understand how IP can increase competitiveness and open up opportunities for industry partnerships. Such a long-term approach will help SMEs enter the global market with better readiness.

4.13 Summary of Key Findings

This chapter has shown that Japan's approach to developing an intellectual property ecosystem for SMEs and startups is the result of a systemic, coordinated, and long-term-oriented reform process. The transformation of JPO from an administrative institution to a strategic actor is a catalyst for the development of IP policies that are more inclusive and responsive to the needs of small business actors. Through legal reforms, improved administrative processes, capacity-building of experts, and strategic mentoring such as IPAS, Japan has succeeded in building an IP ecosystem that not only supports registration, but also facilitates the development of technology-based business strategies (INPIT, 2025; JPO, 2025).

The analysis also shows that Japanese SMEs face structural challenges in making optimal use of IP, including limited IP literacy, a lack of experts, and cost barriers (JPO, 2025; Khawand, et al., 2024). Integrated policies and appropriate mentoring support can enable SMEs to overcome these challenges, however, and to increase participation in the patent system. The findings from the interviews of IPAS participants provide important insights into how mentoring programs can shape strategic mindsets and strengthen the company's internal capacity.

Such lessons from Japan are considerably relevant for Indonesia, especially in the context of technology-based SME development. Indonesia must strengthen its policy coordination, increase the capacity of its experts, and develop strategic assistance programs that are in line with modern business needs. By adopting the main principles of the Japanese approach, Indonesia can strengthen the role of IP as a business development tool, while also increasing the competitiveness of SMEs within the global innovation ecosystem.

Chapter 5: Recommendations and Conclusion

5.1 Recommendations

The policy recommendations prepared in this study are not intended as a direct adoption of Japanese practices, but rather as the result of conceptual and empirical reflection on the differences in institutional characteristics, innovation capacity, and culture of IP utilization in both Japan and Indonesia. Therefore, each recommendation is based on the linkage between the theoretical framework discussed in Chapter 2, the empirical findings from the training and interviews in Chapter 4, and the actual condition of the MSME ecosystem in Indonesia.

From the perspective of the National Innovation System (NIS), the use of IP by SMEs cannot be separated from the quality of interaction among actors within the national innovation system. The findings from Japan show that the effectiveness of IP policies is not only determined by the quality of regulations or the ease of registration procedures, but especially by the level of coordination among ministries, IP offices, local governments, supporting agencies, and IP professionals. In the Indonesian context, institutional fragmentation among agencies that handle MSMEs, innovation, and IP causes policy interventions to run in parallel, and are less mutually reinforcing. Therefore, the recommendations emphasizing strengthened cross-institutional coordination and the establishment of integrated service mechanisms are based on the need to improve systemic functions within Indonesia's NIS—not solely to replicate Japan's institutional structure.

In addition, the theory of SME growth and innovation explains that most MSMEs are in the survival and stabilization stage, wherein the main focus of the business is still on operational sustainability and market access. In this phase, the capacity for technological innovation and readiness to utilize IP, especially patents, is still very limited. These findings are consistent with conditions in Japan, where although the IP system is very mature, the contribution of SMEs to national patents remains relatively stagnant. Thus, the policy recommendations in this study are not directed toward encouraging all SMEs to actively register patents; but to build a staged approach in the use of IP, in accordance with the level of readiness and the characteristics of each business actor.

Japan's experience through schemes such as the IP Acceleration Program for Startups (IPAS) shows that effective IP support for innovative ventures requires a strategic approach that integrates business, technology, and legal aspects. However, the findings of interviews and training materials also reveal that this kind of program is selective, high-intensity, and not intended for all SMEs. Therefore, the recommendation to develop a strategic IP assistance program in Indonesia is based on the principle of adaptation, while taking into account the limited number of IP consultants, variations in the capacity of SMEs, and the need to distinguish between basic and advanced services.

In this context, recommendations regarding strengthening basic IP services, such as a one-stop IP helpdesk based on the region, aim to answer the needs of the majority of SMEs who are still at the stage of literacy and basic protection. Meanwhile, recommendations related to the development of strategic mentoring programs are focused on innovative SME groups and technology startups that have higher growth and commercialization potential. This multi-layered approach is expected to prevent policy inefficiencies, where limited mentoring resources are used more on target.

Furthermore, recommendations related to strengthening the role and capacity of IP professionals are based on the findings that the limited number and distribution of IP consultants is one of the main obstacles to the utilization of IP in Indonesia. Japan's experience shows that the role of IP professionals is not only as an administrative service provider, but also as a strategic partner in business decision-making. Therefore, strengthening the capacity of IP professionals in Indonesia must be directed not only toward increasing their number, but also at expanding their competencies and integration into the MSME mentoring and innovation ecosystem.

Overall, the policy recommendations in this study are designed to be realistic, gradual, and contextual. The recommendation does not place intellectual property as the final goal, but as a supporting instrument in the MSME development strategy and national innovation. With this approach, it is hoped that IP policy in Indonesia can move from a mere administrative function toward a more strategic role in terms of encouraging value creation, competitiveness, and sustainable business growth.

5.1.1 Recommendations for Indonesia

This chapter presents policy recommendations based on an in-depth analysis in Chapter 4 on the characteristics of the intellectual property (IP) ecosystem in both Japan and Indonesia. Based on this analysis, it appears that the challenges on the part of Indonesian SMEs in the use of IP do not solely stem from low literacy or limited resources, but are a reflection of broader structural problems: policy fragmentation, weak coordination, limited experts, and public services that have not been standardized nationally. At the same time, Japan's experience shows that the successful use of IP relies on the integration of cross-agency policies, equitable public services, and strategic assistance mechanisms that are able to connect legal, business, and technological aspects within one cohesive framework.

Taking into account this context, the recommendations in this chapter are directed to address structural and operational gaps. Each recommendation is prepared by taking into account the carrying capacity of Indonesia's current institutions, so that it is not only normative but also realistic to implement. In addition, recommendations are also grouped into five priority areas so that the delivery is more structured and can be easily referenced by readers or interested stakeholders.

Before entering into the narrative description in detail, the following table summarizes the relationships among the problems, gaps, relevant Japanese approaches, and proposed recommendations for Indonesia.

Table 3 provides a brief overview of the key gaps, and the following section elaborates on the recommendations in more depth to explain their rationality and implications for Indonesia.

1. **Strengthening Institutional Coordination and Governance**
   Strengthening coordination is the main foundation that Indonesia needs in order to improve the IP ecosystem for SMEs. Without coordination, IP programs initiated by various ministries tend to overlap; and do not lead toward the same goal. Lessons from Japan show that policy integration under METI ensures that the roles of JPO, SMEA, and INPIT complement each other, rather than acting independently.

Table 3. Problems, Gaps, Japanese Approaches, and Recommendations for Indonesia

Problem Area	Gaps in Indonesia	Lessons from Japan	Recommendations for Indonesia
Institutional Coordination	Roles of DGIP, Ministry of SMEs, BRIN, and local governments are not integrated	METI–JPO–SMEA–INPIT operate under a unified strategic direction	Establish a National IP–SME Coordination Council and regional KPIs
IP Public Services	No national service standards / Uneven access across regions	IP helpdesks available in all prefectures with uniform service standards	Set up Regional IP Helpdesks and provide free advisory services
IP Experts	Limited number of experts, uneven distribution, and weak strategic capabilities	Broad consulting network supported by a structured referral system	Expand strategic training programs and develop a national referral platform
Strategic Advisory Support	Assistance is administrative and not linked to business strategy	The IPAS program provides intensive, multidisciplinary support	Develop sector-based Strategic IP Advisory Programs
IP Literacy	Education is generic and not sector-specific	Layered, user-oriented education programs	Develop sectoral learning modules based on value creation through IP
Commercialization and Innovation	Weak linkage among IP, R&D, and downstream commercialization	Strong collaboration among innovation institutes, businesses, and IP experts	Integrate IP with BRIN, incubators, and universities
Law Enforcement	Perception of high cost and low effectiveness	Modern compensation mechanisms and diverse ADR options	Simplify mediation mechanisms and introduce small-claims procedures

Indonesia can adapt this approach by establishing a cross-agency forum that not only harmonizes policies, but also sets clear national priorities. Through this cross-agency forum, Indonesia can integrate DGIP initiatives with SME development, innovation, financing, and capacity building programs in its various regions. In addition, the implementation of regional performance indicators (KPIs) will encourage local governments to be more proactive in providing inclusive IP services.

2. Expanding Access and Standardization of IP Public Services

Improving the quality of IP public services determines the extent to which SMEs can access information, understand procedures, and obtain the necessary assistance. The services currently available are still very centralized, and do not yet have national operational standards. This stands in contrast to Japan, which has IP Comprehensive Helpdesks throughout its prefectures, with consistent and accessible service quality.

Indonesia needs to develop a Regional IP Helpdesk that is placed in local government offices, SME offices, or other public service centers. Service standardization needs to be realized through the preparation of national SOPs, which should include free basic

consultations, expert referral mechanisms, standard educational materials, and follow-up procedures. In this way, access to quality IP services would no longer be dependent on geographical location.

3. **Enhancing the Capacity of IP Experts and Promoting Multidisciplinary Collaboration**
   The availability of IP experts is one of the most crucial elements in helping SMEs understand and utilize IP strategically. With the number of IP consultants still limited, and the majority being located in large cities, many SMEs do not have access to quality assistance. Therefore, Indonesia needs to expand the capacity of experts through training that is not only administratively oriented, but also includes business analysis, technology mapping, market strategy, and IP portfolio management.

   In addition, Japan's experience through the IPAS program shows that the best mentoring comes from a multi-disciplinary team involving IP experts, business consultants, market analysts, and technology experts. This model can be adapted in Indonesia, especially for innovation-based SMEs and technology startups. To accelerate access, Indonesia also must build a national referral platform that connects SMEs with relevant consultants quickly and efficiently.

4. **Developing Case-Based Strategic IP Advisory Programs**
   In contrast to general IP education programs that focus on registration, innovative SMEs need deeper assistance that is capable of connecting IP with business strategies, technology development directions, and commercialization opportunities. The IPAS program in Japan offers an applicative model to be adapted in Indonesia.

   Through the Strategic IP Assistance Program, SMEs can become able to identify IP assets that are owned or potentially developed, develop an IP protection roadmap that aligns with business objectives, understand submission priorities based on the market and innovation stages, and gain insights into how IP can support investment searches or market expansion.

   Such assistance can be provided selectively for SMEs that have innovative products, as well as for startups that are in the early stages of technology development.

5. **Strengthening IP Literacy through Sectoral Education and a Layered Learning Approach**
   IP literacy is a determining factor in spurring SME participation. However, education that is too general often does not answer the specific needs of business actors. Therefore, Indonesia must develop sectoral education modules such as "IP for Culinary SMEs", "IP for Creative Industries", "IP for Digital Startups", and so on. Through such a sectoral approach, the material can become more relevant and easier to apply, and can directly answer real problems in the field.

   In addition, IP education should be designed in layers like in Japan, starting from basic socialization at the district level to thematic consultations, and advanced mentoring for innovative SMEs. This phased approach is important to ensure that literacy improvement takes place both systematically and sustainably.

6. **Strengthening Commercialization Pathways and Integrating IP within the Innovation Ecosystem**
   IP policies will not be effective if they are not connected to commercialization channels and innovation networks. Indonesia needs integration among DGIP, BRIN, regional research institutions, universities, and business incubators so that SMEs can obtain comprehensive support from idea to market entry. This includes providing commercialization guidance, strengthening IP valuation services, and facilitating cooperation with potential industry partners. With such integration, IP will have more meaning than just a legal document; but will rather become a strategic component within the innovation and production chain.

5.1.2 Recommendations for Japan

In addition to the recommendations for Indonesia, the study also identified two opportunities for improvement in Japan's IP support system that emerged from field findings. First, basic IP literacy for startups participating in IPAS must be strengthened through pre-program modules that provide an initial understanding of publication risks, protection strategies, and confidential information management, so that intensive mentoring sessions can run more effectively. Second, JPO can develop a long-term evaluation mechanism for IPAS participants to assess the impact of the program upon technology commercialization, business sustainability, and the use of IP in business strategies several years after the program ends. This recommendation is complementary and aims to support the continuous improvement of the IP assistance ecosystem in Japan—as well as enriching policy lessons that can serve as a reference for other countries, including Indonesia.

5.2 Conclusion

This research aims to comprehensively understand how the IP support system for SMEs is developed and implemented in Japan, as well as how these conditions compare to the situation in Indonesia. Based on the results of training, policy studies, comparative analysis, and interviews with one of the IPAS program participants, this study concludes that Japan's IP ecosystem is built through strong cross-agency coordination, an integrated mentoring approach, and a public service network that is accessible to business actors throughout the region. This coordinated institutional structure allows SMEs to obtain support that is appropriate to their level of readiness, ranging from basic consultation through the IP Comprehensive Helpdesk to advanced strategic assistance through IPAS.

In Indonesia, awareness and utilization of IP still face significant challenges. Many SMEs view IP as an administrative process, not as a strategic instrument that can increase business competitiveness. The obstacles faced by SMEs include regulatory complexity, limited financial resources, low IP literacy, and limited access to competent experts (Khawand, et al., 2024). In addition, the IP service ecosystem in Indonesia has not been optimally integrated, so SMEs do not have a clear mentoring flow from the introduction stage to the use of IP. Comparisons with Japan show that what Indonesia needs is not merely procedural improvements; but systemic transformation that includes institutional reforms, capacity building, and changes to business culture.

Based on learnings from Japan, this study found that effective strategies for Indonesia

include strengthening cross-actor coordination, providing evenly distributed one-stop services, increasing the number and quality of IP experts, and developing strategic mentoring programs that integrate business, technology, and legal aspects. With a gradual and needs-based approach, Indonesia can build a more inclusive IP ecosystem and become able to encourage the use of IP as a tool of value creation for SMEs.

Although this study provides a fairly comprehensive overview of the comparison of IP support systems between Japan and Indonesia, some aspects still require further deepening by subsequent researchers. First, follow-up research can trace how variations in industrial sectors (e.g. food, health, manufacturing and digital technology) affect the pattern of IP utilization by Indonesian SMEs. Second, an empirical study is needed that quantitatively assesses the impact of existing IP assistance programs on SME business performance. Third, research on the most appropriate institutional design to build a national IP service network is also important, including examining realistic inter-agency integration options in the context of Indonesian public administration.

Furthermore, future research can explore how digital technologies—such as artificial intelligence, integrated database systems, or drafting automation tools—can be leveraged to improve SMEs' access to IP services. In addition, a deeper study of the innovation financing model and the role of investors in encouraging the use of IP by Indonesian startups will make an important contribution toward the development of evidence-based policies. Thus, further research is expected to enrich understanding of the national IP ecosystem, and to provide a firmer foundation for policy formulation that encourages the growth of innovation among Indonesian SMEs.

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Appendix

Minutes of the interview with the IPAS participant

Date and Time : Friday, November 28, 2025, 10.00 – 11.00 AM
Venue : JIPII Headquarters
Interviewee : **Mr. MURAKAMI Shinnosuke**, Representative Director, One ip TOHOKU Inc.

(**Mr. MURAKAMI** completed his doctoral studies at Keio University Graduate School of Media and Governance, where he worked on elucidating balneotherapy mechanisms through molecular biological approaches. After graduating, he joined Metagen Inc. as its first employee, contributing to the establishment of a university-based venture through R&D support, stool-collection kit development, clinical trial planning, and grant applications. In 2019, he became responsible for intellectual property and legal affairs, and from 2022 he has served as Director/COO/CIPO, leading the planning and promotion of IP strategy. In 2025, he joined One ip Patent Attorneys Corporation to provide IP strategy support to startups. In May of the same year he founded One ip TOHOKU Inc., where he now serves as President and Representative Director.)

1. The interview began with a short explanation of the long-term researcher's research topic.
2. The interviewee provided the following answers to the interview questions:
   a. **As a first employee at Metagen, Inc., what IP challenges first came up when building a technology-based company from a university?**
      Answer: The biggest challenge for me was my complete lack of literacy regarding intellectual property. In the early years, I did not even know that requesting examination was necessary to obtain patent rights. Neither I nor the founder had any knowledge about IP, as university researchers in Japan rarely receive education on the subject. As a result, we had no awareness of utilizing patent strategy for business.
      1) **In your opinion, when is the right time for a startup or SME to start building an IP strategy?**
         Answer: In my opinion, an IP strategy should ideally be developed before founding the company. However, because business conditions change continuously, the strategy must be reviewed regularly. I believe it should be revised at least once a year.
   b. **What are your main findings after working directly with startups and SMEs in the Tohoku region? What are the biggest challenges they face regarding IP?**
      Answer: The major issue is the extremely uneven distribution of patent attorneys. Tokyo has about 6,500, whereas the entire Tohoku region, across all six prefectures combined, has only around 50. Startups have no internal IP departments, so someone must take responsibility for providing "direction." However, most patent attorneys are not used to giving strategic guidance. Therefore, I work to bridge this gap by providing consulting and connecting regional SMEs with appropriate patent attorneys.
      1) **What kind of support model is most effective to increase awareness and**

utilization of IP among regional SMEs?

Answer: For me, a discussion-based, one-on-one consulting model is most effective. A deep understanding of the company's business is essential before determining what type of IP is most meaningful. The mindset of the expert—whether they genuinely understand SMEs—is equally important.

c. How do the IP needs of university-based tech startups differ from those of conventional SMEs?

Answer: University IP departments often convert research output directly into patents without considering business needs, resulting in narrow or less useful claims. University-based startups revise their business plans frequently, so IP must anticipate these changes. Designing broader and more flexible claims is essential.

1) **From your perspective, what aspects of the IP support system in Japan are most influential for SMEs?**

   Answer: The IPAS program is highly influential. Through the program, I was able to discuss deeply with experts who understood startup realities. These discussions helped clarify my company's business goals and identify the necessary forms of IP.

2) **If SMEs only have limited resources, which form of IP should be prioritized first?**

   Answer: The priority depends on what type of IP is most effective for the company's specific business. Obtaining rights is not the objective; selecting the right IP is what matters. When resources are limited, careful discernment becomes crucial.

d. What was your main motivation for participating in the IPAS program, and what needs did you want to meet through the program?

Answer: I realized that I had absolutely no understanding of IP strategy, so IPAS provided a valuable opportunity to gain structured knowledge. Through the program, we clarified our business goals and created a list of patents and trademarks to obtain.

1) **Before joining IPAS, what was the initial state of your company's IP strategy, and what changes were most noticeable after completing the program?**

   Answer: Before IPAS, I simply conducted research without thinking about patents. After joining the program, we changed our approach. We first decided what kinds of patents we should obtain, then determined what data or research was necessary to support those patents. This change in mindset was extremely significant.

2) **How do you integrate IP with a company's business strategy after joining IPAS?**

   Answer: After gaining IP knowledge, I began to think about patents first when planning business activities. To obtain the patents we needed, we structured our research and data-gathering efforts accordingly. This approach spread throughout the company and fundamentally changed our way of thinking.

3) **Which part of the IPAS program had the most significant impact on your company's IP understanding or strategy?**

   Answer: The most valuable part for me was learning a structured framework for formulating IP strategy integrated with business strategy. However, knowledge alone is not enough. Building the strategy together with experts was

essential.

4) **What features in the IPAS program are most important for tech startups, and are they also relevant for non-tech SMEs?**
   Answer: The most important feature is the in-depth discussion with experts who understand the business. This is essential for tech startups, and I believe it is equally relevant for non-tech SMEs.
5) **How does the mentoring process in IPAS help startups move from "IP awareness" to "IP utilization"?**
   Answer: In my case, several experts—including a facilitator—participated in every meeting. Patent experts, business experts, and supporting consultants discussed with us simultaneously, enabling real-time information sharing. This cooperative environment greatly supported our transition from awareness to practical utilization.
6) **How do you identify the most valuable intangible assets in a company, and are SMEs usually aware of them?**
   Answer: Many SMEs are not aware of their intangible assets. Identifying them requires a deep understanding of the business direction and growth potential. Discussions with experts who truly understand startup environments are essential for this process.
7) **What challenges did you face during your participation in the IPAS program?**
   Answer: The most difficult challenge for me was the knowledge gap. Patent attorneys often talked using legal terminology—such as Article 29 or Article 36, which I could not understand at first. Bridging this gap was the hardest part of the program.

e. **Most SMEs in Indonesia still struggle with business legality, digitalization and access to financing, so IP is not yet a priority. In your opinion, would a model like IPAS have a significant impact if applied in Indonesia?**
   Answer: Yes, I believe the Japanese IPAS model would be useful for Indonesian SMEs. However, an essential factor for success is allowing companies to select their own experts, supported by government funding. Startups usually cannot afford the consultation budget on their own.
   1) **Which component of IPAS is the most suitable to adopt for improving IP awareness among Indonesian SMEs?**
      Answer: For me, the most important component is the presence of experts who not only possess knowledge, but also have the mindset to actively understand startups and small companies. This mindset is critical for effective support.
   2) **What are the minimum requirements needed—human resources, institutions, or funding?**
      Answer: In my view, the minimum requirements include a pool of qualified patent and business experts, a system that allows SMEs to evaluate and select experts, government funding to cover expert costs, and experts with a genuine willingness to understand the realities of SMEs.