



Interrelationship between Intellectual Property Rights and Economy and growing impact of Asian Countries globally in Intellectual Property Rights

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Abstract

The protection and promotion of innovation is need of the society because it contributes to the better lifestyle of any society. The intellectual property rights (IPR) are created to reward the innovators for their inventions and granting them a monopoly for their inventions. The incentive in form of intellectual property rights encourage the innovators to generate more commercially viable inventions. The commercially viable inventions boost industrialization and technology transfer which positively impacts the economy. The trends in the filing of patent applications are very similar to other trends involving some economic data such as GDP, R&D expenditures and FDI Further, the 1% strengthening of patent rights can result in more than 2% increase in the stock of inward FDI, which in turn increase technology transfer. As IPR is an important tool to promote economy, thus, World Trade organization (WTO) is working on harmonization of IPR across the globe to make it in line with the global economy.

In current scenario, the impact of Asian countries is growing globally in terms of intellectual property rights. However, by studying the annual report of World Intellectual Property Organization (WIPO) it is being identified that there is a lot more potential available with Asian countries by which they can really generate more intellectual property. The conversion ratio of domestic patent application filing into PCT applications is quite low in Asian countries, still, the PCT application filings of Asian countries is 49.1% of the total PCT filings. Hence, by improving the conversion ratio, the PCT filing volume can be increased tremendously.

Keywords: Innovation, Intellectual Property Rights, Patents, PCT, Economy, WTO

1. Introduction

In today's global scenario the basic requirement is the global, sustainable, and equitable growth. Innovation and technology are considered as the key drivers of global, sustainable and equitable growth. Innovation involves lots of human efforts in terms of knowledge and money. Thus there was a need to reward all such efforts to encourage more and more innovations. To reward such efforts intellectual property rights were created. Intellectual property rights give the innovator an exclusive right, a monopoly, in exchange of sharing their innovation with the society. It has been conclusively established that the intellectual labour associated with the innovation should be given due importance so that public good emanates from it (Saha, 2011). The IP system is generally considered as an effective way to enhance creativity, promote technological innovation, improve trade and enhance competitive positioning. However, it is important to consider the interrelationship between the intellectual property rights and global economy. It is not easy to state that the economic growth and intellectual property rights are directly proportional to each other. The contribution of intellectual property rights in economic growth is still a debatable issue. Some theories suggest that it has a positive impact and some thought that it has a negative impact on the economic growth (Ilie, 2014). However, it is an established fact that Intellectual property rights remain a significant tool for policymakers and, when employed correctly, have the power to engender innovation and economic development (Daley, 2014). The situation is more complicated when it is discussed in the context of developing nations. The economy of developing nations is different from that of the developed nations. In developing countries, the benefit of innovations to public at large plays a major role for the assessment of contribution of intellectual property rights in development of society.

In today's world of globalization, where the economy of countries is interrelated, the role of innovation and intellectual property rights is worth considering for their impact on global economy. World Trade Organization (WTO) is continuously working in this regard to strike a balance between the



developing nations and the developed nation. One of such significant step taken by WTO is the Agreement on Trade-Related Aspects of Intellectual Property Rights (“TRIPS”), the aim of which is to strengthen and unifying the legislative and administrative framework of countries in terms of intellectual property rights.

In recent past Asian countries have performed well in terms of innovation, as generally speaking, the Asian countries are promoting innovation and intellectual property rights in their respective jurisdictions. It is interesting to see the growing influence of Asian countries in terms of innovation and intellectual property rights and its impact on global economy. A study has been done to understand the interrelationship between intellectual property rights and the global economy and the growing influence of Asian countries in this regard. Further, the study is also conducted to explore the tremendous potential Asian countries have to generate intellectual property and the means by which more intellectual property can be generated.

2. Objectives

The main objectives of the present study are as follow:

1. To study the interrelationship between intellectual property rights and economic growth and global economy.
2. To study the growing impact of Asian countries globally in terms of intellectual property rights.
3. To identify the means by which more intellectual property can be generated by Asian countries.

3. Materials and Methods

The research methodology adopted for the present research is a mixed methodology. The research work is primarily based on the review of data obtained after literature survey. Different research results provided by different scholars are taken into consideration. Further, the different yearly reviews/ annual reports, provided by international organizations like World Intellectual Property Rights Organization (WIPO), IMF are taken into consideration for the present study. The data with respect to economic parameters like GDP, FDI etc. are studied with respect to the patent application filing trends, provide in the annual reports of WIPO. The analysis and interpretation of all the material is done to find out the interrelationship and impact of innovation and intellectual property rights in global economic growth. The analysis is also done to understand and the growing influence of Asian countries in intellectual property rights and to identify the large unexplored potential of Asian countries to generate intellectual property rights globally.

4. Results and Discussion

4.1 Interrelationship between Intellectual Property Rights and Global Economy:

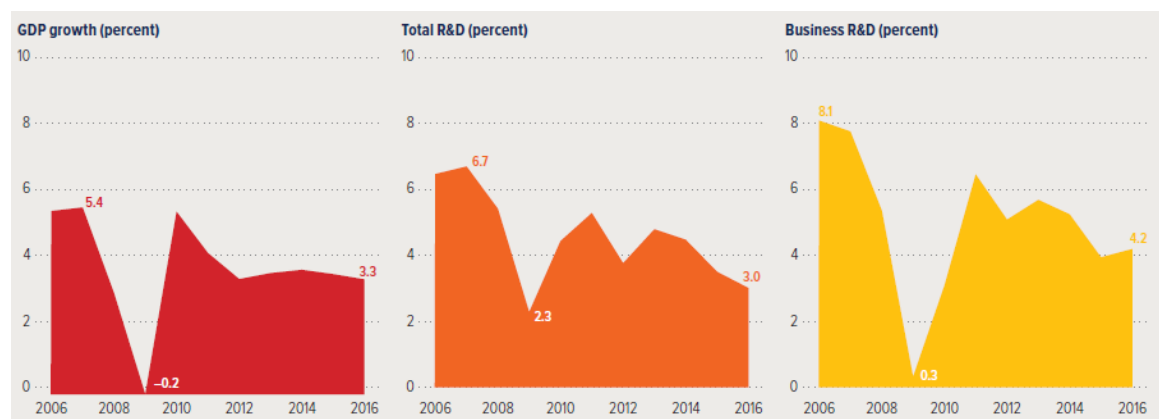
Innovation is an essential component for the economic growth of any society. There is an endless list of examples which can establish the fact that the innovations have positively impacted the society. Thus, there was need to protect and promote such innovations and then the intellectual property rights come into existence. The intellectual property rights basically aim to protect innovations of mind and give the innovators a certain degree of monopoly which may be used for recognition and financial gains. With the globalization the economic development of countries also got interrelated. Thus, a need was felt to have a uniform intellectual property rights protection across the globe. The process of harmonization of IPR protection was initiated by World Trade Organization (WTO), the WTO is instrumental in ratification of Trade-Related Aspects of Intellectual Property Rights (“TRIPS”) by all its member countries. TRIPS defined a basic outline for the protection of intellectual property rights for all member countries. The member countries are required to amend their respective national laws to be in line with TRIPS. As study reported by Kato et.al (2010), shows that after signing the TRIPS agreement the economic data like GDP, FDI in many countries have been positively increased. It is a clear indication that intellectual property rights have positively impacted the economy. The developed nations like the US are the strong supports as well as promoters of TRIPS agreement and harmonization of intellectual property rights across the globe.

Developing countries are also understanding the importance of protection of innovation through intellectual property rights. The developing countries like India are promoting intellectual rights in their respective jurisdictions. The obtaining of intellectual property rights is not only sufficient, a proper protection and implementation is also necessary. Many steps have been taken by the countries to boost the



intellectual property rights in their respective jurisdictions, the countries are improving their legal and administrative framework for speedy grant of intellectual property rights without compromising on the quality of the innovations. Certain yardsticks have been established for the grant of intellectual property rights, for example, for getting a patent the invention should be novel, inventive and industrially applicable. The criteria itself reflects that the purpose of granting intellectual property rights is to promote commercialization of innovations, which will directly boost the economy.

In the study done by Kato et.al (2010), it is reported that the trend in the filing of patent applications is very similar to other trends involving some economic data such as GDP, R&D expenditures and FDI in many countries (China, India, Japan, Korea, Malaysia and Vietnam). These data suggest that IP creation is closely related to economic effects. Further, the study reported by Park and Lippoldt, (2008), suggested that 1% strengthening of patent rights can result in more than 2% increase in the stock of inward FDI, which in turn increase technology transfer. Further, as per the report issued regarding Global Innovation Index 2018, it is evident that R&D expenditure is directly proportional to GDP.



Source: Global Innovation Index 2018

Figure 1 GDP growth Vs. Total R&D expenditure Vs. Business R&D expenditure

It is clearly shown that in 2009 when the GDP growth is in negative (-0.2) the total R&D expenditure and R&D expenditure of business is proportionally reduced. Hence, it is a proven fact that the intellectual property rights and economy are directly proportional to each other.

4.2 Growing impact of Asian Countries:

As discussed above the intellectual property rights have contributed a lot to impact the global economy and thus countries across the globe are encouraging filling of intellectual property rights in their respective jurisdictions.

As per the data available on World Intellectual Property Organization (WIPO) for Patent Cooperation Treaty (PCT) applications filing for years 2003 – 2017, there is a constant growth in the PCT applications filing, except year 2009, when the global economy was under recession.



Figure 2 PCT applications filing trends 2003 – 2017

If we compare the filing trend of PCT application over a decade from 2007 to 2017, the Asian countries have done a commendable job. In 2007, 27.6% of application were filed by Asians, whereas in 2017, 49.1% applications were filed by the Asian countries. At present Asian countries are filing PCT applications almost equal to the sum of PCT applications filed by European and North American countries.

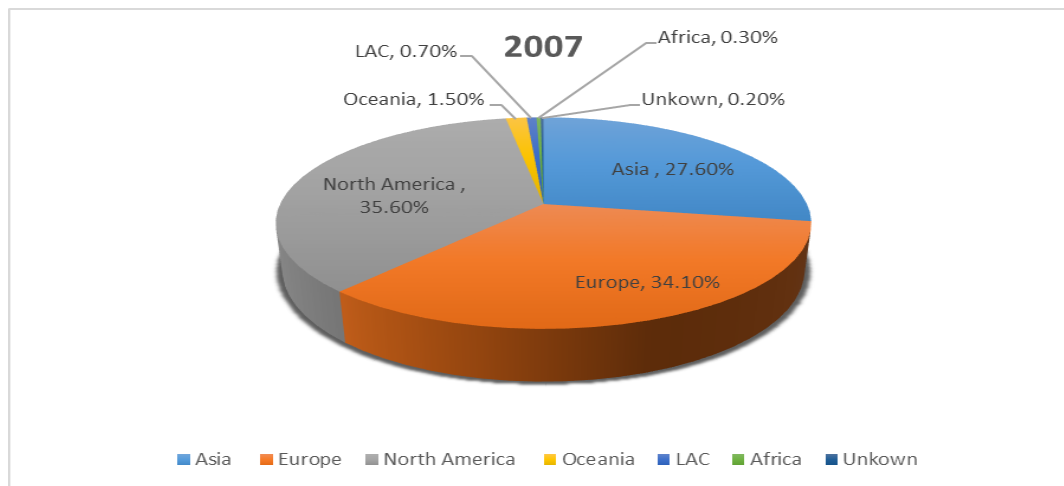
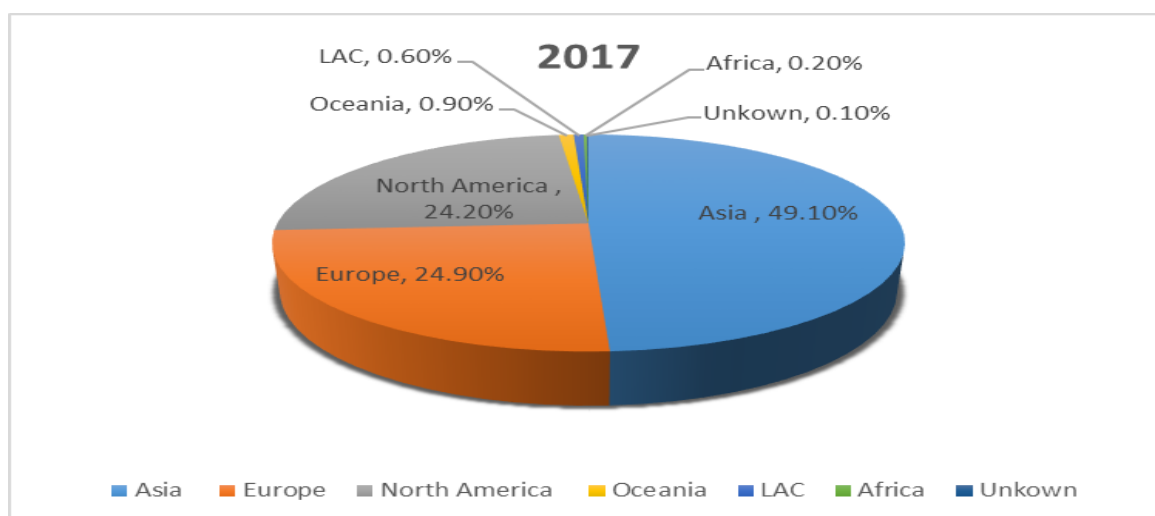


Figure 3(a) Regional Percentage share in PCT applications filing in 2007



Source: WIPO Statics Database, 2018

Figure 3(b) Regional Percentage share in PCT applications filing in 2017

In top 5 jurisdictions filing PCT applications, the Asian countries have a strong presence, three out of top 5 countries are Asian countries, China is at no. 2, Japan is at no. 3 and Republic of Korea is at no. 5.

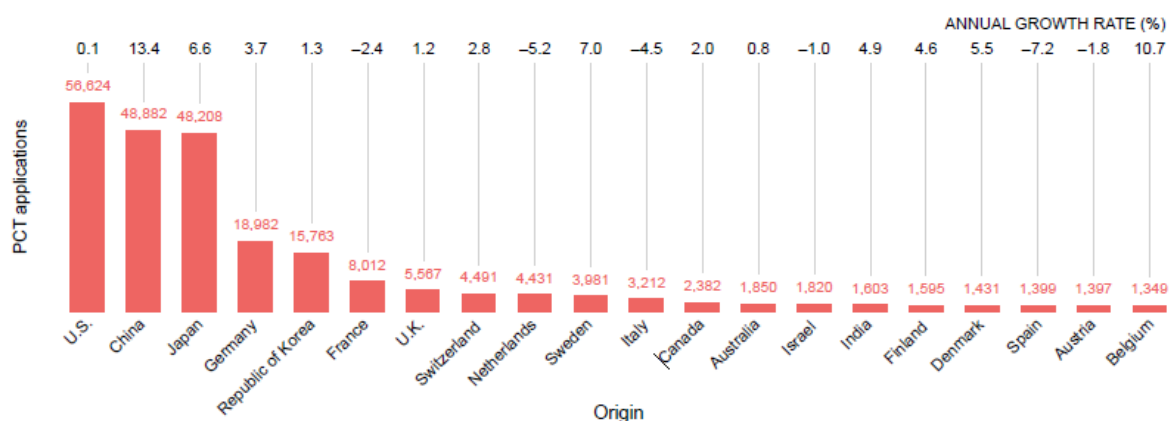
Out of top 10 PCT applicants, 7 applicants are from Asian countries (China, Japan and Republic of Korea):

Table 1 Top 10 PCT Applicants

Overall PCT ranking	Applicant	Origin	Published PCT applications in 2017
1	Huawei Technologies Co., Ltd	China	4,024
2	ZTE Corporation	China	2,965
3	Intel Corporation	United States of America	2,637
4	Mitsubishi Electric Corporation	Japan	2,521
5	Qualcomm Incorporated	United States of America	2,163
6	LG Electronics	Republic of Korea	1,945
7	BOE Technology Group Co. ,Ltd	China	1,818
8	Samsung Electronics Co., Ltd	Republic of Korea	1,757
9	Sony Corporation	Japan	1,735
10	TELEFONAKTIEBOLAGET LM ERICSSON (PUBL)	Sweden	1,564

Source: WIPO Statics Database, 2018

The PCT application filing has seen 4.5% growth globally in year 2017, whereas the Asian countries, like China, Japan, Republic of Korea, and India have recorded a growth of 14%, 6.6%, 1.3%, and 4.9% respectively. China, Japan and India have recorded growth more than the average global growth rate of 4.5%.



Note: Data for 2017 are WIPO estimates.

Source: WIPO Statistics Database, March 2018.

Figure 4 Annual growth rate of top 20 PCT application filing origin countries

Asian countries, have shown an average growth rate of 8.5%, which is much more than the growth rate of Europe (1.9%) and North American countries (0.1%)

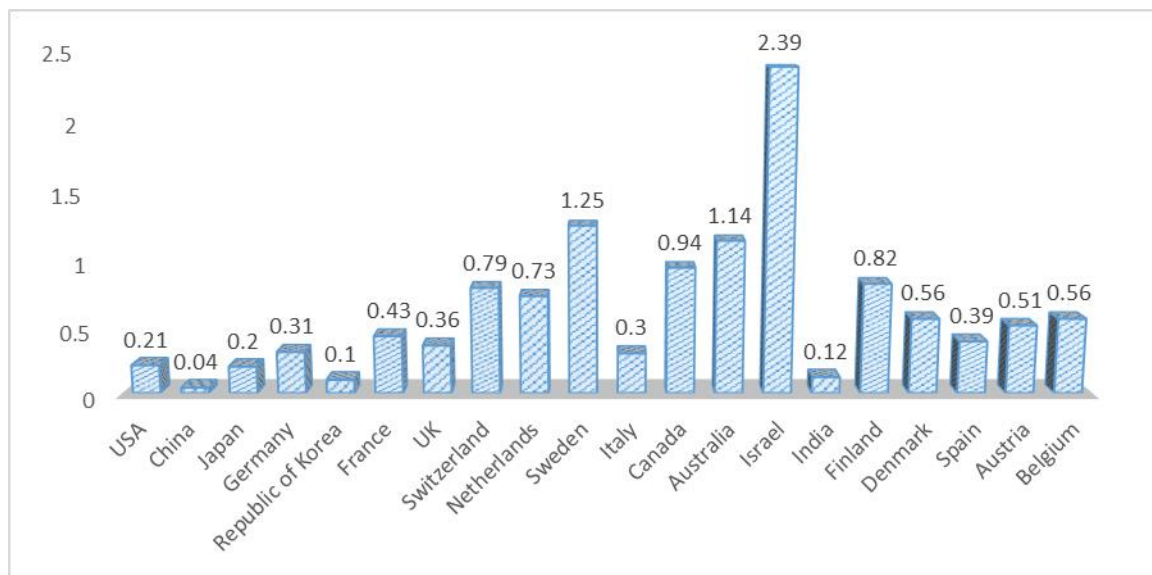
Table 2: PCT application filings by Asian countries for years 2015 – 2017

		Year of International filing			Regional Share 2017 (%)	Change from 2016 (%)
Region	Name	2015	2016	2017		
Asia	China	29,838	43,091	48,882	40.9	13.4
	Japan	44,053	45,209	48,208	40.4	6.6
	Republic of Korea	14,564	15,555	15,763	13.2	1.3
	Israel	1,685	1,838	1,820	1.5	-1.0
	India	1,412	1,528	1,603	1.3	4.9
	Turkey	1,010	1,065	1,235	1.0	16.0
	Singapore	907	864	867	0.7	0.3
	Saudi Arabia	274	294	378	0.3	28.6
	Thailand	133	155	157	0.1	1.3
	Malaysia	267	189	141	0.1	-25.4
	Others	367	346	408	0.3	17.9
	Total		94,510	110,134	119,462	

Source: WIPO Statics Database, 2018

4.3 Means to generate more intellectual property by Asian countries.

Although, Asian countries have a good presence globally in terms of PCT application filings, still there is a lot more potential reside within these countries. A study of conversion ratio of top 20 PCT application origin countries have shown that Asian countries has a very low conversion ratio.



Source: WIPO Statics Database, 2018

Figure 5 Conversion ratio of top 20 PCT application filing origin countries

The conversion ratio was calculated by dividing the total number of PCT applications filed in respective jurisdiction by the total number of resident patent applications (direct applications) filed in the same jurisdiction. The low conversion ratio indicates that the PCT applications filing as compare to the domestic direct application filing is less.

It is worth mentioning here that even with such a low conversion ratio of Asian countries like China, Japan, Republic of Korea and India, still 49.1% of the PCT applications are filed by Asian countries. If the efforts will be made to improve the conversion ratio, definitely the filing volume will increase tremendously. The governments in these jurisdictions should encourage more and more filing of PCT by the resident applicants.

One of the major factor which could be a reason of less number of PCT filings, is the cost of filing and prosecuting the PCT applications. One of possible step which can increase the conversion ratio can be a collaboration between the private players and public sector undertaking and academic institutions. Secondly, the government should provide some sort of incentives to convert the standard application into PCT application, incentive can be in terms of some tax relief for private players, for academic institutions, it can be in terms of more research grant and for public sector undertaking it can be in form of remuneration. Thirdly, the government should initiate programmes, by which the awareness of intellectual property right should reach to the grass root level, so that there will be more and more application filings. Fourthly, the government should provide a platform where the private players, as well as public sector undertaking and academic institution/ research institutions have equal access and equal opportunity to commercialize their innovation, this will encourage them to file more direct applications and more direct applications will be converted to PCT applications.

5. Conclusion

The present study establishes that the innovation, intellectual property rights and global economy are interrelated. The relationship between intellectual property rights and economy is directly proportional, as R&D expenditure is directly proportional to GDP. It is further evident by trends of PCT applications filing that when the global economy was in bad shape in year 2009, due to global recession, there was a decline in PCT application filings.



Asian countries are showing a great growth rate in terms of intellectual property rights, as almost 50% of the globally filed PCT applications originates from the Asian countries. However, the low conversion ratio of converting direct applications to PCT applications shows that Asian countries have lot more potential to generate more intellectual property rights. A well planned and strategical initiatives should be taken by the respective governments to improve the conversion ratio, which will definitely leave a positive impact on global economy. It is evident from the above discussion that the intellectual property rights and economy are directly proportional, therefore, if the conversion ratio will increase the economy of Asian countries will also see a positive change.

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7. References

- Baker, D., Jayadev, A., & Stiglitz, J. (2017). Innovation, Intellectual Property, and Development: A Better Set of Approaches for the 21st Century. Retrieved from <http://accessibsa.org>
- Daley, W. (2014). In search of Optimality: Innovation, Economic Development, and Intellectual Property Rights. GSDR Prototype Briefs|2014
- Ilie, L. (2014). Intellectual Property Rights: An Economic Approach. *Procedia Economics and Finance*, 16, 548 – 552.
- Kato, H., & Yasuda, F. (2010). Intellectual Property in Asian Countries: Studies on Infrastructure and Economic Impact (pp. 12-13). Switzerland: World Intellectual Property (WIPO). WIPO Publication No. 1018e. ISBN 978-92-805-1926-6.
- Park, W. G. & Lippold, D. C. (2008). "Technology Transfer and the Economic Implications of the Strengthening of Intellectual Property Rights in Developing Countries", OECD Trade Policy Working Papers, No. 62, OECD Publishing. doi:10.1787/244764462745.
- Saha, C. N. & Bhattacharya, S. (2011). Intellectual property rights: An overview and implications in pharmaceutical industry. *Journal of Advanced Pharmaceutical Technology & Research*. 2, 88–93. doi: 10.4103/2231-4040.82952
- WIPO (2018). Patent Cooperation Treaty, Yearly Review 2018: The International Patent System; WIPO Publication No. 901E/18; ISBN 978-92-805-2945-6.