

INTELLECTUAL PROPERTY MANAGEMENT IN CHEMICAL, BIOLOGICAL & PHARMACEUTICAL SCIENCE

Abstract

Creating a new kind of formulation, coined any novel use of any chemical compound, any alteration in the step of a process – chemical engineers and pharmacists are continuously revolutionising these above-mentioned things. This revolution is proving helpful in creating the intellectual property- inflatable benefits whose advantage can be taken by an enterprise to add more values. The IPR's are impalpable in nature and are confidential to the creator or inventor. In this era of globalisation, global trade practises are now focusing on IPR's throughout the world. These rights provoke the creator and provide him/her confident. Strong Intellectual property rights impart funding in developing the knowledge and ultimately provoke innovation. Five types of IPR have been recorded which includes copyrights, trademarks, patents, trade dress & trade secrets. A patent is related to all the uses of that particular concept. In simple words, it conveys how that particular article works and how it is made. A patent provides the legal ownership for an article and also a monopoly in relation to enhance the innovation of a product or process. Pharmaceutical companies are much indulging themselves in obtaining durable and sustainable patents to secure their products that can be copied by other easily once known.

Keywords: Intellectual Property Right, Copyrights, Patents, Trademarks Legal Ownership.

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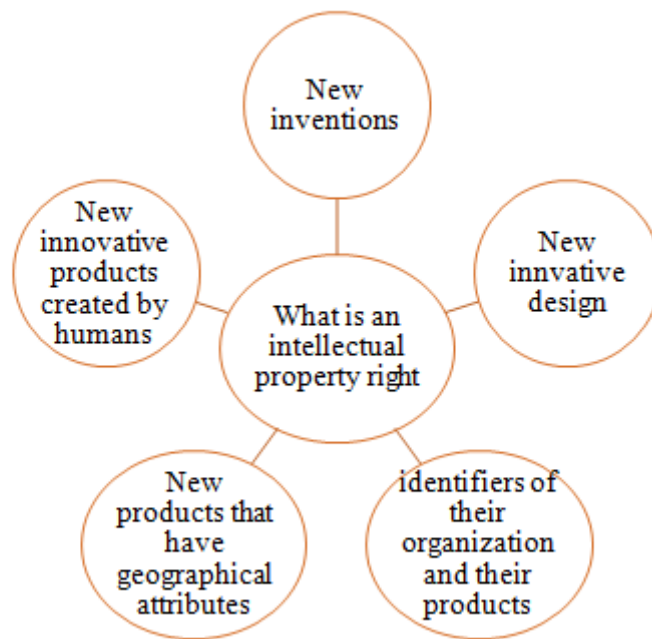


Figure 1: Diagrammatic Representation of Intellectual Property Rights

I. INTRODUCTION

A management system that looks after the different creations by humans utilising their intelligence which mainly comprises of copyrights, trademarks, trade secret, geographical indicators, and patents is called as intellectual property rights managements (IPR Management). It consists of other rights also viz. publicity rights and the rights which are against the fair means i.e follows unfair means. One more term is also associated with IPR that is IPR strategy, this term is mainly adopted by the companies as it helps in managing the portfolio of a company. It is beneficial to company in certain ways like protecting their trademarks, keeping their designs private & providing them copyrights [1].

Providing the copyrights to the intelligence & thoughts of man, sounds very complex and complicated, but it is closely associated with our needs and daily life & continued since medieval period. There are certain policies and laws enacted by the government to the innovation by man. There are different types of IPR's, but the three which are listed below are most important ones [2].

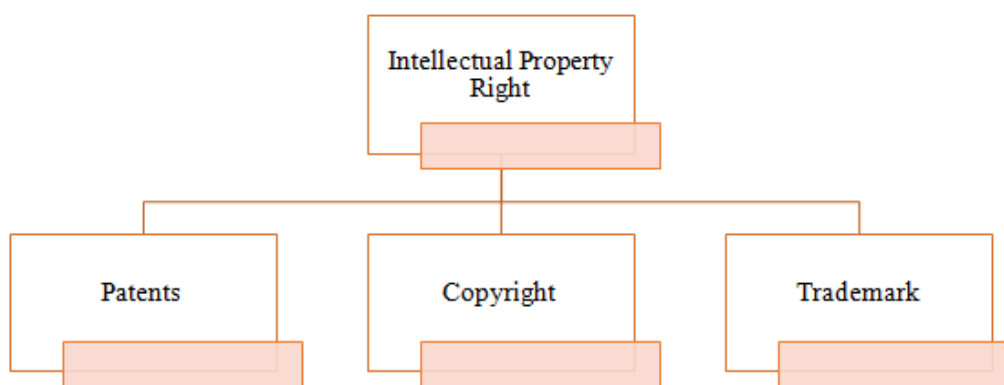


Figure 2: Type of Intellectual Property Rights

- 1. Patent:** It granted exclusive rights to a new invention for up to 20 years for different category of patents like, utility patents for 20 years, design patents for 14 years and plant patents 20 years, which in turn provides us alternative method for a product or the process for creating that product, it also promises a new technical solution to any problem.
- 2. Copyright:** It is termed as providing Rights to the creator for their literacy and artistic works. Copyright includes range from books, paintings, music, sculpture and films to computer database, maps & technical drawings. This is only the category of patents there is no registration is required for the innovator.
- 3. Trademark:** It is defined as graphically represented mark which can create the difference between the products of one person from others. It comprises of the package & colour combo of the products. Any product designed by a brand has superfluity of IPR's built around it. Let us consider an example of a medicine formulation (say a tablet). It is protected by layer of IPR's like the name of the brand, its logo, color combination used in logo, size & shape of the same, all these comprises of trademarks & the technology used

in processing that tablet is protected by patents while the computer coding utilized during manufacturing of a medicine & its associated SAR underlies the copyright. Thus, at last intellectual property is always surrounding us in our daily life both internally & externally. Analysis of competitors & associated risk both should be considered for carrying out the smooth management of IPR.

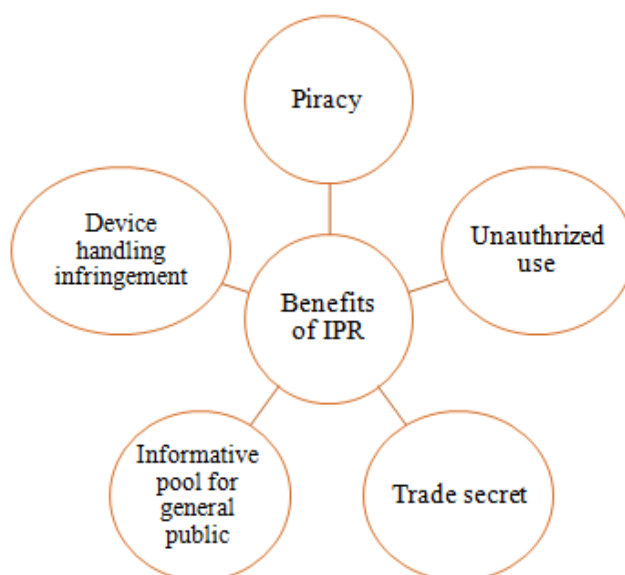


Figure 3: Benefits Associated with Intellectual Property Rights

II. HISTORY

The enforced laws and government policies related to IPR have their system rooted in Europe. The process & trend of providing the patent and trademark is continued since 14th century.

- 1. Origin & History of Patents:** Before 1331 in England a weaver of woollen clothes named John Kemp used to make woollen clothes, he uses a unique technique for making clothes and he does not want to share with anyone. Then on 16th July 1331, King Edward III granted him protection through the letters patent. After that patent, that we will exploit his invention and conducted the trade on woollen clothes. Along with this, we also got the opportunity to teach that technique to others also. Thus, only because of patent, he was able to explore himself his knowledge and skills. It was the first case being remembered always in the history of patent. The Indian patents and design act in 1883 was amended. This act provides different types of patents like addition patent, secret patent and also it elevates the tenure of patent for 14 to 16 years. After that many laws came and amend it. At the end, the Patent Act 1970, was passed & is still used in India.
- 2. Copyrights:** Similarly, as a patent originated, copyright also originated in the similar manner, by providing rights to authors for publishing their books and writings. The main objective of the copyright was not to give exclusive rights to authors but also to control the government's monopoly and publication. In 1911 United Kingdom copyright act was

passed and elected, after three years in 1914, British Raj also elected in new copyright act which was similar to the act of United Kingdom. And this act is continued till date.

- 3. Trademark:** Since 13th century, the trend of trademark is in the market it was first started with the bakers. In 1266, trademark legislation was first started in England. Baker use a unique mark/symbol to identify and differentiate their products from others. In 1940, the trademark act was passed in India which was borrowed from the act of British. Trademarks promises for sure product and also protect the general public and owners from duplicate products.

III. BIOLOGICAL SCIENCE

Patent on an invention of any biological product is termed as biological patent which in turn provides exclusive rights to the inventor & also protect it from others to manufacture, sell and use the same for a tenure of specific period. There are various benefits of biological patents, which gives exclusive right to inventor of their products, are shown in following diagram.

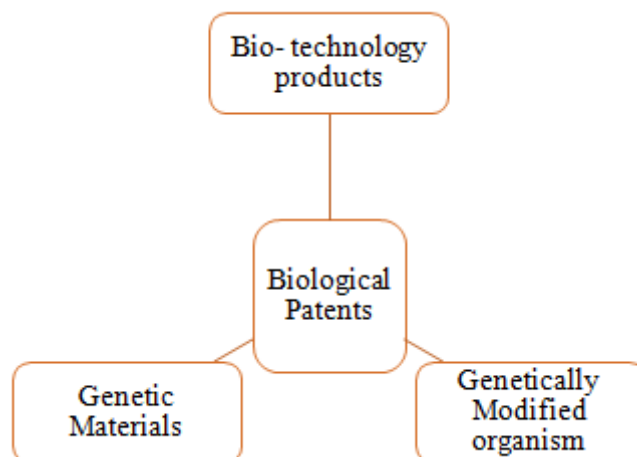


Figure 4: Types of Biological Patent

It's being a controversial issue that one can patent genes also. It is against the ethics because it treats life as commodity. Also, it determines the dignity of that gene holders. Some persons laid down their views and says that genes occur naturally so patenting them is unethical. Medical community also claims that patenting someone's genes can inhibits the progress and development of medicine and science.

IV. CHEMICAL SCIENCE

Chemical patents are offered to scientist which in turn provides them rights to use particular chemical, molecule and compound during their experiment and product manufacturing for a particular period of time and other scientist cannot use that chemical during that period of time. Apart from software development, all other new invention mostly includes chemicals.

V. PHARMACEUTICAL SCIENCE

Exclusive right of protecting any drug or invention of pharma industry is known as pharmaceutical patent. The patents under this class preserves the chemicals(API) and procedure used during the manufacturing of drugs.

VI. PROCEDURE FOR GETTING PATENT

For achieving a patent, the invention must be novel and relevant. It must be obvious that is everybody in the field would be stuck with that invention.

The very first step in filing for the patent is that there is no already patent that cover your idea. Quick access to patent can be achieved by surfing on internet through Google patents search. One more patent search guide site is also available named united states patent and trademark office.

VII. BEFORE FILING FOR A PATENT, THE FOLLOWING PARTS SHOULD NEED IT TO BE PREPARED

1. All the specifications of the procedure should be mentioned in written form on a paper.
2. Sketch of the invention if required, in detail
3. A written oath which justifies that you are the 1st to discover that particular item.
4. Patent charges, filing, and examination if conducted, these parameters change annually.

VIII. APPLICATION EXAMINATION

Once the application is filed properly, it takes a couple of years to proceed further. Then the patent committee will assign one examiner to the patent who will respond to every raised question. If the patent file found to be relevant, file will be issued to you as soon as you do all the legal formalities and pay the charges. Patent is granted maximum up to 20 years after that period invention is free and anyone can use it. To avoid such act one can, renew his or her patent.

IX. ALTERNATIVE OPTION

In case when anyone is unable to get patent or USPTO is not responding or patenting is still in progress, one can file a provisional patent in above mentioned cases which in turn justifies your patent is pending. No declaration/oaths are required in case of provisional patent.

REFERENCES

- [1] World Trade Organization (WTO), Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299, 33 I. L.M. 1197 (1994).
- [2] Dong J, Mirzar Z. Supporting the production of Pharmaceuticals in Africa. Bull World Health Organ. 2016;94:71 –2.
- [3] Grabowski HG, et al. The Role of Patents and Research and Development Incentives in Biopharmaceutical Innovation. Health Affairs. 2015;34:302 –10. <https://doi.org/10.1377/hlthaff.2014.1047>.

- [4] Kesselheim, AS 'Intellectual Property Policy in Pharmaceutical Sciences: The Effect of Inappropriate Patents and Market Exclusivity Extensions on the Health Care System ' The AAPS Journal 9, (3) 2007: E306;
- [5] Ferreira LLG, Andriacopulo AD. Drugs and Vaccines in the 21st Century for Neglected Diseases. *Lancet/Infections*. 2019;19:125 –6.
- [6] African Union. Roadmap on shared responsibility and global solidarity for AIDS, TB and malaria response in Africa (2012) https://www.unaids.org/sites/default/files/media_asset/20120715_TheRoadmap_AU_en_0.pdf
- [7] Musango L, Ota M. The Critical Role of Health Financing in Progressing Universal Health Coverage. *Africa Health Monitor*. 2015;20:3 –9.
- [8] Ndomondo-Sigonda, M. et.al. Medicines regulation in Africa: current state and opportunities. *Pharm Med* (2017) 31: 383 –387.
- [9] Bolo, M. et. al. Pharmaceutical Manufacturing in Africa: a research agenda towards competitiveness and social inclusion. IDRC. 2017. <http://hdl.handle.net/10625/58729> .
- [10] Buseh A, et al. The Ebola Epidemic in West Africa: Challenges, Opportunities and Policy Priority Areas. *Nurs Outlook*. 2015;63:30 –40.
- [11] Helmy YA et.al. The COVID-19 pandemic: a comprehensive review of taxonomy, genetics, epidemiology, diagnosis, treatment, and control. *J Clin Med* 2020; 9 (4) E1225.
- [12] Olasup O, Jumoke O. Development, access to medicines and the Ebola virus epidemic in West Africa. *J Law Med*. 2017;24(3):722 –40.
- [13] US Orphan Drug Act of 1983.
- [14] Graff GD, Pardey PG. Inventions and patenting in Africa: empirical trends from 1970 to 2010. *J World Intellect Prop*. 2020;23:40 –64.
- [15] World Health Organization (WHO), The State of Health in the WHO African Region: An Analysis of the Status of Health, Health Services and Health Systems in the Context of Sustainable Development Goals, Brazzaville, 2018 Congo Republic <https://www.afro.who.int/sites/default/files/2018-08/State%20of%20health%20in%20the%20African%20Region.pdf> (Accessed on 19 June 2020).
- [16] Shashikant, S. The African Regional Intellectual Property Organization (ARIPO) Protocol on Patents: Implications for Access to Medicines. (2014) South Centre.
- [17] Anderson T. Tide turns for drug manufacturing in Africa. *Lancet*. 2010;375: 1597 –8. [https://doi.org/10.1016/S0140-6736\(10\)60687-3](https://doi.org/10.1016/S0140-6736(10)60687-3) pmid: 20458781. (accessed on 25 Nov 2020).
- [18] Liang, B.A. Parallel Trade in Pharmaceuticals: Infecting the Counterfeit Element into the Public Health. 31 N.C.J. Int 'l L & Com Reg 847 (2005) available at: <http://scholarship.law.unc.edu/ncilj/vol31/iss4/2> (accessed on 25 November 2020)
- [19] Peiravian F. Parallel Import: Is it worth? *Iranian Journal of Pharmaceutical Research*. 2014;13(4):1111 –3.
- [20] Baleta A. Drug Firms Lose Patent Rights Lawsuit against South African Government. *Lancet*. 2001;357(9265):1347.
- [21] Sidley, P. "Drug Companies Withdraw Law Suit Against South Africa " *BMJ British Medical Journal* 2001 322: (7293):1011.