# JAPAN PATENT OFFICE TWO-MONTH STUDY-CUM-RESEARCH FELLOWSHIP PROGRAM

# EXPLORING THE VIABILITY OF UTILITY MODEL SYSTEM FOR FOSTERING INNOVATION IN BANGLADESH: A COMPARATIVE STUDY WITH JAPANESE PRACTICE

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The views and findings in this report are those of the author and do not necessarily reflect the views and policy of the organization or sponsor of this study.

#### ABSTRACT

This research analyzes the century-old Utility Model system of Japan to ensure the viability of this system in Bangladesh who is intending to foster its innovation. Bangladesh, whose economy depends solely on the labor-intensive ready-made garments sector, is working to move up from LDC to developing country status by 2026. Considering this goal, the government is trying to move its economy from labor-based industries to technology-based industries where intellectual property, especially utility models or patents, will play a crucial role. In this research, Utility Model systems of several countries of the Asia-pacific region, Europe and Latin America was studied, and it was found that this system is emphasized and utilized according to a country's economic condition. Utilization of this system is declining in developed countries like Japan, Germany and South Korea etc., while the use of this system in developing countries like the Philippines, Malaysia and Brazil is in full swing. Chinese innovators are utilizing both the utility model and patent system impressively and equally. The evolution of the Japanese utility model system was studied, and it was found that it has been amended, revised or reformed more than 10 times since commencement. While revising, amendments were made each time maintaining necessary harmony to its patent law with a keen consideration of Japan's economy, innovation capability as well as the global innovation trend. The R&D and innovation situation of Japan was studied, and it was found that Japan is increasing its R&D expenditure firmly each year, with the number of researchers increasing as a result. The state of innovation of start-ups and SMEs of Japan was studied and their constraints were identified. Comprehensive support to local SMEs was studied and it was found that robust support is provided from Japanese IP organizations. While studying the registration of patents and utility models by SMEs, it was found that their patent filings are increasing slowly while utility model filings have almost remained steady each year. An interview was conducted with the JPAA and Unicharm Co., which is growing fast and has turned into a large enterprise. Being an IP organization, the JPAA's various SME support measures were evident. Unicharm Co. explained their R&D and product development activities and their current situation for innovation registration. In both case studies, they expressed their opinion on support programs that should be taken by the government of Bangladesh to foster innovation.

I hope the outcome of this research will help the government of Bangladesh to take necessary measures to formulate a robust innovation strategy which in turn will facilitate to establish an innovation ecosystem.

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# ABBREVIATIONS

ARIPO	African Regional Intellectual Property Organization
CNIPA	China National Intellectual Property Administration
DPDT	Department of Patent, Industrial Design and Trademarks
IP	Intellectual Property
INPIT	National Center for Industrial Property Information and Training
IPOPHIL	Intellectual Property Office of Philippines
JPO	Japan Patent Office
JIPA	Japan Intellectual Property Association
JPAA	Japan Patent Attorneys Association
KIPO	Korean Intellectual Property Office
LDC	Least Developed Country
PCT	Patent Cooperation Treaty
R&D	Research and Development
SMEs	Small and Medium-sized Enterprises
TRIPS	Trade Related Aspects of Intellectual Property -Rights
WIPO	World Intellectual Property Organization

#### **CHAPTER 1: INTRODUCTION**

#### **1.1 Introduction**

**Utility Model** is a form of intellectual property (IP) protection that grants exclusive rights to a technical solution or improvement, often in the form of incremental innovations. Utility Model is awarded for small scale of invention or creation. It has the flexibilities on inventiveness. Therefore, complying with novelty and industrial applicability, Utility Model is much easier to achieve compared to a patent. In many countries, Utility Model grant procedure is much simpler than for a patent as utility model applications are not usually carried out under substantive examination. Utility Model also provide shorter period of protection tenure; mostly 7-10 years. In many countries, Utility Model is called short-term patent, petty patent, utility innovation, utility model or innovation patent.

Unlike standard patents, utility models are generally easier, faster, and cheaper to obtain, making them particularly attractive for **Small and Medium-sized Enterprises (SMEs**). For SMEs, which often operate with limited resources, the Utility Model can serve as a powerful tool to foster innovation, protect inventions, and stimulate growth. This protection is an effective base to promote Research and Development (R&D) in a developing country.

#### **1.2 Rationale of the study**

Bangladesh, being a Least Developed Country (LDC) is attempting to build-up an innovative society. Even after 53 years of liberation, this country depends on labor intensive textile sector for its growing economy. Targeting the developing country graduation threshold in 2026, the policy-makers are trying to establish an innovation ecosystem with inclusion of researchers, academicians, SMEs and industrialists. Among them, SMEs play a crucial role in driving innovation and economic growth. These enterprises face significant obstacles in protecting their small scale of inventions due to the absence of a proper legal framework and industry-academia correlation. In addition, patent procedure is costly and complex and no alternative exists there to protect their innovative work. This absence of a more accessible alternative to traditional patents limits the ability of researchers to secure their intellectual property, which, in turn, stifles innovation.

The utility model is a perfect system to widen the protection area for inventions which includes its minor grade. The introduction of Utility Model system could potentially address the gap by offering a more affordable and faster route to protect inventions. Utility model, characterized by shorter protection periods and lower inventive thresholds, are particularly suited for incremental innovations. However, for Bangladesh to successfully implement such a system, there must be a thorough analysis of the long-term viability of utility models, enforcement mechanisms, and how they align with the country's economic landscape and international standards. This study will explore how Bangladesh can effectively introduce and benefit from a utility model system while addressing challenges related to its implementation and enforcement.

Countries such as Japan, China, Malaysia, Korea, Germany have demonstrated the effectiveness of utility model systems. Japan, for example, has integrated utility models into its innovation ecosystem, providing a quicker and less expensive alternative to traditional patents. Malaysia's system also offers dual protection through both utility models and patents, allowing innovators flexibility in choosing the most suitable form of protection. China also provides a similar kind of protection.

Japan has provided this Utility Model system since 1905 therefore, they have extensive experience in this system. Information from the official JPO website states that recently the JPO is receiving almost 4500-5000 utility model applications per year. This number is decreasing each year, which means Japanese entrepreneurs are losing their interest in utility models as they are availing more advanced, sophisticated technology and moved their IP protection focus to patents. However, Japan still maintains this system to support petty innovation. We know Sony, Toyota, Mitsubishi, Sharp, Hitachi, Canon etc. are ruling the technological world and they are from Japan. Bangladesh has a lot to learn from Japan regarding the establishment of an effective utility model system.

#### 1.3 Objectives of the study

The main objective of this research is to explore the viability of utility models for fostering innovation in Bangladesh with a comparative study with Japanese practice.

Based on the main objective, some specific objectives can be identified:

- i) To have an overview of the utility model system of Japan (history, Utility Model Act, rules, registration guideline).
- ii) To know about the utility model portfolio of SMEs in Japan
- iii) To analyze the business growth of those SMEs in Japan who maintain utility models
- iv) To determine the correlation between utility model registration and business development
- v) To explore the innovation support system of Japan for SMEs so that the system can be adopted in the IP policy and patent rules in Bangladesh.
- vi) To make some recommendations so that the Government of Bangladesh can adopt a SME-friendly Utility Model system like Japan.

#### 1.4 Key Features of Utility Models

i) Shorter Application Process: Utility models typically undergo a quicker examination process compared to regular patents. In many countries, utility model applications do not undergo a substantive examination, but are instead evaluated based on formal requirements. This accelerated process allows SMEs to protect their innovations swiftly.

- ii) Lower Costs: The reduced cost of applying for a utility model is a significant benefit for SMEs, which often operate on tight budgets. Filing fees and maintenance costs for utility models are generally lower than those for standard patents, making it more affordable for smaller businesses to protect their intellectual property.
- iii) Shorter Protection Period: Utility models usually offer protection for a shorter time frame—often between 7 to 10 years—compared to standard patents, which can last up to 20 years. For SMEs engaged in fast-moving industries, this shorter protection period can be more than sufficient, as the focus is often on incremental and timely improvements rather than long-term protection.

#### 1.5 How Utility Models Promote Innovation for SMEs

- i) Encouraging Incremental Innovation: Utility models typically cover small, incremental improvements in technology or processes. For SMEs, which may not have the resources to invest in groundbreaking R&D, utility models allow them to protect and capitalize on smaller innovations that still deliver marketable value. This encourages a culture of continuous improvement, which is essential for business survival in competitive markets.
- ii) Reducing Risk in Innovation Investment: SMEs face significant risks when investing in innovation, as they often lack the financial backing to engage in long, expensive R&D cycles. Utility models mitigate this risk by offering a quicker and more affordable route to IP protection, allowing SMEs to secure exclusive rights to their innovations before competitors can replicate or improve upon them.
- **iii) Increased Market Competitiveness**: By securing utility models, SMEs can differentiate their products or services in the market, gaining a competitive edge. The exclusivity provided by utility models allows SMEs to prevent competitors from copying or benefiting from their innovations, which can lead to improved market positioning and potentially increased revenue.
- **iv**) **Leveraging for Funding and Partnerships**: IP protection, including Utility Models, often enhances the credibility of an SME in the eyes of investors, partners, or even customers. It can serve as valuable leverage when seeking funding, joint ventures, or strategic partnerships, as it demonstrates a commitment to innovation and growth.
- v) Facilitating Entry into Foreign Markets: Many countries, especially in emerging markets, offer Utility Model systems. This creates opportunities for SMEs to expand internationally by protecting their innovations in multiple jurisdictions. The relatively low cost and simplicity of the Utility Model application process enable SMEs to secure international protection for their innovations without incurring excessive costs.

## 1.6 Challenges and Considerations of Utility Models

While utility models provide a valuable tool for SMEs to promote innovation, there are also some challenges to consider:

- i) Limited Scope: Utility Models generally protect incremental innovations rather than groundbreaking inventions. As such, SMEs looking to protect revolutionary technologies may still need to pursue standard patents, which offer broader protection.
- **ii)** Shorter Protection Period: Although the shorter protection period can be a benefit for fast-moving industries, it may not be sufficient for businesses that need longer-term protection for their innovations.
- **iii) Varying Standards across Jurisdictions**: The rules and regulations surrounding Utility Models vary by country. SMEs must navigate different standards and requirements when applying for utility models in multiple jurisdictions, which can complicate international protection efforts.

The Utility Model system is a highly beneficial tool for SMEs looking to promote innovation. It offers a low-cost, fast-track option for protecting incremental innovations, providing SMEs with the opportunity to secure market exclusivity, reduce risks, and enhance competitiveness. By encouraging innovation and reducing barriers to IP protection, utility models play a crucial role in fostering the growth and development of SMEs, ultimately driving broader economic progress. However, SMEs must carefully assess their IP needs and strategies to ensure that utility models align with their long-term innovation goals.

Bangladesh has taken a time-befitting step by enacting the Bangladesh Patent Act 2023, which includes provisions for utility models under sections 42 and 43. Despite this legislative advancement, there remains a lack of specific criteria and procedural guidelines for the approval of utility model applications. This creates uncertainty and may hinder the effective implementation of the system. After formulation of Patent Rules (which is being drafted now), the Department of Patents, Industrial Design and Trademarks (DPDT) will be able to receive and register utility model applications. This study is an initiative to gather some knowledge on how Utility Model system became viable or effective in Japan to promote SMEs, and how SMEs turned into big corporations with proper utilization of Utility Model system. At the end of this study, I will provide some recommendations to establish an effective user-friendly Utility Model system in Bangladesh.

#### **CHAPTER 2: LITERATURE REVIEW**

Previous studies have emphasized the importance of streamlined application processes, welldefined eligibility criteria, and robust enforcement mechanisms. These global practices offer valuable lessons that can be adapted to Bangladesh's unique industrial and economic context. This research will build on these studies to develop a utility model framework that aligns with Bangladesh's development goals while ensuring the system's effectiveness and sustainability. Here, I will look at the patent and utility model system of Bangladesh, and the utility model system of Japan and other countries that have a similar kind of system.

#### 2.1 Patent and Utility Model system in Bangladesh

In Bangladesh, only patent registration is conducted to protect innovation which is called an invention patent or standard patent in many countries. The Department of Patent, Industrial Design and Trademarks (DPDT) is the sole authority to register patents, industrial design, trademarks and geographical indication in Bangladesh.



Figure-1: Patent Registration Flow chart at DPDT (DPDT, 2024)

Figure-1 shows the patent registration flow chart at DPDT. This procedure is much harmonized with the global patent procedure and follows 18-month pre-grant publication and substantive examination. It takes around 30-36 months from filing to draw a final decision in the case of patents. This time seems very long to be granted a patent for SMEs or young innovators. Therefore, there is a serious need for an expedited registration system.

Young Bangladeshi researchers, innovators and SMEs have limited resources, financial support and laboratory setups or research environments. This is why there is a tendency for minor inventions or creations most of the time, which lacks inventiveness. As a result, most of their patent applications are not granted. At this stage, a utility model, which protects a lower grade of invention, is a suitable alternative to protect their creativity.



Figure-2: Patent filing and grant status in Bangladesh (DPDT, 2024)

Figure-2 shows a clear picture of the innovation system in Bangladesh. Around 400 patent applications are submitted to DPDT each year, where 85-90% of the applications are foreign applications. Among them, applicants from Japan, China and the US make up a large portion of the patent applications filed in Bangladesh. Approximately 60-80 domestic patent applications are received each year. Among them, 10-30 applications are granted. Bangladesh has an ordinary innovation portfolio, positioned at 106 among 133 countries in the Global Innovation Index-2024, which is published by the World Intellectual Property Organization (WIPO) each year (WIPO, GII 2024 ranks, 2024). As Bangladesh do not have a utility model system, SMEs and researchers rarely approach the patent office to protect their small creations.

In the Bangladesh Patent Act, 2023, Bangladesh introduced Utility Model system in Chapter-VIII, which is comprised of Section 42 and Section 43. According to the Act, a subject matter that can be protected by a utility model is limited to any built, shape of a product or any addendum thereof and will be capable of industrial use (Industrial Applicability), which contains technological advancement, and is not contained in any prior art (novelty). It excludes the process, method of a device, any chemical composition including pharmaceutical or agrochemical composition and computer program. Subject to renewal, this right will be protected for 8 years. Some fundamental provisions for a utility model filing and registration, such as provisions for applicants, claims, publication, priority applications, examination, and third-party opposition, are mentioned in the two sections. Other procedural matters will be determined by the Patent Rules.

#### 2.2 Utility Model System in Japan

Japan offers a wider range of innovation protection systems including utility model with standard invention patent. According to the utility model act, the subject matter that it protects is a 'device' that is related to the shape or structure of an article or combination of articles, industrially applicable, and characterized by creative technological concepts based on natural laws and rules. In Japan, a patent protects "invention" which is reflected by "high creativity" and utility model protects a "device" which is reflected by "creativity". Therefore, the difference legally lies in the level of creativity. But, in fact, no difference remains in practice to examine creativity for patents and utility models in the JPO.



Figure-3: Utility Model Registration flow chart at the JPO (JPAA, n.d.)

Figure-3 shows the registration procedure of a utility model in Japan. Any processes, methods, programs and chemical substances are also not protected as a utility model in Japan. Its application process is also simpler and faster compared to patents. Applicants are required to submit an application form, specifications, claims, abstract and drawings for the utility model where drawing is mandatory with other parts. A crucial aspect is that it does not need to undergo substantive examination for registration. Only formal examination is required

thereby. But in case of enforcement of any registered utility model, a 'Technical Evaluation Report' is necessary. For that condition, utility models have to undergo substantive examination where novelty, inventive step and industrial applicability are verified. If the utility model fulfills all criteria, it is enforced. If it does not, it becomes invalidated. Unlike the patent system, utility models provide 10 years of protection.

	Utility model applications	Utility model registrations	Patent applications	Patent registrations
1980	191 785	50 001	191 020	46 106
1981	198 979	50 900	216 307	50 904
1988	171 656	42 300	345 418	55 300
1989	153 277	47 100	357 464	63 301
1990	138 272	43 300	367 590	59 401
1991	114 687	36 500	380 453	36 100
1992	94 601	65 200	384 456	92 100
1993	77 101	53 400	366 486	88 400
1994	17 531	53 885	353 301	82 400
1995	14 886	63 966	369 215	109 100
1996	14 082	95 481	376 615	215 100
1997	12 048	50 108	391 572	147 686
1998	10 917	35 513	401 932	141 448
1999	10 283	21 986	405 655	150 059
2000	9587	12 613	436 865	125 880
2001	8806	9441	439 175	121 742
2002	8603	7793	421 044	120 018
2003	8169	7694	413 092	122 511

# Table-1: Utility Model filing in Japan (1980-2003) (Suthersanen, 2006)

Table-1 shows the rate of applications and grants of utility models over a 23-year period from 1980 to 2003, and it depicts the transition of utility model and patent filing numbers in Japan. Comparing the two, the rate of utility model registrations is almost inversely proportional to the rate of patent registrations. The emerging pattern is a steady drop in applications for registrations from approximately 191,000 (1980) to 77,000 (1993) to 8,000 (2003). While the accelerated registration was popular with industry, the legal uncertainty caused by the "no examination" rule made the system less satisfactory for business – the technology transfer of unexamined rights not being popular in Japan. This unexamined utility model right also reduced the possibility of getting injunctive relief. No doubt, these are key reasons for the failure of the revised system to reverse the fall in applications. (Suthersanen, 2006)



Figure-4: Utility Model Application statistics of Japan (2014-2023) (JPO, 2024)

Figure-4 shows the decreasing trend of utility model applications. It depicts the downward rate of utility model application from ~7000 to ~5000. The main reason for the decrease in the popularity of the utility model system is the withdrawal of substantive examination from the registration procedure. Other reasons can be that the Japanese industry has become more innovative, working on more sophisticated, advanced technologies and has increasingly been opting for the patent route to legal protection of its inventions.



Figure-5: Utility Model Registration statistics of Japan (2014-2023) (JPO, 2024)

Figure-5 shows the utility model registration statistics in Japan. It shows a gradual loss of interest from Japanese firms to register a utility model as it does not ensure the enforcement of the right without a technical evaluation report, which is normally provided after

registration. Compared with Figure-4, it can be seen that almost all utility model applications filed in a year are registered, as it follows a non-examination system.

#### 2.3 Establishment and Utilization of the Utility Model System in China

**China** is positioned 11th among 133 countries in the **Global Innovation Index-2024** (WIPO, GII 2024 ranks, 2024) and has established a widespread protection framework for the protection of different categories of innovations. Chinese Patent Law was implemented on April 1, 1985, and according to that law, China provides 3 kinds of patent protection for inventions and creations named i) Invention Patent, ii) Utility Model Patent and iii) Design Patent. Since then, China's utility model system has kept improving along with the improvement of Chinese Patent Law.

China's utility model system gives protection for small inventions and creations which complement the invention patent. The duration of protection for a utility model is 10 years with the same legal effect as an invention patent. The right holders can prevent others from any commercial use of the inventions, which are protected by a utility model, without permission. (CNIPA, Development of China's Utility Model Patent System, 2013)



Figure-6: Utility Model Application statistics of China (2009-2021) (EPO, n.d.-1)

Figure-6 shows the utility model application trend in China. The number of applications is increasing each year and most of them are domestic applications. This means Chinese startups and SMEs are properly utilizing the opportunity of the utility model system to protect their creations. When this system was first introduced, China was comparatively weak in capacity for science and technology innovation. The inventions and creations made by many SMEs were technically low, and a majority of the innovative output were small inventions and creations. Though these small inventions and creations were not as creative as invention patents in a technological sense, they contributed to scientific technology advancement, economic and social development of the country, and needed appropriate protection. China's Utility Model system was set up to protect these kinds of inventions and creations. But recently, China has moved from quantity to quality where 25.5% fewer utility models were granted in 2023 compared to 2022. (Wininger, 2024)



Figure-7: Utility Model Registration statistics of China (2009-2021) (EPO, n.d.-1)

Figure-7 shows the utility model registration status in China. It shows the sharp increase in the registered applications. China follows a non-examination system, which means no substantive examination is conducted prior to registration. Therefore, the registration procedure becomes expedited and there is little chance for a utility model application to be rejected. Since 1985, China has revised their patent law several times to make it harmonized with the global patent system. Now, they provide a 10-year protection period with no renewal procedure. This revision had taken full consideration of related principles in the TRIPs agreement, and has provided a judicial remedy for utility model applicants and parties involved in disputes of patent right confirmation.

China has a lot of technology-oriented SMEs who protect their technological innovations and strengthen their market competitiveness effectively by utility models. A utility model provides powerful protection for a company's innovation during its starting-up stage and paves the way for a company's future development. In these SMEs, many researchers and even decision makers do not have much knowledge of the complicated patent system. Then, the utility model system in China adopts a 'no substantive examination' system which simplifies the registration procedures, shortens the application processing period, and reduces the application expenses, and thus introduces an innovation protection system to many SMEs. China's utility model system not only gives incentives to the SMEs for creation but also promotes the implementation of the patent system in China. It facilitates the circulation of patented technology, contributes to economic development, and science and technology progress. At the same time, it also gives effective protection to foreign patented technologies and interests of foreign enterprises in China. (CNIPA, Development of China's Utility Model Patent System, 2013)

#### 2.4 Utility Model System in South Korea

South Korea introduced utility model law in 1961 and now they have had the Utility Model Act since 1 July 1999. The present Act offers utility model protection to any technical creation which utilizes the rules of nature. The utility model must be novel, capable of industrial application and possess an inventive step. In 1999, South Korea withdrew substantive examination for utility models. However, anyone could file a request for "technical evaluation" of a utility model application or registration, which is a detailed examination report. An evaluation report, at any stage, was a prerequisite to take any action or enforce a utility model.



Figure-8: Utility Model Application statistics of South Korea (2009-2021) (EPO, n.d.-2)

Figure-8 shows the trend of utility model applications in South Korea. It shows that the number of filings is decreasing sharply and like Japan, around 4,000 applications are being filed in recent years. In contrast, the number of patent filings is increasing year after year in South Korea, with the number being 237,998 in 2021.

In 2006, the utility model system was changed significantly in South Korea, with the repealing of the older one. The new system introduced substantive examination before registration provision and the procedure was almost similar to that of patents. Now, utility model applications must go through their substantive examination and the request for examination should be made within three years from the date the application was filed. Like patents, substantive examination includes a request for examination, official notification for reasons of rejection, and an amendment.

An applicant may convert their utility model application to a patent application, and vice versa, in line with the adoption of the substantive examination system. The conversion application system has now replaced the dual application system of patent and utility model.

A utility model right is protected for a period from the date of registration to the date of ten years from the filing date.



Figure-9: Utility Model Registration statistics of S. Korea (2009-2021) (EPO, n.d.-2)

Figure-9 shows the utility model registration statistics in South Korea. Compared to the application filing number, the proportion of registrations has been increasing. This means applied technologies are much more advanced and innovative in recent times.

#### 2.5 Utility Model System in Germany

In Germany, a utility model is an IP right which is independent of patent rights. Like a patent, it protects technical inventions within Germany, but with the exception of methods. Unlike a patent, however, a utility model is an unexamined intellectual property right which, after the formal requirements have been fulfilled and no obvious defects are evident, is registered and published. There is no further substantive examination of protection requirements. As with patents, the utility model specification contains a description, claims and drawings. The claims define the subject matter for which protection is sought. A German utility model must be novel, inventive, and industrially applicable. While assessing novelty, the prior art is only what has become known to the public worldwide by written description or by prior public use in Germany before its filing date or priority date and a six-month grace period from the disclosure of the invention is granted by the Act. When it was introduced in 1891, the utility model was originally conceived of as a "minor patent" for "minor inventions". Since the 1990 Patent Reform Act, utility model law has been made to be largely consistent with patent law with all but a few (albeit substantial) exceptions.

Year	Utility Model Application	Utility Model Registered
2019	11,667	10,295
2020	12,313	10,736
2021	10,575	9,972
2022	9,470	8,765
2023	9,709	8,325

Table-2 shows the recent utility model filing and registration status in Germany. It clearly shows the application rate is dropping as the lack of examination of the protection requirements and the associated legal uncertainty is often cited as a disadvantage of the German utility model.

Enforcement of German Utility models is limited to Germany, without application to the rest of Europe. The German utility model provides a protection period of 10 years and is generally registered within 6 to 10 weeks after filing. In Germany, for example, one can file applications for both a patent and a utility model for the same subject matter, enabling a company/individual to obtain both immediate short-term protection (utility models) and stronger long-term protection (patents) for an invention, as an intelligent market strategy. (PAGENBERG, 2021)

#### 2.6 Utility Model System in Malaysia

A utility model is referred to as a 'utility innovation' in Malaysia. A utility innovation is defined in the Act as "any innovation which creates a new product or process, or any new improvement of a known product or process, which is capable of industrial application and includes an invention". Utility innovation is granted for products or processes which are novel and industrially applicable, but do not require an inventive step. Once issued, a utility innovation provides a 10-year protection period from the filing date, and two possible 5-year renewals. Within six months from the issuance of a first substantive examination report, conversion of a patent application into a utility innovation application or vice versa is allowed.

According to the Malaysian Intellectual Property Office, between 1986 and 2003, there were 1,222 utility innovation applications. The main users of the utility innovation system come from the region, with 47.3% of users coming from Taiwan followed by 38.9% of the applications coming from Malaysia. (Suthersanen, 2006) Malaysian residents rarely use the utility model system: in 2013, only 70 resident applications were filed, compared to more than 1,000 patent applications, and the average number of utility model applications each year in the period 2003-12 was only 37 (OECD, 2015). The reason for this lack of use in Malaysia might be that the design of the utility model system is too similar to the patent system in terms of application procedures, eligible subject matter and cost, as well as a lack of awareness among businesses, notably SMEs that stand to gain the most from utility models. For researchers, the low value given to utility models in performance evaluation exercises is a further constraint. It is worth reviewing the application procedures and making utility model applications less cumbersome to applicants for minor inventions. In Malaysia's case, utility models undergo substantive examination, which is a source of costs. The way forward in Malaysia is not necessarily to simplify utility model application procedures excessively, but to find a good balance of facilitating easier access to utility model protection without encouraging a proliferation of low value IP titles (OECD, 2015).

#### 2.7 Utility Model System in the Philippines

In the Philippines, any technical solution of a problem in any field of human activity which is new and industrially applicable can be registered as Utility Model. It may be any useful machine, implement, tools, product, composition, process, improvement or part of the same, that is of practical utility, novelty and industrial applicability. In the Philippines, a patent requires an inventive step while a utility model does not. A patent application requires substantive examination after publication whereas a utility model application is readily registered without undergoing substantive examination after meeting all formality requirements. Filing of Utility Model also costs less than a patent. It is entitled to seven years of protection from the date of filing.

Year	Utility Model Application Filed			Utility Model Registered		
	Non-Resident	Resident	Total	Non-Resident	Resident	Total
2011	40	648	688	15	388	403
2012	29	704	733	22	403	425
2013	33	653	686	22	472	494
2014	19	759	778	27	570	597
2015	46	767	813	38	489	527
2016	46	1102	1148	35	555	590
2017	62	1332	1394	27	504	531
2018	66	2080	2146	61	1052	1113
2019	86	2141	2227	23	969	992

# Table-3: Utility Model Application and Registration in Philippines (2011-2019)(AUMENTO, 2016) (IPOPHIL, n.d.)

Table-3 shows the utility model application and registration status in the Philippines. The figures show an increase in the number of utility model applications and registration. Most of the applications are from residents, showing the growing interest of local entrepreneurs and start-ups. The number of registered utility models in 2022 and 2023 were 1,489 and 1,847 respectively, where resident filings accounted for 95% (IPOPHIL, 2024). This means the SMEs and start-ups are getting the benefits of the utility model system there, and hence, they are interested in it.

#### 2.8 Utility Model System in Brazil

According to the Brazilian Patent Act, "an object of practical use, or part thereof, shall be patentable as utility model if it offers an industrial application, presents a new shape or arrangement, and involves an inventive act, resulting in functional improvement in its use or manufacture". Similar to patents, utility models require novelty, inventive step and industrial applicability to get registration in Brazil, and a substantive examination will be conducted. Though a lower grade of inventiveness is required for assessing inventive step, the filing and registration procedure of a utility model is almost similar to that of a patent. The term of a utility model in Brazil is 15 years from the filing date while the term is 20 years for an invention patent. In case of enforcement, equal treatment is provided for invention patents and utility models. In Brazil, utility model applications are filed mostly by domestic applicants while most patent applications are filed by foreign applicants (Venturini, 2023).

	Patents applications			Utility Models applications		
Year	Residents	Non- Reside nts	Total	Residents	Non- Resid ents	Total
2000	3,193	14,090	17,283	3,184	94	3,278
2001	3,446	14,403	17,849	3,439	95	3,534
2002	3,485	13,200	16,685	3,470	59	3,529
2003	3,867	12,544	16,411	3,578	55	3,633
2004	4,047	12,666	16,713	3,539	56	3,595
2005	4,066	14,432	18,498	3,173	57	3,230
2006	3,956	15,886	19,842	3,126	56	3,182
2007	4,200	17,463	21,663	3,001	37	3,038
2008	4,300	18,870	23,170	3,320	62	3,382
2009	4,277	18,129	22,406	3,337	41	3,378
2010	4,243	20,756	24,999	2,902	87	2,989
2011	4,733	23,916	28,649	2,956	124	3,080

#### Table-4: Patent and Utility Model filing status in Brazil (2000-2011) (INPI, 2013)

Table-4 shows the patent and utility model application filing status in Brazil. It shows that around 3,000 utility model applications are filed each year, of which a majority of applicants are residents. This means they benefit from 15 years of protection with a lower grade of inventiveness requirement.

## 2.9 Utility Model System in Spain

**Spain** also provides a utility model system, in which the inventive step requirement is less stringent than in the case of a patent. However, the duration of the protection is also shorter. In Spain, utility models are considered to be particularly suitable for SMEs, given that the procedure for granting them is simpler, faster and less costly than that for a patent. There is a 50% reduction in the fees paid per application for SMEs.

#### **CHAPTER 3: METHODOLOGY OF THE STUDY**

The present research is based on case studies. Here, the case studies are on some Japanese SMEs who have a good utility model portfolio.

**3.1 Research Design and Location**: This study, by its very nature, requires in-depth information to examine utility model systems with a particular focus on Japan. So, the qualitative research method was followed to conduct the studies, which were facilitated by a case study approach. In this study, Japan, especially the SMEs of Tokyo in Japan, was considered as the research location.

**3.2 Population and Unit of Analysis**: In this study of SMEs and SME-related organizations in Tokyo (especially those dealing with patent or utility models), Japan was considered as the population and each of the SMEs and organizations was considered as a unit of analysis.

**3.3 Sampling & Sample Size**: In this study, I would like to use the purposive sampling technique for selecting samples. Due to time constraints, 1/2 SMEs and 2 organizations who work on SMEs of Japan were selected as samples to examine how Japan adapted their frameworks to promote SME innovation. This study will serve as benchmarks for developing a tailored innovation ecosystem in Bangladesh.

**3.4 Techniques of Data Collection**: The first task was to collect data for the research intervene areas. Necessary information was collected from the Japan Patent Attorneys Association (JPAA) and Unicharm Corporation to gather insights into the potential benefits and challenges of introducing a utility model system. From these organizations, primary and secondary data was collected relating to the study. The primary sources of the data were collected through using a semi-structured interview schedule. Secondary sources of information are those which contain published documents, previous research reports etc.

**3.5 Data Processing, Analysis & Presentation**: After completion of collection of data, at first, the data was classified on the basis of their characteristics. Then, it was edited for the convenience of the analysis. As the research was qualitative in nature, the data was presented in a descriptive and analytical form.

#### **CHAPTER 4: RESULTS AND ANALYSIS**

#### 4.1 Evolution of the Utility Model System in Japan

#### 4.1.1 Background of the Introduction of the Utility Model System in Japan

The utility model system was first established in Britain in 1843 with the adoption of the Designs and Copyright Act, where three years of protection was provided for a novel device of a product for a utility purpose. In July 1885, the patent system was established in Japan by promulgation of an ordinance. At that time, only resident patent applications could be filed and less than one percent of applications were granted. On November 20, 1896, a reciprocal patent protection agreement was signed between Japan and Germany. Following this, similar agreements were signed with other countries and inventions from other countries started being registered in Japan. A revision of the patent law in 1899 allowed foreign patent applicants to file in Japan. At that time, Japanese inventions were minor improvements where technological developments were hardly traced. The technical levels of inventions from other countries were comparatively superior to Japan. Then, equal treatments for both resident and foreign applications were slightly inconvenient for Japan. From an industrial point of view, the necessity to establish a separate legal framework in Japan was obvious to protect and promote their minor inventions. On 1 June 1891, the world's first utility model law- "Utility Model Protection Law" was promulgated in Germany (where German Patent Law was stipulated on 25 May, 1877). Then, the German utility model system was observed and studied in Japan and an introduction of a similar system was considered (JPO, Outline of Utility Model System, 2006).

#### 4.1.2 Promulgation of the First Utility Model Law in 1905 and its Fundamental Features

In 1905, the first Utility Model Law was adopted in Japan based on German Utility Model Law and the system was established thereby. The first Utility Model Law had several fundamental features:

- i) Scope of Protection: In Japanese Utility Model Law, a utility model was defined as a "novel device with utility relating to the shape, construction or a combination of industrial articles." In this definition, the term "with utility" distinguished utility model from patent and design. Devices protectable as Utility Model required "creation of a technical idea utilizing natural laws" whereas patentable inventions required "highly advanced creation of technical ideas". Therefore, the determining factor for an invention whether to be protectable as patent or utility model was the idea- "highly advanced" (Richards, 2010).
- **ii**) **Novelty:** National novelty was applicable there. Novelty of a device was defined as a device or an article similar thereto was not 'publicly used or published in Japan' before filing of a utility model application would be considered as novel.

- **iii)** Unregister-able Devices: Devices identical with or similar to the imperial chrysanthemum crest or liable to contravene public order, morality or public health were unregister-able.
- **iv) Principle of Examination and Trial:** During examination of a claimed device, the examiner considered unregister-able matters and prior application-related provisions to grant a registration.

In case a utility model application was rejected, an applicant could demand for reexamination but could not file a complaint against any decision at trial court or appeal to the Supreme Court. An action could be taken to the Supreme Court, demanding invalidation of a registration, confirmation of a right or a retrial of a trial decision. These measures were provided to utility model applications filed by Japanese applicants only.

- v) Person Entitled to File a Utility Model Application: A creator of a device or his/her successor was entitled to file an application for a utility model registration. Joint applicants or misappropriated applicants (other than the creator) were not allowed to file.
- vi) Right and Term of Utility Model: The right of a utility model took effect upon its reregistration in the 'Utility Model Register'. The owner of a utility model right could allow third party to use or work on his utility model. That Law had no provision of any Compulsory License. It also had no provision for sharing a utility model right.

The term of a utility model right was three years from the date of its registration and could be renewed for a period of three years upon demand, totaling a maximum of six years. At that time, the term of a patent was fifteen years from the registration date.

- vii) Regulation for Coordination of Utility Model Registration with Patent and Design Right: If registration of a utility model could not be demonstrated without using an invention of an early-filed patent application or a registered design or a third party's utility model, then consent of the owner of the later was necessary. At that time, the utility model system adopted 'first-to-file' rule which was opposite to the patent rule that was complying 'first-to-invent' rule.
- **viii**) **Features of the Utility Model Application Procedure:** Utility model application could be filed normally. Beside this, it could be filed converting from a patent application or a design application. In both cases, a utility model application could be filed within 30 days from receiving a notification of refusal. The refusal notice needed to be attached with the utility model application. The filing date of the original patent or design application thereby was accorded as the filing date of the utility model application.

A person could also convert his patent or design application into utility model application after having first office action. In both cases, the filing date of his prior application would be accorded as the filing date of the utility model application.

A utility model application could also be divided. In that case, a separate divisional utility model application had to be filed and an original application to be corrected. The filing date of the original application was accorded as the filing date of the divisional application.

- ix) Applications Filed on the Same Date: If more than one utility model application was filed for a single device, all applicants were notified to select a person entitled to file an application through consultation. If no agreement was reached thereby, no registration was granted to any of the applications.
- **x) Examination Procedure:** The first Utility Model Law adopted the provision of examination. Examination procedure was almost the same as the patent procedure. As the utility model system adopted 'first-to-file' rule, no infringement examination or prior-art examination was provided.
- xi) Registration and Renewal of a Utility Model: A utility model would be effective after getting registration. When an applicant was notified of a request to get registration, he was required to submit a written registration request with a prescribed fee as a revenue stamp within 30 days of the registration decision. After submission of request, the patent office registers the device in the Utility Model Register and a certificate was issued therewith. In case of renewal, the owner was to submit a request with prescribed renewal fee and the utility model certificate within one month prior to expiration of the term (JPO, Outline of Utility Model System, 2006).

## 4.1.3 Consecutive Revision of First Utility Model Law to Make it Suitable

While examining an invention at the Japan Patent Office, the examiners were considering degree of inventiveness for registration which was lower in case of Utility Models than Patents. These two protection systems opened the opportunity for applicants in a way that if they failed to convince an examiner with sufficient degree of inventiveness to have patent protection, they might convert the application (if subject matter fits) to a utility model. However, in the first law there was a lack of the provisions, especially provisions for effective utilization and enforcement of the registered utility model.

The first Utility Model Law of Japan was revised a few times. The first revision was in 1909, when some minor changes were made to match this law with patent and design law. Effectiveness of a utility model registration was defined thereby that allowed its owner to have an exclusive right to commercially manufacture, use, sell or distribute registered articles.

At second revision in 1916, the term of a utility model registration was extended for four more years, totaling the term to ten years. This provision gave the owner an opportunity to renew for four years after completion of a six-year protection tenure.

Utility Model Law was revised for a third time in 1921 to make it compatible with the new patent law, which was revised in the same year. In the new revised utility model law, the

register-able subject matter was clearly defined. Devices relating to the shape, construction or a combination of articles will be register-able as a utility model which is different to an invention which is patentable. Provision of Compulsory License was adopted in cases where a utility model could not be demonstrated without using another one and owner of the later was not intending to do so. Provision for extension of term was set by renewing annually up to 10 years.

#### 4.1.4 Formulation of a new Utility Model Law in1959

A completely new Utility Model Law was adopted in 1959 which is the basis of the present law and the older one was repealed. The new law made some major changes which are outlined below:

- i) Range of Protection by a Utility Model Registration: The subject of protection under the new law was "industrially applicable devices relating to the shape, construction or a combination of articles" and a "device" as "the creation of technical ideas by which a natural law is utilized." (Section 2). From previous law, the expression "utility" was omitted.
- ii) Incorporation of a Provision for the "Inventive Step of a Device": It was stipulated that a device which can be created "extremely easily" based on a device already publicly known or publicly used is not register-able. Thus, a device lacking creativity was not granted a utility model registration.
- iii) Conversion of application: Conversion of application was introduced among a utility model application, a patent application and a design application. This provision was designed to coordinate three kinds of applications to ensure that with respect to the same subject, only one right, either a utility model registration, a patent or a design right could be granted.
- **iv) Term of Utility Model Protection:** Term of Utility Model Registration was fixed at 10 years, not exceeding 15 years from the filing date of a utility model application.

Later, this law was revised in 1965 to simplify the examination of utility model application. The Utility Model Law was further revised in 1970 along with the Patent Law. Request for examination for utility model registration was introduced thereby. Another revision of Utility Model Law was conducted in 1975 with Patent Law. Introduction of a multiple claim system in utility model application was adopted thereby. This Utility Model was further revised in 1978 along with Patent Law to comply with Patent Cooperation Treaty (PCT) system. Increasing number of requests for examination for utility model and patent made longer pendency time for examination which consequently turned into a major issue for domestic as well as international viewpoint. Therefore, authority was considering of non-examination or simplified examination system for utility model registration (JPO, Outline of Utility Model System, 2006).

#### 4.1.5 Reform of Utility Model Law in1993

After the promulgation of the first Utility Model Law in 1905, this system's popularity exploded—a trend that continued until 1980. From 1906 to 1980, the number of utility model applications surpassed that of patent applications every year. Beginning in 1981, however, this was reversed. A decreasing number of utility model applications reached less than a quarter of the number of patent application in 1993. This raised the necessity of revising the Utility Model Law, which was significantly reformed in 1993 to exclude substantive examination before registration. The major changes in this regard were as follows:-

- i) Introduction of a Non-Examination System: The system of substantive examination prior to utility model registration was abolished, and expedited registration was conducted. A provision was adopted targeting registration of those kinds of technologies which needed to be protected for a short-period of time. The technological level of Japan was improving rapidly around that time, and many devices required short-term protection as the technology behind the devices was upgraded frequently. Utility model registration was thereby granted quickly, with examination of some formal and basic requirements.
- ii) Adoption of Registrability Report: As substantive examination was abolished, the validity of a utility model registration fell into question. A Registrability Report was then adopted instead as an objective evaluation of the validity of utility model registration. This report was prepared by an examiner based on a prior at search and evaluation of validity.
- iii) Trial for Invalidation and Amendment: The 1993 Law prohibited any kind of amendment after filing a utility model application. Amendment can only be made after demanding invalidation of the utility model registration by a third party; and such amendment will only be made by elimination of any claim(s).
- iv) Term of Utility Model Right: The term of the right was shortened to six years, which had been ten years not exceeding 15 years from the date of filing.

#### 4.1.6 Amendment in 2004

The Utility Model Law was further revised in 2004, with several changes as outlined below:

- i) Conversion of utility model application to patent application: A utility model application can be converted to a patent application only when it is pending at the Patent Office. If a utility model application was registered, conversion would not be possible even after making a change in the technology.
- **ii)** Expansion of the scope of amendment: The scope of correction was expanded thereby, with a provision for substantial amendment adopted instead of amending only the claim deletion.

**iii)** Term of Utility Model Right: The term of a utility model right was extended from six years to ten years from the filing date.

Consecutive amendment of the Utility Model Law was also made thereafter in 2008 to enhance electronic filing procedures, and to improve convenience and efficiency. In 2011, this law was revised further to harmonize with international procedures. In 2014, the regulations were revised regarding inventions made in the course of employment, wherein reward systems were improved. In 2019, the Utility Model Law was amended to simplify and expedite procedures.

Japan's Utility Model system was finally rendered appropriate after amendments, revisions and reforms were made more than ten times between its initial launch in 1905 and 2019 more than a century. The Government of Japan modified this Law according to Japan's economic expansion and development, as well as its technological upgrading and advancement. Amendment was made gradually, maintaining a balance between the patent and utility model systems. They also kept a keen eye on domestic and foreign (especially U.S. and European) technological improvement while revising the Law.

Since 2019, this Law is working like a staircase to grow SMEs and young researchers for self-improvement. Japan's industrial sector is now based on highly advanced technology, and many Japanese industrial giants are ruling the world in different technological sectors. However, Japan still retained this utility model system in order to catch small technological efforts and thereby incentivize.

# 4.2 Outline of Utility Model provisions in Bangladesh

The promulgation of the Bangladesh Patent Act, 2023 introduced a system of Utility Models, named as "Utility Model Patents". Chapter VIII of the Act constitutes provisions for utility models which include Sections 42 and 43. Some fundamental provisions such as the definition of utility model, registrable subject matter, registration excluding matters, term of protection, etc. are mentioned there, which are briefly outlined below.

**4.2.1 Definition of Utility Model:** Section 42 defines 'Utility Model' as patent rights given by the Government, which are related to the build or shape of a product or any addendum thereof, capable of industrial use, which contains the characteristics of technological advancement, is not contained in any prior art, and is registered under the Act."

The above-mentioned definition clearly states that the registrable matter will be a 'build or shape of a product or any addendum thereof' that fulfils the three following requirements:

- i) Capable of industrial use (Industrial applicability)
- ii) Possesses characteristics of technological advancement
- iii) Not contained in any prior art (Novelty)

**4.2.2 Utility Model Registration excluding matters:** The matters which will not be registered as Utility Models are mentioned in Section 42, and are as follows:

- i) Any process or method of a device
- ii) Theories or discoveries
- iii) Unique computer programmes
- **iv**) If matters claimed under biotechnology, or microbiology, or pharmaceuticals, or agrochemical compositions prohibited under this Act;
- v) If detrimental to public health or public order, or if immoral in nature;
- vi) Any structure or chemical compound or liquid ballast, products with uneven granules, used for road construction, which does not take any particular form;
- vii) Including a new use of a known substance or a naturally occurring biological material, whether in whole or in part, along with its progeny (offspring);
- viii) Innovation of any process or product prohibited under this Act;
- ix) Plants and animals, either in full or partial, either modified or not, seeds, or matters found fully or partially in nature, living organisms or biological resources, even if treated or separated or modified;
- **x**) Products or materials obtained by adding or mixing or repeated adding of other materials which aggregates the properties of the original materials;
- **xi**) Reorganization, or reproduction, or copy, of more than one known device, each of which can work in any known procedure.

**4.2.3 Relevant Provisions for Utility Model:** Section 43 of the Act states associated provisions for Utility Model registration as follows:

- i) Applicant for Utility Model: Any person or inventor can apply for the utility model.
- **ii) Filing Utility Model Application:** An application with a written statement will be filed in prescribed form by paying the prescribed fee.
- iii) Claims in Utility Model Application: Applications for utility models will be made as a claim. The said claim or claims must be clear and succinct, and will be supported by a complete description.
- **iv**) **Provision on Utility Model Publication:** Any application fulfilling the general and technical conditions will be published in the official website of the department, or in any other conventional method.
- **v) Provision on Priority application:** If priority is claimed for a utility model, the priority date will be applicable.

- vi) Examination of Utility Model Application: Any claim will be examined for innovation/ capability for industrial use, whether the product is non-patentable as a utility model, and any other matter and condition laid out in this Act. The application can be amended, on the applicant's request or on the report of the examination, in the prescribed manner subject to facts and evidence found on examination. The application will either be registered or refused subject to the report of the examination.
- vii) Provision in case of Third-Party Objection: In cases where a third party places an objection against a utility model registration, the said party or parties will be required to furnish adequate information and proof supporting their objection. On the basis of the report of examination made with respect to the aforementioned information and proof, the Director General will hold a hearing, if applicable, to reach a reasonable decision.
- **viii) Term of Utility Model Protection:** Subject to renewal, a utility model will have a tenure of 8 (eight) years, and will be applicable from the date of application or the priority date.
- **ix) Regarding Residual Matters:** Any other matter concerning utility models will be regulated by the Rules.

#### 4.3 Practice of Utility Model systems around the world

A Utility Model system is practiced in 73 countries around the world. Over 3 million applications were filed in 2022, which was 2.9% higher than 2021. Around 11.1 million utility models were in force in 2022, which was 16.6% higher than 2021. Compared to other types of IP such as patents, industrial designs, trademarks and geographical indications, utility models possess the highest growth rate in both filing and force. This system is mainly practiced in Asia, along with some countries of Europe, Latin America and Africa. (WIPO, IP Facts and Figures, 2023)



Figure-10: Utility model applications for the top 10 offices, 2022 (WIPO, IP Facts and Figures, 2023)

Figure-10 shows the filing of utility model applications for the top 10 offices in 2022. After experiencing a 2.5% decrease in 2021, filing activity for utility models rebounded in 2022 with a growth rate of 2.9%, resulting in a total of 3 million applications. The IP office of China received 2.95 million applications in 2022, followed by Germany (9,469), the Russian Federation (8,521), Turkey (5,558) and Japan (4,513). Among the top 10 offices, Indonesia (+25.8%) and Turkey (+23.8%) were the only two to record double-digit growth in 2022. Both offices also reported double-digit growth the previous year.



Figure 11: Utility model applications for offices of selected low- and middle-income countries, 2022 (WIPO, 2023)

Figure 11 shows how many utility model applications were received by IP offices of selected low- and middle-income countries in 2022. Applications received by the African Regional Intellectual Property Organization (ARIPO) (+75%) and the IP offices of Kenya (+185.9%) and Peru (+83.2%) grew strongly, albeit from a low base. (WIPO, IP Facts and Figures, 2023)

From all sorts of statistics, it is clearly found that the utility model system has importance and is utilized on the basis of the respective country's economic and technological conditions. Low- and middle-income countries such as Brazil, the Philippines, Indonesia, Vietnam, Uzbekistan, Peru and Kenya are utilizing this system extensively. These countries also formulate their legal framework for utility model registration, which is perfectly suitable for registering minor innovations comfortably. Entrepreneurs, especially SMEs and researchers, are taking full benefit of this. On the other hand, developed countries such as Japan, Germany, Australia and South Korea are quite reluctant to utilize this system. Many of them also formulated their utility model law in such a way that registering utility models does not ensure the enforcement of rights. A kind of technical evaluation is required to validate and enforce the utility models, and their entrepreneurs and research organizations are therefore

eager to grant patents instead of utility models, even though registering patents is time consuming, costly and complicated. However, developed countries still maintain this system just to support start-ups and promote creativity among the general population. Some countries like China and Malaysia have amended their utility model law through the course of their economic development and technological upgrading; so this system is therefore turning into an unpopular one there.



Figure-12: Top 10 Utility Model Filing Jurisdictions (Excluding China), 1990–2021 and 2021 (Contreras & Buggenhagen, 2024)

Figure-12 highlights a number of notable shifts in utility model filings over time. First, Korea and Japan, both early leaders in utility model filings, have dropped in ranking; leaving Germany and Taiwan as the highest filing jurisdictions after China. Meanwhile, countries in Central Europe and Asia Minor including Russia, Ukraine, and Turkey, as well as smaller Asian jurisdictions such as Thailand, Indonesia, the Philippines and Hong Kong, have increased their rankings.

#### 4.4 R&D and innovation scenario in Japan

Japan's economy is a highly developed mixed economy, and is often considered as an East-Asian Model. It is now the fourth-largest economy of the world by nominal GDP, with a volume of 4.1 trillion USD in 2024. It also constituted 4.2% of the world's economy on a nominal basis in 2022 (Wikipedia, 2024). If Japan's economy is analyzed to find out its driving force, innovation figures prominently. To build an innovative nation, Japan has been investing in R&D at a significant magnitude. Recently, modern technologies like the Internet of Things (IoT) and artificial intelligence (AI) are making rapid improvements; and the importance of innovation is increasingly recognized around the world.

Research and development (R&D) involves not only activities that would lead to changes in technology (innovation), but also those to add new knowledge to science and engineering (inventions). In order to achieve innovation, however, investing in R&D is essential. (SAITO,



2023) In Japan, innovation is fostered by increasing investment in R&D by both government and private firms; and an innovation ecosystem has thereby been established.

Figure 13: GDP Growth and R&D Expenditures in Japan (2012-2021 FY) (Statics Bureau of Japan, 2022)

Figure 13 shows the trend of GDP growth and R&D expenditures in Japan. Japan's total R&D expenditures during fiscal year (FY) 2021 stood at 19.74 trillion yen, a 2.6 percent increase from the previous fiscal year. Expenditure on R&D as a percentage of GDP was 3.59 percent, a 0.01 percentage point increase from the previous fiscal year. This clearly depicts how increasing expenditures on R&D contributes toward GDP growth in Japan.



Figure-14: Number of Researchers and R&D Expenditures per Researcher in Japan (2012-2021 FY) (Statics Bureau of Japan, 2022)

Figure 14 shows trends in Japan regarding the number of researchers and R&D expenditures per researcher, and shows an increasing number of researchers along with a steady expenditure per head. The total number of researchers as of 31 March 2022 was 908,300, a

2.0 percent increase from the previous year. This increased for six consecutive years—the highest ever. The R&D expenditure per researcher in FY2021 was 21.73 million JPY, a 0.6% increase from the previous fiscal year.

R&D expenditures in Japan are sharply rising. This upward trend is a step in the right direction for a Japan who aims to become "an advanced science- and technology-oriented nation". Countries around the world are emphasizing science and technology policies, and are moving to increase R&D expenditures. Japan is also continuing its tremendous efforts to strengthen R&D activities while giving due consideration to its fiscal condition in order to enhance its international competitiveness, improve the quality of its people's lives, and respond to future global issues.

#### 4.5 SMEs/start-ups innovation scenario in Japan

SMEs are like young promising players in the business community. If they get proper effective support, they can travel the long haul to success. Approximately 3.57 million SMEs are contributing to Japan's economy, accounting for 99.7% of the total number of businesses. About 70% of all employees work in these SMEs, which are truly the backbone of Japan's economy (JFC, 2022). SMEs including Small and Micro Enterprises employ approximately 40 million people in total, which is one third of Japan's population (JPO, Intellectual Property Management for SMEs, 2016)

Though SMEs significantly contribute to Japan's economy, they have limitations regarding capital, human resources and advanced knowledge compared to large enterprises. They also have a limited ability to invest in R&D. According to the 4th National Innovation Survey in Japan, only 11% of SMEs (less than 250 employees) achieved product innovation during 2012-2014, compared to 27% for large firms (Okamuro, Nishimura, Colombo, & Stam, 2019). Their constraints include the following:

- i) **Internal business resources:** This includes capital (funding), human resources, and advanced knowledge.
- **ii)** Accessibility to external resources: Due to insufficient capital, SMEs cannot fund R&D or access other organizations regarding funding, IPR, advanced technological knowledge etc.
- iii) Protecting and utilizing IPR: Due to insufficient R&D expenditures, SMEs often cannot develop a good patent portfolio and become a subject of patent litigation; and R&D partnerships with other organizations are few due to lack of capital (Okamuro, Nishimura, Colombo, & Stam, 2019)

SMEs are performing well, however, alleviating different obstacles and making a huge contribution toward Japan's economy.

#### 4.6 IP Support for Small and Medium-sized Enterprises (SMEs) in Japan

The Japanese government provides financial support for R&D to SMEs such as public subsidies and tax incentives; along with indirect support like consulting, mentoring and building-up public-private partnerships. Regarding IP, organizations like JPO, JETRO and INPIT etc. provide different support.



Figure-15: Outline of comprehensive IP support for SMEs (JPO, n.d.)

Figure 15 shows an outline of comprehensive IP support for SMEs provided in Japan. The JPO has opened an IP Finance Portal Site that evaluates the business potential of SMEs utilizing IP, and introduces initiatives that will lead to financing and management support from financial institutions.

The Japan Patent Office (JPO) provides SMEs with easy-to-understand information on the overall support measures implemented by the JPO and the National Center for Industrial Property Information and Training (INPIT), including the following:

- i. Intellectual Property Comprehensive Help Desk
- **ii.** Seminars on IP rights systems
- iii. Reduction and exemption of patent fees
- iv. Information on the dispatch of "global IP producers"

- v. Subsidies for the costs required to file foreign applications
- vi. Support measures for overseas expansion, such as fee reduction systems for charges related to PCT applications (JPO, JPO STATUS REPORT, 2024)
- vii. Support for Utilization of IP Rights

The JPO often conducts various support projects or programs to facilitate these initiatives. They also support different IP activities at universities which include the Japan Platform for Patent Information (JplatPat), seminars, fee reductions etc. In addition, the JPO provides support for patent licensing and conducts seminars.

SME support for expanding businesses internationally has been established by organizations including SME SUPPORT JAPAN (Organization for Small & Medium Enterprises and Regional Innovation, Japan), JETRO (Japan External Trade Organization), and JICA (Japan International Cooperation Agency). Financial institutions are providing support as well, making barriers to overseas expansions lower than ever. In addition, cross-border e-commerce (electronic trading of products across national borders) based in Japan enjoys a high degree of international credibility. This makes it possible to capture large shares of niche markets worldwide. It is important to take approaches such as partnering with other countries; and obtaining support from financial institutions and support organizations is also moving forward. Japanese SMEs have earned high levels of trust worldwide in terms of quality and delivery times. If they properly grasp the needs and demands of the world, they will be able to sell their products and services at high prices. (ARAI, 2024)

#### 4.7 Registering creations by SMEs in Japan

Almost all kind of Japanese entrepreneurs, even SMEs, are availing themselves of advanced technologies now, and have moved their technological innovation protection strategy from utility models to patents. However, the Japanese government still holds out a utility model system to support start-ups and SMEs with technological innovation.



Figure-16: Number of Patent Application filed by SMEs in Japan (2013-2022) (JPO, 2024)

Figure 16 shows the number of patent applications filed by SMEs in Japan from 2013 to 2022. Here, the filing number is increasing every year, which implies the effect of supportive measures taken by Japan. SMEs have achieved the ability to invent more, and are therefore interested to protect their innovations as patents rather than utility models.



Figure-17: Number of Utility Model Application filed by SMEs in Japan (2013-2022) (JPO, 2024)

Figure 17 shows the number of utility model applications filed by SMEs in Japan from 2013 to 2022. Here the number is decreasing every year. This implies the effect of the non-examination system adopted by Japan. Moreover, Japanese SMEs are now capable of availing themselves of sophisticated cutting-edge technology, and have therefore moved their focus from utility models to patents.

## 4.8 Japan Patent Attorneys Association (JPAA): Contributing to IP promotion in Japan

Japan Patent Attorneys Association (JPAA) is an organization established in 1915 under the Patent Attorneys Act of Japan. All Japanese patent attorneys must have membership of the JPAA and over 1200 patent attorneys are registered to JPAA (as of 31 May, 2023).

Japanese patent attorneys are authorized to represent in the filing and prosecution of applications for patents, utility models, industrial designs and trademarks before the Japan Patent Office (JPO) and also to represent in court proceedings of suits against appeal/trial decisions made by the JPO. They are also allowed to provide professional services in infringement litigation, arbitration proceedings, border control procedures and drafting of contracts and expert opinions with regard to intellectual property rights including those related to semiconductor circuit layouts, specified unfair competition practices, and copyright works.

The JPAA has an Executive Board consisting of a President, Vice-Presidents and Executive Directors. This Executive Board is the decision-making and executive body which sets up its budget, approves its main projects and implements them with approval in General Assembly.

There are more than 40 executive committees of JPAA including Patent Committee, Trademark Committee, Design Committee, Biotechnology and Life Science Committee, Ethics Committee, and Compliance Committee. (JPAA, Japan Patent Attorneys Association (JPAA), 2023)

JPAA has nine regional branches across Japan. It also has six affiliated organizations by which JPAA conducts various functions which are-

- i) International Activities Center (IAC): This center carries out international activities which include collecting information on foreign IP legislations and practices, and holding meeting with foreign IP attorneys' associations including that of IP5 countries. IAC holds a permanent observer status at WIPO.
- **ii) Public Relations Center (PRC):** This center publishes monthly magazine "Patent" for IP professionals and quarterly newsletter "Patent Attorney" for general readers.
- **iii) IP Support Center:** This center provides free IP consultation and financial assistance in obtaining IP rights.
- iv) IP Management Center: This center conducts research on IP utilization in business activities.
- v) Central IP Research Institute (CIPRI): This center conducts research on various issues of IP and patent attorneys around the world.
- vi) **Training Institute:** This institute provides practical and theoretical training on IP for patent attorneys and contributes in capacity building of IP attorneys.

According to JPAA, filing for utility model registration is decreasing due to non-examination system and requiring a technical evaluation report for enforcement of right. However, JPAA considers that quick and cost-effective acquisition of right, leading to increased market competitiveness and new product development make utility model system attractive to SMEs and individual inventors and thus contributing to innovation promotion in Japan.

JPAA offers different support programs such as free IP consultation services, organizing seminars and workshops on patents and utility models, and dissemination of up-to-date IP information through their website and publications to raise IP awareness and understanding.

Regarding introduction of utility model system in Bangladesh, JPAA thinks that effectiveness of this system will depend on government's policy and support measures. Bangladesh government needs to formulate a robust legal framework for utility model, strengthen IP office, train-up IP professionals including IP attorneys and conducting awareness campaigns entrepreneurs and researchers. Various support programs such as promoting IP education, offering subsidies like fee reductions and providing expert IP consultation services are also very vital.

## 4.9 Recommendation from one of Japanese companies

More than ten years ago, this company applied both of patents and utility models. At that time its competitors were not aware and did not use IP and so this company utilized IP to suppress his competitors. Therefore, this company was recognized as a prestigious one and was benefitted. That time utility model system was very helpful to grow up this company. Now, this company improved its technological capacity and thereby moved up its protection strategy from utility models to patents where many big companies are already there as competitor.

Recommendation to Bangladesh: Regarding proper effectiveness of utility model system in Bangladesh, this company thinks that it will depend on some attempts such as the enterprises, companies and researchers need to realize properly the importance of patent and utility model system. If nobody in the society respect or think about patent or utility model, then effectiveness will not be feasible. Also, efficiency and efficacy of the researchers needs to be improved. Suitable provisions for utility model system such as substantive examination, searching and enforcement strategy needs to be adopted in relevant law, rules and regulations. This system needs to be like third party can comfortably judge what is and to which extent the practice is infringement or not. Finally, execution of utility model right in appropriate manner is very crucial to motivate the owner of utility model.

# 4.10 Unicharm Corporation: Improving on Hygiene with IP

Unicharm Corporation has 4 different business domains-

- i) Diaper for the adults
- **ii**) Diaper for children
- iii) Diaper, food, toilets for pets
- iv) Sanitary napkin for females

Each individual business domain has own R&D. This company's business operation is not limited to Japan. It expanded to other countries such as Thailand, the Netherlands, South Korea, China, Malaysia, Indonesia, Philippines, Saudi Arabia, Vietnam, Australia, India, Russia, USA, Egypt, Myanmar, Brazil and Singapore.

Unicharm continuously develop their product in R&D focusing on i) newness, ii) satisfaction and iii) sound profits. From 2019 to 2023, this company increased expenditures to R&D from 7,584 to 9,818 million JPY.

### **Innovation Registration-**

i) Patent and Utility Model filing statistics of Unicharm was searched by utilizing jPlatPat as below.

Voor	Do	Foreign Publication		
1 641	Total	Patent	Utility Model	Patent
2018	241	223	18	112
2019	260	254	6	132
2020	301	288	13	118
2021	225	221	4	49
2022	185	170	15	29
2023	171	166	5	44
2024	157	150	7	37
Total (2018-2024)	1540	1472	68	521

**ii)** The technological fields of applications are hygiene products, diapers, unwoven fabrics, pet food.

iii) This company has registered 68 utility model applications since 2018.

Unicharm focuses on the development of products, services, and technology useful to the realization of its "NOLA & DOLA" corporate philosophy. The NOLA (Necessity of Life with Activities) means 'Helping free people from various burdens to enable them to enjoy good health, both in mind and body' & DOLA (Dreams of Life with Activities) means 'Contributing to fulfilling the dreams of each and every person'. (Unicharm, 2024)

The Intellectual Property Division centralizes the management of the Unicharm Group's IP assets and formulates and executes **IP strategies** linked to its business and development strategies. Unicharm has centralized management system for IP. This company is going to acquire patent and trademark rights in a timely manner through the active use of the Patent Prosecution Highway (PPH) Program of the Japan Patent Office and accelerated examination systems in Japan and overseas.

Particularly ASEAN countries are main target for business development. Meanwhile, Unicharm also takes a firm stance on protecting its IP rights, including filing lawsuits to tackle infringement or unauthorized use. Its Intellectual Property Division cooperates closely with the marketing and R&D divisions as well as overseas subsidiaries and works with local government agencies to eliminate unauthorized and counterfeit products in Japan and overseas, such as in Asia. It is also promoting IP policies through active dialogue with the Japan Patent Office.

Unicharm has two targets in IP utilization-

i) The first is deterring entry into premium products, namely acquiring patents for new technologies to prevent other companies from imitating and to differentiate between products.

ii) The second is deterring the development of lower-priced copies of products. As Unicharm's brand power is particularly strong in Asia, where lower-priced imitations modeled on the appearance and selling points of this company's products appear on the market, Unicharm use their trademarks, designs, and utility models to minimize any potential damage to sales.

Unicharm conducts discussion with JPO each year on problem this company experience in examination or registration process. Officials of this company participate the seminar organized by JPO. This company also tries to get nomination in National IP Award.

Examination decision varies from country to country. Unicharm expects- JPO and related organizations may pursue to patent offices of other countries to minimize the difference of examination decision or judgment.

The effectiveness of utility model system will depend on following two conditions-

- i) Appropriate legal framework on utility model needs to be established considering on expedited examination and registration procedure.
- ii) Proper execution of utility model right so that companied invest more to R&D.

Bangladesh government needs to provide following **support measures** for local SMEs, startups or researchers-

- i) Promotion of IP Education IP awareness among researchers, SMEs and other enterprises to clarify the significance of utility model and disseminate knowledge on utility model.
- ii) Provide expert consultation services.
- **iii**) Adopt various support measures to SMEs and researchers such subsidies on fee reduction for IP filing and registration.

#### **CHAPTER 5: RECOMMENDATIONS AND CONCLUSION**

#### **5.1 Recommendations**

Bangladesh is now at an inaugural stage of launching a utility model system in order to incentivize and motivate domestic SMEs and researchers. The Department of Patent, Industrial Design and Trademarks (DPDT) is the sole authority to practice this system. As such, along with its supervising Ministry of Industries, DPDT must play a significant role to benefit from this system. Several recommendations can be made in view of this research, which are outlined below.

- 1. Immediate commencement of a Utility Model system: The government should take all necessary measures to initiate a utility model system as early as possible. This will include receipt of utility model applications, verification, examination, and issuing certificates to compatible devices.
- Utility 2. Adoption of necessary provisions for the Model system: The utility model system will be effective if suitable provisions such as substantive examination, and searching/enforcement strategies, are adopted within the relevant laws, rules and regulations. The government should adopt a substantive examination system prior to granting utility models, since there will be less possibility to invalidate a utility model following substantive examination. The government must also formulate necessary provisions, so that applicants can get expedited utility model registration and owners of utility models can properly utilize their rights and be incentivized thereby. Moreover, the provisions should be such that third parties can comfortably judge what is and to which extent the practice is or is not infringement.
- **3.** Enforcement of Utility Model rights: The execution of utility model rights in an appropriate manner is crucial to motivate the owner of utility models. The government must formulate the necessary mechanism so that the owners of utility models can properly enforce their rights and receive appropriate compensation in cases of infringement.
- 4. Disseminating the benefits and importance of a Utility Model system: Utility Models have fewer hurdles to registration. Any third party has challenges when opposing any granted utility model, as the protection area and required conditions are limited. Stakeholders should therefore be made aware regarding the benefits and importance thereof. DPDT's initiative is the most vital here, and it must encourage SMEs and individual researchers to innovate and apply for utility model registration due to its simpler procedure.
- **5.** Subsidies for Utility Model Registration: The government must offer different subsidies, including reduced application and processing fees for utility model registration compared to patents so that SMEs and researchers do not consider this as an obstacle.

6. Strengthen DPDT: Being an IP-registering authority in Bangladesh, DPDT's role is vital to promote innovation and thereby establish a robust IP ecosystem. Therefore, the government of Bangladesh must strengthen DPDT in terms of both manpower and capacity. It can be speculated that after launching a utility model system, many domestic applications for utility models will be filed—making it quite impossible to deal with all of the applications by the same number of patent examiners (Assistant Directors for patents). Therefore, the government must increase DPDT's manpower, while also taking capacity- building initiatives for all of the officials who will examine and supervise utility model applications.

# 5.2 The Way Forward

More initiatives should be taken by the government that will foster innovation in Bangladesh and work over the long run. These are outlined below.-

- 1. Support in IP education: The government, with the help of DPDT, must take necessary measures to promote IP education and establish expert consultation services to facilitate innovation and IP registration. Basic IP knowledge should be provided for children in school course curricula, and IP education (including fundamental knowledge on different IP rights, and their utilization) needs to be provided at the undergraduate level. The government must also take initiatives to train patent attorneys and other IP professionals.
- 2. Establishment of industry-academia collaboration: Universities are non-practicing entities, meaning that unlike business enterprises, they cannot directly utilize their IP rights such as utility models or patents. Therefore, they need some kind of collaboration with business entities to conduct smooth technology transfers and obtain benefits from their IP rights; and the government must provide minimum guidelines to establish this kind of collaboration.
- **3.** Efforts in the pharmaceutical sector: The pharmaceutical sector in Bangladesh enjoys patent exemption, with R&D researchers of those pharma companies normally involved in reverse engineering and re-engineering of chemical drugs. Further efforts in this regard may turn into inventions, so the researchers' efficiency and efficacy must be improved. Domestic pharma companies in Bangladesh should consider this with due importance.

Finally, on the eve of graduating to a developing country, the government (MoInd) must take necessary preparations such as developing a robust legal framework, strengthening the intellectual property office (DPDT), training IP professionals like patent attorneys, and conducting awareness campaigns among business enterprises and researchers.

### **5.3 Conclusion**

Utility Model system can be a very powerful tool to enhance the competitiveness of SMEs and researchers, but it must be used carefully. Every business entrepreneur, including those of SMEs, should have a robust IP strategy including innovation protection; and they must also consider carefully how they will use—or perhaps not use—IPR. Many SMEs have clear business ideas or strategies regarding financing, marketing and product development. They do not have an IP strategy, however, since this issue is not considered with due importance by top management. At best, innovation and its protection are left to the development department at a low budget and low attention. At worst, it is totally neglected. (Brasov, 2002)

Numerous cases show that a carefully considered IP protection strategy, including utility model and patent protection, can dramatically improve the competitiveness of even very small companies and contribute to company's growth.

**Japan** has maintained its Utility Model system since 1905, and amended it cautiously with its economic and technological upgrades. The importance of this system is now declining, as Japan's economic condition and technological advancement has moved up to a tremendous height. However, Japan is still nursing this system to inspire and motivate small business entities—especially start-ups and SMEs.

**Bangladesh** has a lot to learn from Japan regarding its innovation protection strategy. The government in Bangladesh must take vital steps to formulate a strong utility model legal framework for innovation promotion, which will offer the necessary IP protection, subsidies for registration procedures including fee reduction, sufficient enforcement, strengthening of DPDT, establishment of a specialized institution for IP education and awareness, and implementation of industry-academia collaboration and a specialized IP court. All sorts of initiatives may contribute toward establishing an innovation ecosystem in Bangladesh and thus facilitate our smooth graduation to a developing nation by 2026.

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# **APPENDICES**

## APPENDIX-I: Minutes of the interview to Japan Patent Attorneys Association (JPAA)

Date and Time: Wednesday; 27 November, 2024; 4:00-5:00 PM

Venue : Headquarter of Japan Patent Attorneys Association (JPAA)

Interviewee : Mr. Yuji TSURUYA, Vice-President of JPAA

(**Mr. TSURUYA** was patent examiner in the Japan Patent Office (JPO) initially. He quitted from JPO in 2008 and joined in an Intellectual Property Law Firm as patent attorney. In 2017, he established his own law firm and till now he is in service there. Now, he deals with Patent filing, processing and litigation. He also deals with Industrial Design, Trademarks and Utility Model.)

- **1.** How Utility Model system played a supportive role to uprise the emerging researchers, start-ups and SMEs in Japan?
  - 1.1 What is the current situation of Utility Model registration in Japan?
  - 1.2 I found that Utility Model filing is decreasing in Japan. What are the reasons behind?
  - **1.3** What kind of support is provided in Japan to the SMEs or start-ups for innovation or utility model registration?
  - **1.4** Is there any correlation between SME's utility model protection and their business growth? If yes, then why?
  - **1.5** Did utility model system play a crucial role to promote innovation in Japan? If so, then why?

## Answer: Current Status and Role-

**1.1 Current State of Utility Model Registrations:** In Japan, the number of Utility Model applications has been decreasing over the past few decades. Companies often prefer patent applications, which offer stronger protection.

**1.2 Reasons for Decrease:** The decrease is partly due to non-examination system of Utility Models, requiring a technical evaluation report when enforcing rights, which can be cumbersome. Additionally, reduced patent examination periods and costs have influenced this trend.

**1.3 Support for SMEs and Start-ups:** The Japanese government, local authorities and related organizations provide support such as fee reductions for patents, free consultation services and seminars to encourage innovation and IP registration.

**1.4 Correlation with Business Growth:** Utility Model protection can help SMEs differentiate their products and enhance market competitiveness, positively impacting business growth.

**1.5 Role in Promoting Innovation:** The Utility Model system allows for quick and simple acquisition of rights, boosting technological development among SMEs and individual inventors, thus contributing to innovation in Japan.

# 2. Would you kindly describe in brief- what kind of Intellectual Property (IP) support JPAA provide to SMEs, start-ups or young researchers?

Answer: The JPAA offers the following support:

- i) Free Consultation Services: Hosting nationwide IP consultation events where experts provide advice.
- **ii)** Seminars and Workshops: Organizing seminars on obtaining and utilizing patents and Utility Models tailored for SMEs and researchers.
- **iii)** Information Provision: Disseminating up-to-date IP information through their website and publications to raise awareness and understanding.
- **3.** Do you think that, registration of utility model flourished SMEs' business growth in Japan? If so, then how does it occur or is there any statistical data to show that?

**Answer:** Utility Model registration has enabled SMEs to protect their technologies quickly and cost-effectively, leading to increased market competitiveness and new product development. While specific statistical data may be limited, various case studies have reported positive impacts on business growth due to Utility Model protection.

- 4. Bangladesh is a Least Developed Country (LDC). It has a Patent Law but very few numbers of patent applications we receive from domestic side and innovation-based society has not been developed there yet. Recently, provision for Utility Model registration has been introduced in their new Patent Act. Would you kindly share your opinion about
  - **4.1** How much effective the Utility Model system would be to establish a technology-based innovative society in Bangladesh?
  - **4.2** What kind of Intellectual Property (IP) related support Bangladesh government should provide to local SMEs, start-ups or researchers to promote innovation and patent/utility model registration?
  - **4.3** What would be the necessary preparation for Bangladesh government to adopt the Utility Model system?

# Answer: Effectiveness and Recommendations-

**4.1 Effectiveness of Utility Model System:** The Utility Model system can be effective in Bangladesh by encouraging SMEs and individuals to innovate due to its simpler procedures and lower costs compared to patents.

**4.2 Government Support:** The government should promote IP education, offer subsidies or reduction in application fees and establish expert consultation services to facilitate innovation and IP registrations.

**4.3 Necessary Preparations:** Key preparations include developing a robust legal framework, strengthening the intellectual property office, training IP professionals like patent attorneys and conducting awareness campaigns among businesses and researchers.

# **APPENDIX-II:** Minutes of the interview to Unicharm Corporation

Date and Time: Wednesday; 11 December, 2024; 3:00-4:00 PM

Venue : Head office of Unicharm Corporation

Interviewee : **Mr. Wataru SHIMIZU**, Department Manager, Patent Department, Intellectual Property Division and **Mr. Hiroaki YANO**, Patent Management Department, Intellectual Property Division, Unicharm Corporation

# 1. Would you kindly describe your company's Research and Development (R&D) division including its manpower and condition?

Answer: Unicharm has 4 different business domains-

- i) Diaper for the adults
- **ii**) Diaper for children
- iii) Diaper for pets, food, toiets
- iv) Sanitary napkin for females

Each individual business domain has own R&D. This company's business operation is not limited to Japan. It expanded to other countries such as Thailand, the Netherlands, South Korea, China, Malaysia, Indonesia, Philippines, Saudi Arabia, Vietnam, Australia, India, Russia, USA, Egypt, Myanmar, Brazil and Singapore.

Unicharm continuously develop their product in R&D focusing on i) newness, ii) satisfaction and iii) sound profits. From 2019 to 2023, this company increased expenditures to R&D from 7,584 to 9,818 million JPY.

# 2. Would you kindly describe your company's IP division and its activities-

- i) Number of patent and utility model applications filing
- ii) Nature/technological field of patent and utility model applications filed
- iii) Number of registered patent and utility model so far

(Patent and Utility Model filing statistics of Unicharm was pre-searched by utilizing jPlatPat) The technological fields of applications are hygiene products, diapers, unwoven fabrics, pet food.

# **3.** Would you kindly explain your company's "NOLA & DOLA" corporate philosophy and IP strategy in brief?

Answer: Unicharm focuses on the development of products, services, and technology useful to the realization of its "NOLA & DOLA" corporate philosophy. The NOLA (Necessity of Life with Activities) means 'Helping free people from various burdens to enable them to enjoy good health, both in mind and body' & DOLA (Dreams of Life with Activities) means 'Contributing to fulfilling the dreams of each and every person'.

The Intellectual Property Division centralizes the management of the Unicharm Group's IP assets and formulates and executes IP strategies linked to its business and development strategies. Unicharm has centralized management system for IP. This company is going to acquire patent and trademark rights in a timely manner through the active use of the Patent Prosecution Highway (PPH) Program of the Japan Patent Office and accelerated examination systems in Japan and overseas.

Particularly ASEAN countries are main target for business development. Meanwhile, Unicharm also takes a firm stance on protecting its IP rights, including filing lawsuits to tackle infringement or unauthorized use. Its Intellectual Property Division cooperates closely with marketing and R&D divisions as well as overseas subsidiaries and works with local government agencies to eliminate unauthorized and counterfeit products in Japan and overseas, such as in Asia. It is also promoting IP policies through active dialogue with JPO.

Unicharm has two targets in IP utilization-

- i) The first is deterring entry into premium products, namely acquiring patents for new technologies to prevent other companies from imitating us and to differentiate between products.
- ii) The second is deterring the development of lower-priced copies of products. As our brand power is particularly strong in Asia, where lower-priced imitations modeled on the appearance and selling points of our own products appear on the market, we use our trademarks, designs, and utility models to minimize any potential damage to our sales.
- 4. Would you kindly describe in brief- Intellectual Property (IP) support your company receives from JPO and other IP related organizations such as JIPII, JIPA, INPIT or JPAA?

Answer: Unicharm conducts discussion with JPO each year on problem this company experience in examination or registration process. Does your company expect more supportive measures from JPO or other above-mentioned organizations? If so, then briefly describe those expected support.

**Answer:** Examination decision varies from country to country. Unicharm expects- JPO and related organizations may pursue to patent offices of other countries to minimize the difference of examination decision or judgement.

5. Bangladesh is a Least Developed Country (LDC). It has a Patent Law but very few numbers of patent applications we receive from domestic side and innovation-based

society has not been developed there yet. Recently, provision for Utility Model registration has been introduced in their new Patent Act. Would you kindly share your opinion about how much effective the Utility Model system would be to establish a technology-based innovative society in Bangladesh?

Answer: The effectiveness of utility model system will depend on following two conditions-

- i) Appropriate legal framework on utility model needs to be established considering on expedited examination and registration procedure.
- ii) Proper execution of utility model right so that companied invest more to R&D.
- 6. Would you kindly share your opinion about what kind of Intellectual Property (IP) related support Bangladesh government should provide to local SMEs, start-ups or researchers to promote innovation and patent/utility model registration?

**Answer:** Bangladesh government needs to provide following support measures for local SMEs, start-ups or researchers-

- i) Promotion of IP Education IP awareness among researchers, SMEs and other enterprises to clarify the significance of utility model and disseminate knowledge on utility model.
- ii) Provide expert consultation services.
- **iii**) Adopt various support measures to SMEs and researchers such subsidies on fee reduction for IP filing and registration.