# IMPACT OF PATENTS ON THE ECONOMIC GROWTH OF INDIA

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#### Abstract

The economy of various countries is interdependent on each other for many purposes. The legislative framework is also different for every country but still there is an overlapping. The laws framed are also in consonance with each other. Slowly and gradually the nations framed the laws which ensure the similarity in their standards and rules. Intellectual Property Rights (IPRs) is one of the examples of the same. IPRs is not only confined to copyright and patent, rather it is very wide. IPRs has a direct impact on the global economy. In the 21<sup>st</sup> century, many changes are observed in the IPR regime. IPRs has changed the global economy at a considerable rate. This research paper will answer the questions such as; How the patents contribute towards the economic growth of the country? Why the amendments in Patents Act, 1970 were necessary? What is the impact of such amendments on pharmaceutical sector? The changes brought in the patent regime are also included. The role of TRIPs and Doha Declaration, the laws and rules of the patents, the need to implement the amendments are also included. The overall growth of the economy due to IPR sector is also taken into consideration.

Keywords: Intellectual Property Rights, Copyright, Trademark, Patents, Economy

### 1. INTRODUCTION

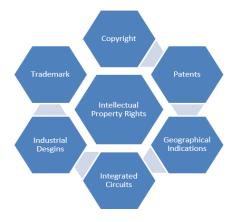
Intellectual Property Rights (IPRs) are the exclusive rights that are granted to the creator or the owner of original work. Simply, these rights are the creation of human mind. Nowadays IPR sector is taking a lead day-by-day. The legislative framework in India and USA are ample. The judicial framework to deal with IPR cases is also very stringent and effective. IPR includes Copyright, Trademarks, Patents and Geographical Indications of Goods. There are some laws in India, that deal with specific category of IPRs such as The Geographical Indications of Goods (Registration and Protection) Act, 1999; Trade Marks Act, 1999; The Semiconductor Integrated Circuits Layout Design Act, 2000; The Protection of Plants & Varieties and Farmers Rights Act, 2001; The Biological Diversity Act, 2002; The Copyright Act, 1957; and The Patent Act, 1970. IPRs is always considered as an important aspect in the development of the country. Different countries have different statutory framework to deal with IPRs. The economic growth of the country is also somewhere dependent on Intellectual Property laws. Now, a question arises, "How?" Undoubtedly, every sector is created by some innovative method. Every business needs an idea that is not down trodden one. So, the novel and unique ideas always lead to success. In addition, every business is characterized by different names that must be an exclusive one. This name is the "goodwill" of the business that should not be misused by anyone else. Since everything has pros and cons, IPRs plays positive and well as negative role in the growth of Indian economy. Many penal and compensatory provisions are made to combat the IPR crimes. In the era of digitalization, the copying of online material is within the access of all and sundry. Still the existing laws also deal with the infringement in the digital era. It is a boon for us to have a strict and comprehensive legislative framework for the working of IPRs. It includes Copyright, Trademark, Patents, and Geographical Indications etc. The right of the original author is given the legal protection under IPR legislation. The person has the right to sue, in case of an infringement of his right. The exclusive protection is granted to him. IPRs not only deals with the cases related to infringements, rather this legislation has various aspects. Its scope is multifarious and wide. It covers the provisions of compulsory license, fair dealing, piracy issues, unauthorized use, penalties, and compensation and so on. Initially, copyright and trademark were the most popular streams under intellectual property laws but now, it is multi-



faceted, making the legislation "comprehensive". Another noticeable point is that, IPRs provides the legal right, but it is a non-fundamental Human Right. This debate is in process globally. Whether the IPRs are related to human rights? Is there any relation between these two? All these issues are subject to comprehensive arguments. IPRs also play a significant role in research and development of the nation. It has considerable impact on the economy as well. Another aspect of IPRs cover traditional knowledge that is a considerable part of public regime. The private ownership is not protected under this, so, the owners/holders enjoy ensured monopoly.

This monopoly allows them to use their item for a definite period of time. So, IPRs not only ensures the growth of an individual rather, it ensures the growth of the nation at large. The new innovations are now recognized under IPRs. The growth and development are the result of it. All the organizations and institutes can attain the benefit from it. IPRs restricts the third party from using the name of already published work, trademark or patents. No one can exploit the right of the exclusive owner. It also provides benefit to the investors of an organization/institute. It also ensures the publication, distribution and disclosure, limited to the owner only. Another most important IPR is the patents. Patents are granted when an innovation or the creation is beneficial to the public at large. It must qualify NUN test i.e. Novelty, Utility and Non-obviousness. All these three criteria must be satisfied to make an innovation to be a "patent". Patents contribute largely to the economic growth of the country. It is directly associated with the GDP of the country. The pharmaceutical sector is the biggest player of the IPR sector, especially patents. The new drug is invented from time-to-time to treat the diseases and ailments. Many are anti-carcinogenic drugs which enhances the filing of patents.

Other sectors that are responsible for the patents are chemicals, information technology and transportation. They also provide the incentives to the innovation. These sectors are also associated with copyright protection for their economic growth.<sup>3</sup>



# 1.1 Types of Intellectual Property:

- 1. Copyright: It provides the protection to the published work. The work includes artistic and literary works like novels, plays etc. It also includes architectural designs or photographs etc. The rights of performers, broadcasters and producers are also protected under this law.
- 2. Patents: Patent is granted to publish a novel and new innovation in any field. It is granted for a specific period of time. Its aim is to protect the invention of the patent owner.
- 3. Trademark: It is a well-known term that protects the symbol, logo or sign of a company, corporation, institution etc. An individual's creation is protected under this.

4. Trade Secrets: The confidentiality of every organization's business is protected under this. It is important for the country to ensure the confidentiality of the trade, important for the growth and development of the nation.

# 2. IMPACT OF TRADE RELATED ASPECTS OF INTELLECTUAL PROPERTY RIGHTS (TRIPS) ON INDIAN PATENT LAW

Before signing TRIPS agreement, the week legislative framework in India was enforced to provide the cheap products to the citizens. It was observed that, there was a need to amend the current legal framework. Then India signed the Trade Related Intellectual Property Rights in the year 1994. Certain changes were introduced in Indian Patent Law. Before this amendment, patents were only granted to methods or procedures. After the implementation of TRIPS agreement, the grant of patents is not confined to methods, now, it covers the products as well. This change was beneficial for the large companies. The gradual increase in patents has been recorded after the TRIPS agreement. Now, the companies and industries file the patents at a large scale resulting in the development and growth of Indian economy. With the passage of time, the patents became the part of educational institutions also. The universities and colleges also focus on the research and development activities to file more and more patents. The TRIPS agreement has contributed largely to the economic growth of India. The patents and economy are closely related to each other. The patents are like a direct funding agency for the creator or the inventor. The industries are also benefitted by the patents. Undoubtedly, the Intellectual Property Rights is one of the biggest contributors towards economic growth of the country.

The Table below shows the considerable increase in Patents from 1999-2017. The patent grants are increasing every year specially, after the implementation of TRIPS agreement.<sup>4</sup>

Table 1

Year	1999-2000	2001-2002	2004-2005	2005-2006	2009-2010	2012-2013	2015-2016	2016-2017
No. of patent application filed in India	4824	10,592	17,466	24,505	34,287	43,674	46,904	45,444

It has been observed that there is a considerable rise in the patents after TRIPS. In the year 1999, there were only 4824 patents filed in India. But if we compare 1999 to 2005, when the TRIPS agreement was implemented, the number of filed patents increased to 24,505 that is approximately more than 4 times. This is a boon for us. TRIPS agreement has contributed towards the grant of patents in India. TRIPS was basically related to the pharmaceutical industry at large. All the changes that were introduced were directly associated with the pharma sector.<sup>5</sup>

In the year 2002, another amendment was added in the Patent Act, 1970. The term of patents was extended to 20 years. This amendment was introduced in consonance with the TRIPS agreement. Meaning thereby, the patent protection is granted for a period of twenty years from the date on which it was filed.<sup>6</sup>

Specifically, TRIPs agreement has a great influence on the pharmaceutical companies at large. The member states of World Trade Organisation (WTO) observed a considerable change in their patent's regime. India, being the member of WTO also inculcated the changes in Indian Patent Act, 1970. As a result of which, it was amended in the year 1999, 2002 and 2005. When the changes were introduced in the patent law, the generic industries took a lead in the market of which reverse engineering was restricted. As a result of which, the pharmaceutical sector grew, and the drugs were made available in the market at reasonable and affordable price. The health care sector is constantly growing due to the introduction of product patent



regime after the TRIPs agreement. The Constitution of India ensures us the fundamental right to health, meaning thereby, the medicines must be available at affordable price to the general public keeping in view the needs of the people who are below poverty line. Before the introduction of TRIPs several treaties came into existence by World Intellectual Property Organisation (WIPO). The eligibility, quality and protection of patents were introduced by TRIPs agreement. In addition to this, IPRs were provided the stringent protection, especially in the field of medicines. The health care sector is one of the major industries globally. The poor patients also possess the right to get the medical treatment. So, all the treaties and agreements that took place in the past were really very beneficial to the poor strata of the society.<sup>7</sup>

Another most important factor that played a vital role in Intellectual Property Rights was the Doha Declaration that came into existence in the year 2001. It was related to public health. The issues of the developing nations were solved by this declaration. The provision of compulsory license was also added to allow the countries to import the medicines. This provision was made for the countries that cannot manufacture the medicines. They can get such medicines via compulsory license. The government can grant the license to another party if the invention is not fulfilling the required purpose. So, the industries can use the innovation in a better way. The requirements of least developed nations were also taken into consideration in the light of "access to affordable medicines for all". There are many countries that are under-developed and cannot afford the manufacturing of drugs and medicines. As a result of which the patients lack the medical treatment. After Doha declaration and TRIPs, the amendments made it possible for these countries to access the good quality drugs at reasonable price. The provision of compulsory license was a boon for them. The price of the drugs was nominal so that everyone can purchase it. The amendments were not only confined to these, but there were certain other amendments also that changed the patent regime. These include the changes in patentable subject matter, research exception, data protection, bolar provision and so on. The TRIPs agreement was adopted with flexibility. It is considered as one of the major changes in patent law. The rules of pre-grant as well as post-grant opposition to patents were also introduced.8

# 3. PATENTS AND INDIAN ECONOMY

IPRs play a vital role in growth of the country. The main aim of IPRs is to provide exclusive rights to the owner of the created work, be it a copyright, a trademark or a patent. Most important, it is to preserve the innovation or work from being copied by someone else. This is to maintain the exclusiveness of the work, that is to say that IPRs provide exclusive rights to the creator of the work. In addition to this, IPRs also helps in increasing the investment in research. These exclusive rights also restrict the competitors from misusing the property without the consent and knowledge of the creator. Now, moving forward towards the economical contribution of IPRs in the growth the country, it is very significant to note that it is directly related to the material cost of the product. Therefore, the technology and innovation must be updated on regular basis. There is a need to formulate a stringent IPR statute to protect the rights of the owner or inventor. The interests must be safeguarded in order to restrict the misuse of these exclusive rights. The implementation of law is more important than making a statute. Law must be implemented. The owner of IPRs has the right to sell such property to the third party and none else. Huge profit encourages the creator to invent more such things. So, the development increases in order to earn more and more profit. But sometimes, a situation arises when the right is misused by the owner itself. The product is sold out at higher cost as compared to marginal cost. This will create monopoly in the market that results in inequality



in both consumption and production. Besides intellectual property rights, market is also regulated by competition. Basically, it affects the consumer satisfaction. The market comprises of consumer-producer and developers. In addition to this another major factor that plays a vital role in the market are IPRs. There must be a balance between all these factors, in order to lead the market successfully. Undoubtedly, the most important tool for these markets is IPRs only. They also protect the right to transfer it to any other person for monetary benefit. India is a developing nation that emphasis on the productivity in the market. India has always been a supporter to the rest of the countries in terms of services and economy. The technological advancements have resulted in increase of productivity. The innovation is always a result of investment, without investment, the new thing cannot be innovated. In USA and Japan, the development has increased considerably i.e. 5 times. How such rapid development is possible? The answer is Intellectual Property Rights. IPRs has contributed largely to the development and increased economic growth of the country. On the contrary, some of the theories suggest that IPRs has affected the economy adversely. The Chinese enterprises has been affected by trademark infringement. The violations of intellectual property rights have a considerable impact on the economy of the country. The pirated copies are made available in the market that lowers the development, as a result of which, the economy is directly affected. The producers as well as consumers are benefitted by IPRs. The investment in the competitive market is also affected by the same. With the advent of Trade-Related Intellectual Property Rights (TRIPS), the market has changed gradually. The act ensures the protection of innovations and opportunities for the companies. Now, the research and development activities has taken a new outlook even in private sector also. A large number of patents are filed by the companies in India with the implementation of TRIPS. So, IPRs is directly associated with the economic growth of the country. The copyright and patents cover the large segment in the market to contribute in the economy of the nation.

Intellectual Property Rights, being a big player in the country's economy is subject to certain misuse and exploitation. The person who possesses the exclusive right deemed that, they have right to misuse the same. They demand the benefits they desire because they already know that their IPR is protected and cannot be used by the competitors in the market. So, it results into the monopoly of the IPR owner. Market competition plays an important part in the development of the country. The price and quality of the product is ascertained by the competitive market. IPRs ensures the monopoly status to the owner of such right. So, IPRs hinder the competitors to use the innovation. The right of the owner is already protected so; it cannot be used by anyone else. The producer is free to decide the cost of selling his innovation that is directly associated with the consumer and the market. If the consumer is left with no other option, he is bound to purchase the product at the price ascertained by the producer.

Being the biggest player of the economy, patents have considerable impact on GDP of the country. The study conducted in US also concluded the same. In the year 2011, 15,914 patents were filed in US, that resulted in \$5,501.13. Next year, in 2012, the number of patents increased to 18,250 that gradually increased the GDP to \$5,801. In addition to this, the study conducted in the year 2020, the number of patents increased to 37,880, resulting in \$8,443.36 GDP. The development of a country largely depends upon the Intellectual Property Rights. The innovations are among the major contributors to economic growth of the country. With the advent of internet and digitalization, the things are getting easy. Now, the patents can be filed via online mediums also. The access and availability have increased with the technological development. Intellectual property is serving as a powerful object in the growth and development of the country. It is making its own way towards the economic growth of the nation. Keeping this in view, the laws and statues made for the implementation of intellectual



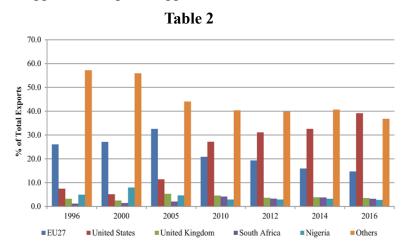
property rights are appropriate. If the legal framework would not have been stringent, then there would be no possibility of protection of innovations. The inventions can be used by the third party without the consent and knowledge of the creator. Laws protect the infringement cases. The patents and copyright need the protection from being used by anyone else. The research cannot be exploited for monetary benefit. It serves the dual purpose. On one hand, it promotes the innovation and protects the exclusive right of the owner, while on the other hand, it restricts the innovation from diffusion. The growth of the country depends directly on the IPRs. The huge companies gain a lot from filing the patent; besides this, the taxes are also being paid to the government that truly leads to the economic growth of the country. The big pharmaceutical companies also play a vital role in the economic development. Numerous new drugs are invented and patented; every party are being benefitted by this. The producer and the consumer, both are gaining from it. It maintains the balance between demand and supply. In addition to this, it also strikes the balance between the production and consumption of the product. Daily, new drugs, cosmetics, chemicals, food products etc are invented. How the invention does takes place on such a large scale? The inventions are the result of human mind that further leads to the patents.

For instance, Ranbaxy is an Indian company established in the year 1961. It is an international pharmaceutical company. It produces the quality products, generic medicines that are pocket-friendly for the patients. This big company has approximately 10,983 employees working. It results into the economic development of the country. A large number of population is employed in these big companies; these are the biggest source of employment for the people.<sup>10</sup>

In 2016-17, the total Rs. 608.31 crore revenue is generated from Intellectual Property Offices and if we consider the patents, the total revenue generated is Rs. 410 crores. Rest of the generated revenue is contributed by Trademark, Copyright and Geographical Indications. 11 Bulk drugs are produced and exported to the other countries that results in the economic benefit. Directly or indirectly, in all ways these are contributing in the economic development of the country. This is a kind of chain mechanism. The innovation is filed, the patent is granted, and then such patent is used to innovate a new product. This new product is either adopted by any other country or it is absorbed by any company. In both the cases, the creator gets the benefit from his innovation. Such innovation can be used for the benefit of the society at large. People can use it at a reasonable price. The companies or the industries that manufactures the propducts employs a large number of man power. This is how the employment scale increases in the country. When the invention is used by the other party, it directly affects the economy of the country. The intellectual property rights, is formulated not only to provide an exclusive right to the owner of the invention, but it also contributes towards the growth of the economy. The medicines and drugs manufacturing are one of the largest contributors towards the economy of the country. New drug is always invented by some innovative method that further leads to the patents. TRIPS agreement has made the things easier. The products and process, both can now be considered for the patents. Earlier, the patent law was confined to methods only due to which a smaller number of patents were filed. But now, the restrictions are less due to which the number of filed patents is large. The drugs are also supplied to many countries like Africa, Latin America and the Asian countries as well. These are available at reasonable prices to the general public. The production cost in India is low as compared to USA and Europe. 12

Besides pharmaceutical sector, another major contributor to the economic growth of the country is the computer and services industry. After the digitalization, the use of computer is very common these days. Now, the people are using the computers more often. The global market of computers is also at boom. The considerable increase in the computer market has changed the economy of the world. India is a leader in filing the patents in IT sector. The US

companies provides the incentives and profits for the patents. In computer programs, the scope of innovation is very wide. The new software programs are launched daily are the result of patents only. They are the largest contributors in the Indian economy. The companies like IBM, Intel, GE contributed approx. 1000 patent applications with US Patent Office. 13



Source: Centrikk<sup>14</sup>

The above table describes the patents filed globally. The percentage of total exports is given. The countries like US, UK, South Africa, Nigeria and EU contributes largely to the economic growth of the country. The United States is one of the biggest contributors in it. With the passage of time since 1996, the percentage is increasing and till 2016 the change is considerable. Similarly, the scenario has changed at a large scale in India also. Earlier, when the filing of patents was a very big thing and it was out of range of the common man, the number of patents filed were very less. But now the patents are taking a lead. The industries contribute largely towards the IPR filings. Copyright and trademarks also play a vital role in the country's development. It not only affects the GDP but it also affects the foreign direct investment (FDI). Thus, making the global economy rich. 15

Year	India		Asia		India's Share of Asian Total (%)			orld India's Share of World Total (%)		
	Resident	Non- Resident	Resident	Non- Resident	Resident	Non- Resident	Resident	Non- Resident	Resident	Non- Resident
2013	10669	32362	1182598	315102	0.90	10.2	1709000	855500	0.62	3.78
2014	12040	30814	1281157	326343	0.94	9.44	1799500	881200	0.67	3.50
2015	12579	33079	1445696	339604	0.87	9.74	1972800	913900	0.64	3.62
2016	13199	31858	1683106	336894	0.78	9.46	2215200	909900	0.60	3.50
2017	14961	31621	1725446	337054	0.87	9.38	2251500	917400	0.66	3.45

Worldwide patent applications based on 154 patent offices were registered at WIPO. The total patent applications include applications filed directly with national & regional patent offices and applications through the PCT (Patent Cooperation Treaty national phase).

Source: WIPO Database, August 2019.

According to the report of WIPO, 154 patent offices were registered. The India's share for the patents was 3.78% in the year 2013 and 3.45% in 2017. Though there is not a considerable increase in the percentage. The data showed the contribution of India toward the patent filing.

### 4. CONCLUSION AND SUGGESTIONS

Intellectual Property Rights (IPRs) is the vital part of global economy. It provides an exclusive





right to the owner of intangible property. The property that cannot be touched, can be protected under IPR. It has always been considered as the major part of Indian legislation. The legislative framework in India is very effective. But if we talk about the laws, before the amendments it contained many loopholes that need to be rectified. One of the reasons, why intellectual property laws gained so much of importance is that, it is directly or indirectly considered as a contributor towards the global economy. It is not only about India that we can say, it is one of the players in Indian economy but economy is interrelated concept. The other countries are also associated with India. Economy is not the independent entity. With the time immemorial, the developing nations are trying hard for the growth of their economy. The developed countries like Japan, is the role model of the developing or least developed countries. Undoubtedly, India is growing fast but more rapid speed is required. It needs to focus on the sectors that can considerably contribute towards the growth of the country. The people must be aware of their rights specially, their intellectual property rights. The digitalization deserves enormous praise that helped the people to attain the knowledge via internet. Technology has contributed towards the educational development of the nation. We can access the material without being hazzled in the huge libraries. A large number of patents are filed by pharmaceutical sector which is considered as one of the biggest contributors in the upliftment of the economy. In the past years, people were not aware of copyright, trademark and patents due to which their works were prone to exploitation. With the passage of times, people became aware of the intricacies that resulted in the global discussions. The Uruguay Round of TRIPs agreement played a major role in making the legislations more comprehensive and effective. IPR can be said as an "Umbrella Legislation" because it covers every aspect of intellectual property. The intangible property is being protected by IPRs. Certain amendments took place for framing the more effective laws. The implementation of TRIPs resulted in drastic change in patent laws which specifically changed the global scenario of pharma sector. And after the implementation of TRIPs, it became easy for the pharmaceutical industries to file the product patents. The section 3 of Indian Patent Act, 1970 is still a controversy for many as it excludes many inventions that can be beneficial for the society. There is need to change this provision also. With the discussions made in this paper, the data mentioned in Table 1 shows the change in patent regime before and after the implementation of TRIPs. The filing of patents increased considerably due to the flexibility in patent law. India is still lacking behind in the grant of patents as compared to US and UK. There are many loopholes in Indian Patent Law that restricts the filing of patents. There is a need to make further amendments to raise the global economy. The big multinational pharmaceutical companies contribute largely towards the development of Indian economy. Other sectors must also think to increase their IPRs. The technological industry and food industry can become the significant player in the economy. This is possible if, the flexible approach is being followed by intellectual property law. Laws are made to restrict the unlawful activities, but not to curb the innovation and development. To achieve this aim, the companies and educational institutions must also focus on the patents to make the profit. IPRs not only leads to the development of the nation but it also contributes towards the economy at large. The legislative framework is appropriate but still there is need to revise the IPR laws. Any country can progress by the innovations. The development of the country largely depends on its IPRs. So, more and more IPRs must be obtained to raise the global economy and to benefit the humanity at large.

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