Sensitizing and Imparting Awareness about Intellectual Property Rights among Students

Volume-2

EDITORS

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DEPARTMENT OF ECONOMICS

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PREFACE

In today's globally competitive environment, Intellectual Property contributes enormously to economic growth and is a tool of business competitiveness. Intellectual Property Rights act as a fuel for fostering inventions and innovations. It is a subject-matter of current discussions and high on the agenda for the policy makers. In India, there are various emerging issues and challenges of Intellectual Property rights .This books entitled 'Intellectual Property Rights vol 11' is a collection of twenty papers whereas forty papers were included in the first volume of this book. These papers are contributed by eminent scholars, academicians, policy makers, lawyers and thinkers from different parts of India in the Two Days National Workshop on Sensitizing and Imparting awareness about Intellectual Property Rights among Students on 04-05 Feb 2020 in DAV College for Girls Yamunanagar Haryana. This book covers different aspects of IPR. In this workshop, a Poster and collage competition was also organised in collaboration with the Department of Fine Arts. Few posters and collages of the participants are also included in this book to encourage creativity. .We hope that the readers will find this book relevant, useful and beneficial for understanding the concept of IPR in a better way. It is hoped that this book would prove to be instrumental in generating new ideas and the creators getting it registered.

At the very outset, we bow our heads to thank the God Almighty who bestowed us with His kind grace and made it possible for us to bring out this book.

We acknowledge and appreciate the efforts of all the researchers, worthy scholars and resource persons who have contributed their papers to incorporate in this book but at the same time we do not own any responsibility regarding the originality or authenticity of the ideas expressed in the different articles by their authors.

We express sincere thanks and heart felt gratitude to the DGHE Haryana for sponsoring this national workshop on this important issue.

We are grateful to the D.A.V. managing committee, New Delhi and Principal D.A.V. College for girls, YNR College who have provided whole hearted support and help to make it a success.

We acknowledge the efforts of the entire team who were involved in this national workshop without their support this workshop could not be held and this book could not be published.

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Finally we extend our apologies for the errors and omissions, if any, which might have been overlooked inadvertently in this book.

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OVERALL IMPACT OF COMPULSORY LICENSING IN INDIAN MARKET: THE GOOD, THE BAD AND THE NEUTRAL

Harinder Narvan, Aparna Jain, Aashrika Ahuja and Bani Mittal,

Knowledgentia Consultants

INTRODUCTION

Compulsory licensing is when a government allows someone else to produce a patented product or process without the consent of the patent owner or plans to use the patent- protected invention itself. A compulsory license provides that the owner of a patent or copyright licenses the use of their rights against payment either set by law or determined through some form of adjudication or arbitration. It is one of the flexibilities in the field of patent protection included in the WTO's agreement on intellectual property — the TRIPS (Trade-Related Aspects of Intellectual Property Rights) Agreement[1].

According to section 84 of Patent act of 1970,

(1) At any time after the expiration of three years from the date of the [grant] of a patent, any person interested may make an application to the Controller for grant of compulsory license on patent on any of the following grounds:

a) that the reasonable requirements of the public with respect to the patented invention have not been satisfied, or

b) that the patented invention is not available to the public at a reasonably affordable price, or

c) that the patented invention is not workable in the territory of India [2].

BRIEF HISTORY: CASE IN INDIA (BAYER V/S NATCO)

India's first ever compulsory license was granted. to M/s. Natco Pharmaceuticals Limited (Natco) under Section 84 of the Patent Act 1970 (the Act). This compulsory license was in respect of the petitioner's patented invented drug - SorafenibTosylate (compound of Carboxyaryl Substituted Diphenyl Ureas) sold under brand name Nexavar (patented drug). [3].

This patented drug is used in the treatment of patients suffering from Kidney cancer i.e. Renal Cell Carcinoma (RCC) and liver cancer i.e. Hepatocellular Carcinoma (HCC). This Drug is priced at about Rs.2,84,000/- per month and Natco was offering the same at Rs.8,800/- per month.

On 6th December 2010, Natco approached Bayer for voluntary license because Nexavar did not meet reasonable requirements of public, nor it was reasonably priced, nor it was workable in territory of India. Bayer rejected Natco's request on 27th December 2010 because it seemed more in nature of a "notice" rather than a "voluntary license". Therefore, on 29th July 2011, after the expiry of 3 years from 3rd March 2008 (the date on which patent was granted for Nexavar drug in India), Natco applied to the controller for grant of Compulsory license. On 9th March 2012, the controller while granting Compulsory license to Natco directed it to pay Bayer royalty @6% of the net sales (later increased to 7% during the hearing on 4th March 2013) This grant of compulsory license to Natco was welcomed with mixed reactions with some finding it to be impacting positively and there were some who found it having a negative impact. There also appeared to be a section that perceived this development in a neutral manner.

In the following section, we are discussing the overall impact of India's first ever compulsory license.

THE GOOD

1. The price of generic version (of Soranib) reduced drastically (by more than 97%) as compared to the original version. The medicine which costed Rs. 2,80,000 (Bayer, the

patentee) was now sold for Rs. 8,800 (Natco, Compulsory License holder) and Rs.1710 (Cipla, Infringer). Non-governmental groups reportedly welcomed the decision [4].

2. It was a relief for a lot of patients when it came to "affordability" as well as "availability" since Natco said at least 100,000 people suffer from different types of renal cell carcinoma and hepatic cell carcinoma (the types of cancer for which sorafenib is prescribed) in India. Further, every year, 30,000 new patients are diagnosed with both these diseases and nearly 24,000 patients die every year in the country [5].
3. The affordable price of drug gave advantage to entire public and was not just limited to poor people who are under Project Affected People (PAP) program.
4. The public interest is always fundamental in deciding about pricing, while granting compulsory license for medicines/drugs. Nexavar has the potential to increase the lifespan of cancer patients in final stage by 4-5 years and hence public interest was not neglected when compulsory license was granted.
5. The share price of the generic company that received the compulsory license generally increases. The share price of Natco increased from 56.23 (07/03/2012) to 59.23 (09/03/2012) when compulsory license was granted to it on 08/03/2012 [6].
6. It paved the way for a stronger and robust industry which could now meet health requirements of the country. It is argued that compulsory licensing plays a vital role in developing and fostering a local generic pharmaceutical industry [17].
7. Lower price of drug positively contributes to generic company's inherent research strength. It enables in making deep inroads in process development. Natco was able to develop different manufacturing processes and able to sell their reverse-engineered versions of multinational-patented drugs at lower prices [7]. On the other hand, Cipla (an infringer), besides selling Soranib (at Rs. 1710), announced price reductions of brain cancer drug (molecule - Temozolamide 250 mg) from Rs. 20,250 to Rs. 5,000 for a pack of five capsules and lung cancer drug (molecule - Gefitinib 250 mg) from Rs. 10,200 to Rs. 4,250 for a pack of 30 tablets [7].
8. Hospitalization for illnesses is a major cause of indebtedness, especially for those living below the poverty line. Affordability of drugs is a key issue in India. Consumers might be able to buy generic versions of drugs at prices much lower than the original product. The resultant competition from compulsory licensing in the pharmaceutical industry would help discipline the market and keep prices in check [8].
9. Pre-empting the move to issue compulsory licenses, Multinational Enterprises (MNEs) may start following a dual pricing system wherein different prices are charged for a drug in developed and developing countries. MNEs may also sign voluntary licensing deals with domestic firms. By signing exclusive product licensing deals with domestic companies for a drug, MNEs can help avoid compulsory licensing action. Under voluntary licensing deals, MNEs have the freedom to dictate the terms at which domestic firms may sell generic versions of their drug, unlike under a compulsory licensing setup that works without the consent of the patent owner. There have already been several such deals.

Some examples of such deals are those between:

a) India's Strides Arcolab Ltd. and the United States-based Gilead Sciences Inc. for a group of HIV/AIDS drugs;

b) Pune-based Emcure Pharmaceuticals Ltd. and Swiss drug manufacturer F. Hoffman La Roche Ltd. for patented cancer drugs;

c) United States-based Merc and India's MSD Pharmaceuticals Pvt. Ltd. and Sun

d) Pharmaceuticals Industries Ltd for patented diabetes drugs; and

e) Swiss drug manufacturer Novartis and Mumbai-based Lupin for a chronic obstructive

pulmonary disease drug

10. India has often been called ―the pharmacy of the developing world as it supplies generic medicines at low cost to many developing countries. In fact, 67 per cent of the medicines exported from India go to developing countries. Low-cost anti-retroviral drugs manufactured in India between 2003-2008 accounted for more than 80 per cent of donor-funded purchases of anti-retroviral drugs for use in developing countries. Moreover, competition in the generic drug industry has helped to lower the cost of HIV/AIDS treatment by 99 per cent since 2000 (CENTAD and CLRA, 2009; Medecins sans Frontieres, 2013). Through compulsory licensing, affordability will prevail.
11. Successful grant of compulsory license to Natco encouraged more generic companies to file for the same (Lee pharma (for saxagliptin) and BDR pharma (for Dasatinib)) with the aim to provide cheaper versions of expensive drugs [10].Not only these, a panel was set up by the Government under the purview of the Ministry of Health to assess the possibility of granting more compulsory licenses in the country. The panel, chaired by R K Jain, Additional Secretary at the Ministry of Health, recommended the application of compulsory licenses for three new anti-cancer drugs under Section 92 of the Patents Act. These drugs include Trastuzumab (or Herceptin) for breast cancer, (produced by Roche), Ixabepilone (produced by Bristol-Myers Squibb) for chemotherapy and Dasatinib for treating leukemia (produced by Bristol-Myers Squibb). Under Section 92, once the Government invokes a compulsory license for these drugs, pharmaceutical companies will be able to apply directly to the Patent Controller for permission to manufacture and sell generic versions of the patented drug at a lower price in the market. The panel zeroed in on these drugs because of the exorbitant rates at which they are sold. A vial (40 mg) of Trastuzumab costs US$ 2,480 while 60 tablets of 20 mg each of Dasatinib are priced at US$ 2340 [7].
12. A pharmaceutical drug can be introduced in the market only after conducting animal toxicity studies which are Phase I, II, and III human clinical trials generating information and data which is submitted to the satisfaction of drug regulatory authorities. If Bolar exemption is provided instead of a Compulsory license, then generic companies can export the drug to/and conduct development studies (such as bioequivalence, bioavailability and stability studies to establish chemical and functional equivalence of their product with the originator product), generation of information and data before the expiry of the patent, i.e. during a patent's term, to launch the product in the market immediately on expiry or invalidation of the patent [14]. Through this, patients don't have to wait for cheaper/affordable generic versions to be available in market. Hence, their treatment can begin immediately.
13. Some pharma companies, under the Bolar Exemption can also pledge to provide free generic medicines to poor for life time. For example: Natco was prepared to provide medicines (Regorafenib product by Bayer) to 2000 patients free for life [15].
14. In FY17 – the net profit (of Natco) rose three-fold to Rs. 486 crores on YoY basis, and in FY18 it further jumped 43 percent to Rs. 695 crores against a Rs. 2,242-crore revenue. EBITDA margins stood at 33.5 percent and 43.2 percent in the last two years respectively — the highest among the peers [16].
15. The local industries which produce counterfeit goods employee thousands of workers and therefore reduce unemployment [17].
16. In order to advance in science and technology, third world countries need maximum access to intellectual property of advanced nations [17]. Compulsory licensing or Bolar Exemption are some of the few techniques which might assist.
17. The proponents of compulsory licensing argue that compulsory licensing does not discourage research and development because the costs incurred on research are recovered from sales of the patented products in the advanced states of the world having stringent patent protection [17].

18. If the government prefers to issue Compulsory license, it will enable technology transfer (which is less costly as compared to Research and Development) [18].
19. Compulsory licensing can be seen as an effective remedy in such cases where the public interest is involved to a large extent and anti-competitive practices of companies have damaged the interest of consumers as well as competitors in legal sense [21].

THE BAD

1. The company Bayer (patent owner) didn't get a "second chance" to make the product commercially available themselves. In the end, they only obtained a certain percentage of royalty. In this case, Bayer obtained only 7% of royalty from net sales by Natco [3]. This could have been disheartening, particularly for the inventors of the product.
2. It is difficult to determine the exact quantum of patented drug required by public. Authorities rely on Globocan 2008 figures to track the number of patients suffering from cancer in India. The number of incidence (according to Bayer) might be incorrect and might cause financial losses if compulsory license is granted on basis of such incorrect/non-reliable figures.

According to figures, there were 4004 RCC patients and 4838 HCC patients, total 8842 patients. Bayer only sold 593 boxes and around 200 patients received the drug in 2011. On the other hand, the goods supplied by infringer (Cipla) were not considered because they could stop any day and "defacto license" was not provided to them by Bayer. Thus, concluding that public demand was not satisfied.

3. The compulsory license was taken negatively by many overseas companies because the reasonable price of patented drug was not arrived at by taking into account the research and development cost of patented drug and failed drug but arrived at by taking into account the lowest price (Rs. 8,800). Bayer invested Rs. 114 Billion in Research and Development activity and considered their patented product priced reasonably (Rs. 2,80,000 which is uniform throughout the world, subject to factors like exchange rate, tax etc.).
4. The share price of company whose patented drug is produced by a generic company under the pretext of compulsory license declined. The share price of Bayer decreased from 804.75 (07/03/2012) to 802.30 (09/03/2012) when compulsory license was granted to Natco on 08/03/2012.
5. If the compulsory license precedent were followed widely, not just in India but elsewhere, it would simply undermine the purpose and function of patent protection. Simply taking away Intellectual property in an attempt to make medical care affordable is not viable precedent in a market economy [7]. The absence of business congenial legal climate may discourage patent owning firms to start any new ventures in a country that makes use of compulsory licensing provisions [17].
6. Natco obtaining the compulsory license sends negative signals to some, especially to overseas companies. It introduces all kinds of uncertainties into the minds of innovative pharma multinationals. They will be very apprehensive that the indiscriminate use of compulsory licensing can potentially damage their business in India. For the multinationals, this will make a dent in their innovation returns.
7. Indigenous ability to produce innovative drugs for neglected diseases (like kala-azar, malaria and tuberculosis) will therefore largely be unaffected by the issue of compulsory licenses.
8. Product based patent systems were encouraged in developing countries in the hope that it would trigger innovation in drugs for countering neglected diseases. However, domestic companies still lack the required technical competence or the financial muscle to develop a drug from start to finish. As a result, a number of Indian companies have entered into collaborative deals with MNEs (who try to evade compulsory license by collaboration). Thus, while there

has been an increase in R&D expenditure, it has mainly been used to develop drugs for treating diseases that are more prevalent in the developed world.

9. India's intellectual property regime has been perceived as not robust, and this may affect India's global image as an investment hub especially with regard to its research- intensive sectors [8]. Compulsory licenses may raise safety concerns; the consumers of counterfeit products are at risk because the inferior quality unapproved generics may contain many dangerous impurities [17].
10. If generic producers are prohibited from manufacturing and selling low-cost drugs, a large number of patients in poor countries will remain without access to affordable essential medicines.
11. Almost 90 per cent of all patent-protected pharmaceutical products are imported. "Therefore, under the terms of compulsory license, all these drugs are now susceptible to compulsory license order in India". This decision serves as a warning that when drug companies are price-gouging and limiting the availability, there are major consequences [9].Threat of non-voluntary licensing may be helpful in negotiating a reasonable price of the necessary drug acceptable to both the patent owner and the government [17].
12. The decision of a government to grant compulsory licenses may lead to the loss of foreign direct investment (FDI). In order to protect their products from compulsory licensing, the pharmaceutical companies may find a different venue for their clinical trials. Therefore, a country may lose a potential source of economic growth by issuance of compulsory licenses. [17].
13. As a result of weak intellectual property regime, a country becomes less competitive, and brain drain is an obvious result. It becomes nearly impossible for such countries to retain their human capital; the talented scientists and researchers leave the country in search of better opportunities elsewhere in the world [17].
14. Court rejected Lee Pharma's application for compulsory license for saxagliptin. Due to rejection, Lee pharma was unable to manufacture the drug of Rs. 27/ saxagliptin 2.5 mg tablet and Rs. 29/ saxagliptin 5mg tablet. It also couldn't manufacture combination of saxagliptin and metformin at Rs. 30/tablet for 5/500mg strength and Rs. 31.50/tablet for 5/1000 mg strength against the price of Rs.41-45 imported by AstraZeneca. According to Lee pharma, one million people were prescribed Saxagliptin in one year, then the requisite number of tablets per year would be 365,000,000 but the total number of tablets imported for a year was only 823,855 which is about 0.23% of the total number of tablets for a year. Claiming that there existed 99% shortage of Saxagliptin in the Indian market. Later, Lee Pharma's cost and availability claims were obscured given that patients can already obtain an Indian-manufactured generic version of a similar drug, sitagliptin for slightly less than what Lee Pharma says it would sell saxagliptin for.
15. Court rejected BDR Pharma's application for compulsory license for Dasatinib. Due to rejection, it was unable to manufacture a month's drug at Rs. 8,100 against the price of Rs. 1 lakh imported by Bristol Myers Squibb. Annual incidence of Chronic Myeloid Leukemia (CML) in India was originally reported to be 2,200 per 100,000 people and they are unable to afford it. Later, Indian patent office rejected compulsory license application because it did not follow the procedures for obtaining a voluntary license [12].
16. If Bolar Exemption is provided instead of compulsory license, then patentee's interest may be prejudiced because the patentee may not have a patent in the country of export which would leave the patentee completely remedy-less. The patentee will have to undertake a global surveillance, tracking the products exported to establish what purpose they are being used for and then enforce their patents (if any) in multiple countries. This will give importer a free reign to export patented products (and get profitable market venture) without fear of prosecution [14].

17. If interim injunction is granted towards the export of a drug (Regorafenib) under Bolar Exemption, the impugned order will not account for the balance of convenience and the prejudice that would be caused to the exporter (Natco) would be separate. If annual sale of drug by patentee (Bayer) in Indian market is Rs. 25 crores, Natco was prepared to deposit in the court Rs. 5 crores without prejudice to its rights and contentions towards the plausible losses that might be suffered by Bayer [15].

THE NEUTRAL

1. Even though companies like Lee pharma and BDR pharma could not obtain compulsory license for costly cancer drug, other companies like Alembic and Natco were able to obtain "Bolar Exemption". The Bolar exemption provides an exception from patent infringement to the generic manufacturers from using patented drugs for research and development, for the sole purpose of submission of information for regulatory approvals of generic versions of patented products before the concerned patents expire [11].
2. Bolar exemption-

a) encourage generic 'competition' in the pharmaceutical industry by streamlining the process of regulatory approval for generics,

b) stimulate investment in pharmaceutical research and development by restoring to the patent owner a part of the patent term consumed by regulatory delay, and

c) facilitate immediate competition in the market place upon patent expiration by securing for the generic industry an exemption from infringement activities relating to FDA submissions.

3. With Bolar exemption, Natco exported Nexavar API, sorafenib to Chinese company M/s Hisun Pharmaceutical Co. Ltd
4. With Bolar exemption, Alembic exported Xarelto API, Rivaroxaban to Brazil and Middle East companies
5. Instead of Compulsory license, some companies might also obtain "Marketing License". Natco Pharma has started selling copies of global pharma major Bristol Myers Squibb's (BMS) cancer drug Dasatinib, sold under the brand name of Sprycel at Rs. 9,000 for a month, as compared to Rs. 1 lakh charged by BMS, in the Indian market, after it got a marketing license from the Uttarakhand government to sell a generic version of the drug [13]. Through this license, Chronic Myeloid Leukemia patients could afford their treatment and increase their life expectancy.
6. The crux of the compulsory license debate between the pharmaceutical industry of the developed world and the governments of the developing world is the very idea of such licenses in patent law. The innovator pharmaceutical industry and their governments view compulsory licenses solely through the prism of competition law or scenarios of national emergencies. The developing world views them in the context of human rights, where every patient is entitled to life-saving medicine [19].
7. To have success in price negotiations with multinationals, in order to have the option of using compulsory license option credibly, developing countries must strengthen their bargaining powers broadly. Further, compulsory licensing should be the last rather than first option to debate about [20].
8. Countries should use other flexibilities in TRIPS, such as research exemption and parallel imports [20].
9. There is an urgent need to facilitate the issuance of CL to export vital drugs to the least developed countries. Institutional changes in this direction would not only benefit the least developed countries, but all countries that do not have enough manufacturing capacity for a given drug. India has implemented a special compulsory license regime for the manufacture and export of patented medicines to countries with insufficient or no manufacturing capacity to address public health needs. However, those countries also need to amend their local IPR

regulation in order to take full benefit from the Indian regime [20].

REFERENCES

1.https://www.wto.org/english/tratop_e/trips_e/public_health_faq_e.htm
2.https://indiankanoon.org/doc/1937976/

3. https://indiankanoon.org/doc/28519340/ 4.https://en.wikipedia.org/wiki/Compulsory_license

5.https://www.business-standard.com/article/companies/natco-to-sell-bayer-patented- cancer-drug-nexavar-112031300065_1.html
6.https://in.finance.yahoo.com/quote/NATCOPHARM.NS/history?period1=1331231400&period2=1343759400&interval=1d&filter=history&frequency=1d

7. https://knowledge.wharton.upenn.edu/article/sparring-over-sorafenib-how-will-natcos- move-against-bayer-affect-pharma-licensing/
8.https://www.unescap.org/sites/default/files/AWP%20No.%20137.pdf

9. https://www.business-standard.com/article/companies/natco-to-sell-bayer-patented-cancer-drug-nexavar-112031300065_1.html

10. http://patentblog.kluweriplaw.com/2016/04/21/the-dismal-history-of-compulsory- licences-in-india/

11.https://iiprd.wordpress.com/2015/10/15/research-exemption-in-indian-patent-law/
12.https://economictimes.indiatimes.com/industry/healthcare/biotech/pharmaceuticals/delhi-high-court-upholds-bms-patent-for-cancer-drug- dasatinib/articleshow/47952559.cms?from=mdr
13.https://economictimes.indiatimes.com/industry/healthcare/biotech/pharmaceuticals/natco-pharma-begins-sales-of-bristol-myers-cancer-drug- dasatinib/articleshow/14857621.cms?from=mdr
14.https://indiankanoon.org/doc/85364944/

15.https://indiankanoon.org/doc/52483234/

16.https://www.moneycontrol.com/news/business/companies/how-natco-defied-the-odds-to-rise-up-indias-pharma-ladder-2583413.html

17.http://www.ijssh.org/papers/239-D00013.pdf

18.https://lawnn.com/compulsory-licencing/ 19.https://www.chemistryworld.com/opinion/compulsory-licences-necessity-or- threat/6200.article

20.http://site4society.merit.unu.edu/when-would-compulsory-licenses-be-effective/
21.https://blog.ipleaders.in/compulsory-licensing-in-indian-patent-law/

TRADE IN INTELLECTUAL PROPERTY: A COMPARATIVE ANALYSIS OF INDIA AND CHINA

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Abstract

Charges for the use of intellectual property not included elsewhere is an important part of current account. It falls in trade in service as sub part of other services. Many knowledge based economies trade in this item. Some of them spend a large amount on its import and some earn a big amount by its export. In this paper, an attempt has been made to analyze trade in intellectual property of some selected nations especially focusing on India and China. It has been found that India and China experienced great structural change in their economies during 49 years from 1970 to 2018 which further influenced their pattern of trade. Being the developing countries, India and China are dependent on advanced countries for technological development. Expenditure on research and development as percentage of GDP is very high in all mentioned countries and has increased with passes of time but it is very low in India. Export of this item has always been lower than its import for India and China that's why net trade in this item contributes negatively in balance of services.

Keywords: Intellectual Property, Trade, China, India, R&D

1. Introduction

Economic development is a process that human society has achieved through its intelligence and creativity. The discovery and invention of new medicinal herbs and medicines have been possible only due to the intellectual power of Homo-sapiens. Historical literary works have come into existence with creative minds. The intellectual creativity arising out of human intelligence is called intellectual property. Intellectual property consists of such items, which arise from the use of intelligence by persons. Any original work, design, trademark, etc. created by a person or entity are intellectual property.

Like physical wealth, intellectual property can also be owned. Just as there is a fear of theft of physical wealth, similarly there is a fear of theft of intellectual property. In view of this, almost all the countries of the world have provided strict laws for its protection. That's why; the importance of intellectual property in the world is increasing rapidly in present time. It is the basis of a knowledge-based economy. Due to its importance in all sectors of the economy, it is becoming increasingly relevant and it is also important to ensure competitiveness of enterprises. The form of intellectual property is intangible, but the state recognizes it as a general interpretation of property. Plagiarism and illegal counterfeiting are becoming a serious threat in the area of intellectual property protection, causing economic damage to the originality and authenticity of an intellectual product and its creator. This is the reason; many international organizations are playing their role through adopting appropriate policy measures and making defense mechanisms to protect intellectual property and the interests of its owners. The World Intellectual Property Organization (WIPO) was formed in 1967 as the most important agency of the United Nations to encourage creative activities and promote intellectual property protection worldwide. It currently has 26 international treaties. It now has 191 member countries, including the Cook Islands, the Holy See and the Niue and the 188 member of the United Nations. All member countries of the United Nations can become its members, but it is not obligatory. Palestine enjoys permanent observer status and about 250 NGOs and inter-governmental

organizations attend its meetings as official observers. India became a member of WIPO in 1975 and China in 1980.

The World Trade Organization came in force in 1995 and TRIPS is an agreement of this organization. It is dedicated to a balanced and accessible international intellectual property system, which promotes creativity, jobs and economic development. The member countries of the World Trade Organization (WTO) are automatically deemed to be involved in this agreement. The agreement covers most of the provisions of intellectual property. It also includes patents, copyrights, trademarks, geographical indications, industrial design, trade secrets and exclusionary rights on new plant species. It came into force from 1 January 1995 and it is mandatory for all member countries of the World Trade Organization ((WTO) to obey it and make their laws according to it. India is one of the founding members of the WTO while China became its member in 2001. Trade of intellectual property (ideas and knowledge) became an important and indispensable part of development and progress. Just as other goods and services can be traded. Intellectual property can also be traded. It is a very important part of trade in commercial services.

The entire paper has been divided in four sections. Section 1 is devoted to introduction, as we have discussed above. Section 2 describes impact of structural change of India and China and its impact of their trade pattern. Section 3 focuses on intellectual property trade of India and China. Section 4 concludes the paper.

2. Impact of Structural Change on Trade of India and China

As we know, intellectual property plays such an important role in the economic development of any country. Developed and developing countries invest a lot to further increase their wealth. There are many countries in the world such as Japan, Germany, United States, South Korea, which are known for their technical knowledge. Intellectual property has played a special role in the economic development of these countries. The governments here have given a lot of attention to education and health to make their human capital skilled and capable. In present time, most of the countries in the world spend a lot of money on research for making their intellectual property better than before.

Today's trade of intellectual property is an inexhaustible part of the economic activity of all countries. The current account of any country is an indicator of her economic health at international level. Balance of trade is the main part of current account. Balance of trade mainly involves trade in goods and services. Charges for the use of intellectual property n.i.e. are a major part of trade in services. Here we will discuss trade in the intellectual property of two economies and these economies, referring to two emerging and large economies of Asian continent. These two economies are India and China. These two countries are located in the continent of Asia and are similar in many respects e.g. both are the most populous economies in the world. The combined population of both the nations is 2769.1 million (China's 1415.05 million and India's 1354.05 million) which consists more than 36 percent of the world population. Area wise, China is 5th largest country (9,596,960 sq km) and India is 8th largest country (3,287,263 sq km) in the world (Central Intelligence Agency, 2020). China is 2nd largest economy in terms of nominal GDP (with $13.61 trillion) and India is 7th largest economy in the same term with $2.72 trillion (2018) GDP (World Bank). Both are of fastest growing economies in Asia. From 2003 to 2007, the growth rate of China has been in double digits and India also grew at more than seven per cent during this period. There have been widespread structural changes in the economies of both countries.

Table 1: Percentage Share of Economic Activities in Total Value Added

	India	India	India	India	India	India	China	China	China	China	China	China
Economic Activity	1970	1980	1990	2000	2010	2018	1970	1980	1990	2000	2010	2018
Agriculture, hunting, forestry, fishing (ISIC A-B)	56.44	48.99	40.25	30.32	21.07	16.53	57.44	43.81	33.21	18.91	10.38	7.97
Mining, Manufacturing, Utilities (ISIC C-E)	14.66	16.92	21.05	21.42	22.80	21.89	14.01	21.27	21.93	31.41	34.33	33.74
Manufacturing (ISIC D)	10.34	11.47	13.88	14.62	16.69	16.97	0.00	0.00	0.00	0.00	29.51	28.87
Construction (ISIC F)	7.25	7.31	6.86	6.68	8.52	7.80	4.49	5.24	5.03	5.27	6.45	6.45
Wholesale, retail trade, restaurants and hotels (ISIC G-H)	6.20	7.02	7.40	9.11	10.28	9.32	6.92	7.28	9.74	9.13	10.80	11.51
Transport, storage and communication (ISIC I)	2.24	3.04	3.47	4.56	6.13	8.92	3.85	4.79	5.13	5.41	4.72	4.59
Other Activities (ISIC J-P)	19.22	21.58	24.48	30.04	31.85	35.66	17.88	20.37	28.01	30.66	33.36	36.09
Tertiary Sector	34.91	38.95	42.21	50.40	56.78	61.70	33.15	37.69	47.90	50.46	55.33	58.65
Source: Based on United Nations Statistics Division data												

Table 2: Balance of Trade of India and China for 2015 to Q3 2019

India's Balance of Trade	**2015**	**2016**	**2017**	**2018**	**Q1 2019**	**Q2 2019**	**Q3 2019**
Goods, credit (exports)	272,352.7	268,614.7	304,106.9	332,086.9	87,367.3	82,729.0	80,014.1
Goods, debit (imports)	409,237.0	376,090.3	452,241.4	518,778.5	122,581.4	128,910.9	118,096.7
Balance on goods	-136,884.2	-107,475.5	-148,134.5	-186,691.6	-35,214.1	-46,181.9	-38,082.6
Services, credit (exports)	156,278.2	161,818.8	185,294.0	204,955.6	54,630.3	52,196.8	52,379.6
Services, debit (imports)	82,643.1	95,922.4	109,371.1	124,181.6	33,299.1	32,121.8	31,936.6
Balance on Services	**73,635.1**	**65,896.3**	**75,922.9**	**80,774.0**	**21,331.2**	**20,075.0**	**20,443.0**
Balance on goods and services	-63,249.2	-41,579.2	-72,211.6	-105,917.7	-13,882.9	-26,106.9	-17,639.6
China's Balance of Trade	**2015**	**2016**	**2017**	**2018**	**Q1 2019**	**Q2 2019**	**Q3 2019**
Goods, credit (exports)	2,142,753.4	1,989,518.6	2,216,213.8	2,417,442.8	540,430.5	609,543.3	635,073.9
Goods, debit (imports)	1,566,562.3	1,500,635.6	1,740,272.4	2,022,272.3	452,694.7	488,926.1	503,518.1
Balance on goods	576,191.1	488,883.0	475,941.4	395,170.5	87,735.8	120,617.3	131,555.8
Services, credit (exports)	217,399.0	208,403.8	213,063.6	233,566.8	59,425.7	59,153.9	59,810.1
Services, debit (imports)	435,719.3	441,549.7	471,995.1	525,815.9	122,872.9	124,986.7	132,291.7
Balance on Services	**-218,320.3**	**-233,145.9**	**-258,931.5**	**-292,249.1**	**-63,447.2**	**-65,832.8**	**-72,481.7**
Balance on goods and services	357,870.8	255,737.1	217,009.9	102,921.5	24,288.5	54,784.5	59,074.2
Source: IMF, Unit: US$ in millions							

Table 1 shows that the structures of both countries have changed in the same way. The share of primary sector (agriculture and allied activities e.g. hunting, fishery, forestry) has declined sharply in last 49 years. The share of this sector was 56.44 per cent in 1970 in India which dropped to 16.53 per

cent in 2018. The same thing happened in China and this share dropped from 57.44 per cent to 7.97 per cent. The share of secondary sector (Mining, Manufacturing, Utilities) has increased in both the nations but it has been higher in China than India. In India, it was 14.66 per cent in 1970 which became 21.89 per cent in 2018. The similar trend has been observed in China and share of this sector in total value added increased from 14.01 per cent in 1970 to 33.74 per cent in 2018. The share of tertiary sector which is sum of construction (ISIC F), wholesale, retail trade, restaurants and hotels (ISIC G-H), transport, storage and communication (ISIC I) and other activities (ISIC J-P) has increased with same pace. The share of tertiary sector in India was 34.91 per cent in 1970 and reached 61.71 per cent in 2018 and in China it increased from 33.15 per cent in to 58.65 per cent in the same period. While China has emerged as Factory of the World, India on the other hand is also known as Office of the World. The impact of the extensive changes in their structural change can be seen on their trade pattern.

With a contribution of 12.77 per cent, China is the largest exporter of goods in the world. Its 93.9 per cent share of merchandise exports comes from its manufacturing sector. It is second largest importer of goods and holds 10.75 per cent share in world. In services, it is 5th largest exporter of commercial services and contributes 4.59 per cent share in world. It is second largest importer of commercial services and holds 9.49 per cent share in world. As compare to China, India's share is small in both export & import of goods & services. India is 19th and 10th largest exporter and importer of goods in the world and contributes & holds 1.67 & 2.57 per cent shares respectively in world. In the same way, India is 8th largest exporter and 10th largest importer of commercial services with 3.54 and 3.20 per cent shares respectively (WTO, trade profile). Table 2 shows balance of trade (BOT) of India and China which depicts that balance of goods creates huge deficit in India's BOT and its most of the part is recovered by balance of services which helps to reduce BOT deficit. China's balance of services shows a large deficit and balance of goods shows great surplus. China's balance of goods recovers her deficit in balance of services and plays a vital role in keeping her BOT in surplus.

3. Trade in Intellectual Property: A Comparative Analysis of India and China

Before discussing the trade in intellectual property, it would be better to know different components of trade in services. According to Balance of Payment Manual 6 (BPM6) following flow chart shows standard services in which a nation trades. There are four major categories of services e.g. Goods-related services, Transport Services, Travel Services and Other Services. There are also sub categories of these services and *charges for the use of intellectual property not included elsewhere* is a sub part of other services. "Charges for the use of intellectual property are payments and receipts between residents and nonresidents for the authorized use of proprietary rights (such as patents, trademarks, copyrights, industrial processes and designs including trade secrets, and franchises) and for the use, through licensing agreements, of produced originals or prototypes (such as copyrights on books and manuscripts, computer software, cinematographic works, and sound recordings) and related rights (such as for live performances and television, cable, or satellite broadcast)" (indexmundi.com).

BPM6 Standard Services

Services	
☑	Goods-related services
☑	Transport
☑	Travel
☑	Other services
☑	Construction

	☑	☑	Insurance and pension services
	☑	☑	Financial services
	☑	☑	Charges for the use of intellectual property n.i.e.
	☑	☑	Telecommunications, computer, and information services
	☑	☑	Other business services
	☑	☑	Personal, cultural, and recreational services
		☑	Government goods and services n.i.e.
☑	Memo item: Commercial services		
Source: UNCTAD			

Table 3 shows percentage shares of different countries in world export of intellectual property for selected years which depicts that shares of all mentioned nations have increased in 2018 as compare to 2005 except USA. USA's share dropped from 41.04 per cent in 2005 to 32.33 per cent in 2018. Shares of India and China have also increased from 0.11 and 0.09 per cent in 2005 to 0.19 and 1.38 per cent in 2018 respectively.

Table 3: Percentage Shares of Different Countries in World Export of Intellectual property

Export	**Australia**	**Brazil**	**China**	**France**	**Germany**	**India**	**Japan**	**Korea**	**USA**
2005	0.32	0.06	0.09	0.00	3.17	0.11	9.71	1.12	41.04
2010	0.41	0.08	0.35	5.80	3.52	0.05	11.38	1.36	45.86
2018	0.23	0.20	1.38	4.11	5.79	0.19	11.29	1.88	32.33
Source: Based on WTO data									

Table 4 supports Table 3 and shows figures of export, average annual growth rate (AAGR %) and multiple times increase in export. Table 4 tells that export growth rate of intellectual property of Australia, France and USA have been 2.65, 1.74 and 3.85 per cent annual which is lower than world's growth rate 5.70 per cent per annum. Growth rates of Brazil, China, Germany, India and South Korea have been observed in double digits. Export of China and India increased at very high rate e.g. 21.83 and 15.86 per cent respectively (shown in red bold text). During this period of 14 years, China's export of this item has increased 35.43 times (shown in purple bold text).

Table 4: Export of Intellectual Property

Reporting Economy	**Australia**	**Brazil**	**China**	**France**	**Germany**	**India**	**Japan**	**South Korea**	**USA**	**World**
2005	574	102	157		5749	206	17618	2036	74448	181386
2010	973	190	830	13610	8246	127	26683	3188	107521	234473
2018	938	825	5562	16577	23349	785	45560	7594	130452	403521
C										
Times increase	**1.63**	**8.09**	**35.43**	**1.07**	**4.06**	**3.81**	**2.59**	**3.73**	**1.75**	**2.22**
AAGR %	**2.65**	**11.50**	**21.83**	**1.74**	**11.69**	**15.86**	**6.79**	**11.37**	**3.85**	**5.70**
Source: Based on WTO, Unit: US$ millions, AAGR Average Annual Growth Rate										

Table 5 shows percentage shares of different countries in world import of intellectual property for selected years which depicts that share of all selected nations has dropped in 2018 as compare to 2005 except China and India. USA's share dropped from 21.18 per cent in 2005 to 12.33 per cent in 2018. Shares of India and China have increased from 0.56 and 4.41 per cent in 2005 to 1.81 and 8.16 per cent in 2018 respectively.

Table 5: Percentage Shares of Different Countries in World Import of Intellectual Property

Imports	**Australia**	**Brazil**	**China**	**France**	**Germany**	**India**	**Japan**	**South Korea**	**USA**
2005	1.63	1.16	4.41	0.00	5.97	0.56	12.12	3.91	21.18
2010	1.45	1.37	5.53	4.25	3.01	1.03	7.97	3.90	13.81
2018	0.83	1.13	8.16	3.39	3.22	1.81	4.92	2.16	12.33
Source: Based on WTO data									

Table 6 supports Table 5 and depicts figures of import, average annual growth rate (AAGR %) and multiple times increase in import. Table 6 shows that import growth rate of intellectual property of Australia, France, Germany, Japan, South Korea and USA have been 3.92, 5.78, 4.96, 2.35, 6.02 and 5.91 per cent annual which is lower than world's growth rate 10.07 per cent per annum. Growth rates of Brazil, China and India have been observed is double digits. Import of China and India increased at very high rate e.g. 13.39 and 18.31 per cent respectively (shown in red bold text). During this period of 14 years, import of India increased 11.76 times (shown in purple bold text). These facts and figures indicate that trade of intellectual property has increased sharply in developing countries and these nations are dependent to a large extent on developed countries for high and advanced technologies.

Table 6: Import of Intellectual Property

Import	**Australia**	**Brazil**	**China**	**France**	**Germany**	**India**	**Japan**	**South Korea**	**USA**	**World**
2005	1973	1404	5321	NA	7211	672	14634	4720	25577	120785
2010	3414	3226	13040	10009	7092	2438	18774	9183	32551	235693
2018	3600	4924	35591	14802	14052	7906	21442	9425	53752	436083
Times increase	**1.82**	**3.51**	**6.69**	**1.42**	**1.95**	**11.76**	**1.47**	**2.00**	**2.10**	**3.61**
AAGR %	**3.92**	**10.19**	**13.39**	**5.78**	**4.96**	**18.31**	**2.35**	**6.02**	**5.91**	**10.07**
Source: Based on WTO data										

It is clear from above analysis that China and India are emerging traders of intellectual property especially as customer. China's imports of intellectual property have been greater than India's and these have increased with passes of time. In 2005 India imported intellectual property of worth US$ 672 million and China imported of worth US$ 5321 million which was 7.91 times more as compare to India. In 2018, India's imports of intellectual property reached US$ 7906 million and China's worth US$ 35591 million which again 4.5 times more as compare to India. Trade in intellectual property contributed negatively in balance of services of both the nations. Investment in research and development plays a great role in augmenting intellectual property of any country. The World Bank's data show that expenditure on research and development (R&D) as percentage of GDP has increased in China. In 1996 China spend 0.563 per cent of its GDP on R&D which has increased 2.145 per cent in 2017. On other hand, India's expenditure never crossed 1 per cent of its GDP. It was 0.639 per cent in 1996 and 0.62 per cent in 2015. From 1998 to 2011 it has been more than 0.7 per cent and in 2008 it has been highest e.g. 0.859 per cent. The same ratio for different countries is being shown in bracket with their names e.g. Brazil (1.263), Germany (2.288%), France (2.185%), Japan (3.213%), South

Korea (4.55%) and USA (2.79%) in 2017. This shows the reason that why these countries are advanced in technological development (World Bank).

China's increasing expenditure on research and development indicates that China is augmenting its intellectual property with passes of time. The top five IP offices e.g. China, USA, Japan, South Korea, European Patent Office received around 85 per cent of the 3.17 million patent applications filed worldwide in 2017. Out of these 3.17 million, 1.39 million a considerable share e.g. 43.6 per cent was filed in China alone which is more than double the number of applications received by the USA e.g. 606,956. The next largest shares went to the offices of the USA 19.2 per cent Japan 318,479 (10.1 %), South Korea 204,775 (6.5 %) and the European Patent Office 166,585 (5.3%). India received 46,582 application which accounts for only 1.47 per cent of worldwide.

IP office of China again received the record breaking highest number of patent applications e.g. 1.54 million in 2018, which accounts for 46.4 per cent of the global total. China's IP office has been followed by the offices of the USA with 597,141, Japan with 313,567, South Korea with 209992 and the European Patent Office with 174,397 applications. Together, these five offices accounted for 85.3 per cent of the worldwide total applications.

Among these top five offices, China recorded a growth rate of 11.6 per cent, the EPO 4.7 per cent and South Korea 2.5 per cent as compare to previous year, while Japan and the USA saw small declines of -1.5 and -1.6 per cent respectively.

According to WIPO "A trademark is a sign capable of distinguishing the goods or services of one enterprise from those of other enterprises."According to an estimate, 10.9 million trademark applications have been filed worldwide in 2018 which cover 14.3 million classes of trade mark and 15.5 per cent of growth has been observed in the number of classes specified in applications in 2018. Again China's IP office received the highest number of application e.g. 7.4 million which was followed by the IP offices of the USA with 640,181 and Japan with 512,156 applications. As compare to previous year, Indonesia, China and India recorded highest growth rate of 29.1, 28.3 and 20.9 per cent respectively in 2018 among the top 20 IP offices of the world (WIPO).

According to WTO "Industrial design is generally understood to refer to the ornamental or aesthetic aspect of an article rather than its technical features" In 2018, 1 million industrial design applications were filed worldwide which contain more than 1.3 million designs. China's IP office received applications containing 708799 industrial designs which accounts for 54 per cent of world. China has been followed by the European Union IP Office (EUIPO), IP offices of South Korea, USA and Germany. As compare to previous years, the IP offices of UK, Russia, Italy, India and China reported double-digit growth rates e.g. 42.4, 21, 16.6, 13.6 and 12.7 per cent in 2018 among the top IP offices (WIPO).

According to WTO "A product's quality, reputation or other characteristics can be determined by where it comes from. Geographical indications are place names (in some countries also words associated with a place) used to identify products that come from these places and have these characteristics (for example, "Champagne", "Tequila" or "Roquefort"). Protection required under the TRIPS Agreement is defined in two articles."

Geographical Indication (GI) literally means a sign that identifies objects, such as agricultural products, natural goods or manufactured goods, based on originating in the territory of a country where the said goods are given quality, prestige or any other features inevitably contribute to its geographical emergence. These are of two types - (1) The first type has geographical names that indicate the place of origin of the product such as Darjeeling etc. (2) Other are non-geographical traditional names, which indicate that a product is associated with a particular region like Alphonso, Basmati, Rosogulla etc.

In 2018, there were around 65,900 Geographical Indications in force worldwide. Germany reported 15,566 GIs which is the largest number in force. After that China 7247 and Hungary 6683 reported, second and third largest number of GIs in force. More than 51 per cent of GIs in world are related to wines and spirits, which are followed by agricultural product & food items and handicraft with 29.9 and 2.7 per cent shares respectively (WIPO).

Publishing industry generates revenue through trade and the educational sectors. The revenue generated by 14 countries accounted for USD 42.5 billion in 2018. The USA reported USD 23.3 billion, the largest net revenue, who was followed by Germany with USD 6.1 billion, the UK with USD 5.4 billion and France with USD 3 billion. The U.S. sold 2.6 billion copies of published titles covering the trade and educational sectors in 2018. It was followed by the UK (652 million), France (419 million) and Turkey (400 million) (WIPO).

Conclusion

The above discussion shows that being developing nations India and China are highly dependent on developed and technologically advanced nations for technology and have emerged as big traders of intellectual property especially as importers. Trade in intellectual property contributes negative amount in current account of both the nations. The main reason behind this is that the developed nations like South Korea, Germany, France, USA etc. spend a big amount on research and development as indicated by their ratio of expenditure on R&D to GDP. This ratio has rapidly increased in China but very low in India. IP office of China again received the record breaking highest number of patent applications e.g. 1.54 million in 2018, which accounts for 46.4 per cent of the global total. China's IP office received the highest number of application e.g. 7.4 million in 2018. This shows that China is strengthening herself in field of intellectual property.

References

1. Central Intelligence Agency. (2020). China. *In The world factbook*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html
2. Central Intelligence Agency. (2020). India. *In The world factbook*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/in.html
3. Indexmundi. (n.d.). *Charges for the use of intellectual property, payments (BoP, current US$).* Retrieved from https://www.indexmundi.com/facts/indicators/BM.GSR.ROYL.CD
4. UNCTADStat . Retrieved from http://unctad.org/en/Pages/statistics.aspx
5. United Nations Statistics Division. Retrieved from http://data.un.org/
6. WIPO (2019). India. *Statistical Country Profile*. Retrieved from https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=IN
7. WIPO (2019).China .*Statistical Country Profile*. Retrieved from https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=CN
8. WIPO website is a good source of information on Intellectual Property Rights (https://www.wipo.int/portal/en/index.html).
9. World Bank Open Data. Retrieved from https://data.worldbank.org/
10. WTO (2018).China .*Trade Profile*. Retrieved from https://www.wto.org/english/res_e/statis_e/daily_update_e/trade_profiles/CN_e.pdf
11. WTO (2018).India .*Trade Profile*. Retrieved from https://www.wto.org/english/res_e/statis_e/daily_update_e/trade_profiles/IN_e.pdf
12. WTO Statistics Database. Retrieved from http://stat.wto.org/Home/WSDBHome.aspx
13. WTO website is a good source of information on TRIPS agreement (https://www.wto.org/english/tratop_e/trips_e/intel2_e.htm).

INTELLECTUAL PROPERTY RIGHTS IN INDIA: SIGNIFICANCE OF PATENTS

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Abstract

Developed countries are recognized today mainly by their advancement of intellectual creativity and innovation. Knowledge is the key driver for transforming a nation rich and innovative. A kind of new knowledge (creations) derived from human mind (human capital) is often called Intellectual Property (IP) and it has been defined as original creative work manifested in a tangible form that can be legally protected. This paper deals with the patent grants in Asian countries. On an average, the percentage of patent grants in Japan, Korea and Taiwan was 43.08, 43.95 and 45.88 respectively. China has shown massive interest in patent filing in recent years and the overall percentage of patent grants over last dozen years was 32.99%. When compared with Asian countries, India was least innovative nation among them in terms of patent filing with a granting percentage of 23.07. It indicates, India is conscious about its IPR polices with higher rejection of filed patents. It has also shown considerable increase in its research and innovation capabilities. Over the last 10 years, India managed to produce 2.84 lac research publications. In the 2012, India ranked 9th in scientific publications at a global share of 3.5%. In the global innovation index over the last 5 years, on an average, Indian input sub-index ranking was 74.6% and output sub- index ranking was 45.8%.Besides, India was often ranked at No. 01in the region of Central and Southern Asia for the last 5 years. India has been consistently ranked in the top ten when it compared to lower-middle-income (LMI) economies worldwide. However, IPR culture in India is anything but satisfactory. It demands effective strategies for encouraging and building IPR activities and explore scientific and industrial research and innovation in India.

Keywords: Intellectual Property Rights; Patents; Indian Patent Office; Copyright; Global Innovation Index.

INTRODUCTION

Intellectual Property Rights (IPRs) are statutory rights that allow originators exploit their inventions or innovations exclusively for a particular period of time. Factually, the IPR laws bring stable, safe and sustainable eco-system over intellectual products, processes and services for the sole benefit of the society. Besides, the property has its own uniqueness, exclusiveness or monopoly that allows inventors or licensors to exploit commercially. In fact, there are two branches of IPR: one is industrial property (*first recognized in Paris Convention in 1883*) and second one is copyright (*first recognized in Berne Convention, 1886*). Industrial property consists of patents, trademarks, geographical indications, and industrial designs etc. that are territorial in nature. Filing and registration with a particular territory and for a particular period of time is essential. After 2009, patents filings grew by 7.6% in 2010, 8.1% in 2011 and 9.2% in 2012 (2.35 million applications filed) while industrial design filings grew by 17% and trademark filings by 6.0% in 2012 world-wide(WIPO, 2013).Among the industrial property, patents play a key role in changing national and global innovation landscape. The main purpose of the patent is to promote innovation, competitiveness, economic growth, and visibility. Historically, Venetian law of 1474 made the first systematic attempt to protect inventions by a form of patent, which granted an exclusive right to an individual for the first time (Lucchi, 2007).Copyright (consists of literary, dramatic, musical artistic works including architectural works etc.) is an intangible property for a specific term. In India it is 60 years. Without the invention of the printing press by Johann Gutenberg around 1448, book publishing and its copyright consequences would not have come to limelight and marketed today. Copyright is not a perpetual right (Majmudar & Co) and ideas cannot be copyrighted, protected and even patented. Majority of research findings published in peer-reviewed journals remain under copyright. Over 90% journals are now online and about 1.5 million STM articles are produced in a year. Average growth rate ratio per year for journals

titles, articles and researchers was 3.5:3:3 over the last two centuries (Ware & Mabe, 2009). In fact, copyright is automatic, no need to register across for its protection. Hence, significance of IPR communication and dissemination has greater impact on society for not only safeguarding the nation's intellectual creations but also generating revenue to build knowledge-based economy.

IPR IN INDIA: AN OVERVIEW

India is a huge country with a population of more than 1.2 billion with an aspiration to build intellectual, inclusive and sustainable knowledge based innovative society. Over centuries, India is known for colossal history of science demonstration, swashbuckling culture and heritage of traditional knowledge. Zero was invented by India along with the decimal system of numerals that is called Arabic. By the fifth century, an Indian had discovered the earth's axial rotation (Stevens, 1982). Stylish and superior quality of articles such as fine fabrics of cotton and silk, embroidery, painted and enamelled wares, swords and knives and gold and silver jewellery were produced in India (INSA, 2001). But the nation did not exploit these in commercial ways and so failed in this aspect. The culture of IP in India roots from centuries; the efforts to stimulate a change in the society for meeting both domestic and overseas needs are to be sustained vigorously. India signed the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement on 15 April 1994 to set up minimal standards, procedures and remedies to protect IPRs. TRIPS agreement also allows a great deal of lawful pluralism among WTO members about standards of patentability and about key flexibilities, including both patentable subject matter and grounds for compulsory licenses (CLs) (Jishnu, 2014). Besides, India has a similar pact with the EPO. Under this agreement, on 2 February 2009 the Indian government granted access to its Traditional Knowledge Digital Library (TKDL), a unique database that houses the country's traditional medical wisdom, to examiners at the EPO for reference before grant of patents (EPO, 2009).Ultimately the IPR protection can reap rewards in terms of greater domestic innovation and increased technology diffusion in developing countries (Falvey and Foster, 2006). In fact, there are seven categories of IPR Acts in India (Fig. 1) representing the rights for protecting the nation's intellectual creations or innovations of human mind. The office of the Controller General of Patents, Designs & Trade Marks (CGPDTM) also called as IP Office is responsible for the administration of all acts through its IP Offices located at Mumbai, Delhi, Kolkata, Chennai and Ahmedabad

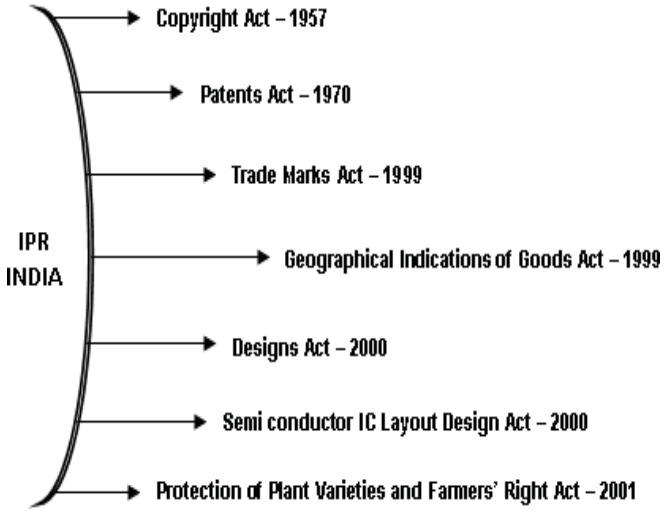

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Figure 1: IPR Acts in India

COMPARISON OF IPR TRENDS

Office of the CGPDTM follows its own norms and procedures in receiving, examining IPR applications and granting them in due course of time. Initially, the IPR in India focused mainly on patent, designs, and trademarks. But Geographical Indications (GI) Act – 1999 was brought into force on 15th September 2003. Before the TRIPs agreement, GI was not protected in India (Kumari and

Reddy, 2006). Similarly, semiconductor IC (integrated circuits) layout design and plant variety and farmers' rights have been protected under the respective acts mentioned in Fig. 1.

Table 1 indicates the trends in applications filed and granted/registered for different types of IPRs in India over the last ten years. With respect to patents, the total number of applications were filed 316112, of which 69,745 (22.06%) were granted. The percentage of registered designs (87.38) and trade marks (65.54) were considerably higher (as compared to patent grants). The GIs registry has received 404 applications till 31 March 2013.

Table 1 Comparative trends of IPRs granted/registered for the last 10 years

Year	**Patents**			**Designs**			**Trade Marks**		
	Filed	*Granted*	*% granted*	*Filed*	*gister ed*	*% Register ed*	*Filed*	*Regi- stered*	*% Regi- stered*
2003-2004	12613	2469	19.58	3357	2547	75.87	92251	39762	43.10
2004-2005	17466	1911	10.94	4017	3728	92.81	78996	45015	56.98
2005-2006	24505	4320	17.63	4949	4175	84.36	85699	184325	215.08
2006-2007	28940	7539	26.05	5521	4250	76.98	103419	109361	105.75
2007-2008	35218	15261	43.33	6402	4928	76.98	123514	100857	81.66
2008-2009	36812	16061	43.63	6557	4772	72.78	130172	102257	78.56
2009-2010	34287	6168	17.99	6092	6025	98.90	141943	67490	47.55
2010-2011	39400	7509	19.06	7589	9206	121.31	179317	115472	64.40
2011-2012	43197	4381	10.14	8373	6590	78.71	183588	51735	28.18
2012-2013	43674	4126	9.45	8337	7252	86.99	194216	44361	22.84
Total	**316112**	**69745**	**22.06**	**61194**	**53473**	**87.38**	**1313115**	**860635**	**65.54**

Source: Annual Reports of IPR

SIGNIFICANCE OF PATENTS IN INDIA

Patents are becoming centre stage for nation's scientific, industrial and economic growth and development. Indian Patent Law defined invention as a new product or process involving an inventive step and capable of industrial application (sec. 2(1) (J), CGPDTM, 2008). In India, the Patents Act, 1970 has come into force and aimed to encourage and protect the inventions that are new, non-obvious, and commercially applicable and thus enabling the innovators to appropriate the returns on their innovative activities. One hand the Act is protecting the patents and the other hand ensuring the technology transfer, public interest and specific needs of the country. The Act has been amended many times in compliance with the provision of TRIPS in 1972 (included Patent Rules), 1999 (for administering Patent Office), 2002 to meet with the second set of obligations (term of Patent etc.), 2003 (Rules amended) and 2005 (Patent (Amendment) Rules) respectively. Patent rights are territorial and can be filed in each country to protect them in foreign countries through a Patent Cooperation Treaty (PCT).In India, the patent is valid for 20 years and can be transmitted or assigned but it cannot be renewed.

STRATEGIES FOR PATENTING

Inventors and investors are often busy in producing patents that are unique, valuable and worldwide marketable. But for the promotion and protection of the patents, and to enhance patenting system in India and abroad a few strategies are needed. These include

- An amicable eco-system (academic and research culture, resources, infrastructure, incentives, collaboration, expertise, discourses etc.) for creativity and innovation.

- Prior art search, an important element to reveal/review existing research literature.
- Creating awareness of traditional and publicly available knowledge which cannot be patented.
- Patent filing or provisional patent filing.
- Drafting claims (defined precisely based on scope, characteristics and structure) or disclosures that help others to exploit invention.
- Ensuring patent proliferation, policies and protection to avoid confrontation and infringement by the patent trolls
- Evaluation of quality of patents to avoid in patent absurdity and piling of inconsequential patents
- Assured economic viability and societal value of the patent
- Collaboration among individuals, institutes, and industries in creation of innovative spirit and promotion of patents
- Encouragement of open innovation
- Reverse innovation (Dartmouth) to encourage low-cost goods.

However, the culture of patenting in India is slowly growing and needs to be speeded up. It needs a strong IPR mandate for building patenting system in India for the creation and generation of products, employment, income and wealth.

Over centuries, India is known for rich history, culture and heritage of scientific and traditional knowledge. In recent days, India has played a key role in stimulating research and innovation capabilities in multiple sectors and encouraging the IPR activities. No doubt, India earns huge revenues through IPR but also follows stringent rules to protect creativity or innovation. As a result, total number of patents granted in India was 69,745 over the last 10 years with a rejection rate of 77.94% of patent applications which is high when compared to China, Japan, Korea and Twain. It indicates that India has stringent patenting system, policies and enforcement system to protect IPR laws. States where Patent Offices are located, industries, academic and research institutes have shown considerable role in producing patents. Over last decade, streams like chemical and mechanical engineering were given high priority in producing patents than the fields of bio-technology and food. However, India has shown considerable increase in learning and improving science & research and innovation capabilities at domestic and global levels. Further, creativity and innovation act as a business discipline in the Indian educational system to generate sustainable growth and development.

REFERENCES

1. CGPDTM (2008). Manual of patent practice and procedure the patent office, India. Controller General of Patents, Designs & Trade Marks, India. Retrieved from http://ipindia.nic.in/ipr/ patent/Patent_Manual_Feedback/WO_Ga_34_China.pdf
2. Cornell University, INSEAD & WIPO (2013). Global Innovation Index (GII): the local dynamics of innovation. Retrieved from http://www.wipo.int/econ_stat/ en/economics/gii/
3. Economist Intelligence Unit Limited (2009).A new ranking of the world's most innovative countries. Retrieved from http://graphics.eiu.com/PDF/Cisco_Innovation
4. EPO (2009). India's Traditional Knowledge Digital Library (TKDL): A powerful tool for patent examiners. European Patent Office.
5. European Patent Office (EPO). Retrieved from http://www.epo.org/searching/ asian/trends.html
6. Falvey, Rod and Foster, Neil (2006). The role of intellectual property rights in technology transfer and economic growth: theory and evidence, Vienna: UNIDO.
7. Giacopello, Fabio (2012). Rise in quantity, fall in quality: Assessing China's patent filings. Intellectual Property Magazine, 63-64. Retrieved from http://www.hfgip.com/downloads/ 201212001.pdf
8. Govt. of India. Annual Report of Controller General of Patents, Designs & Trade Marks (CGPDTM). . Retrieved from http://www.ipindia.nic.in/

9. Hoorebeek, Mark Van (2005). Law, libraries and technology, Oxford, OX: Chandos Publishing (p. 83)

10. INSA (2001). Engineering and technical education. In. Pursuit and promotion of science (pp). New Delhi: Indian National Science Academy. http://www.iisc.ernet.in/insa/

11. Jishnu, Latha (2014 March 16-28). Patently absurd: patently hollow claims of the US. Down to Earth, 51.

12. Kshitij, Avinash& Joshi, Kirti (2012 January25).Patent portfolio in terms of geographic distribution. Current Science, 102(2), 157.

13. Kumari, S. &Raghunatha Reddy, D. (2006). Intellectual Property Rights Management and Its Growing Importance in Diversified Field of Technology in Context of Developing Countries. The Chartered Accountant. 725-732. Retrieved from http://www.icaiejournal.org/Journal/1353_2006_11.pdf

14. Lucchi, Nicola (2005). Intellectual property rights in digital media: a comparative analysis of legal protection, technological measures, and new business models under EU and U.S. law. Buffalo Law Review, 53(4),102-183.

15. Prud'homme, Dan (2012). A statistical analysis of China's patent quality situation and larger innovation ecosystem. Munich Personal RePEc Archive (MPRA), (Paper No. 51619). Retrieved from http://mpra.ub.uni-muenchen.de/51619/

16. Soini, S., Ayme S., &Matthijs, G. (2008).Patenting and licensing in genetic testing: ethical, legal and social issues. Eur J Hum Genet, 16, S10–S50.

ICT AS TOOL FOR SMART WATER MANAGEMENT

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Abstract

Water conservation is the practice of using water efficiently to reduce unnecessary water usage. It is important because fresh clean water is a limited resource, as well as a costly one. Conservation of this natural resource is critical for the environment. This paper presents a new approach regarding optimal usage and conservation of water using ICT in rural areas. Water Conservation is becoming an important issue as water demand increases, but water supply is likely to diminish owing to climate change. Water Conservation in agricultural sector has much room for improvement to save water through economic and political incentives. In order to augment the water supply, we will install an automated water level sensor device that will sense water level with the help of data logger which connects to the respective ministries using wireless telemetry system. The ministry will update the data logger as per the requirements from the areas in which water is to be supplied. Data will be stored and transmitted in an encrypted format. Based on the requirements, the device will devise the average usage of water on daily basis and send the required amount of water to that area along with graphical report generation. The water supply will be restricted once the particular area utilizes the determined amount. This ensures that there is more appropriate usage of water.

Keywords - Water conservation, Wireless Telemetry sensors, Business Visualization, Data Encryption.

INTRODUCTION [1, 4, 5, 6, 9]

"Water=Life, Conservation=Future" explains that water is a resource that we use every day. It is what we need to survive. It's easy to leave the water faucet running and not consider the consequences. The less water used or wasted by people, the less clean water will become contaminated. In some cases, using excess amounts of water puts strain on septic and sewage systems, leading to contamination of groundwater. Conserving water now allows regions to plan for efficient use of the water resources in the future. In rural areas, as agriculture being an important occupation, water conservation becomes an important aspect for efficient productivity of crops and maintaining the salinity and purity of soil. The following pie chart shows the ideal water utilization level:

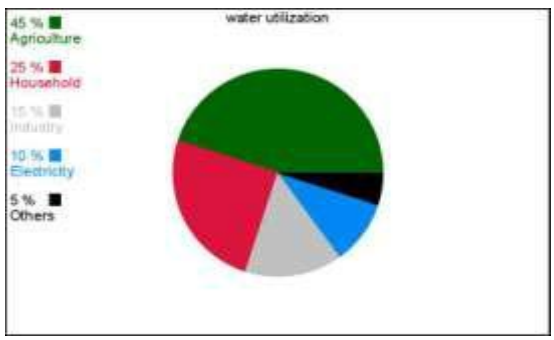

Figure 1. Water Utilization Pie Chart

The common pool nature of water level and the difficulty of observing it directly make this resource difficult to monitor and regulate, especially in rural areas. These water resources are being depleted because of unsustainable extraction levels that exceed natural recharge rates. Also the existing system is not secured as the figures can be changed or manipulated by an external entity and the data is not in an encrypted format. In order to ensure that there is more appropriate usage of water resources, Telemetric Water Sensor Tube [6] is used that will sense water level with the help of Telemetric Data Logger which connects to the respective ministries using wireless telemetric system. The Telemetric Data Transmitter captures and transmits real-time data from the Data Logger to the telemetric system installed at respective ministries through CDMA network [6, 10]. It transmits data on a cellular telemetric network, automating data collection and providing remote configuration and troubleshooting. With this, we ensure that the data is secured as it is stored and transmitted in an encrypted format. Also, we can control the flow of water and can keep track of detailed demand and supply of water using statistical analysis. Integrating statistical analytics will simplify the task of filtering data for efficient results.

LITERATURE SURVEY [2, 3]

The following table describes the related work in this field:-

Sr. No	Author & Title	Description
1	Mwrra.org (2018). Maharashtra Water Resources Regulatory Authority.	It contains details about water conservation in Maharashtra also it includes some techniques undertaken by authorities.
2	Girma, Misrak & Assefa, Abebayehu & Molinas, Marta. (2015). Feasibility study of a solar Photovoltaic water pumping system for rural Ethiopia.	This paper contains feasibility study done in rural areas of Ethiopia using solar photovoltaic system for pumping groundwater.
3	Suhag, R. (2016). Overview of Ground Water in India.	This paper contains an overview of ground water availability
4	Comparative analysis of neural network techniques for predicting water consumption time series. Firat, M., Turan, M. E., & Yurdusev, M. A. (2010).	This paper predicts using the series of Artificial Neural Network, where monthly water consumption time series chain is introduced.

Table 1: Related Work

TIPS FOR WATER SAVING [7]

America's population has doubled over the last half century, and our demand for water has tripled. Water conservation is more important than ever, and the world is looking for tips on saving water. The majority of household water use comes from toilets, washing machines, showers, baths, faucets and leaks, but what you can do to save water is fairly simple. These 10 water-saving tips will put you on the path to conserving water in your household.

1. Put a brick in your toilet's water tank.

   You flush an average of 20 gallons of water a day down the toilet. If you don't have a high-efficiency toilet, try filling your tank with something that will displace some of that water, such as a brick.

2. Use the right amount of water for each load of laundry.

   Typically 15-40 percent of indoor home water use comes from doing laundry. Save water by making sure to adjust the settings on your machine to the proper load size.

3. Pick your washing machine wisely.

   When considering top-load vs. front-load washers, front-loading washing machines generally use less water.

4. Water plants wisely.

Water your lawn or garden early in the morning or late in the evening, so the water lasts and is not immediately evaporated by the hot sun.

5. Install a low-flow showerhead.

   With a low-flow showerhead, you can save 15 gallons of water during a 10-minute shower.

6. Check for and repair leaks.

   An average of 10,000 gallons of water is wasted every year due to household leaks. One of the most effective ways to cut your water footprint is to repair leaky faucets and toilets.

7. Use a dishwasher.

   Dishwashing accounts for less than 2 percent of indoor water use, but using a machine is actually more water efficient than hand washing, especially if you run full loads. ENERGY STAR dishwashers save about 1,600 gallons of water over its lifetime of use.

8. Turn off the water.

   Teach your whole household to turn off the faucet while brushing teeth or shaving. Every little bit of water conservation helps!

9. Defrost food in the fridge.

   Instead of running frozen foods under hot water from the faucet, build in time to let them defrost in the refrigerator.

10. Manage outdoor water use.

    Don't forget about water conservation outside as well. Equip all hoses with shut-off nozzles, which can prevent hose leaks.

ICT TOOLS IN WATER MANAGEMENT [8]

Today, the applications of Information and Communication Technologies (ICTs) have become very essential tools in the water management sectors. Water is a crucial need for human survival. The availability of efficient and clean water is extremely essential to human life and overall national development. Hence, many initiatives that are implemented today are designed to improve water availability, efficiency, accessibility, and sustainability by the application of various ICT tools. Such tools are one of the most effective methods in enhancing scarce land and water resources, which consequently maximize food production and secure human life. The International Telecommunication Union (ITU) is the United Nations (UN) specialized agency for Information and Communication Technologies (ICTs), which develop internationally recognized standards for defining elements in the global infrastructure of ICTs. ITU, at the very heart of the ICT sector, recognizes the positive influence that ICTs can play in the allocation, distribution, treatment, and management of the available scarce water resources. The ITUs Focus Group on Smart Water management (FG-SWM) provides a platform to tackle the gap between the ICTs and effective water resource management. Hence, ICT tools help water scares countries and even other countries can solve the current water scarcity issue jointly. Climate change, economic and population growth highly influence the availability of water resources. Hence, the strategic incorporation of different ICT tools in the water management sector mitigates some of the existing and future water issues. ICTs act as a tool, an agent of change, and an alternative method. Currently various websites and help lines exist as a form of delivery means of technical services, which show potential uses of ICT tools as a change to manage water resources. The basic objective of this paper is to emphasize how ICT tools can overcome some of the water management challenges faced in agriculture, and water supply and management sectors. Both water and ICT experts have begun to explore the vast new ICT applications and their impact on the water sector. Hydro-informatics systems can now investigate the details of the physical hydrodynamic process as well as the complexity of the geometry of continental and marine environments. For example, new types of sensors, multi-beam sonars, and Light Detection and Ranging (LIDAR), have deeply modified the quality and the quantity of the data available on hydro-environments. ICT tools have great capacity to;

- Save texts, audio, photographs, drawings, descriptions and videos;
- Collect and save information in a digital format and produce precise copies of such information at a lower cost;
- Transfer information and knowledge quickly through a wide range of communication networks;
- Speedily improve the standardized procedures for huge quantities of information;
- Attain greater activity in producing, sharing, communicating, and evaluating useful knowledge and information;
- Design well-structured information systems from a raw data and Inter personal discussion and communication

PROPOSED ALGORITHM [6]

Automated telemetric sensors and data loggers will be used which are capable of sensing water level, water pressure and the temperature of water. The sensors will be in the form of a stainless-steel tube and the captured data will be transmitted to the telemetric data logger. The data logger will be solar-powered telemetric unit and are fully automated system which will transmit real-time data to the transmitter via cellular network. Solar power will utilize the energy efficiently, which will be ideal for long-term monitoring and high frequency sampling. A telemetric data transmitter is connected to the data logger through a cellular network capturing data and transmitting it to the telemetric device installed at the respective ministries. The ministry will collect information about the water level from the telemetric data logging device installed in that particular region. Since the groundwater level varies according to the elevation at particular region, the telemetry sensor tube will calculate and transmit the information to the data logging device on an average basis. The information is stored and transmitted in an encrypted format using some efficient encryption algorithm in order to assure security so that the data is not misused. The algorithm used should be of such type that the transmitter accepts the data of any length as input from the data logging device and returns as output a fixed length digest value that can be used for authenticating the original message. When the Data Logger installed at the respective ministry receives the encrypted value, it decrypts it and then based on the requirements, the software will instruct and water is supplied to the respective regions. While the water is being supplied, the software keeps track of water utilization of every region. If one of the region's water supply exceeds the supply allotted value, then the wireless data logger will raise an alarm stating that the particular region has exhausted the supply allotted value and the software will stop/restrict the water supply for that region. If that region has additional demand for water, then it will send the request to the Ministry. The Ministry will charge certain amount based on the region's additional demand for water supply. The telemetric system also consists of a sensor which will forecast the weather conditions and natural calamities. In case of natural calamity like floods, the software will automatically notify the data logging device which will take precautionary actions. Additionally, the software will plan to keep a certain amount of water as backup so as the water supply will not halt abruptly in case of drought and famine situations. Water resource will undergo two stage filtration i.e. conventional rapid filtration, whose purpose is to trap metallic particles for agricultural where toxicity and impurities of water is filtered and membrane & Reverse Osmosis (RO) filtration is used for purifying water which will be used for drinking purposes. This system will be checked and maintained for any faults by a technician on weekly basis.

SPREADING AWARENESS AMONG SOCIETY USING ICT TOOLS

As we all know water is becoming scarce every passing day. It is our priority to bring awareness in public to use water judiciously. Number of ICT tools can be used to spread awareness among the society for conserving ground water level and proper utilization of rain water for storage. For example:-

a) Whatsapp

b) Facebook

c) Twitter

d) Instagram

The society at large must be guided about the pros and cons of saving water. One such photo seen in media is worth sharing here.

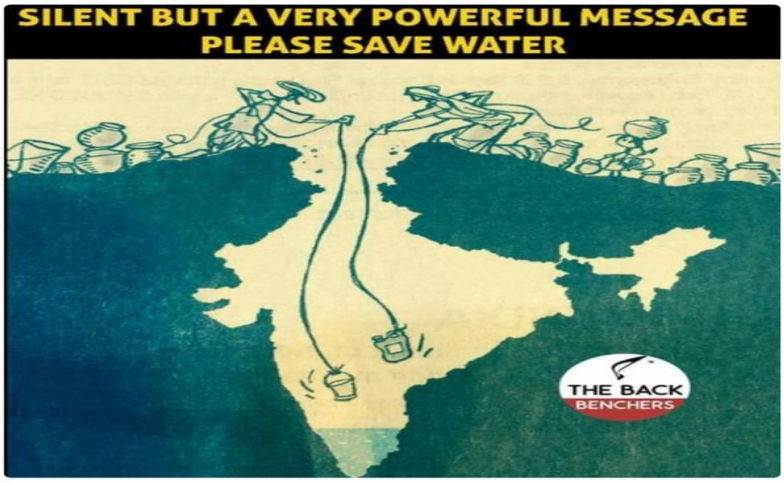

Figure 2. Save Water Save India

Grandfather saw it in **Rivers**

Father saw it in **Wells**

We saw it in **Taps**

Our children see it in **Bottles**

Where will our grandchildren see it?

In **Capsules**?????

If we still neglect, **It will be seen in Tears.**

Please note that Packed Drinking Water (PDW) is not the solution. Every litre of PDW requires three litres of water and three more litres of water is required to manufacture plastic bottle. That means we are wasting 5 litres of water for every litre of PDW and additionally non degradable plastic waste. So let us avoid it unless it is essential. We all must Save Water. Every drop of water is precious, so conserve, preserve, recycle, reuse and reuse.

CONCLUSION & FUTURE SCOPE

Telemetry System ensures more optimal usage of water for agriculture and household purposes, as the existing system is limited to sensing water level and water pressure, also it cannot control the flow of pipeline water. There is no cross section of wires as the entire telemetry system is wireless, working on a cellular network. Using solar panels, ideally less maintenance is required as it can last for long. Also, it is pollution free and causes no greenhouse gases to be emitted after installation. Using Telemetry Data Logger enables to raise an alarm notification whenever the usage of water level surpasses the determined amount for day. Data is captured and transmitted to Ministry in an encrypted format, which reduces the misusing of requirements for water supply in that particular region. Also, with the help of this technology, the Ministry keeps track of detailed demand and supply of water and statistically analyze for continuous betterment. Thus, the objective of Water Conservation can be achieved through concrete efforts on the conservation and utilization of water on sustainable basis. Apart from this, Government must use all the available & popular ICT tools such as Whatsapp, Facebook etc. in order to spread awareness among the public and capture the masses for conserving ground water level and proper utilization of rain water for storage. In the upcoming years, new ICTs will affect the entire water cycle and the management of the water resource related activities. The overall process of bringing ICT into the water resource sector represents a major task in present and

coming years. The integration and implementation of new ICT into the existing implemented water management systems remains one of the most challenging tasks facing technology and water experts. Developing an integrated comprehensive smart water management solution that uses ICT for the measurement, automation, control, monitoring of water supply and demand has a definite positive impact on the entire economy. The saved water uses for expansion of the irrigated areas, urban and industrial water supply; affects food production and industrial development in a way that pushes economic development and long term sustainability of nations all over the globe. Environmental rays can replace solar energy as it is an inexpensive source of energy. Environmental radiation includes Cosmic Radiation and Terrestrial radiation. The sun and stars send a constant stream of cosmic radiation to Earth, much like a steady drizzle of rain. The Earth itself is a source of terrestrial radiation. Radioactive materials (including uranium, thorium, and radium) exist naturally in soil and rock and energy can be extracted internally. Additional surplus water which will be conserved using our technology can be used to produce electricity which will be extremely beneficial in places where there is shortage of electricity. Artificial Intelligence can be introduced in our system. With the help of IT Tool such as Artificial Intelligence, the system can automatically set the standards for allocation of water resources as per requirements of different regions.

REFERENCES

1. Vyas et al., "Water Conservation using Information Technology at Remote Areas", International Journal of Interdisciplinary Innovative Research & Development (IJIIRD), ISSN: 2456-236X, Vol. 02, Special Issue 05, 2018.
2. Mwrra.org, Maharashtra Water Resources Regulatory Authority, Available at: http://www.mwrra.org/water_conservation.php?link=sustain, 2018.
3. R. Suhag, "Overview of Ground Water in India", 2016
4. "Water Page Resources: The Importance of Water Conservation", Available: http://www.thewaterpage.com/important-water.htm, 2018.
5. "How can we spread the awareness about saving water", Available at: https://www.quora.com/How-can-we-spread-the-awareness-about-saving-water, 2019.
6. "Remote Water Level Monitoring Systems - Water Level Logger", Available at: https://in-situ.com/product-category/remote-water-level-monitoring/, 2018.
7. https://www.constellation.com/energy-101/water-conservation-tips0.html [Viewed in 2020]
8. Dr. Ramy A. Fathy, "The Role of ICT in Water Resource Management", International Telecommunication Union, Telecommunication Standardization Sector, Focus Group on Smart Water Management, 2014.
9. Vyas Anshul, Kundu Rakhee, Sawant Tanay, Yaadav Rohit, Teli Shreyas & Rai Abhipreet, "Water Conservation using Information Technology at Remote Areas", International Journal of Interdisciplinary Innovative Research & Development (IJIIRD), Vol. 02, Special Issue 05, 2018.
10. Wang, J., Ren, X. L., Shen, Y. L., & Liu, S. Y. (2010, January). A remote wireless sensor networks for water quality monitoring. In Innovative Computing & Communication, 2010 Intl Conf on and Information Technology & Ocean Engineering, 2010 Asia-Pacific Conf on (CICC-ITOE) (pp. 7-12). IEEE.

INTELLECTUAL PROPERTY RIGHTS AND TECHNOLOGY DEVELOPMENT: THE CASE OF SOFTWARE INDUSTRY

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ABSTRACT

Software, the major component of digital world, is all about using the power of ideas to solve problems. The relation of software industry and the Intellectual Property Rights is a tricky one. There is a debate going on worldwide on the issue: copyright or open end free software? As per the legal opinion, IPR provisions must be implemented irrespective of firm, industry or country is concerned. But from an analyst's point of view, this issue needs to be viewed in a wider perspective. This paper is an attempt to analyze the IPRs with reference to socio-economic dynamics of software piracy.

Keywords: IPRS, Technology Development, Software Industry.

INTRODUCTION

It is unanimously agreed by all that global economy of today is characterized by an interesting dichotomy: "digital age" along with "digital divides" (Hardy 1980, Norton 1992, Cannibng 1997, Easterly and Lavine 1997). The developing countries are increasingly alarmed at an emerging "digital divide", in which those without access to the latest and most expensive tools and technology will find themselves unable to compete in the global market (Hanna, 1994; 1994). Software, the major component of digital world, is all about the using the power of ideas to solve problems. The relation of software industry and the Intellectual Property Rights (IPRs) is a tricky one. There is a debate going on worldwide on the issue: copyright or open end free software? As per the legal opinion, IPR provisions must be implemented irrespective of a firm, industry or country is concerned. But from an analyst's point of view, this issue needs to be viewed in wider perspective. The paper is an attempt to analyze the IPRs with reference to socio-economic dynamics of software piracy.

PROBLEM DEFINITION

Worldwide the software industry is plagued by problem of piracy, a situation of "copying and using commercial software purchased by someone else without paying for it to the copyright holder". Business Software Alliance (BSA) estimates the monetarily, software piracy costs publishers $28784 million in year 2003. In the world software industry, developed countries are constantly putting pressure on developing countries to implement stricter patent legislation than required under TRIPS, exclude compulsory licensing, parallel imports provisions and include provisions that would result in increasing the life of patent. The viability and sustainability of such strict laws needs to be analyzed in the context of role, nature and dynamics of the software piracy system.

METHODOLOGY

Out of the available database of 74 countries, 55 countries with consistent data availability have been selected for analysis of dynamics of piracy. First, the nature and magnitude of software piracy has been analyzed; Secondly, the underlying dynamics of piracy has been explored; and finally, the case of Indian software industry has been briefly summarized. In addition to tabular analysis, the techniques like percentage analysis, growth rates and the factor analysis have been used. Wherever needed, appropriate price adjustments have been made.

ANALYSIS

Nature and Magnitude of Piracy

The piracy continues to pose challenges to the global software industry. Table 1 underscores the fact that software piracy is an oddly distributed worldwide phenomenon. Software piracy rate is the least in U.S.A./Canada region. It is only 25 per cent in the year 2000, which is less than the overall world piracy rate. Eastern Europe, Latin America and the Middle East are first three high-ranking regions in

terms of piracy rate. Piracy rate, in the year 2000, has been 63 per cent in Eastern Europe, 58 per cent in Latin America and 57 per cent in the Middle East. Asia/Pacific region, in which India is significant player, falls in the medium piracyranking category. An analysis of the trend based growth rate, through the years 1994 to year 2000, shows that U.S.A./Canada region depicts a growth rate of 3.13 per cent per annum which is the least in the global economy. A sharp decrease per annum is depicted by Western Europe, Middle East and Africa it is more than 6 per cent per annum in the same period. On the whole, world level software piracy rate registerd a growth rate of 5.07 per cent per annum for the period under study. For the first time the world piracy rate in the year 2000 did not decline, but instead showed a slight increase to 37 per cent as against 36 per cent in the year 1999. The factor that kept piracy rates from falling in 2000 is that the fastest growing regions were the ones with the highest piracy rates. Growth in Asia/Pacific region, with its higher piracy rate, offset decline elsewhere.

Initial high rate of software piracy may be attributed to several factors. First, the higher prices of legal software and non-availability of user support had been the prime booster to software piracy. Later, the decline in the prices of original software and availability of user support for the software products led to decrease in the piracy rate. Secondly, in the first half of 1990s, the time lag between the demand for new software and the effective supply of the software, led to cases of piracy due to expedient use of PCs. Thirdly, patent laws and intellectual property rights related laws were not that very stringent and effective as they are becoming now under the present W.T.O. regime.

Many regions experienced smaller dollar losses in 2000 as compared to 1999 (Table 2). A combination of slow growth and somewhat lower prices for software slightly reduced to dollar losses due to piracy. The dollar loss due to piracy amounting to US$ 11.75 billion, in year 2000, is not a so small magnitude. The revenue loss in terms of dollars is not a true indicator of decrease in piracy because it is, in fact, the result of several other factors. The U.S. dollar was strong in the year 2000.Software prices continued to fall, advancing a trend of declining prices that has evolved over the last decade. Hence, it is combination of slow growth and lower prices that depicted a slight reduction in the dollar losses due to piracy.

The regions with the highest dollar losses in 2000 were Asia/Pacific, Western Europe and North America. These regions have the largest economies and correspondingly, the largest PC and software markets. Their relatively low piracy rate translates into large dollar losses. Trend growth rate based analysis shows more than 9 percent per annum revenue lost in retail software due to piracy, has been experienced by two regions: Eastern Europe and Africa. Western Europe and U.S.A./Canada regions show a negligible increase in the retail software revenue loss due to piracy for period under study. Regions like Latin America and Asia/Pacific depict a decline of more than 2 per cent per annum for the same period. Decline of dollar losses in slow growth environment economies is primarily due to economic slow down of these regions and is not expected to continue as they recover.

Dynamics of Software Piracy

The global technology generation of innovative activity is highly concentrated in a handful of technologically advanced developed countries with just top ten countries accounting for as much as 84 per cent of the global R&D activity. The uneven diffusion of the information and communication technology, the digital divide, is the root cause of the problem of software piracy. The Technology Achievement Index (TAI) of the UNDP gives a snapshot of each country's average achievement in creation and diffusion of technology and building human skills to master new innovation. TAI has been computed using variables relating to Technology creation, diffusion of recent innovations, diffusion of old innovations and human skills. According to TAI countries have been classified as leaders; potential Leaders, dynamic adapters, and marginalized (Table3).

Logically, Software piracy both in terms of piracy rate should be inversely related to the technological achievement index. Patents granted to residents of a country and the receipts of royalities and the license fees may be assumed as proxy variables to identify the technology creation lower should be the piracy rate. Hence, the piracy rate should also be inversely related to the technology creation. Diffusion of innovations both recent and old can also affect the piracy rate depending upon the level of development of a country. Diffusion of recent innovations may be identified by number of internet

hosts and share of high and medium technology exports in the total exports of a country. Diffusion of old innovations may be measured by number of telephones and the extent of electricity consumption in a country. Level of human skills may also be perceived as one of the determinants of the piracy rate. Level of human skills may be measured by mean years of schooling and gross tertiary science enrolment ratio or more compactly by Human Development Index (HDI) rank. So the functional form of the model for analyzing software piracy may be specified as:

PRATE=f (TECHNDX)

(A)

PRATE = f (PATENTS, ROYAL, INTNET, TECHEXP, PHONES, ELECT,

SCHOOL, SCIENCE, R&D1, R&D2, ENGG, HDI)

(B)

Where:

PRATE	Piracy rate
TECHNDX	Technology Achievement Inder (TAI) Value
PATENTS	Patents Granted to Residents (per million people)
ROYAL	Receipts of Royality and License fees (US$ per 1,000 people)
INTENT	Internet Hosts (per 1,000 people)
TECHEXP	High and Medium Technology Exports (as a % of Total Goods Exported)
PHONES	Telephones (all marine, cellular etc. per 1,000 people)
ELECT	Electricity Consumption (KWH per capita)
SCHOOL	Mean Years of Schooling (age 15 and above)
SCIENCE	Gross Tertiary Science Enrolment Ratio (%)
R&D1	R&d Expenditures as a % of GNP
R&D2	R&d Expenditures in Business as a % of Total
ENGG	Scientits and Engineers in R&D (per 100,000 people)
HDI	Index Rank

In an attempt to further identify the underlying factors that explain the pattern of correlations within a set of observed variables, factor analysis has been applied. Factro analysis is often used in data reduction, by identifying a small number of factors, which explain most of the variance observed in a much larger number of manifest variables. For this purpose "Principle Component Analysis" extraction method in conjuction with Varimax (with Kaiser Normalization) rotation has finally yielded two components only. The cumulative total variance explained by the first two components comes out to be 90.013 per cent. Rotated components matrix shows that variables INTNET, ELECT and PHONES form the first component and the variables R&D1, R&D2, TECHEXP; and PATENTS form the second factor. First component identifies variables that are related with technology relatd infrastructure and the second one is related with creation and diffusion of technology.

Regression results for model specification (A) are as follows:

PRATE = 92.272 - 88.199 (TECHNDX)

S.E. (9.104)

t 9.688

R2 = 0.8864

That is piracy rate is negative function of technological achievement index. The regression coefficient is significant at 2 per cent level of significance. The coefficient of determination is also sufficiently high. This means that the higher the level of technology creation, diffusion of innovations and the human skills, lower is the piracy rate.

Since many of the independent variables in the above specification (model B) are highly correlated and may cause a problem of multi-collinearity, if the regression coefficients are to be estimated by using the method of ordinary least squares. Hence the next option is to follow the principle of parsimony and go for a stepwise regression. The final functional form selected by the stepwise regression comes out as follows and is perfectly in consonance with above factor analysis results i.e. INTNET belongs to first factor and the R&D1 belongs to the second component and the third one, the HDI, is independent of the first two. Hence,

PRATE= f (INTNET, R&D1, HDI)

That is to say software piracy rate is a function of level Internet use, Research and Development expenditure as a percentage of Gross National Product (GNP) and the Human Development Index rank.

PRATE = 51.633 + 0.226 (HDI) - 0.084 (INTNET) - 4.301 (R&D1)

S.E.	(0.050)	(0.034)	(1.874)
t	4.526	2.459	2.295

R2 = 0.9235

The regression highlights an interesting result that software piracy rate is positively related with the human development index ranking and negatively related with Internet use and research and development expenditure as a percentage of GNP. All the regression coefficients are significant at 2 per cent level of significance. Coefficient of determination, the R-square, is an indicative of the fact that model exmpains 92.35 percent of the total variation in software piracy rate. Higher rank in terms of HDI means lower human development level. As the education, per-capita income and the heath indices, improve, the HDI ranking also improves. So, software piracy is a phenomenon more prevalent in countries with lower human development levels. An improvement in the human development level leads automatically to reduction in th piracy rate, Number of Internet hosts indirectly measures number and rigor of the computer use. As the computer user base improves, there is demand for licensed software and fall in the piracy rate. Share of research and development expenditure as a percentage of GNP signifies the step towards technology creation. More the share of R&D expenditure in a country less will be the piracy rate in a country. All the three determinants of the piracy rate and macro-economic policy variables, investment on human development, in general, and on education health, information technology and research and development, in particular can solve the problem of piracy to a greater extent.

As already said, the software piracy implies a loss of revenue to the genuine producer countries and companies as well. Same above model when tried with revenue loss as a dependent variable provided the following selection of variables by the stepwise regression criteria:

REVLOSS = 93.624 + 1.335 (PATENTS)

S.E.	(0.290)
t	4.611

R2 = 0.8592

Loss of revenue is a direct function of number of patents with the residents of a country. The regression coefficient is significant at 2 per cent level of significance and the R-square is sufficiently high. Hence, major sufferers of the dollar loss due to piracy are the countries with higher levels of technology creation.

Software rate is the function of socio-economic underdevelopment and the dollar revenue loss due to piracy is a function of technology creation. Software piracy and the loss of revenue due to piracy are negatively related and the correlation coefficient is significant at 5 per cent level of significance. In general, the higher revenue loss is associated with lower piracy rate and vice-versa. This is because the countries with lower piracy rate are countries with higher technology creation and diffusion level.On the other hand countries with higher piracy rate because of low market share are characterized by a low revenue loss due to piracy. Hence in this menace of piracy loss sufferers are: one, the major players and, two the players who are actively involved in the process of technology creation and diffusion.

Case of Indian Software Industry

In terms of number of patents Indian industry in general (table 4) and the software industry in particular is a too low profile but in terms of performance and piracy the software segment is quite signigicant. As per Heks (1999) unbranded assembled computers loaded with pirated software still form a significant segment of the Indian market (fig.1). These softwares include operating systems and other general-purpose software. In the decade of 1990s when Indian software industry was preparing itself for the boom, assembled computers coupled wit pirated software acted as a catalyst in providing training to masses at a low cost (Mehta, 2001). India was able to generate such a specialized skill formation, in a very short span.This lead to both R&D and production in large quantum at at low cost that finally gave a comparative cost advantage to the Indian software industry. Being primarily an export oriented industry, the gains of its low cost production dissipated to importing countries (USA and EU). In turn, over time India due to specialization became the hub for some of the future technologies likes that of IT Enabled services. The benefits of such a specialization are again meant for advanced world. Thus piracy and unbranded hardware has acted as catalyst in developing the hubs for the future technologies of the world.

If a strict IPR regime had been there in the early nineties, Indian software industry, the giant source of software products and services for USA and EU, would have not come into existence at all. If the pioneer institutions and firms in earlier developments in both hardware and software had gone in for strict IPR in the decades of 1960s and 1970s, the giant firms like Microsoft would have not been on the world map today. All big firms and leading nations in the software industry are reaping the benefits of past liberal IPR regimes. The tighter IPRs will, no doubt help the few countries and firms to earn more but will raise the costs and will hinder the future technology development at lower end. The whole process of skill formation and specialization generation will be affected adversely.

Table 1.1

Region-wise Software Piracy Rate (Per cent)

Region/Year	**1994**	**1995**	**1996**	**1997**	**1998**	**Trend 1999**	**Growth 2000**	**Rank**	**Rate (%)**
Western Europe	52	49	43	39	36	34	34	(6)	-7.50
Eastern Europe	85	83	80	77	76	70	63	(1)	-4.50
U.S.A./Canada	32	27	28	28	26	26	25	(7)	-3.13
Latin America	78	76	69	64	62	59	58	(2)	-5.22
Asia/Pacific	68	64	55	52	49	47	51	(5)	-5.54
Middle East	84	83	79	72	69	63	57	(3)	-6.39
Africa	80	74	70	60	58	56	52	(4)	7.02
Total World	49	46	43	40	38	36	37		-5.07

Source : BSA/SIIA/SPA

Table 1.2

Region-wise Software Piracy Rate (Per cent)

Region/Year	2005	2006	2009	2011	2013	2015	2017
Western Europe	35	34	34	32	29	28	26
Eastern Europe	69	68	64	62	61	58	57
U.S.A./Canada	22	22	21	19	19	17	16
Latin America	68	66	63	61	59	55	52
Asia/Pacific	54	55	59	58	62	61	57
Middle East	57	60	59	58	59	57	56
EU	36	36	34	32	29	28	28

Source: Statistca and BSA

Table 2.1

Retail Software Revenue Lost due to Piracy (US$ 1000)

Region	Y 1994	e 1995	a 1996	r 1997	Trend 1998	Growth 1999	 2000	Rate (%)
Western Europe	2783000 (22.54)	3642939 (27.32)	2574871 (22.77)	2518726 (22.02)	2760337 (25.15)	3629371 (29.84)	3079256 (26.21)	0.81
Eastern Europe	1100800 (8.92)	748077 (5.61)	782508 (6.92)	561356 (4.91)	640015 (5.83)	505213 (4.15)	404491 (3.44)	-11.45
U.S.A./Canada	3931100 (31.84)	3287379 (24.66)	2718251 (24.04)	3074266 (26.87)	3195821 (29.12)	3631212 (29.85)	2937437 (25.00)	0-99
Latin America	981200 (7.95)	1141516 (8.56)	980568 (8.67)	977994 (8.55)	1045506 (9.52)	1127639 (9.27)	869777 (7.40)	-2.47
Asia/Pacific	3144500 (25.47)	3991399 (29.94)	3739304 (33.07)	3916236 (34.23)	2954812 (26.92)	2791531 (22.95)	4083061 (34.75)	-2.94
Middle East	206400 (1.67)	264820 (1.99)	285522 (2.53)	206003 (1.80)	190139 (1.73)	284445 (2.34)	240451 (2.05)	-1.63
Africa	199500 (1.62)	256512 (1.92)	225234 (1.99)	185507 (1.62)	189881 (1.73)	193747 (1.59)	135892 (1.16)	-9.79
Total World	12346500	13332642	11306258	11440088	10976511	12163158	11750365	-1.29

Note : Figures in perenthesis are percentages.

Source : BSA/SIIA/SPA

Table 2.1

Retail Software Revenue Lost due to Piracy (US$ Million)

Region/Year	**2004**	**2005**	**2006**	**2015**	**2017**
Western Europe	9600	11843	10630	13749	9461
Eastern Europe	2111	3262	4124	3136	2910
U.S.A./Canada	7232	10255	12356	10016	9458
Latin America	1273	2026	3125	5787	4957
Asia/Pacific	7553	8050	11596	19064	16439
Middle East	1026	1615	1997	3696	3077
EU	-	12048	11003		

Source:BSA and IDC(Annual Survey) and Statistca.com

Table 3

Countries Categorized on the basis of Technology Achievement Index (TAI)

Leaders	**Potential Leaders**	**Dynamic Adapters**	**Marginalized**
Finland	Spain	Uruguay	Nicaragua
United States	Italy	South Africa	Pakistan
Sweden	Czech Republic	Thailand	Senegal
Japan	Hungary	Trinidad & Tobago	Ghana
Korea	Slovenia	Panama	Kenya
Netherlands	Hong Kong	Brazil	Nepal
United Kingdom	Slovenia	China	Sudan
Canada	Greece	Philippines	Mozambique
Australia	Portugal	Bolivia	Tanzaia
Singapore	Malaysia	Colombia	
Germany	Mexico	Peru	
Norway	Argentina	Jamaica	
Ireland	Romania	Iran	
Belgium	Chile	India	

Source: Human Development Report, 2001.

Table 4

No. of Applications and Patents Granted for Selected Countries

Country	Applications filed (p.a.)	Patents granted (p.a.)
Japan	400000	250000
United States of America	90000	35000
United Kingdom	70000	30000
India	10000	2000

Source : www.wipro.com

Table 5

List of top 20 Countries (with software Licence misuse and piracy Hotspots

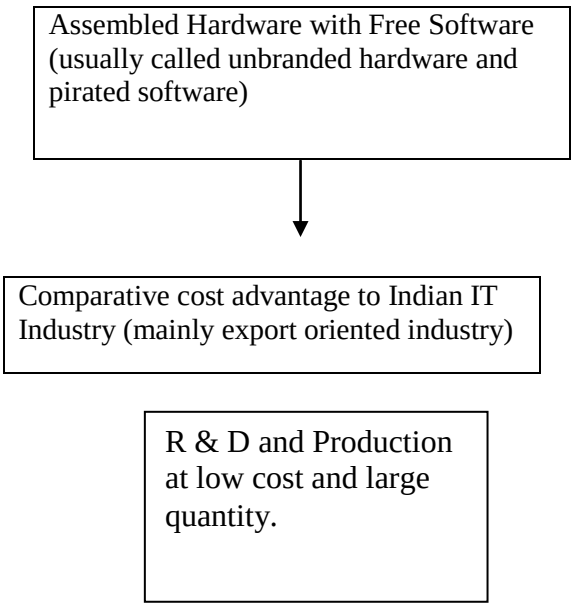
Country	Country
China	France
Russia	Iran
USA	Turkey
India	Germany
Ukraine	Brazil
Italy	Columbia
Taiwan	Indonesia
Korea	Peru
Mexico	Thailand
Vietnam	Hungary

Source: RCI data

As per BSA Global Software Survey May 2016, 43 percent and 39 percent of software installed on PC was not licensed during the yars 2014 and 2015.

Figure 1

Data Flow diagram of Indian IT industry in absence of IPRS (in 1990s).



IMPLICATIONS

In the light of foregoing analysis, some facts can be analyzed as:

a) The progress of software development hinges on the developers' ability to use both new and old ideas, but software patents prevent this. Hence countries that do not have software patents are giving their software developers an advantage. Developing countries must incorporate the provisions of allowing its researchers to experiment on the patented invension for research.

b) Intellectual Property protection is important to encourage innovation and creativity in the information society; similarly, the wide disseminating, diffusion and sharing of knowledge is important to encourage innovation and creativity. Although transfer and dissemination of technology is an explicit objective of TRIPs but it leaves the transfer related provisions quite vague.

c) The patent system grants temporary monopoly to the firms that introduce innovation. Strengthening and harmonization of IPR regime is going to affect the process of development of poorer countries in a significant manner by chocking an important contributor of growth described as adaptation and imitation and re-engineering in the technology learning process. The developing countries may be compensated for the adverse effects of the strengthening of IPR regime by international funding to local enterprises to help them to build local capabilities.

Hence to sum up we can say that investing in the developing and underdeveloped countries for technology creation, diffusion of innovations and human skills is not in contrast to the competitive interests of leader and potential leader countries. A little relaxation and/or compensation in the present IPR system will benefit finally the developed world in long-run.

REFERENCES

1. Canning, D. (1997): "Does Infrastructure Cause Economic Growth? International Evidence for Infrastructure Bottlenecks", Mimeo, Harvard Institute for International Development.
2. Dataquest: Various issues
3. Easterly, w. and Levine, R.(1997) "Africa Growth Tragedy : Policies and Economic and Ethnic Division",Quarterly Journal of Economics, 112, pp.1203-50.
4. Hanna, N. (1991): "The Information Technology Revolution and Economic"
5. Development, W.B., Washington D.C.
6. Hanna, N. (1994): "Exploiting Information Technology for Development", W.B.,Washington D.C.
7. Heeks, R. (1999): India's Software Industry, IDPM, University of Manchester, UK.
8. Norton, S. (1992): "Transaction Costs, Telecommunications and the Microeconomics of Macroeconomic Growth", Economic Development and Cultural Change, 41, 1, pp.175-196.
9. Mehta, Vinnie (2001): "Glimpses of Indian IT Industry", an address by the director of MAIT on Independence Day (August 14).
10. Talero and Gaudette (1996): "Harnessing Information for Economic Development," The World Bank, May.
11. World Bank (1999): World Development Report Washington D.C.

ANALYSIS OF REFORMS IN INTELLECTUAL PROPERTY RIGHTS AND THEIR IMPACTON INTELLECTUAL PROPERTY IN INDIA

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Abstract

This study aims to review reforms in IPRs (Intellectual Property Rights) and to investigate their impact on IP (Intellectual Property) in India. This study is based on secondary data. It is found that the various reforms/improvement initiatives taken by government of India for increasing manpower, enhancing efficiency, uniformity and consistency in processing of IP applications, providing balanced and transparent IPR framework, dissemination of IP- related information, nurturing bilateral cooperation at the international level and creating more IP awareness in the country has yielded improved results in intellectual property and fostered robust IPRs regime in India.

Keywords: -Intellectual Property Rights, Indian IPR Policy, Reforms, Patents, Copyrights, Trademarks, India IPR Reforms, Designs, Impact of Indian IPRs Policy

1. Introduction

In present scenario of globalization, intellectual property rights (IPRs) is the focal point in global trade practices**.** Intellectual property (IP) rights boost the innovative environment by giving recognition and economic benefits to creator or inventor whereas the lack of IPR awareness and its ineffective implementation may hamper the economic, technical and societal developments of a nation. Hence enforcing robust IPRs regime and dissemination of IPR**s** knowledge and its appropriate implementation is utmost requirement for any nation. The Government of India has taken concrete steps to establish favourable environment for creation and protection of Intellectual Property Rights and strengthening IP administration in the country. The National IPR Policy, launched on 12thMay 2016, endeavours to promote strong IP regime in the country and encourages innovation in order to achieve Country's industrial and economic development goals. Madhu Bala (2020) reviewed that the IPR Policy in India visualized an India where knowledge is the main driver of development; it proposes various measures to realize these goals - generation of more IPs in India, strengthening of IPR enforcement and adjudication mechanisms, improving the administration of IPR laws and encouraging commercialization of IPs. This study aims to review the reforms in IPRs (Intellectual Property Rights) in India and to investigate their impact.

2. Need for IPRs Reforms

In 1994, member countries of the World Trade Organization (WTO) signed the Trade-Related Aspects of Intellectual Property Rights (TRIPS), which established the global standards for IPRs. However, India's reputation with regards to recognizing and enforcing IPRs has been far from satisfactory. India was lagging in generation of IPR assets in terms of registered patents, industrial design and trade marks etc. and is still far behind in the race of research and development. This is evidenced from the following literature:-

- Patents granted in India was 13908 in 2018, which is very less in comparison to other top ten technology giants like US, China, Japan, Korea etc. (Figure-1).India spends only 0.7% of its GDP in 2018 on research and development (R&D) which is too small as compared to other economies (Figure-2).

- India ranked at 14th, 9th and 13th position in patents, marks and designs respectively based on total (resident and abroad) IP filing activity by origin in 2014 (WIPO Report, 2014). Global Innovative Index ranking is 81st in 2015 (Global Innovative Index report, 2015).

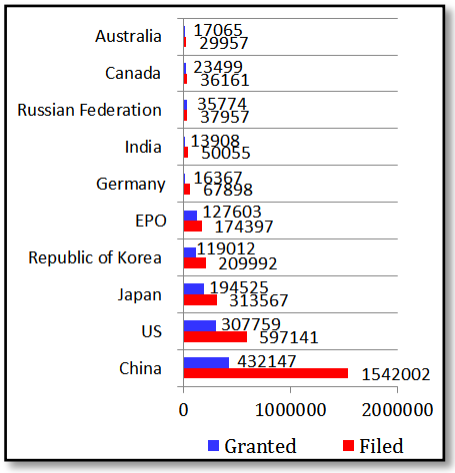

Figure -1 : Patents application in 2018

Source : WIPO Report, 2019

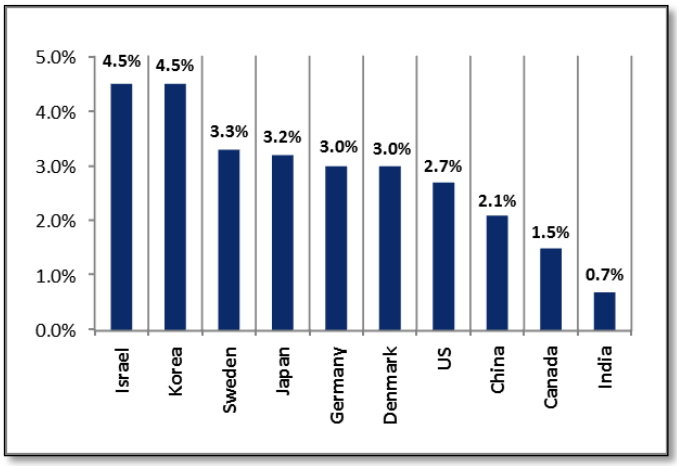

Figure - 2 : %age of GDP spent on R&D in 2018

Source : OECD, 2018

- US Chamber of Commerce released the International Index on 28 January 2014. In the International Intellectual Property (IP) Index released by US Chamber of Commerce, India had scored a low 6.95 point out of maximum 30 points and awarded last rank in terms of protection and enforcement of Intellectual Property practices out of 25 countries (Figure-3).

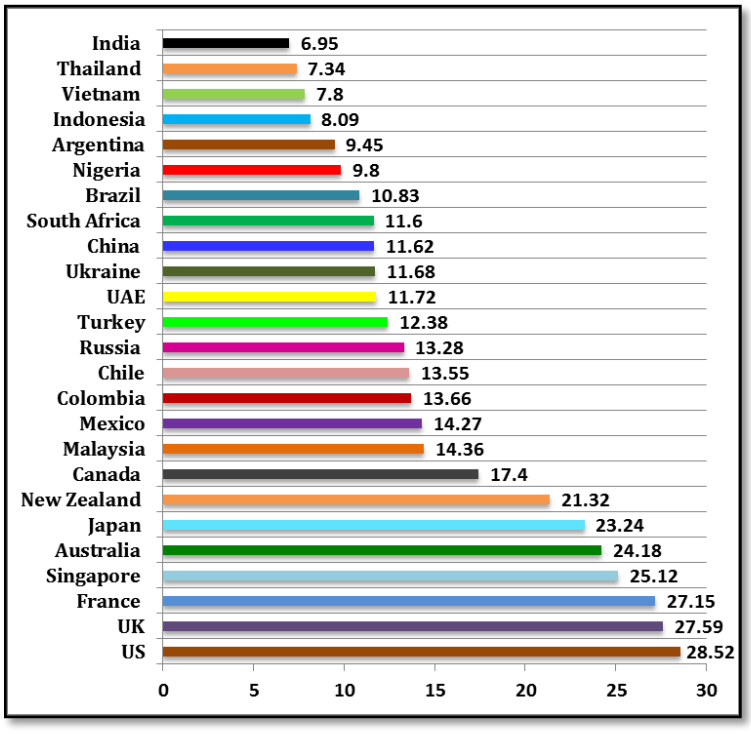

Figure-3 :- Overall country scores for International IP Index

Source:- GIPC International IP Index Second Edition, January 2014

- The World Bank carried out survey concerned to Knowledge Economy Index (KEI) of 144 countries across the world on the basis of their knowledge based initiative, policy frame work, economic incentive and institutional regime, information and communication technologies (ICT) infrastructure in 2008. India ranked at 104thposition due to lack in aforesaid parameters.

India continued to have the weakest IP environment of all countries included in the GIPC Index for the second consecutive year also (GIPC Report, 2014). The Indian IPR regime has been crafted to strike a balance between protecting IPRs to support the commercialization of innovation and catering to social needs. This resulted in a relatively weaker IPR regime and a lower propensity to filing patents in India (The Global Innovation Index Report, 2015).

3. Reforms in Intellectual Property Rights in India

The Indian Patent Office has adopted various measures for the betterment of Intellectual Property Rights in the country to match with the Trade-Related Aspects of Intellectual Property Rights (TRIPS), World Intellectual Property Organization (WIPO) and in other jurisdictions like United States and European Patent Office. Some of the remarkable reforms in Indian IPRs Policy are discussed in next subsections.

3.1 Strengthening of Institutional Mechanism

3.1.1 All IPRs under one umbrella

The administration of Copyright Act, 1957 and Semiconductor Integrated Circuits Layout-Design Act, 2000 has been transferred to Department of Industrial Policy and Promotion. This has resulted in an integrated approach and synergy between different IP offices and Acts.

3.1.2 One Appellate Board

Under the Finance Act 2017, the Copyright Board has also been merged with the Intellectual Property Appellate Board (IPAB).Amendments to the Trade Mark Rules 1999, notified in March 2017, has further decreased the number of Forms from 74 to 8 and provided for the filing of single application form for all types of trademark applications. Furthermore the provision for filing extensions for submission of affidavit and evidences has been eliminated so as to speed up the disposal.

3.1.3 Cell for IPR Promotion and Management (CIPAM)

This is a professional body under the aegis of the Department of Industrial Policy and Promotion (DIPP) to ensure focused action on issues related to IPRs which also assists in simplifying and streamlining of IP processes, apart from undertaking steps for furthering IPR awareness, commercialization and enforcement.

3.2 Augmentation of Technical Manpower

To reduce the pendency in IP applications, 459 new technically competent Patent Examiners in various fields of technology have been appointed on regular basis in addition to the existing 130. Also, 27 posts of Deputy Controllers and 49 posts of Assistant Controllers in Patent Office have been filled up through promotion.

3.3 Simplification, Automation and Digitalization

The facility for auto allocation of requests for examination and automation of process for registration and renewal has been started. Now first examination reports and registration certificates are provided through e-mail. The facility of *SMS* alert service to stake holders regarding examination reports has been initiated. Comprehensive e-filing facility is available with payment gateway facility and it has been made mandatory for patent agents to file their applications online. India has acceded to the WIPO Copyright Treaty (WCT) and WIPO Performances and Phonograms Treaty (WPPT), which extend coverage of copyright to the internet and digital environment.

3.5 Creating IPR dissemination of information

IPO (Intellectual Property Office) website has been redesigned to improve contents and ease of access. IP data on a real-time basis is available in respect of filing and processing of Patents, Designs, TradeMarks and Geographical Indications.

3.6 Creating IPR Awareness and initiatives for IP training and awareness

IPR Awareness programs have been conducted in over 200 academic institutions, including rural schools through satellite communication, and for industry, police, customs and judiciary. IPR help-desks and online guidance system through e-mail are available at each IPO location. The IP office organized and participated in public outreach activities with industrial organizations like Confederation of Indian Industry (CII), The Federation of Indian Chambers of Commerce & Industry (FICCI) and The Associated Chambers of Commerce of India (ASSOCHAM). Several orientation programmes have been conducted to train examiners.

3.7 Initiatives to ensure international co-operation

International programmes for the Asia Pacific and BRICS countries have been organized. A bilateral meeting was held between Controller general Patents, Designs and Trademarks and the Japan Patent Office Commissioner. Further Members of the Chinese IP office had visited India. One MoU was signed by The Intellectual Property Office of the United Kingdom and the Department of Industrial Policy & Promotion. Every year IP Day has been celebrated on 26th April, last theme being "Role of women in IP".

3.8 Empowering Startups

To facilitate the implementation of the Start-up India scheme, 80% fee concession in patent and 50% in trademark has been provided through the Patents and Trademarks Amendment Rules. The Amendment in the Patent Rules, 2003, notified in 2016, has provided for the expedited examination of patent applications filed by start-ups.

3.9 IPRs in School Syllabus

The contents on IPRs have been included in the NCERT curriculum of Commerce stream to increase the awareness among students. A chapter on 'IPR, Innovation & Creative Works' is also being included in NCERT's "Handbook on Entrepreneurship for Northeast Region (NER)". Further work is ongoing to include IPRs in other academic streams too.

3.10 Technology and Innovation Support Centers (TISCs) and Patent Agents

In conjunction with WIPO, six TISCs have been established in various institutions across different states. Under the scheme of facilitating "Startups Intellectual Property Protection" (SIPP), 208 patents agents have been empanelled as facilitators by Controller of General of Patents, Trademarks and Design, who will provide assistance to startups in the preparation and filing of their patents applications.

3.11 IPR Enforcement Toolkit for Police

A IPR Enforcement Toolkit have been prepared to assist police officials in dealing with IP crimes, in particular, Trademark counterfeiting and Copyright piracy.

3.12 Some of major Amendments in Patent Rules

The Patent Rules, 2003 have been amended to streamline processes in view of users friendly. The refund of fees in certain cases & withdrawal of application without any fees have been permitted. Applications can be transferred electronically from any of the Patent Office branches to another. Expedited Examination is now permitted on certain grounds. Hearing of cases is being done through video conferencing. Special provisions have been made for startups whereby they will get 80% rebate in fees.

3.13 Some of major Amendments in Trademark Rules

The Trade Marks Rules, 2002 have been revamped and The Trade Marks Rules, 2017 were notified on 6th March, 2017. There is reduction of 50% fees for filing Trade Mark Applications by Individuals/ Startups/ Small Enterprises. The 74 separate forms and applications have now been replaced by 8 consolidated forms. E-filing encouraged through 10% rebate in fees for e-filing vis-à-vis physical filing of Trade Mark Applications. Email now recognized as a Mode of Service.

4. Impact of IPRs Reforms in India

4.1 Increase in Filings

Filing of applications for protection of various Intellectual Property rights in IP offices under the administrative control of Controller General of Patents, Designs and Trademarks (CGPDTM) has been showing consistent growth over the years, in general.

Table-1 : Trends in last five years in respect of filing of intellectual property applications

Application	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**
Patent	42,951	42763	46904	45444	47854
Design	8,533	9327	11108	10213	11837
Trademark	200005	210501	283060	278170	272974
Geographical Indication	75	47	14	32	38
Copyrights	-	-	-	16617	17841
Semiconductor Integrated Layout Designs (SCILD)	-	-	-		2
Total =	**251564**	**262638 ▲**	**341086 ▲**	**350476 ▲**	**350546▲**

Source :- Annual Report 2017-18, IP India

The overall filing of applications for various Intellectual Property rights for the year 2017-18 (3,50,546) has been almost same as compared to the previous year 2016-17 (3,50,467). The increasing trend in filing of applications for Patents, Designs, Geographical indications and Copyright has been observed except for Trademarks where there is slight decrease as compared to 2016-17. Trends in previous years in respect of various aspects of intellectual property applications are discussed hereunder.

4.1.1 Trends in application for last five years – Patents

It is clear from Figure-4 that patent's trends are towards improvement every successive year. Comparing figures of year 2017-18 to the figures of 2013-14, it is found that patents application filing increased by 11%, patent applications examined increased by 224%, grant of patents increased by 209% and disposal of patents applications increased by 318%.

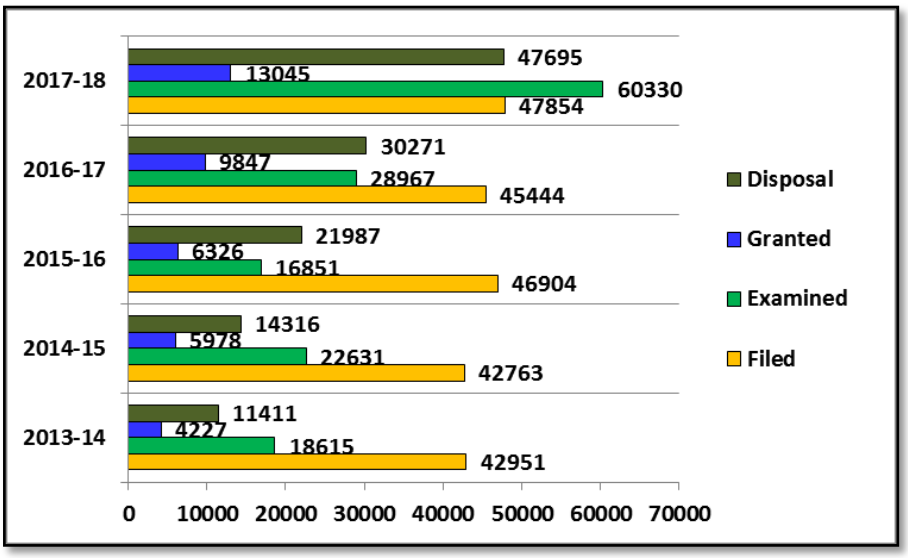

Figure -4 : Trends in application for last five years - Patents

Source : Annual Report 2017-18, IP India

4.1.2 Trends in application for last five years – Designs

It is clear from Figure-5 that design's trends are also towards improvement every successive year except 2014-15 (Registered Designs = 7147).Comparing figures of year 2017-18 to the figures of 2013-14, it is found that design application filing increased by 39%, design applications examined increased by 63%, registered designs increased by 40% and disposal of designs applications increased by 49%.

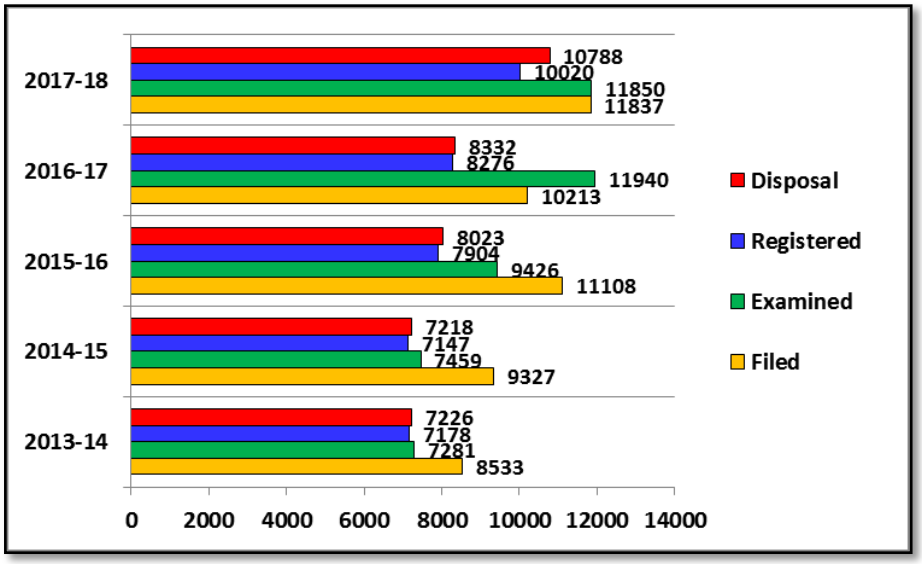

Figure -5 : Trends in application for last five years –Design

Source : Annual Report 2017-18, IP India

4.1.3 Trends in application for last five years – Trademarks

It is clear from Figure-6 that trademarks' trends are also towards improvement every successive year except 2014-15 (Registered Trademarks = 41583). Comparing figures of year 2017-18 to the figures of 2013-14, it is found that trademarks application filing increased by 36%, trademarks applications examined increased by 51%, registered trademarks increased by 343% and disposal of trademarks applications increased by 431%.

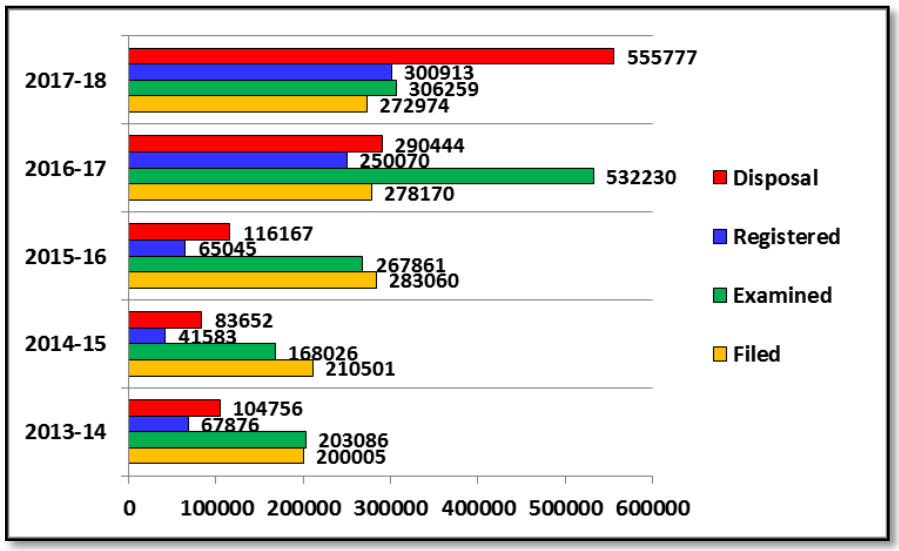

Figure -6 : Trends in application for last five years – Trademarks

Source : Annual Report 2017-18, IP India

4.1.4 Trends in application for last two years – Copyrights

It is clear from Figure-7 that copyrights' trendsare also towards improvement every successive year. Comparing figures of year 2017-18 to the figures of 2013-14, it is found that copyrights application filing increased by 7%, applications examined increased by 107%, increase in ROC by 456%, increase in DLI by 126% and disposal of copyrights applications increased by 631%.

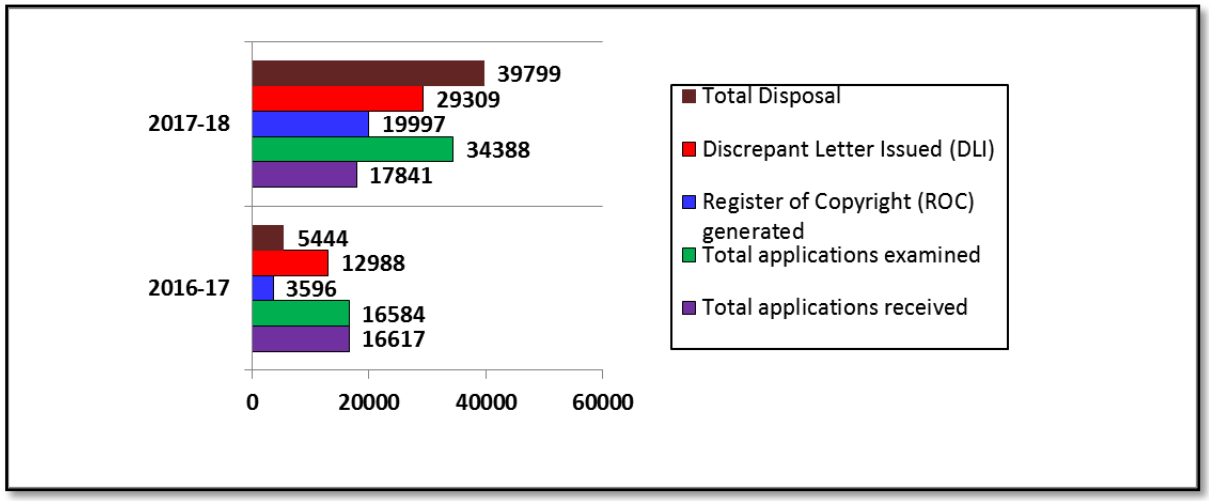

Figure -7 : Trends in application for last two years – Copyright

Source : Annual Report 2017-18, IP India

4.2 Patents on fast track – Reduction in Pendency

There is reduction in pendency in patents applications 18% by 31-March-2018 and 30% by 28-Feb-2019. As regards trademarks, the number has come down from 2,59,668 to 32,619 in the same period.

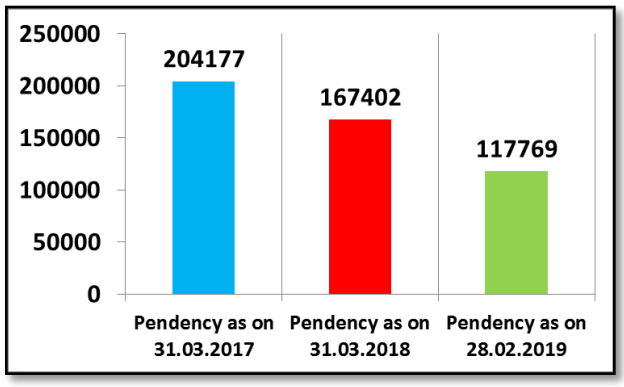

Figure -7 : Patents on fast track – Reduction in Pendency

Source : Annual Report 2017-18, IP India

4.3 Global Innovation Index (GII)

India's rank in the GII (Global Innovative Index) Report issued by WIPO has improved from 81st in 2015 to 57th place in 2018 and is now 52nd in 2019.India has retained top rank in Information and Communication Technology Service Export for the last four years. India is the top-ranked economy in Central and Southern Asia and has now outperformed on innovation relative to its GDP per capita for seven years in a row (GII Report, 2019).

4.4 International IP Index of India

The United States' Chamber of Commerce (USCC) recently released its Annual International IP Index. India ranks 36 out of 50 countries, as opposed to the 44 place it held in the 2018, International Intellectual Property Index ranking.In its report, the US Chamber of Commerce described this move as a 'real accomplishment'. In the words of the report, "most substantial movement can be seen from India, which has surged almost 20 percent and climbed eight places in the IP Index rankings from 44 to 36". The US Chambers' Global Innovation Policy Centre (GIPC) commended the efforts by India, and stated that"…this improvement is a real accomplishment and Indian policy makers should be congratulated on their successful efforts in 2018". According to the GIPC Senior Vice President, Patrick Kilbride, "For the second year in a row, India's score represents the largest gain of any country measured on the Index which covers over 90 percent of global gross domestic product."

Conclusion

It is obvious that management of IP and IPRs is a multidimensional task and calls for many different actions and strategies for their success, which need to be aligned with national laws and international treaties and practices. This study revealed that India's Intellectual Property environment has experienced good results due to commendable reforms in new Indian IPRs Policy. The various reforms/improvement initiatives taken by government of India for increasing manpower, enhancing efficiency, uniformity and consistency in processing of IP applications, providing balanced and transparent IPR framework, dissemination of IP related information, nurturing bilateral cooperation at the international level and creating more IP awareness in the country etc. have yielded improved and significant positive results in intellectual property. Indian Intellectual property rights regime is found to foster creativity and innovation in real and true sense.

Bibliography

[1] Department of Industrial Policy and Promotion, India, National Intellectual Property Rights Policy, 2016.

[2] GIPC International IP Index Second Edition, January 2014

[3] Knowledge Economy Index, (2007), Rankings, Knowledge for development programme, World Bank.

[4] Lalit Jajpura, Bhupinder Singh, RajkishoreNayak (2017). An Introduction to Intellectual Property Rights and their Importance in Indian Context. *Journal of Intellectual Property Rights*, Vol 22, January 2017, pp 32-41.

[5] Madhu Bala (2020).National Intellectual Property Rights Policy of India - A Review. In Menu Jain, Anita Moudgil (Eds.), *Sensitizing and Imparting Awareness about Intellectual Property Rights among Students* (1st ed., pp. 125-132). New Delhi, India: National Press Associates.

[6] The National Intellectual Property Rights (IPR) Policy, 2016

[8] Press Information Bureau, Cabinet Approves National Intellectual Property Rights Policy, 2016.

[9] WIPO Statistics Database, October, 2015, Part1, 62-65, (accessed on 2 August 2016).

[10] WIPO Statistics Database, October, 2018, Part1, 62-65, (accessed on 9 January 2016).

INTELLECTUAL PROPERTY RIGHTS FOR EDUCATORS

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Abstract

In this age of knowledge explosion where there is a flood of ideas, inventions and innovations which significantly marks the unprecedented growth of the society has to be sustained. The procurement of one's harvest has lead to the need of birth of concept of Intellectual Property Rights. Intellectual Property Rights intends to protect creator' original ideas, theories, concepts, process and machinery (inventions) with which one stands distinguished from others. The federal nature of Intellectual Property Rights does provide the ultimate good to the society while maintaining one's individuality. The process of teaching and learning is also federal in nature. The teacher/educator imparts education for the welfare of the society while sustaining his /her individuality. Therefore, the significance of Intellectual Property Rights for education is counted. The intellectual property right is in fact a kind of allowance given by the law to use material only in conjunction with a clearly defined educational objective. The teacher has to be cautious while using his own prepared and saved lectures as well as using other educator's methods, materials, references etc. The present paper intends to analyze the fair-use of work by educators while disseminating information as well as leveraging knowledge for its use in science, technology and promoting the good of society. The paper also elucidates the factors to be considered about the nature and objects of the selection made, the quantity and value of the materials used and the degree in which the use may be counted fair. The article specifically emphasizes the fact that an education can not be used as an excuse for misusing or exploiting the owner's right. The sanctity and the privacy has to be respected and procured at any cost.

Keywords: Intellectual Property Rights, TEACH'S Act, Educators.

Introduction

The Present Age of Knowledge Explosion commensurate kind of Renaissance – an explosion of novel ideas, thoughts and concrete creations. These novelties stamp one's individuality and as such have to be procured. Therefore, the emergence of intellectual property rights came as a fresh air for protecting any literary, scientific or artistic work produced by any person. In other words, the issue of Intellectual Property Rights in the educational arena saves the ownership of creator from the time of its creation to publication. In other words, it forms its credentials for the smooth functioning of the society by creating a space to invent, create and advance one's abilities and talents.

The most generic Intellectual Property Rights include copyright, trademarks and patents. Copyright is applied to a variety of creative, intellectual or artistic work in its genuine form. Trademarks are recognizable symbols which specifies particular products or services from others. Patents shield inventions. The main objective of Intellectual Property law is to "promote development" by granting special rights to the creators for a particular period of time. Intellectual Property is an area encompassing a wide range of rights to ownership of creative work. While Intellectual Property Rights are endowed by our Constitution, they always have been sidelined and are only now taking center stage in different areas of our lives. Intellectual Property rights means to give individuals the ability to create and event as well as reap the benefits of their creative genius. The right aim to provide freedom to express the original idea and convey others without apprehension it will be distorted, misused or exploited by others. Society has always benefited from new advances in technology, science, medicine and art. Taking away the reward from creativity and innovations of inventions will slow down. Progress will begin to slow down and ultimately society will suffer. In India, the Copyright Act was enacted in 1957 and applicable from 21st Jan, 1958. The most recent amendment was in the year 2012.

Copyright is the Intellectual Property Right that strike most educators and is actually a pack of rights which implies the right to reproduce the copyright work, furnish derivative works based on the copyrighted works, distribute copies for marketing, practice and show the work publicly & perform by instruments of digital audio transmission. Copyright infringement is the use of copyrighted works without assent, which carries with it steep penalties including a large amount of fine and jail sentence.

The teachers can share a wide diversity of potential course contents readily available such as articles, books, chapters, videos, sound recordings, images, films or other copyrighted material with the students with a little bit of understanding of its using legitimately. Luckily for educators and librarians, the copyright law allows for certain restrictions on these exclusive rights for the purpose that may consider fair use such as excoriation, comment, news reporting, teaching, scholarship and research. The intention of these limitations is to balance the public interest in open access with the property interest of copyright holders. Unfortunately, the guidelines are quite detailed and always easy to tell what is fair. There is no perfect model that covers every state and if copyright owners disagree with interpretation of fair use, they may file a lawsuit to pledge the dispute.

Fair Use

The right to frame laws protecting the creative works is to "encourage the progress of science and useful arts" and hence work for the ultimate good of the society. The Lawmakers have been striving to reach a balance between the creator and the audience & from this effort was born the fair use of doctrine. Before using copyrighted material, whether formal or non-formal, a teacher must ensure a fair-use analysis. The four factors of determining fair use are:

1) The purpose and kind of use including whether such use is of commercial nature or is for non-profit education purposes.
2) The nature of copyrighted work.
3) The amount and substantiality of the segment used in relation to the copyright work as a whole.
4) The effect of use upon the potential market for or value of the copyrighted work.

The best answer to its fair use is the protection of Intellectual Property laws and seeking responsibility while using copyrighted material to specified quantities or portions of the work for stipulated periods of time. For this, it becomes essential for educators to understand well the provisions of the TEACH's Act.

TEACH'S Act

The "Technology, Education and Copyright Harmonization Act "commonly known as – TEACH'S Act was enacted by U.S. Congress on October 4, 2002. It is full revision of Section 110(2) of U.S. Copyright Act. The TEACH Act empowers accredited academic institutions to use copyright protected material for the objective of distance education without requirement to pay royalties or obtain permission from owner. How, clearly demarcated guidelines for limitations and procedures to which the institution must adhere in order to avoid infringing the copyright exist (Russel, 2002).Its provisions enable educators to use the copyrighted material for distance education with certain restrictions. It is important for educators to understand the provisions of TEACH Act while avail themselves of materials so that limited pieces of work can be used for limited period of time. The TEACH Act aims to clarify the ways and materials is used to satisfy educational objectives. It describes that work in digital format including websites can be used in the portions. It also describes that work meant for sale for educational purpose like educational CDs or textbooks may not be used or copied in any aspect without purchase. In order to qualify to use copyrighted materials under TEACH Act, several conditions must be fulfilled:-

1. The material must be provided at direction of or under the supervision of an instructor and must be an integral part of course curriculum.
2. The amount of material provided must be comparable to that typically displayed in live classroom session.
3. The material is available to the students for a limited duration no longer than classroom session.

For Example – A videotape lecture can be used many times over rather than only once as in the case of traditional teaching methods. If the topic has potential to become outdated, the numbers of the times it can be displays before it become obsolete. But in the case of subject matter like a lecture on William Wordsworth's work, the video can be used endlessly without editing. The video-typed lecture, saved lectures or other teaching material can be viewed many times & used by unregulated audiences and unlimited copies can be made and distributed. While it may serve the objective of advancing education, it is being used by an institution for its own profit because students are paying for the courses. This clearly indicates the institute should be paying royalties for the use of the tape and following the terms laid down by the owner, the professor delivering the lecture or the institute from where it is originated should also pay. While most educators who offer lectures in this manner to other educational institutions make the number of uses that can be made of the material and these are often ignored by institutions eager to increase their net profit.

Libraries

Libraries face interruptions in the form of students taking unfair advantage of material in digital format such as CDs and online databases. The ease of copying from these formats and the problem of tracking and controlling misuse has led to a controversy whether to allow allowing libraries to stock and distribute information in electronic format. At the same time, it is essential for the libraries to provide sufficient information for students and faculty to be able to do research in their subject deeply. Copyright Infringement can bring even library administrators under legal action if evidence shows they may have freely distributed or inadequately protected certain materials.

There are no restrictions to the uses of new technologies in committing copyright infringement. In a time of scanners, copiers and easy transmit devices; it is possible to find out almost anything on the internet. A paper copy of protected books can be easily scanned and uploaded on public sites, where the others can download it free of cost. Librarians are in a rare position as the link between producer of the copyrighted material and consumers. The days when librarians could sit back and avoid the manner in which the material was being used and downloaded is a past thing now. Since neither the students nor the faculty seems to have a clear view about Intellectual Property laws and the limited character of fair use, libraries must provide guidance to both the groups. Also libraries must be educated so they don't encourage guardians to violate Intellectual Property laws in any way. We would like to quote here the Case of University of Oxford VS Rameshwary Photocopy Services Ltd. Delhi wherein the genesis of this case lied in present practice in university of Delhi, where in photocopy shops copy regarding material from prescribed textbooks & sell it to the students at subsidized rates. The Chancellors, masters and scholars of university of oxford filed a case against Rameshwary photocopy services, alleging them of copyright infringement under section 2 of Copyright Act. The outcome of this case has that the publishers had to withdraw their law suits against the defendants as it was observed that shop had a legal license to operate within the north campus premises of D.U.

Educators

Since the copyright-protected material can be fructiferous for the owner, lucidity on ownership is necessary. An employee generally needs to have a contract that specifically stipulates that the copyrightable Intellectual Property created during employment pertains to the employee. Typically, if no such contract exists, the employers owns right to the work. In some cases faculties at educational institutions have collectively consorted contracts that allow for the ownership to be dividing or to exist with author of the work. If not explain in contract, however, the copyright belongs to the school, as per the laws in the Copyright Act regarding employer-employee contracts.

An exception to this rule is – "Textbook Exception". Until the Copyright Act of 1976, the syllabus and textbook material form by a faculty member were the Intellectual Property of the instructor and not the employing authority. When the Act was passed, no such rule was added. While this may not have been a intentional omission on the part of legislators. The Textbook Exception is still honored by publishers and institutions. Some attorneys define the current law as the meaning to provide the same rights before, but in different words. For institutional educators, it is vital to understand how to handle

copyright in classroom. For distance educators care must be taken in formulating syllabus and teaching material in order to protect copyright over the material from handouts to digital media.

The entity of fair use principle is under attack. Educators and students even should work toward the protection of copyrighted material and live up their responsibilities in order to ascertain that repeated violation does not occur, perhaps damaging the fair use principle for future generations.

Students

A student may find stimulation in the fact that too much information is easily available for copying from the internet, institution libraries and reference list provided by faculty. A division must be made in the use of these materials and it must be clearly indicated that the material is intended for reference only. The meaning and importance of referencing must be known in order to curtail the risk of plagiarism and ensure that the institution, library and educators are not accused in infringement cases. The students find it difficult to differentiate between rightful usage and infringement in a world where there are lot of arrangements of digital and electronic learning such as computer programming & hardware configuration. Nowadays, computer specialists have a great knowledge about breaking codes and security barriers to get protect information.

It is important for institutions to take action to change mind-set by providing education on copyright and infringement. This must be accomplishing with a view not only to protect the interest of the institution, but also infuse knowledge in the student body and protect the integrity of education system.

Conclusion

It is clear that a deeper understanding of the laws allied with Intellectual Property is essential in the education community. While some may disagree with the laws or follow their rights through enforcement, no one can bear to ignore the issues surrounding copyright and intellectual content. Through knowledge will come power and spreading awareness will lead to the lawful and fuller use of allowances such as fair use and responsibility users have towards their source material and the creators and owners of that material.

References

1. *Bay, M.T. 2001. Copyright and the Need For Academic libraries to educate patrons. Indiana University-Purdue University.*
2. *Lakhan, S.E., Khurana, M.K.2007. The State of Intellectual Property Education Worldwide. Journal of Academic Leadership. 5(2).*
3. *Moal-Grey, M.J. 2000. Distance education and intellectual property: the realities of copyright law and the culture of higher education. Touro Law Review. 16(3).*
4. *Nemire, R.E. 2007. Intellectual property development and use for distance education courses: A review of law, organizations and resource for faculty. College Teaching. January 2007.*
5. *http://www.academicleadership.org/empirical_reaerch/289.shtml*
6. *http://www.copyright.cornell.edu*
7. *http://www.irro.org.in*
8. *http://www.lexology.com*
9. *http://www.libguides.ala.org.*

IMPACT OF DIGITAL TECHNOLOGY ON THE EDUCATION & LEARNING

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Abstract

Human Intelligence is a gift of God &technology is a gift of this Intelligence. Mankind has put this gift to the best of its use. Technology plays a key role in every sphere of life. Technology especially the Digital technology has revolutionized the world of education. Information, Communication, and Digital technology (ICT) has helped teachers in replacing the traditional teaching methods with the digital technology-based teaching and learning tools. With the increasing use of computers in education sector, teaching & learning has become easier for the teachers & students respectively. It has made the process of teaching as well as the process of learning all the more enjoyable. According to a survey conducted in Malaysia among teachers from various schools it was analyzed that ICT integration has proved to be greatly effective for both teachers and the students. Findings indicated that if teachers had a well-equipped preparation with various ICT tools and facilities, technology-based teaching and learning proved to be extremely successful. It was also found that professional development training programs for teachers also played a key role in enhancing students' quality of learning and education. ICT or Information and communication technology has a lot uses as well as benefits in the field of education. Technology especially the Digital Technology has even become a part of students' curriculum now days in both schools and colleges. So, it is safe to say that Digital Technology plays a huge role in every student's life as well as education. But along with the considerable pros, it has some cons as well which cannot be neglected. For the future studies, there is a need for consideration of other aspects of ICT integration especially from management point of view in regard to strategic planning and policy making.

Keywords: Education, modern digital technology, teaching.

Introduction

In this modern world, Digital technology plays a very important role in our life. Digital technology makes our work simpler, easier and less time consuming. This impact of digital technology can be seen in the field of education as well. According to some latest studies, the use of modern digital technology and tools has increased the learning and interactivity of the students. Learning gets much more interactive & interesting when aided by digital technology. The transfer of knowledge becomes very easy, convenient, and effective. When assisted with digital technology, even our minds tend to work faster. Integration is effective for both teachers and the students.

ICT in Education

ICT or Information and Communication Technology refer to technologies used for collecting, storing, editing and passing on information in various forms. Use of a PC is an example of use of ICT in education. Multimedia is also a frequently used term to refer to some data carriers such as CD-ROM, floppy disc etc. In the field of education, ICT has a huge impact in the schools and colleges curriculum. ICT as a field of study in different professional disciplines such as Information technology, Computer Science, Software Engineering, Data Communications, Computer Engineering, Management Information Systems, Mobile Computing, among the many others. ICT has transformed teaching, research and learning processes at all levels. It empowers teachers as well as students in making significant contributions to the field of education. Students can make use of ICT in education in the following ways:

1. **Round the clock Internet connectivity–** The usage of internet has grown aggressively over the decade. Its importance in the education can never be undermined. Despite the chances of

fraud, the use of the internet is like a blessing for students as well as teachers. Internet is something that is used in almost everything that we do. From television to gaming, and phones, the internet is in everything & everywhere. The use of the internet makes it very convenient to students to find various kinds of help, tutorials and other kinds of assisting material. Using Projectors and Visual images has made it convenient for the teachers to teach effectively.

2. **Using projectors and visuals to aid in learning**- This is another form of great technological use. Top institutions around the world, now rely on the use of PowerPoint presentations and projections in order to keep the learning interactive and interesting. Use of projectors in schools and colleges helps in improving interaction and interest. Appealing visuals makes studying easier than just reading words. The learning part also becomes pretty easy and effective when it comes to digital technology.
3. **Online degrees with the use of digital technology**- Online degrees now have become a very common phenomenon. Students can easily take up online courses for learning and certifications. Amazing online programs with the use of various applications and the internet are available nowadays. This will continue to rise & get more support in coming time. This online degree scenario is famous around the world especially among students who work and look for flexible studying programs.

Importance of Digital technology in education

Following are the role of digital technology in the field of education:

1. It is included as a part of the curriculum such as IT & Mobile Computing
2. It is also used as an instructional delivery system.
3. It is used as a means of aiding instructions.
4. It is also used as a tool to enhance the entire learning process.

Because of digital technology, education has changed from passive and reactive to interactive and aggressive. Education is extremely essential in both corporate and academic field. In Corporate, education or training helps employees in doing things differently than they did before. In Academics, education helps in creating curiosity in the minds of students. In either case, digital technology can helps students understand and retain concepts better.

Factors affecting digital technology in education

The enormous challenge that teachers face in our society due to the rapid expansion of knowledge is that the modern technologies are demanding that teachers learn how to use these technologies in their teaching. Hence, these new technologies increase a teacher's training needs. So, it is safe to say that a teacher's attitude towards digital technology is a key factor in the successful implementation of ICT in education. But a teacher might not always have positive attitudes towards computers and their poor attitudes may lead to a failure of the computer- based projects. Some common cause of this can be lack of time, lack of access, lack of resources or lack of expertise. Hardware failures, incompatible software between home and school, poor or slow internet connectivity and out dated software which are available mostly at school while the students/educators are having more up-to-date software at home are some more examples of technical failures.

Positive impacts of Digital technology on Education

Some positive impacts of Digital technology on our education are as follows-

1. **Enhanced Teaching as well as Learning**: New technological advancements such as digital cameras, projectors, various software, Power point presentations, 3D visualization tools are some effective tools for teachers to help students in grasping a concept easily. This visual explanation of concepts makes learning fun and enjoyable for students. It also helps students in participating more and even teachers get a chance to make their classes more interactive and interesting.

2. **Globalization:** All these technological advancements help students in learning anything and anywhere from the world without the need to leave their houses. For e.g. some websites help students in learning foreign languages online by pairing a group of students with a teacher from another country.
3. **No Geographical Limitations:** These technological advancements also brought with them the online degree programs. Now there is hardly any need of being physically present in the classroom. Several foreign universities have started this type of online degree courses that students from any part of the world can enroll in. Distance learning and online education have become a very important part of the education system nowadays.
4. **Better Learning Experience** –Due to new and innovative learning ideas, it makes students more excited to learn via new adaptations in learning.
5. **Time Management -** It helps students with busy schedules, by providing them freedom to work at home on their own time according to their wish and time.
6. **Future perspective-** It helps in training students in learning new technical skills which can be helpful for them in future in their work place.
7. **Ecological Benefits -** It also decreased the use paper and photocopying costs, thus somewhere beneficial for the environment

Negative impact

Some cons of Digital technology on our education are as follows-

1. **Poor Writing/Grammar Skills -** Due to constantly being busy in online chatting and shortcuts, the writing skills of students nowadays have declined quite tremendously. Now, children rely more and more on digital communication that they have totally forgot about writing. They might not even know the spelling of different words, or how to correctly use grammar or even how to do cursive writing.
2. **Increasing Incidents of Cheating-** Technological developments has also brought with them new gadgets such as graphical calculators or high tech watches or even mini cameras and similar equipment that have become great sources to cheat in exams. It also gets easier for students to cheat via these gadgets with least chances of being caught.
3. **Lack of Focus-** SMS or text messaging or online chatting has become a favorite pastime of many students. Students can be seen using their cell phones day and night or while driving and very often between the lectures. Due to being always connected to the online world, students can have issues like lack of focus and concentration in academics. This ever-connectedness also affects their sports and extracurricular activities.
4. **Diminishing thinking ability - S**tudents imagination is affected, their thinking ability is reduced due to digital technology, according to many experts and experienced people.
5. **Extra effort from teachers -** Sometime it's also time-consuming from teacher's point of view. Over usage can cause health issues as well.
6. **Costly Installation -**It is costly to install such digital technology for both educational institutions as well as students. Some students can't afford modern computer technologies.

Conclusion

Technology has a positive impact on education and at the same time may also pose negative effects. Teachers and students should take advantage of this in the good light and eliminate the drawbacks which are pulling back many of students as well as schools from achieving excellence. It is thus time to introduce a more technologically equipped education sector in the future.

References

1. Beringer, V. (2009, October 20) For kids, pen's mightier than keyboard. futurity.org. Retrieved February 25th 2013

2. Bounds, G. (2010, October 5) How handwriting trains the brain – forming letters is key to learning, memory, idea. wsj.com. Retrieved February 25th 2013
3. Bransford, J., Brown, A., & Cocking, R. (2000). How people learn: Brain, mind, experience, and school. Washington, DC: National Academic Press.
4. Brill, J. M., & Galloway, C. (2007). Perils and promises: University instructors' integration of digital technology in classroom-based practices. British Journal of Educational Digital technology. 38(1), 95-105.
5. Leising, J. (2013 January 30) The new script for teaching handwriting is no script at all. wsj.com Retrieved February 25th 2013
6. Roschelle, J., Pea, R., Hoadley, C., Gordin, D., & Means, B. (2000). Future of children, 10(2), 76-101. Shah (2011, July 16) Why does writing make us smart ? huffingpost.com. Retrieved February 25th 2013
7. Wenglinski, H. (1998). Does it compute? The relationship between educational digital technology and student achievement in mathematics. Princeton, NJ: ETS.

INTELLECTUAL PROPERTY RIGHTS

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Abstract

In today's economy driven, information generation, and research development have assumed key importance in determining public perception. Consequently, understanding the knowledge-based assets, such as innovations, ideas, designs, and their management undergone a change in which ownership has become a critical issue.

While critically reviewing all the topics related to IPR and gaining all the knowledge including trademarks, copyrights. This paper includes a summary of them all and the importance of the property rights.

In recent years, science and technology is changing rapidly and are creating pressures for a change in the IPRs across the World. The rising cost of research and development for Intellectual property protection are becoming a threat. On the contrary, product life cycle in sensitive industries are declining dramatically. These increasing changes in technology affects the interventions that do not fit into the old categories of patents or other requirements in certain countries.

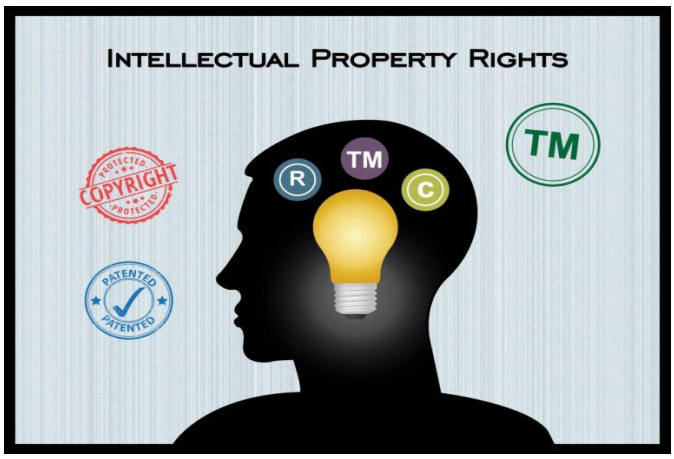
IPR: Relevance in Software Developers

We always question that what is a property, a property is an asset that is protected by the government, it could be land, personal property, automobile, stocks, patents, and something that we own. By law to prevent unauthorized usage of your property by others.

Different types of Intellectual Property Rights:

There are many types of intellectual property. A few are:

- Residual Knowledge of Individuals
- Know How
- Trade secrets
- Geographical indications
- Industrial Designs
- **Trademarks**
- **Copyrights**
- **Patents**

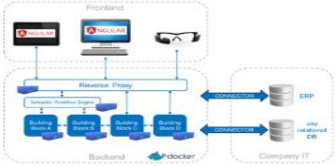


How are IT Product and Services related to IPR?

Innovation is developing a new idea and putting it into practice. So, new products in market from the idea or concept to make it on the stage with launching new or improved products to satisfy the need of the customer.

Here are some famous IT Product and Services:

- GUI2
- Architecture
- Code
- Microprocessor
- Phone
- Camera
- Keypad



What is a patent and how can you file for a patent?

A patent is a set of exclusive rights granted by a national government to an inventor or their assignee for a limited period in exchange of a public disclosure of an invention.

A patent gives its owner the right to exclude others from making, using, offering to sell, or covering the patent. It does not give the owner an affirmative right to practice the invention claimed in the patent. To get a patent, it will always depend on what country you are in. A patent can only be in a specific country. For example: Us patents are not valid in India.

The time limit for every patent is 20 years, after that the public is free to practice the invention, but you can sell your patent to other companies or assignee.

For Example: If you have an invention, you must go the government patent office, fill out the forms, after reviewing the invention, they will grant the access to the inventor.

Things to Remember when working with Patents:

- You must document and properly store your work.
- File the Invention Disclosure form.
- Whenever you ready to file IDF, do it as soon as possible.
- You can do and analysis using third party patent infringement check of your product, solution, method, or framework before it is released in the market.
- When it is recommended by the FTO analysis, start working on the design.
- Do not share or publish your invention without IP Protection, it may act as a prior -art. Always file the patent first and then publication.
- Do not release your product, solution, method, or framework without the FTO analysis.

How Copyrights are important in a field of Technology?

Copyright is a branch of Intellectual property that protectives creative work of art and deals with creativity capable of being communicated to mass. Concerned with all forms and methods of public communication-printed communication, sound, television, broadcasting, and any other media to get the word out. The law confers upon the right to make copies, right to distribute them, play or perform in public or maybe show and try to make an adaptation of the work.

Any publication must go through portal with approved software's. Do not copy or paste someone else's work or scan from journals, books, or graphs.

Why is trademark important in Technology?

A trademark is a distinctive sign, word or symbol used by an individual, business organization, or other legal entity to identity its product or services to consumers.

The purpose of a trademark is to identify the origin, guaranteeing its unchanged quality, advertising at its best and creating an image for products.

Computer Software

Computer Software is very pricey to develop but is very easy to copy and is highly vulnerable to violate the intellectual property rights.

In the United States, the debate resulted in the decision to protect computer software primarily under the copyright laws. In 1980, the Copyright Act of 1976 was amended explicitly to grant copyright protection for software. The United States also has been encouraging other nations to protect computer software under copyright laws.

The rise and spread of violation of intellectual property rights have several causes. First, there is significant profit to be obtained from counterfeiting. Second, in many cases there are only limited risks because of weak intellectual property laws, weak enforcement, or both, and it is difficult to detect infringement. Third, infringement is also becoming significantly easier and cheaper in many instances, often because of technological changes that place the means for copying and producing in the hands of many. Finally, the governments of some developing countries apparently allow infringement to flourish within.

Reliable estimates of the losses due to infringement are necessary to evaluate the severity of the problem and to determine what policy actions are warranted. It is quite difficult to develop such estimates, however, because definitions of infringement vary among nations, and it is difficult to detect infringing activities or products. Infringement problems are specific to certain industries or products, countries, and forms of intellectual property rights. To study the problem rigorously, it is necessary to focus on selected products in selected countries. Such analysis does not, of course, provide a basis for extrapolating to worldwide infringement losses.

Strategies for Intellectual Property rights in the field of the technology.

- Your new idea should be unique and distinguished from your workplace.
- Your new idea belongs to you, take charge.
- Estimating assets and decide the type of protection you need.
- A great name is a must.
- Make sure to have a cost-effective patent strategy.
- Always be careful using an open source software.
- Be patient and extremely careful when looking for people to join you.

Intellectual property rights and innovation.

The main benefit claimed for strong IPR protection is that by allowing innovators to appropriate a share of the benefits of their creative activities, R&D is encouraged, which leads to innovation and higher long-run growth. More generally, we may expect IPRs to impact on domestic innovation differently in countries with significant innovative capacity as opposed to those with few resources available for domestic innovation. The evidence summarized suggests that stronger IPR protection

can encourage domestic innovation in countries that have significant domestic capacity for innovation, but that it has little impact on innovation in countries with a small innovative capacity.

Technology diffusion

For most developing countries advanced technologies will be imported. International technology transfer occurs through imports, FDI, licensing and patent applications by non-residents. Policies aimed at improving infrastructure for communication and transport and maintaining macroeconomic stability along with open trade and investment policies can encourage such flows, allowing countries improved access to foreign technology.

References

1. https://www.forbes.com/sites/allbusiness/2017/06/06/10-intellectual-property-strategies-for-technology-startups/#75b3926eab1b
2. Infosys-Presentation.
3. Google Images.

ROLE OF INTELLECTUAL PROPERTY RIGHT IN FASHION BUSINESS

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Abstract

Intellectual property is a property in legal sight. Intellectual property rights are unreal as their subject matter arises from human intellect. Fashion is a style that is accepted by a large group of people at any one time. . A fashion is always based on style. Fashion always displays something new to attract people interest and desire for change and gain acceptance Fashion trends constantly evolve and brands create new, innovative designs each season, major retailers, wholesalers, design houses, and individual designers look to the visible shapes of intellectual property for protection. The major policy of intellectual property law is to encourage innovation so that the people at large can benefit from it. Intellectual property rights can be dealt with like both movable and immoveable property; it can be assigned, transferred, mortgaged or licensed. When thinking of fashion design and intellectual property, copyright and trademarks immediately come to mind, but patent protection has so many ways for designers to protect their technical innovations. The license granted amounts to permission to use the intellectual property rights. The rights conferred on the licensee may modify. Intellectual Property has been categorized into Industrial property and copyright. The term industrial property includes patent, trademarks, copyrights and industrial designs. The fashion industry enthusiastically waits for to revise intellectual property law to afford them greater protection. In spite of current intellectual property laws are partially to blame for the lack of greater protection for fashion designs

Keywords: Intellectual, attract, mortgaged, technical, enthusiastically

INTRODUCTION

Intellectual property is a property in legal sense i.e. it can be dealt with and owned under common law or statutory provisions like rights associated and analogous with ownership of tangible property. Intellectual property rights are unreal as their subject matter arises from human intellect. They could be treated as partially tangible when documented. Intellectual property rights can be dealt with like both movable and immoveable property; it can be assigned, transferred, mortgaged or licensed. In case of Intellectual property rights, the owner would have right of enjoyment and legal ouster, absolute or partial. The co-related duty owed by third parties, would be not to infringe the said rights, unless permitted and allowed by law as in the case of fair dealing provisions.

Fashion may be defined as the way of living which is popular today; Fashion is a style that is accepted by a large group of people at any one time. A fashion is always based on style. Fashion always displays something new to attract people interest and desire for change and gain acceptance. Fashion is reflecting ion of the times in which it is popular. Fashion is not only reduced to apparels but also extends largely to luxurious goods and products. Each year the fashion hub produces a whole new collection of designs which needs to be protected and regulated by a proper congress of law. In spite of IPR protection is guaranteed to the maker against its use, aesthetic aspects and product features or a print.

IP ISSUES AFFECTING THE FASHION BUSINESS

IP law has played a large role in the proliferation of fashion. The runway is an opportunity for designers to display their creative talent, attract media attention and build awareness of their brand. They also provide an opportunity for a brand to sell more affordable items, such as perfumes, cosmetics or T-shirts, with brand names prominently displayed on them. So much of the fashion industry thrives on this type of IP licensing. IP is a core asset of the fashion business.

As copyright law does not seek to protect or create a monopoly over useful articles, and as garments, dresses, shoes, bags and so forth are considered useful items, they don’t qualify for copyright

protection as a whole. Only design features that can be separated from a garment or other utilitarian or useful item, so to speak, qualify for copyright protection in the United States. The whole issue has been a major source of frustration for designers in the United States for some time because it means that only certain aspects of their garments, and not the garment as a whole, are protectable.

CONCEPT & IMPORTANCE OF INTELLECTUAL PROPERTY RIGHT

Intellectual property rights are intangible as their subject matter emanates from human intellect. They could be treated as partially tangible when documented. Intellectual property rights can be dealt with like both movable and immoveable property, for it can be assigned/transferred, mortgaged or licensed. Transfer of intellectual property rights by way of sale or assignment when complete or absolute, results in exclusive rights are being conferred on the transferee or the assignee, which becomes the new owner and is entitled to exercise all rights as an owner. The right to use may be in respect of a single act, restricted to a location or for a limited period of time or duration. It may be a one-time act or there can be stipulations as to upgradation or right to access future technological advances. One of the important attributes of intellectual property rights in cases of technology, patent etc. is confidentiality. It is confidentiality, which gives the owner the commercial edge, competitive position and superiority. A licensee, who has granted right to use cannot sue on his own name, without making the licensor a party, whereas an assignee/transferee can sue for infringement without joining the assignor.

Intellectual property protection is critical to encourage innovation. Without protection of solution, business persons and individual persons would not receive the full benefits of their inventions and would focus less on research and development. Man started creating his own world by different application of his brain or mind and by utilization of these natural resources. Man has also been devoted with imagination and creativity. With his inspiration and creativity, he has been producing various articles or products for his needs, comfort and convenience. A new set of laws called Intellectual Property Right Laws were achieved to protect these property rights. These IPR laws provided a protection to the owners under the different categories and names like Patents, Industrial designs, Copyrights, Trade- Marks etc.

India too is having a systemized legal system to take care of IP protection. The first system of protection of intellectual property came in 1485. This was followed by England in 1623, which extended patent rights for Technology Inventions. In the United States, patent laws were introduced in 1760. The Indian Patents Act 1970 contains by the law governing patents. This Act extends to the whole of India. The Act has been recently amended by the Patents Act 2002 and Patent Act 2005 to take care of India's obligations under the TRIPS agreement.

PROTECTION OF INTELLECTUAL PROPERTY RIGHT IN FASHION BUSINESS

Intellectual Property has been categorized into Industrial property and copyright. They are discussed as below:-

PATENT PROTECTION FOR FASHION

A Patent is a marketplace right granted to a person who has invented a new and useful article, or an improvement of an existing articles or a new process of making an article. It includes of a private right to manufacture the new article invented process for a limited period. After the expiry of the duration period of patent, anybody can make use of the invention. A design patent provides 14 years of posh industrial design rights for new designs of functional items. A design patent can now be collected in approximately 10 to 12 months, and with various facilitate methods at additional cost. Designers can achieve protection for their fashion designs by applying for a design patent. The designer must interest various features of the design that are to be protected therefore, the patent is directed at the basic design concept and not the exact product the designer sells. Design patents are granted for handbags, shoes, jewelry designs and more. Apparel designs are generally allow non patentable because they are considered functional. Design patents can be useful because they contribute designers the right to eliminate others from making similar or substantially similar products. A designer is not limited to collecting a single design patent per product. Each element of a design can be covered under a separate patent in which enlarge the design's protection.

Fashion & Design Patent Rights: Some fashion designers have found design patents as valuable. These include eyewear, shoes, handbags, and jewelry. Fashion industry designers have continued to push additional forms of protection that are easier to collect.

TRADEMARK PROTECTION FOR FASHION

A trade mark is a visual symbol in the form of word, device, name letter, numeral, brand, heading, signature or label or any combination of these, applied or used in relation to goods so as to indicate a connection in the course of trade, between the goods and some person who is the proprietor or registered user of that trade mark. The identity of that person may or may not be disclosed.

Trademark law protects brand names, logos, symbols, designs and other different elements of designs like apparel and accessories and trade dress law protects the design, packaging or display of apparel and accessories. For example: the brand name and logo hang tag and special pocket stitching on a pair of jeans could be registered as protectable trademarks and the unique shape of a dress could be registered as protectable trade dress. Trade dress protection of an apparel design requires distinctiveness to be acquired through a process whereby consumers come to recognize the design as a source identifier over a period of time. Design patents can work well together with different trade dress rights. In individual, a designer may first follow and secure a design patent and then secondary meaning for trade dress protection of the design can be developed during the 14 years of design patent protection.

Trade Marks Designers can use trade mark law to protect not only logo and brand names, but also other distinct features of a product. For Example: Famous French shoe designer Christian Louboutin, known for his infamous red-soled shoes, prevailed in 2012, in Christian Louboutin. The U.S. Court of Appeals for the Second Circuit overruled a lower district court and held that Louboutin's signature red shoe sole was a "distinctive symbol" that had come to represent the brand and deserved trademark protection.

Benefits of a Trade Mark

The benefits of a trade mark is that it distinguishes the goods as regards their manufacture or quality, dealt in by a particular person, company or firm from similar goods manufactured or stock with by other persons, companies or firms.

Trade mark Act 1999 has been enacted to replace the Trade and Merchandise Marks Act 1958. The new Act considers bringing the existing law on trade marks in conformity with the developments taking place worldwide on trade and industrial fronts. It aims to simply and harmonizes trade mark management systems and thus to encourage investment flows and transfer of technology. Trade Mark defines a brand of product, heading, company label, name, signature, letter of design and shape of goods. Their packaging and combination of colors and a mark used or proposed to be used in relation to goods or services for the purpose of indicating or so to indicate a connection in the course of trade between the goods or services, as the case may be and some person having the rights, either as owner or by way of permitted user to use the mark whether with or without any reminder of the identity of that person and includes a certification trade mark and collective mark.

PROTECTION OF COPYRIGHTS

Copyrights protect original works of authorship, music, dramatic works, pantomimes and choreographic works, sculptural, pictorial, and graphic works, sound recordings, artistic works, architectural works, and computer software. With copyright protection, the holder has the private rights to modify, distribute, perform, create, display, and copy the work.

Copyright law is meant to encourage the development of creative industries. Supporter of the congressional amendment to copyright law believe that the fashion industry is subtitled to the same protections afforded to the music, film and book publishing industries. Copyright law protects original prints and patterns, unique color arrangements and novel combinations of elements used on apparel and accessories but in most of the cases are not fashion designs themselves. A design element is considered physically separable when it can be removed from an article of apparel and sold separately for example a belt buckle and conceptually separable when it comprises artistic features that do not

contribute to the utilitarian aspect of the apparel and such features invoke an idea separate from the functionality of the apparel for example a Halloween costume.

Copyright protection also defines novel rights which relate the right to claim authorship of a work, and the right to argue changes to it that could harm the creator's image. The creator or the owner of the copyright in a work can impose his right administratively and in the courts by inspection of premises for evidence of production or custody of illegally made "pirated" goods related to protected works. The owner may achieve court orders to stop such activities, as well as seek damages for loss of financial rewards and recognition.

The Innovative Design Protection and Piracy Prevention Act were recently passed through the Senate Judiciary Committee. That bill would supply protection for new fashion designs that are unique, distinguishable, non-trivial, and non-utilitarian variation over the prior art. No registration of rights would be required. Rather, protection is automatic for newly publicized clothing, footwear, bags, and eyeglass frames.

References

1. Shri V.K Mohan (2008), "Business law" Published by Indian Institute of Commerce and Trade. Pg 115 to 121
2. V.K Ahuja (2017), "Law related to Intellectual Property Rights" Published by Lexis Nexis. Pg 20 to 25
3. Neeraj Pandey and Kushdeep Dharni (2014), "Intellectual Property Rights" Published by Asoke k. Ghosh. Pg 1 to 2
4. Dr B.L Wadehra (Fifth Edition), "Law related to Intellectual Property" Published by Universal law Publishing Co. Pg 30 to33
5. Editorial Board of 2018, "Intellectual Property Rights laws Bare Act" Published by professional book publishers.
6. Attorney Richard Stim (Fifteenth Edition 2017), "Patent, Copyright & Trademark" ISBN: 978-4133-2462-4, Published by NOLO. Pg 17,18
7. Inderpal Singh and Baljinder Kaur (2006), "Patent Law and Entrepreneurship" Published by Kalyani Publishers. Pg 42 to 45
8. https://www.ncbi.nlm.nih.gov
9. https://www.forbes.com/sites/oliverherzfeld
10. https://patentlyo.com/patent

INTELLECTUAL PROPERTY RIGHT IN INDIA TO HELP PRODUCT DEVELOPMENT AND DISSEMINATION: A REVIEW

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Abstract

The intellectual property rights (IPR) are intangible in nature and gives unique rights to creator for their precious creation. In this scenario of globalization, IPR is the focal point in global trade practices. These rights giving recognition and economic benefits to creator whereas the lack of IPR awareness and its inefficient implementation may hurdle in the economic, technical and societal developments of the nation. Hence spread of IPR knowledge and its adequate implementation is most requirement for any nation in the world. This paper highlights various conditions of IPR like trademarks, patents, copyrights, industrial designs, geographic indications, etc. with their same rules, regulations, their needs and role especially related to Indian reference. Further, status of India's partnership in IPR related activities across the world has been interacted in brief.

Keywords: IPR, globalization, trademark, copyright, industrial designs, societal development.

INTRODUCTION

Today developed countries are recognized by their advance intellectual innovation, advancement and knowledge for transforming a nation rich. A new creation derived from human mind is called intellectual property and it is an original creative work in a tangible form that can be legally protected. Intellectual Property Rights (IPRs) are statutory rights that allow originators exploit their inventions for a specific period of time. In fact, IPR laws bring safe, stable and sustainable system over intellectual products, research, processes and services for the benefit of the society. That allows inventors or licensors to exploit commercially due to its own uniqueness, exclusiveness and monopoly. IPR has two branches - one is industrial property (first recognized in Paris Convention in 1883) and second one is copyright (first recognized in Berne Convention, 1886). Industrial property consists of patents, geographical indications, trademarks and industrial designs etc. that are territorial in nature. Filing and registration with a particular territory and for a particular period of time. Trends in last few years in respect of filing of intellectual property applications are shown below:

Application	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**
Patent	43,674	42,951	42,763	46,904	45,444	47,854
Design	8,337	8,533	9,327	11,108	10,213	11,837
Trade Mark	1,94,216	2,00,005	2,10,501	2,83,060	2,78,170	2,72,974
Geographical Indication	24	75	47	14	32	38
Copyrights	Copyright administration shifted to DIPP/CGPDTM in 2016-17			14,812	16,617	17,841
Semiconductor Integrated Layout Designs (SCILD)	SCILD administration shifted to DIPP/CGPDTM in 2016-17			--	--	02
Total	2,46,251	2,51,564	2,62,638	3,55,898	3,50,467	3,50,546
Source: http://www.ipindia.nic.in/anual-report-ipo.htm						

Among the industrial property, patents play a main role in changing national and global innovation landscape. The main purpose of the patent is to promote innovation, economic growth,

competitiveness, and visibility. Copyright consists of literary, dramatic, musical artistic works including architectural works etc. is an intangible property for a particular term. In fact, copyright is automatic, no need to register across for its protection. Hence, significance of IPR communication and dissemination has greater impact on society for not only safeguarding the nation's intellectual creations but also generating revenue to build knowledge based economy [1-8]. This paper present an overview of IPRs, their trends and revenue generated in India; significance of patents in India by region and stream; evaluation of patent grants in Asia and India's ranking in global innovation index. It also provides strategies for patenting. The source data over the last 10 years extracted from annual reports of Controller General of Patents, Designs & Trade Marks (CGPDTM), India (www.ipindia.nic.in) and focusing mainly on patents, trademarks, industrial designs and GI applications filing and grants or registrations. However, as a signatory to the Uruguay Round of GATT, including its provisions on Trade Related Intellectual Property Rights (TRIPS), India must introduce a comprehensive system of product patents no later than 2005 [9-11].

INTELLECTUAL PROPERTY RIGHT

IPR is a term which includes the following IP rights which are independent and can be used for multiple protection aspects of an inventive work:

- Patents
- Copyrights
- Trademarks
- Registered (Industrial) design
- Trade Secrets and
- Geographical Indications [12].

NATURE OF IPR

IPR are territorial rights, except copyright, which is global in nature. These rights are monopoly rights and are awarded by the State, no one can use these rights without the consent of the right holder. Time to time to renew these rights for keeping them in force, except in case of trade secrets and copyrights. Trade secrets have an infinite life but they do not have to be renewed. IPR have a fixed term, but geographical indications and trademarks can have an indefinite life because these are renewed after a specific time period by law after paying official fees. IPR can be gifted, sold, assigned and licensed like other property. Unlike other immoveable and moveable properties, these rights can be simultaneously held in different countries at the same time. IPR have the right to sell and purchase because it can be held by legal entities. These rights are patents, copyrights, trademarks, industrial designs, trade secrets and geographical indications are associated with original and cannot be protected through the rights mentioned above. Things can be protected by making some improvements and modifications over known things. However, it would be possible to use geographical indications for protecting some traditional and agriculture products [13].

PATENTS

A right granted by a country to the owner of an invention to make, manufacture, use and market the invention is known as patent, provided the invention fulfil various conditions stipulated in the law. This right implies that no one can make, use, manufacture or market the invention without the consent of the patent holder. This right is valid for a specific period of duration. The ownership of the rights, the use of the rights by the owner of the patent may not be possible due to other laws of the country that has awarded the patent. These laws may relate to equipment, tool, health, safety, food, security, etc. further existing patents in similar areas may also come in the way. A patent is a property right which can be gifted, sold, assigned. As the patent right is conferred by the state, so it can be revoked by the state only under special circumstances even the patent has been sold, licensed, manufactured or marketed in the meantime. This right is territorial in nature and the inventors will have to file separate patent applications in countries of their interest along with the fee for obtaining patents in those countries. A new electronic circuit or chemical process or a drug molecule or a vaccine is a patentable matter provided all the stipulations of the law are satisfied [14].

Indian Patent Act **-** The first Indian patent laws were introduced in 1856. These were modified from time to time.

After the independence new patent laws were introduced in the form of the Indian Patent Act 1970. This Act has now been amended to become compliant with the provisions of the TRIPS. The patent law was preceded by the amendments in 2000 and 2003. The recent amendment was made in 2005, while the process of amendments was ongoing and India became a member of the Paris Convention, Budapest Treaty and Patent Co-operation Treaty. The salient and important features of the amended Act are explained here [15].

Novelty **-** It does not form a part of the global state of the art, it is an invention will be considered as novel. The information appearing in a magazines, books, journals, newspapers, etc. constitute the state of the art. Oral description of the invention in a seminar or conference can also spoil novelty. Novelty is assessed in a global context. An invention will be novel if it has been disclosed in the public by any type of publications anywhere in the world before filing a patent application in respect of the invention. It is advisable to file a patent application before publishing a paper if there is a minor chance that the invention may be patentable. Prior use of the invention in the country interest before the filing date can destroy the novelty [16].

Inventiveness (non-obviousness) **-** An inventive step is involved in a patent application, if the proposed invention is not obvious to a person skilled in the subject matter of the patent application. The prior art should not place toward the invention that the practitioner of the subject could not have thought about the invention prior to filling of the patent application [17]. Inventiveness cannot be decided on the material contained in unpublished patents. The simplicity or complexity of an inventive step does not have any bearing on the grant of a patent.

Usefulness **-** An invention must possess the grant of patent, no valid patent can be granted for invention devoid of utility. The patent requirement should spell out number of uses and practicing them, even if considered obvious. If anyone can claiming a process, then no need to describe the use of the compound produced thereby, nevertheless, it would be safer to do so. But, if you claim a compound without spelling out its utility, you may be denied a patent [18].

Non-patentable inventions **-** An invention satisfy the conditions of inventiveness, novelty and usefulness, but may not qualify for a patent under the following conditions:

1. An invention that claims anything obviously contrary to well-established natural laws, e.g. different types of perpetual motion machines.
2. An invention whose intended use or exploitation would be contrary to public order or morality or that causes serious prejudice to human, animal or plant life or health or to the environment, e.g. making of brown sugar process will not be patented.
3. The discovery of a scientific principle or formulation of an abstract theory cannot be patented relativity [19].
4. The mere discovery of a new form of a known substance that does not result in enhancement of the known efficacy of that substance or the mere discovery of any new use of a known substance, new property, mere use of a known process, machine or apparatus unless such a known process results for a new product or employ at least one new reactant.
5. The mere arrangement or rearrangement or duplication of features of known devices each functioning independently of one another in a known way. If you put torch bulbs around an umbrella and operate them by a battery so that people could see you walking in the rain when it is dark, then this arrangement is patentable as bulbs and the umbrella perform their functions independently [20].
6. A method of agriculture or horticulture. For example, the formula of terrace farming cannot be patented.
7. Any process for medical, surgical, curative, prophylactic, diagnostic, therapeutic or other treatment of human beings or any process for a similar treatment of animals to render them free of disease, or to increase economic value, or that of their products. For example, a new technique for hand surgery for removing contractions is not patentable [21].
8. Inventions relating to atomic energy.

9. Discovery of any living thing or non-living substance occurring in nature.
10. Mathematical or business methods or a computer program or algorithms.
11. Plants and animals in whole or any part thereof other than microorganisms, but including seeds, varieties and species, and essentially biological processes for production and propagation of plants and animals.
12. Topography of integrated circuits [22].
13. A mere scheme or rule or method of performing mental act or method of playing games.
14. An invention which, in effect, is traditional knowledge or which is aggregation or duplication of a known component or components.

Computer programs *parse* have not been defined in the Act but would generally tend to mean that a computer program without any utility would not be patentable. Protection of new seeds and plant varieties is covered under a different Act, which provides a protection for duration of 10 years. Similarly, topography of integrated circuits is protected through yet another different Act [23].

Term of the patent **-** The term of the patent will be 20 years from the date of filing for all types of inventions.

Mail box provision **–** TRIPS requirement that any countries not providing patent product details in respect of any pharmaceuticals and chemical inventions have to put into a mechanism for accepting patent product applications with effect from 1 January, 1995. Such invention applications will be examined for grant of patents after suitable changes in the national patent law have been made. The system of accepting patent product applications is called the "mail box". This system has been in force in India and now such applications are being taken up for examination [24].

Timing for filing a patent application **–** An application filing for a patent should be completed at the earliest possible date and should not be delayed. An application should be filled with provisional requirement, disclosing the essence of the invention nature, helps to register the priority by the applicant. Some risks may entail for a delay in filing an application, like (i) other inventors might forestall the first inventor by applying for a patent for the said invention and (ii) there may be either an inadvertent publication of the invention by the inventor himself/herself or by others independent of him/her. For an invention a publication in any form by the inventor before filing of a product patent application would disqualify the invention from being patentable. Hence, inventors should not disclosed their inventions before filing the product patent application. The invention should be considered for publication after a product patent application has been filed. Thus, it can be seen that there is no contradiction between publishing an inventive work and filing of the patent application in respect of the invention [25].

COPYRIGHTS

Copyright is a right which is available for creating an original literary, dramatic, artistic work, musical, cinematographic films including sound tracks and video films, and recordings on discs, tapes, perforated roll or other devices are covered by copyrights. Computer programs and software are covered with literary works and are protected under copyrights in India. The Copyright Act, 1957, as amended in 1983, 1984, 1992, 1994 and 1999, governs the copyright protection in India. For cinematographic films, photographs, publications, records, anonymous publication, works of government and international agencies, the term is 60 years from the beginning of the calendar year following the year in which the work was published. For broadcasting, the term is 25 years from the beginning of the calendar year following the year in which the broadcast was made [26-28].

Coverage provided by copyright

1. Literary, dramatic and musical work, computer programs and software are covered in the definition of literary work.
2. Artistic work.
3. Cinematographic films, which include sound track and video films.
4. Recording on any disc, tape, perforated roll or other device.

Infringement of copyright - Copyright provide the creator of the work, the right to reproduce the work, translate, make copies, sell or give on hire and communicate the work to the public. These activities done without the author's consent or his assignee considered infringement of copyright. In the law, there is a provision of 'fair use' which allows work of copyright is to be used for teaching and research development e.g. when making a photocopy of a book for teaching purpose may not be considered an infringement, but making number of copies by photocopy technology for the use of commercial purposes would be considered an infringement. There is an associated right with copyright which is known as 'Moral Right', which cannot be transferred or is note limited by the term. The creator enjoyed this right for avoiding obscene representation of his works [29]. The following acts are considered infringement of copyrights:

A. In the case of dramatic, literary, musical work, not being a computer program

a. To reproduce the work in any material form, including storing it in any medium by electronic means.
b. To issue copies of the work to the public not being copies already in circulation.
c. To perform the work in public or communicate it to the public.
d. To make any cinematography film or sound recording in respect of the work.
e. To make any translation of the work or to make any adaptation of the work.
f. To do, in relation to a translation or an adaptation of the work, any of the acts specified in relation to the work in sub-clauses (a) to (f).

B. In the case of computer program [30]

a. To do any acts specified in clauses (A).
b. To sell or give on hire or offer for sale or hire any copy of the computer program, regardless of whether such copy has been sold or given on hire on earlier occasions.

C. In the case of artistic work

a. To reproduce the work in any material form, including depiction in three dimensions of a two-dimensional work or in two dimensions of a three-dimensional work.
b. To communicate the work to the public.
c. To issue copies of the work to the public not being copies already in circulation.
d. To include the work in any cinematography film.
e. To make any adaptation of the work.
f. To do, in relation to a translation or an adaptation of the work, any of the acts specified in relation to the work in sub-clauses (a) to (f).

D. In the case of a cinematography film [31]

a. To make a copy of the film, including a photograph of any image forming a part thereof.
b. To sell or give on hire or offer for sale or hire any copy of the film, regardless of whether such copy has been sold or given on hire on earlier occasions.
c. To communicate the film to the public.

E. In the case of sound recording

a. To make any other sound recording embodying it.
b. To sell or give on hire or offer for sale or hire any copy of the sound recording, regardless of whether such copy has been sold or given on hire on earlier occasions.
c. To communicate the sound recording to the public.

Transfer of copyright - The owner of the copyright in an existing prospective or work owner of the copyright in a future prospective work may assign to any person the copyright, either wholly or partially, in the following manner:

1. For the entire world or for a specific country or territory or
2. For the full term of copyright or part thereof or
3. Relating to all the rights comprising the copyright or only a part of such rights [32].

TRADEMARKS

A trademark identifies certain goods or services as those produced or provided by a specific person or organization. They may be one or a combination of words, letters, numerals and symbols. They may consist of drawings, three-dimensional signs such as shape and packaging of goods, or colors used as a distinguishing feature. Collective signs are owned by an association whose members use them to identify themselves with a level of quality. Certification marks are given for compliance with defined standards. (Example ISO 9000.) The owner of a trademark ensuring the exclusive right to use it to identify their goods, service or to authorize others to use it on payment bases. Well-known trademarks are used for any products, services means a mark that has become the substantial segment of the public which uses such services or goods; such services that use such mark in relation to other services or goods would be likely to be taken as a connection in the course of trade or rendering of services between those services or goods and a person using the mark in relation to the first mentioned services or goods. [33] Enactment of the Indian Trademarks Act 1999 is a big decision forward from the Trade and Merchandise Marks Act 1958 and the Trademark Act 1940. The newly enacted Act has some features not present in the 1958 Act, and these are:

1. Registration of service marks, collective marks and certification trademarks.
2. Increasing the period of registration and renewal from 7 years to 10 years.
3. Allowing filing of a single application for registration in more than one class.
4. Enhanced punishment for offences related to trademarks.
5. Exhaustive definitions for terms frequently used.
6. Simplified procedure for registration of registered users and enlarged scope of permitted use.
7. Constitution of an Appellate Board for speedy disposal of appeals and rectification applications which, at present, lie before the High Court [34].

Well-known trademarks and associated trademarks - A well-known trademark in relation to any goods or services means a mark that has become known to the substantial segment of the public that uses such goods or receives such services. Associated trademarks are in commercial terms, marks that resemble each other and are owned by the same owner, but these are applied to the same type of goods or services. For example, a garments company dealing in readymade garments may use associated trademarks for shirts, trousers etc., meaning trademarks deemed to be registered as associated trademarks under this Act.

Service marks - The Indian Act of 1958 did not have any reference to service marks. Service means any description that is made available to potential users, and includes the provision of services in connection with the business of industrial or commercial matters such as education, financing, insurance, banking, communication, chit funds, real estate, transport, storage, material treatment, processing, supply of electrical or other energy, boarding, lodging, entertainment, amusement, construction, repair, conveying of news or information and advertising. Marks used to represent such services are known as service marks [35].

Certification trademarks and collective marks - A certification trademark means a guarantee mark that indicates that the goods to which it is applied are of a certain quality or are manufactured in a specified formula or come from a certain region or use some particular material or maintain accuracy at certain level. The goods must originate from a certain region rather than from a particular trader. Certification marks are applicable to services, and the same parameters will have to be satisfied. Further, these certificate marks are registrable just like any other trademark. In India Agmark used for various food items as a certification mark although it is not registered as a certification mark; the concept of certification mark was not in vogue at the time of introduction of Agmark. A collective mark means a trademark distinguishing from those of others, the goods or services of members of an association of persons (not being a partnership within the meaning of the Indian Partnership Act, 1932), which is the proprietor of the mark [36].

Term of a registered trademark - The registration of a trademark initially for a period of 10 years, but it may be renewed time to time for an unlimited period by the payment of renewal fees.

TRADE SECRETS

Trade secret points toward a formula, pattern, any instrument or design that is kept confidential and through which any business or trade can edge over its rival and can enjoy economic gain. Trade secrets can be anything from a manufacturing process, chemical compound, design or preserving materials or even a list of consumers or clients. It is also known as "confidential information" or "classified information." To be safeguarded under trade secrets, the matter should be "secret". Although the definition of trade secret is variable as per the jurisdiction, there are the following elements that are found to be the same:

- Is not known by the public.
- Provides some financial sort of gain to its holder.
- Involves reasonable efforts from the holder side for maintaining secrecy.
- Importance of data or information to him or for his rivals.
- The ease by which information could be learnt or duplicated by others.

Any enterprise or an organization can safeguard its confidential data or information by entering into a non-every minute detail about the trade secret applicability, like how the person will use a trade secret, what will happen if he will pass over this agreement, etc.

- All employees of an organization should consider trade secrets as confidential data or information even if they are unaware about the trade secret.
- Always keep your trade secret in a private and restricted zone.

Trade secrets protection - Trade secrets are kept secret and not disclosed to the public at large. The creator or owner prevents his knowledge from slipping out of his hands to its rival side and takes concurrent steps. In exchange of getting the chance to be appointed by the holder of trade secrets, a worker will ready to sign a contract not to disclose any material information, formula and data of his employer. Any negligence or violation of the same will mean an imposition of financial penalties. Other business associates or companies with whom the inventor is engaged are often required to sign a similar contract, and any negligence to do so will lead to fines or penalties.

Trade secrets infringement - Misuse of trade secrets can be called an unfair practice. The Uniform Trade Secrets Act of the USA defines misappropriation as:

- Acquiring trade secrets related to another by a person who has a strong belief or reason that it was acquired by wrongful doings.
- Disclosing or using trade secrets of another person without any implied consent of its owner.

As per the Uniform Trade Secrets Act, "improper means" include "theft, bribery, misrepresentation, breach or inducement of a breach of duty to maintain secrecy, or espionage through electronic or other means"[37].

Tips for safeguarding trade secrets

- Put a sign or a mark on various computer files and documents related to trade secrets that you are intending to keep confidential.
- Allow the accessibility of trade secrets only to those people who have authentic reason to know the information. The reason should be material and should benefit for an organization or a business.
- Using trade secrets make it obligatory for everyone to sign a non-disclosure agreement. It should describe utility model rights. Soon after, many other nations also joined up the club in providing a utility model in their respective territories, like Poland, Japan, Spain, Italy and Portugal. Afterwards, the list has also been extended with the adoption of the utility model by Greece, Finland, Denmark and Austria.

GEOGRAPHICAL INDICATION (GI)

GI signifies the name or any sign used in reference for a products corresponding to the particular geographical area or somewhat related to the origin, like town, region or nation. Thus, GI grants the rights to its holder that acts as the certification mark and shows that the specified product consists of

the same qualities and is enjoying a good reputation due to its origin from the specified geographical location [38]. The TRIPs agreement has defined the "geographical indications rights" as the exclusionary rights for the indicator that identify the goods originated within the member nation territories, or area or region of that territory, where the reputation or other attributes of the goods is essentially related to the geographic origin of the place. GIs are a part of the intellectual property law and, therefore, like any other law, the regulation and governing conditions of GI also vary from one country to another as high differences have been found in the use of generic terms across the world. Such a case is prominent for food and beverages, which more commonly use the geographic terms.

GIs are aimed toward identifying the source of the product and are considered a valuable business tool. The global trade has made it crucial to harmonize the various approaches and methods that the governments use for registering the GIs in their respective territories [39].

GI Act in India - In India, the GIs rule is regulated by the Geographical Indications of Goods (Registration and Protection) Act, 1999 and the Geographical Indication of Goods (Regulation and Protection) Rules, 2002 [40]. However, registering of the GI is not compulsory in the India as the owner of the unregistered GI can also enforce the actions with the help of passing off against the infringer, but it is recommendable to register the GI as the registration certificate acts as the prima facie evidence in the court at the time of arising of any dispute, and no additional evidence is required to prove the validity. Examples of some of the popular GIs are – Basmati Rice, Kanjeepuram sarees and Darjeeling tea. In the Indian act, GI is used for identifying goods from a particular geographical location and its origin. It encircles the agriculture goods and natural goods and is extended up to the manufactured goods also. In order to register the GI, the goods should possess unique characteristics and reputation with other qualities attributed to its geographical origin, e.g. climate, quality of soil, processing methods, etc. [41-44].

INDUSTRIAL DESIGN RIGHTS

Industrial design rights are the part of the intellectual property rights that confers the rights of exclusivity to the visual designs of objects which are generally not popularly utilitarian. It safeguards the appearance, style and design of the industrial object, such as spare parts, textiles and furniture. According to the Industrial Design Society of America, "Industrial Design (ID) is the professional service of creating and developing concepts and specifications that optimize the function, value and appearance of products and systems for the mutual benefit of both user and manufacturer." As these designs consist of esthetic features, they therefore do not provide any protection to the technical features of the article. The origin of design rights can be traced back in the United Kingdom as "Designing and Printing of Linen Act" (1787). Designs are used in different products and across various industries like medical, handicrafts, jewelry, electrical appliances, etc. It precludes any trademark or artistic type of work. In India, the first-ever design-related legislation was enacted by the British Government, and was popularly named as the Designs Act, 1911 [45].

Advantages of industrial design rights - Industrial designs help in making any product or item more beautiful and appealing and, therefore, they help in increasing the commercial viability of the product and in increasing its market potentiality. The industrial design registration helps in safeguarding the ornamental or esthetic elements of the article [46-49]. whenever an industrial design is being registered, it gives an exclusionary rights to the owner against unauthorized use, like copying or imitation, by a third party without his consent. This in turns facilitates a fair flow of investment. An effectual system also helps in benefiting the public by encouraging fair and effective competition and trading practices, which, at large, bolster the creativity, and the final result comes in the form of attractive and beautiful products. Safeguarding of industrial designs helps in the overall economic development, which promote creativity in the industrial arena.

The essential requirements for the registration of design

a. The design should be new or original, not previously published or used in any country before the date of application for registration. The novelty may reside in the application of a known shape or pattern to a new subject matter. However, if the design for which the application is

made does not involve any real mental activity for conception, then registration may not be considered.

b. The design should relate to features of shape, configuration, pattern or ornamentation applied or applicable to an article. Thus, designs of industrial plans, layouts and installations are not registrable under the Act [50].
c. The design should be applied or applicable to any article by any industrial process. Normally, designs of an artistic nature, such as painting, sculptures and the like, which are not produced in bulk by any industrial process, are excluded from registration under the Act.
d. The features of the designs in the finished article should appeal to and are judged solely by the eye. This implies that the design must appear and should be visible on the finished article for which it is meant. Thus, any design in the inside arrangement of a box, money purse or almirah may not be considered for showing such articles in the open state, as those articles are generally put in the market in the closed state.
e. Any mode or principle of construction or operation or anything which is, in substance, a mere mechanical device, would not be a registrable design. For instance, a key having its novelty only in the shape of its corrugation or bend at the portion intended to engage with levers inside the lock it is associated with cannot be registered as a design under the Act. However, when any design suggests any mode or principle of construction or mechanical or other action of a mechanism, a suitable disclaimer in respect thereof is required to be inserted on its representation, provided that there are other registrable features in the design.
f. The design should not include any trademark or property mark or artistic works.
g. It should be significantly distinguishable from known designs or a combination of known designs [51].
h. It should not comprise or contain scandalous or obscene matter.

Duration of the registration of a design **-** The total term of a registered design is 15 years. Initially, the right is granted for a period of 10 years, which can be extended by another 5 years by making an application and by paying a fee of Rs. 2000/- to the Controller before the expiry of the initial 10-year period. The proprietor of the design may make the application for such extension even as soon as the design is registered. [52]

Strategy for protection **-** First to file rule is applicable for registrability of design. If two or more applications relating to an identical or a similar design are filed on different dates, the first application will be considered for registration of design. Therefore, the application should be filed as soon as you are ready with the design. After publication in the official gazette on payment of the prescribed fee of Rs. 500/- all registered designs are open for public inspection. Therefore, it is advisable to inspect the register of designs to determine whether the design is new or not. There is yet another important provision for ensuring that the design is different from anything published anywhere in the world. This is quite a strict condition [53-54].

CONCLUSION

In recent days, India has played a key role in stimulating research and innovation in multiple sectors and encouraging the IPR activities. India earns huge revenues through IPR but also follows stringent rules protect creativity or innovation. IPR is a strategic asset for industry and the welfare of public. The growth of new global public/private partnerships such as the producing patents in the fields of bio-technology and food. India has shown considerable increase in learning and improving science and innovation capabilities at domestic and global levels. Intellectual Property and Innovation shows that the creative management of intellectual property to help product development and dissemination.

REFERENCES

1. Blouin C.Trade in health goods. New Delhi: WHO SEARO meeting on trade and health; March 6-7, 2007.
2. PIRIBO. Pharmaceutical market trend: Key market forecasts and growth opportunities. London: URCH Publishing; 2007.
3. Wilbulproprasert S.Mobilization of domestic resources in developing countries. Workshop on differential pricing of essential drugs. Norway: World Health Organization and World Trade Organization Secretariats, Norwegian Foreign A. Airs Ministry, Global Health Council; April 8-11, 2001.

4. IMS International. Available from: http://www.imsworld.org/ [accessed on 2008 Jun 14].
5. Smith RD, Chanda R, Tangcharoensathien V. Trade in health-related services. Lancet 2009; 373:593-601.
6. Kraus L. Medication misadventures: The interaction of international reference pricing and parallel trade in the pharmaceutical industry. Vanderbilt J Transnat Law 2004; 37:L527-50.
7. Kinnon C. World trade: Bringing health into the picture. World Health Forum 1998; 19:397-405.
8. Burrill Life Sciences Media Group. Burrill Quarterly India Life Sciences. San Francisco: Burrill Life Sciences Media Group, 2007. Available from: http://www.burrillandco.com [accessed on 2008 Jun 14].
9. Steinbrook R. Closing the ordability gap for drugs in low-income countries. N Engl J Med 2007; 357:1996-9.
10. Smith RD, Beaglehole R, Woodward D, Drager N. Global public goods for health: A health economic and public health perspective. Oxford: Oxford University Press; 2003.
11. Smith RD, Thorsteinsdótt ir H, Daar A, Gold R, Singer P. Genomics knowledge and equity: a global public good's perspective of the patent system. Bull World Health Organ 2004; 82:385-9.
12. Schaer G. Defending interests. Public-private partnerships in WTO litigation. Washington DC: Brookings Institution Press; 2003.
13. Correa CM. Implications of bilateral free trade agreements on access to medicines. Bull World Health Organ 2006; 84:399-404.
14. USTR. Special 301 Report. Washington DC: Office of the United States Trade Representative, 2007. Available from: htt p://www.ustr. gov/assets/DocumentLibrary/ReportsPublications/2007/2007_ Special_301_Review/asset_upload_.le230_11122.pdf. [accessed on 2008 Jun 14].
15. Priapantja P. Trade secret: how does this apply to drug registration data? ASEAN Workshop on the TRIPS Agreement and its Impact on Pharmaceuticals. Department of Health and World Health Organization, May 2-4, 2000.
16. Abbott F, Correa C. World Trade Organization accession agreements: intellectual property issues. Geneva: QUNO; 2007. Available from:http://www.quno.org/geneva/pdf/economic/Issues/WTO-IPEnglish.pdf. [accessed on 2008 Jun 14].
17. Commission on Intellectual Property Rights. Integrating intellectual property rights and development policy. Available from: http://www.iprcommission.org. [accessed on 2008 Jun 14].
18. Babar ZU, Ibrahim MI, Singh H, Bukhari NI, Creese A. Evaluating drug prices, availability, affordability and price components: implications for access to drugs in Malaysia. PLoS Med 2007; 4:e82.
19. Ando G. Pharma market in Malaysia grows by 11%, government outlines niche drug vision in IMP3. Boston: World Markets Research; 2006.
20. Azmi IM, Alavi R. TRIPS, patents, technology transfer, foreign direct investment and the pharmaceutical industry in Malaysia. J World Intellect Prop 2001; 4:947- 74.
21. Mytad IPO, Calculations from patent statistics of Intellectual Property Corporation of Malaysia. Kuala Lumpur: Intellectual Property Corporation of Malaysia, 2008. Available from: http://www.mipc.gov.my. [accessed on 2008 Jun 14].
22. ASEAN Secretariat. Regional report—the ASEAN-Rockefeller foundation project on intellectual property laws review and capacity building on intellectual property rights related to public health in the ASEAN region. Jakarta: ASEAN Secretariat; 2005.
23. Oh C. Compulsory licences: Recent experiences in developing countries. Int J Intellect Prop Manage 2006; 1:22-36.
24. Deepti R. Malaysian fi rm to establish plant in India. Chem Week; 2007. p. 169.
25. Haakonsson SJ, Richey LA. Trips and public health: the Doha Declaration and Africa. Dev Pol Rev 2007; 25:71-90.
26. Kerry VB, Lee K. TRIPS, the Doha declaration and paragraph 6 decision: What are the remaining steps for protecting access to medicines? Global Health 2007; 3:3.
27. Musungu SF, Villanueva S, Blasetti R. Utilizing TRIPS flexibilities for public health protection through south-south regional frameworks. South perspectives report, April, 2004. Geneva: South Centre; 2004.
28. Amsden, A.H, Asia's Next Giant: South Korea and Late Industrialization, Oxford: Oxford University Press; 1989.
29. Bercovitz-Rodriguez, Alberto, Historical trends in protection of technology in developed countries and their relevance for developing countries, United Nations: UNCTAD/ITP/TEC/18.1990.
30. Bosworth, Derek L. The transfer of US technology abroad. Res Policy 1980; 9:378-88.
31. Cohen WM, Levinthal DA. Innovation and learning: The two faces of R and D. Eco J 2005; 99:569-96.

32. Cohen WM.. Empirical studies of innovative activity. In: Stoneman P, editor. Handbook of the Economics of Innovation and Technological Change. Oxford: Blackwell; vol. 5. 2005. p. 182-264.
33. Correa DE, The TRIPs Agreement: New Intellectual Standards for Intellectual Property: Impact on Technology Flows and Innovation in Developing Countries. Sci Pub Policy 2007; 24:79-92.
34. Correa, Carlos. Review of the TRIPS Agreement: Fostering the Transfer of Technology to Developing Countries, Third World Network 1999. Available from: www.twnside.org.sg/title/foster.html. Correa, Carlos. Intellectual Property Rights, the WTO and Developing Countries, The TRIPS Agreement and Policy Options, Zed Books: London and New York: 2000a.
35. Corre RL. Reforming the intellectual property rights system in Latin America. World Eco 2006; 23:851-72.
36. Chamarik, Saneh, Goonatilake S, editors. Technological independence: The Asian experience. UNU: Tokya, New York, Paris; 2010.
37. Easterly, William, King R, Levine R, Rebelo S. Policy, technology adoption and growth. NBER Working Paper No. 4681, March 1994.
38. Eaton, Jonathan, Kortum S. Trade in ideas: Patenting and productivity in the OECD', NBER Working Paper No. 5049, NBER: Boston and Washington, D.C: 1995.
39. Ferrantino MJ. The eff ect of intellectual property rights on international trade and investment. Weltwirtschaft liches Arch 1993; 129:300-31.
40. Ginarte, Juan C, Walter GP. Determinants of patent rights: A cross national Study. Res Policy 2009; 2:283-301.
41. Hall EA. The impact of a weakened patent policy on development incentives. Quart Rev Econ Business 1999; 31:79-88.
42. Yang G, Keith EM. Intellectual property rights and licensing: An econometric investigation. Weltwirtschaft liches Arch 2009; 13:99-105.
43. Young A. The tyranny of numbers: Confronting the statistical realities of the East Asian growth experience. Quart Jf Econ 2006; 110:641-80.
44. Watal J. The TRIPS agreement and developing countries--strong, weak or balanced protection. J World Intellect Prop 2004; 5:282-307.
45. The Patents Act, 1970 as amended by Patents (Amendment) Act 2005, Commercial Law Publisher (India) Private Ltd.; 2005.
46. The Protection of Plant Varieties and Farmers' Rights Act, 2001 along with Protection of Plant Varieties and Farmers' Rights Rules; New Delhi: Akalank Publications; 2003.
47. The Copyright Act 1957 as amended up to 1999 along with Copyright Rules 1958 and International Copyright Order 1999; 2005.
48. The Design Act 2000 along with Design Rules 2001. New Delhi: Universal Law Publishing Co. Ltd.; 2004.
49. The Trademarks Act 1999 along with trade Marks Rules 2002; Commercial Law Publisher (India) Private Ltd.; 2004.
50. The Geographical Indications of Goods (Registration and Protection) Act, 1999 along with Geographical Indications of Goods (Registration and Protection) Rules 2002; Universal Law Publishing Co. Ltd., New Delhi; 2004.
51. The Semiconductor Integrated Circuits Layout Design Act 2000 along with Semiconductor Integrated Circuits Layout Design Rules 2001. New Delhi: Universal Law Publishing Co. Ltd.; 2005.
52. R and D statistics department of science and technology. Government of India, May, 2002.
53. Instructions for Technology Transfer and Intellectual Property Rights, Department of Science and Technology, March 2000.
54. Research and Development in Industry: An Overview; Department of Scientific and Industrial Research, Government of India, 2002.

INTELLECTUAL PROPERTY RIGHTS: ITS IMPLICATIONS IN DEVELOPING COUNTRIES

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Abstract

The present study survey the recent literature on the economic implications of strengthening intellectual property rights in developing countries. First, the study identifies the theoretical concepts and empirical methods that are frequently applied to this topic. Then specific economic studies that are addressed this topic in the last ten years. Finally, the study identifies the most common findings in the literature.

Keywords: IPR, The North, The South.

Introduction

Intellectual property rights (IPRs) are the rules which are formed to protect the inventions from being copied by others. This is done in order to protect the economic value of the new creation which is done by the innovator. Granting Patents rights, copyrights, trademarks, and trade secrets are some of the main forms of IPRs. It motivates the inventor for new creations by rewarding them with the right of getting it protected from the others. It helps to avoid competition. One of the drawbacks can be that it limits the spread of technological advances and it tends to create market power. This creation of monopoly power can lead to the implication higher prices for consumers. A trade-off has been witnessed between incentives for innovation and growth (dynamic efficiency) and competitive pricing (static efficiency). Therefore, any policies are formed by keeping this whole scenario and keeping these conflicting interests in the mind. Considering the international trade and investment, this tradeoff is even more complicated. One of the main issues to look upon is the significant differences in IPR regimes across the different countries. Huge gap lies between the strength of IPRs in advanced or developed countries (these advanced countries are referred to as The North, the reason behind it is that as most of the developed advanced nations lie in the Northern Hemisphere) and developing countries (these developing or under developed countries are referred to as The South, the reason behind it is that as most of the developing nations lie in the Southern Hemisphere). These differences in the strengths of IPRs have a noteworthy impact on international economic activity. Constant attempts have been made to decrease the gap between the developed and developing nations by strengthening IPRs in the developed nations (North). For instance, in the WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) formulated during the Uruguay Round. These attempts certainly have economic costs and benefits that are not evenly distributed between the developed and developing nations. Researchers have been working on to investigate the cost and benefits which these North south nations receive by agreeing to the agreements (such as of TRIPS). Some of these researchers have developed theories and models of international trade, foreign direct investment (FDI), and technological innovation on them. In the recent times it has been a big topic of debate between them. The models formulated by the economic theorists are used to predict if a country would try to strengthen its IPRs by bring reforms in them. The models also help to analyze the cost benefit which a country might reap from strengthening their own IPR regimes. Various theories and models have been used to analyze the effects of IPRs on wages and economic welfare, FDI, and the form and extent of international technological transfer.

Why counties have different implications for intellectual property rights

A theoretical model of trade between the North and the South was formulated by Lai and Qiu in an article named "The North's Intellectual Property Rights Standard for the South," in 2003. In their

article they brought forward the fact that as the developed advanced countries (The North) has huge capacity for innovation so their new creations have high demand in the developing countries (The South). This is the reason that the advanced nations need to have stronger IPR regimes than the developing nations (The South). The introduction of the international agreement strengthens the South's IPRs relative to the North's. This helps in boosting the global welfare. Still the North benefits more than the South, as the developed nations focus on higher profits while keeping the consumer prices unchanged. This leads to net positive effects. On the other hand in the developing nations, i.e. in the South, consumer prices are not kept constant; they continuously raise which results in the net negative effects. Lai and Qiu were of the opinion that the developing nations will not be willing to strengthen their IPRs until unless they receive some form of compensation. The reason behind it is that the developing nations (The South) has a comparative advantage in goods that are not patent-intensive. Lai and Qiu also gave a multi-sector negotiation model. In this model they explain that the two countries bargain and negotiate over the strength of IPRs in the South and tariff levels in the North. In the multi- setoral negotiation the north lowers its tariff rates, while the South, i.e. the developing nations agree on stronger IPR regimes. Not a single-issue agreement but a multi-issue agreement can only result in economic gains for both the North and the South. Grossman and Lai's 2004 study, "International Protection and Intellectual Property," is similar to that in Lai and Qiu (2003). The difference they brought forward was the fact that when the countries trade with each other the relative size of the countries' markets and their relative productive capacity in innovation do affect the countries' incentives and will to strengthen their IPRs. Since its clear that developed nations (The North) has more R&D capacity and larger markets so they are more willing to strengthen their IPR regimes than the developing nations (The South). Grossman and Lai show that there is a level of patent protection that maximizes global economic welfare, and it can be achieved with different combinations of country-level patent protection. However, different policy distributions for IPRs have different implications for welfare in the North and South. Policies that maximize incentives for global research are beneficial for the North. Chen and Puttitnun in their article entitled "Intellectual Property Rights and Innovation in Developing Countries" in 2005 brings into light that how the innovation capacity of The South effects the IPR policies. They gave a model and claimed that every country has two sectors, an import sector and a local sector. The import sector has a foreign firm, which supplies it innovative patented technology to the country to produce high quality goods. The other is the domestic firm that can copy that technology to some extent that is determined by the regimes of IPRs. The local sector also has two firms, one which develops innovative technology and the other which only imitates this technology. More the protection of IPRs, lesser would be the imitation in both the sectors. In the import sector, higher IPRs imply that lower-quality goods will be produced by the domestic firm and that there will be less price competition for the foreign firm, resulting higher prices and a reduction of consumer surplus. However, in the local sector, higher IPRs imply more incentives for innovation. Based on their model, Chen and Puttitanun hypothesize that very poor countries will provide strong protection for IPRs in order to ensure access to foreign technologies; middle-income countries will provide relatively weak protection to facilitate domestic imitation of these foreign technologies; and advanced countries will provide strong protection to benefit their own innovators.

Effects of IPR reforms

Park and Lippoldt (2005) in their article titled, "International licensing and Strengthening of Intellectual Property Rights in Developing Countries during the 1990s." studied that stronger IPRs in The South (developing nations) encourage technology transfer through international licensing. A firm level data was used for analysis. Their findings suggested that US firms get receipts of 32%from international loyalties and license fee, 30% from pre-recorded performances, around 20% from general use of software, and 9 percent from trademarks. U.S. parent firms got 80% of their licensing receipts from the countries where per capita GDP was more than $18,000 (in 1995 U.S. dollars), and 73 percent of receipts were from other affiliated parties.

Chaudhuri, Goldberg, and Jia gave an article titled "Estimating the Effects of Global Patent Protection in Pharmaceuticals: A Case Study of Quinolones in India." They examined patent intensive pharmaceutical industry and studied the effect of how the application of patents affects the sales of antibiotics in India. The study showed that strengthening IPR regimes have an indirect effect .i.e.

poor countries may reduce consumer access to life-saving medicines. Chaudhuri, Goldberg, and Jia also estimated the price elasticity of demand and expenditure elasticity of demand for antibiotics in India. An econometric model was used for the analysis and product-level data for 1999 and 2000 was used. They concluded that there would be huge losses incurred in consumer welfare due to higher prices and due to less variety of products.

Arora, Branstetter, and Chatterjee gave a study entitled, "Strong Medicine: the Impact of Patent Reform on the Indian Pharmaceutical Industry." They tried to analyze the effect of reforms in IPR on the domestic innovation in India. 315 Indian pharmaceutical firms were considered in the study. They found that the reforms brought positive effects on the Indian stock market values and R&D spending. Their theory was significant different from the others as they acknowledged that strengthening IPRs in developing countries can encourage domestic innovation. They supported this fact by giving evidence of Indian pharmaceutical firms which initiated innovations due to strong IPR regimes. Park in 2012 gave a study entitled "North-South Models of Intellectual Property Rights: An Empirical Critique." He uses panel data analysis on R&D carried out by U.S. multinational firms and their affiliates. The data were collected from the U.S. Direct Investment Abroad Survey which is published by the U.S. Department of Commerce, Bureau of Economic Analysis, as well as indexes of patent protection in individual countries weighted by market share. Park's model used R&D investment as a dependent variable, and domestic and foreign patent protection as independent variables. He had a concrete analysis on how the IPR reforms in The South (the developing nations) effects the R&D expenditures of the North (developed nations).

Conclusion

This article has demonstrated that the economics of trade-related IPRs is an active research area with many interesting questions. While the literature continues to advance with the development of richer data sources, most of the questions have not been conclusively answered, and there is a need for further study. However, several preliminary themes find support in the 10 studies we have reviewed. First, the strengthening of IPRs in the South appears to have little effect on the level of R&D expenditures and the rate of innovation in the North. But it apparently has a positive significant effect on the rate of international technology transfer from the North to the South. Second, strengthening IPRs in the South has an ambiguous effect on international trade from the North to the South, but has a significant positive effect on FDI in the South. Stronger IPRs can reduce technology imitation and therefore create a market in the South for innovative products exported from the North. On the other hand, strong IPRs can encourage local production through FDI that displaces North-to-South trade in these products. Third, stronger IPRs in the South usually benefit the North at the expense of the South. However, there are well-defined cases in which stronger IPRs can benefit the South. Stronger IPRs can induce FDI and technology transfer and increase labor demand in the South, and in some cases they can increase innovation in the developing countries.

References

1. Arora, A., L. Branstetter, and C. Chatterjee. "Strong Medicine: the Impact of Patent Reform on the Indian Pharmaceutical Industry." In The Location of Biopharmaceutical Activity, edited by I. Cockburn and M. Slaughter. Chicago: University of Chicago Press, 2011.
2. Branstetter, L., R. Fisman, and C.F. Foley. "Do Stronger Intellectual Property Rights Increase International Technology Transfer? Empirical Evidence from U.S. Firm-Level Panel Data." Quarterly Journal of Economics 121, no. 1 (2006): 321-349.
3. Branstetter, L. and K. Saggi. "Intellectual Property Rights, Foreign Direct Investment and Industrial Development." Economic Journal 121, no. 555 (2012): 1161-1191.
4. Chen, Y. and T. Puttitanun. "Intellectual Property Rights and Innovation in Developing Countries." Journal of Development Economics 78 (2005): 474-493.
5. Chaudhuri, S., P.K. Goldberg, and P. Jia. "Estimating the Effects of Global Patent Protection in Pharmaceuticals: A Case Study of Quinalones in India." American Economic Review 96, no. 5 (2006): 1477-1514.
6. Grossman, G. and E. Lai. "International Protection and Intellectual Property." American Economic Review 94, no. 5 (2004): 1635-1653.

7. Hall, B., C. Helmers, M. Rogers, and V. Sena. "The Choice between Formal and Informal Intellectual Property: A Review." Journal of Economic Literature 52, no. 2 (2014): 375-423.
8. Ivus, O. "Do Stronger Patent Rights Raise High-Tech Exports to the Developing World?" Journal of International Economics 81, no. 1 (2010): 38-47.
9. Lai, E. and L. Qiu. "The North's Intellectual Property Rights Standard for the South?" Journal of International Economics 59, no. 1 (2003): 183-209.
10. Maskus, K. Private Rights and Public Problems: The Global Economics of Intellectual Property in the 21st Century. Washington, DC: Peterson Institute for International Economics, 2012.

INTELLECTUAL PROPERTY RIGHTS" AND ITS STATUS IN INDIA

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Abstract

Intellectual property rights are the rights given to persons over the creations of their minds. They usually give the creator an exclusive right over the use of his/her creation for a certain period of time. Intellectual property rights are customarily divided into two main areas:(i) Copyright and rights related to copyright: (ii) Industrial property: India is a member of the World Trade Organisation and committed to the Agreement on Trade Related Aspects of Intellectual Property (TRIPS Agreement,1995).The trade and exchange of IPR is regulated by this agreement of WTO. India is also a member of World Intellectual Property Organization, a body responsible for the promotion and the protection of intellectual property rights throughout the world. To promote IPRs, India has formulated an IPR policy in May 2016 whose clarion call is "CREATIVE INDIA, INNOVATIVE INDIA". Besides this, several initiatives like "MAKE IN INDIA","START-UP INDIA" etc. have been taken to promote the IPR regime. If the idea of MAKE IN INDIA is truly implemented then surely INDIA can improve its ranking in GLOBAL INNOVATION INDEX of WIPO further and become a leader in producing more IPR's.

Keywords: Intellectual property rights, TRIPS, WIPO, National IPR Policy.

INTRODUCTION

- Intellectual property rights (IPR) are the rights given to persons over the creations of their minds: inventions, literary and artistic works, and symbols, names and images used in commerce. They usually give the creator an exclusive right over the use of his/her creation for a certain period of time.
- These rights are outlined in **Article 27 of the Universal Declaration of Human Rights,** which provides for the right to benefit from the protection of moral and material interests resulting from authorship of scientific, literary or artistic productions.
- The importance of intellectual property was first recognized in the **Paris Convention for the Protection of Industrial Property (1883)** and the **Berne Convention for the Protection of Literary and Artistic Works (1886)**. Both treaties are administered by the **World Intellectual Property Organization (WIPO)**.

Intellectual property rights are customarily divided into two main areas:

(i) Copyright and rights related to copyright:

- The rights of authors of literary and artistic works (such as books and other writings, musical compositions, paintings, sculpture, computer programs and films) are protected by copyright, **for a minimum period of 50 years after the death of the author**.

(ii) Industrial property: Industrial property can be divided into two main areas:

- **Protection of distinctive signs,** in particular **trademarks and geographical indications**.
  - **Trademarks** distinguish the goods or services of one undertaking from those of other undertakings.
  - **Geographical Indications (GIs)** identify a good as originating in a place where a given characteristic of the good is essentially attributable to its geographical origin.
  - The protection of such distinctive signs aims to **stimulate and ensure fair competition and to protect consumers,** by enabling them to make informed choices between various goods and services.

- The protection **may last indefinitely,** provided the sign in question continues to be distinctive.

- **Industrial designs and trade secrets:** Other types of industrial property are protected primarily to **stimulate innovation, design and the creation of technology**. In this category fall inventions (protected by **patents**), **industrial designs** and **trade secrets**.

What is the need of IPR?

The progress and well-being of humanity rest on its capacity to create and invent new works in the areas of technology and culture.

- **Encourages innovation:** The legal protection of new creations encourages the commitment of additional resources for further innovation.
- **Economic growth:** The promotion and protection of intellectual property spurs economic growth, creates new jobs and industries, and enhances the quality and enjoyment of life.
- **Safeguard the rights of creators:** IPR is required to safeguard creators and other producers of their intellectual commodity, goods and services by granting them certain time-limited rights to control the use made of the manufactured goods.
- It promotes innovation and creativity and **ensures ease of doing business**.
- It **facilitates the transfer of technology** in the form of foreign direct investment, joint ventures and licensing.

India and IPR

- India is a member of the **World Trade Organisation** and committed to the Agreement on **Trade Related Aspects of Intellectual Property (TRIPS Agreement)**.
- India is also a member of World Intellectual Property Organization, a body responsible for the promotion of the protection of intellectual property rights throughout the world.
- India is also a member of the following important **WIPO-administered International Treaties and Conventions relating to IPRs**.

  - Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure
  - Paris Convention for the Protection of Industrial Property
  - Convention Establishing the World Intellectual Property Organization
  - Berne Convention for the Protection of Literary and Artistic Works
  - Patent Cooperation Treaty
  - Protocol Relating to the Madrid Agreement Concerning the International Registration of Marks- Madrid Protocol
  - Washington Treaty on Intellectual Property in respect of Integrated Circuits
  - Nairobi Treaty on the Protection of the Olympic Symbol
  - Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication of Their Phonograms
  - Marrakesh Treaty to facilitate Access to Published Works by Visually Impaired Persons and Persons with Print Disabilities.

National IPR Policy

- The National Intellectual Property Rights (IPR) Policy 2016 was adopted in May 2016 as a vision document to guide future development of IPRs in the country.

- It's clarion call **"Creative India; Innovative India"**.
- It encompasses and brings to a single platform all IPRs, taking into account all inter-linkages and thus aims to create and exploit synergies between all forms of intellectual property (IP), concerned statutes and agencies.
- It sets in place an **institutional mechanism for implementation**, monitoring and review. It aims to incorporate and adapt global best practices to the Indian scenario.
- **Department of Industrial Policy & Promotion (DIPP),** Ministry of Commerce, Government of India, has been appointed as the **nodal department** to coordinate, guide and oversee the implementation and future development of IPRs in India.
- The **'Cell for IPR Promotion & Management (CIPAM)'**, setup under the aegis of DIPP, is to be the **single point of reference** for implementation of the objectives of the National IPR Policy.
- India's IPR regime is in compliance with the WTO's agreement on **Trade-Related Aspects of Intellectual Property Rights (TRIPS)**.

Objectives

- **IPR Awareness: Outreach and Promotion -** To create public awareness about the economic, social and cultural benefits of IPRs among all sections of society.
- **Generation of IPRs -** To stimulate the generation of IPRs.
- **Legal and Legislative Framework -** To have strong and effective IPR laws, which balance the interests of rights owners with larger public interest.
- **Administration and Management -** To modernize and strengthen service-oriented IPR administration.
- **Commercialization of IPRs -** Get value for IPRs through commercialization.
- **Enforcement and Adjudication -** To strengthen the enforcement and adjudicatory mechanisms for combating IPR infringements.
- **Human Capital Development -** To strengthen and expand human resources, institutions and capacities for teaching, training, research and skill building in IPRs.

Achievements under new IPR policy

- **Improvement in GII Ranking:** India's rank in the **Global Innovation Index (GII)** issued by WIPO has improved from 81st in 2015 to 52nd place in 2019.
- **Strengthening of institutional mechanism** regarding IP protection and promotion.
- **Clearing Backlog/ Reducing Pendency in IP applications:** Augmentation of technical manpower by the government has resulted in drastic reduction in pendency in IP applications.
- Automatic issuance of electronically generated patent and trademark certificates has also been introduced.
- **Increase in Patent and trademark Filings:** Patent filings have increased by nearly 7% in the first 8 months of 2018-19 vis-à-Vis the corresponding period of 2017-18. Trademark filings have increased by nearly 28% in this duration.
- **IP Process Re-engineering** Patent Rules, 2003 have been amended to streamline processes and make them more users friendly. Revamped Trade Marks Rules have been notified in 2017.
- **Creating IPR Awareness**: IPR Awareness programs have been conducted in academic institutions, including rural schools through satellite communication, and for industry, police, customs and judiciary.

- **Technology and Innovation Support Centres (TISCs):** In conjunction with WIPO, TISCs have been established in various institutions across different states.

Issues in India's IPR regime

- **Section 3(d) of the Indian Patent Act 1970 (as amended in 2005)** does not allow patent to be granted to inventions involving new forms of a known substance unless it differs significantly in properties with regard to efficacy.
  - This means that the Indian Patent Act **does not allow evergreening of patents**.
  - This has been a cause of concern to the pharmaceutical companies. Section 3(d) was instrumental in the Indian Patent Office (IPO) **rejecting the patent for Novartis' drug Glivec**.
- **Issue of Compulsory licensing (CL):** CL is problematic for foreign investors who bring technology as they are concerned about the misuse of CL to replicate their products. It has been impacting India-EU FTA negotiations.
  - CL is the **grant of permission by the government to entities** to use, manufacture, import or sell a patented invention without the patent-owner's consent. Patents Act in India deals with CL.
  - CL **permitted under the WTO's TRIPS (IPR) Agreement** provided conditions such as 'national emergencies, other circumstances of extreme urgency and anti-competitive practices' are fulfilled.
- India continues to remain on the United States Trade Representative's (USTR's) **'Priority Watch List'** for alleged **violations of intellectual property rights (IPR)**.
  - In its latest **Special 301 report** released by the United States Trade Representative (USTR), the US termed India as "one of the world's most challenging major economies" with respect to protection and enforcement of IP.
- **Data Exclusivity:** Foreign investors and MNCs allege that Indian law does not protect against unfair commercial use of test data or other data submitted to the government during the application for market approval of pharmaceutical or agro-chemical products. For this they demand a Data Exclusivity law.
- **Enforcement of the Copyright act is weak,** and piracy of copyrighted materials is widespread.

Way Forward

- Promoting an environment of innovations in schools. The academic curricula need to be rebooted.
- A proper resolution mechanism for resolving IPR related issues is needed.
- India will be unable to take full advantage of the transformative benefits of a strong IP system unless and until it addresses gaps in its IP laws and regulations.
- Success of India's flagship programmes - **Make in India** and **Start up India** - depends on the boost of innovation ecosystem with better IPR safeguardings.
  - More awareness is needed about the creation, protection and enforcement of IPRs to encourage the Indian industry not only to innovate but also to protect and enforce their innovations.

Conclusion

- India has made a number of changes in its IPR regime to increase efficiency and has cut down the time required to issue patents.The culture of innovation is taking centre stage in the country. India is well poised to focus on R&D. This has been reflected in its improved ranking in **Global Innovation Index** over the years.

- Government's effort to strengthen National IPR policy, IP appellate tribunal, e-governance and commitment to abide by the TRIPS agreement of WTO in letter and spirit will help in improving perception of India globally.
- An efficient and equitable intellectual property system can help all countries to realize intellectual property's potential as a catalyst for economic development and social & cultural well-being.

References

1. WTO (World Trade Organization)
2. WIPO (World Intellectual Property Rights Organization)
3. DPIIT (Department for Promotion of Industry and Internal Trade), MINISTRY OF COMMERCE

INTELLECTUAL PROPERTY RIGHTS: CONCEPT AND PROTECTION LAWS

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ABSTRACT

Intellectual property is the product of the human mind. It is the creation of human intellect like tangible property, their creation has a value and, as with all property, it needs to be protected. It includes creativity, inventions, industrial models, trade secrets, trademarks, geographical indications, copyright, literature, symbols, brands, etc. Intellectual Property Rights are not unique these are just like other property rights. They allow their owner to get complete benefit from his/her intellectual product which was initially an idea that was developed by him. They also entitle their right holders to prevent others from using, dealing or tampering with his/her product without prior permission. In case any other person uses it without prior permission, then the right holder has the legal power to sue them and force them to stop and compensate for the damages. IPRs have become an issue of serious discussion with the formation of the general agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) under Uruguay Round. Intellectual property system is duration specific; it does not provide perpetual and absolute monopoly over the property. The World Intellectual Property Organisation (WIPO), established in 1967, is an international organisation dedicated to ensure that the rights of creators and owners of intellectual property are protected worldwide; the inventors and authors are therefore recognised and rewarded for their ingenuity. The study was based on the secondary data collected from different sources. This paper makes an attempt to first understand the concept of IPRs, its importance and further the laws and conditions related to protection of intellectual property.

Keywords: Intellectual Property Rights, trademarks, copyrights, industrial designs, TRIPS, WIPO, Geographical Indications, Protection Laws

INTRODUCTION

Intellectual Property Rights (IPRs) are the legally recognised rights to the creations of human mind. Under the law, owners are granted certain exclusive rights to variety of intangible assets such as creations and/or inventions resulting from intellectual activity in the industrial, scientific, literary or artistic fields. The most common types of IPRs include patents, copyrights, trademarks, industrial design rights and traders' jurisdiction and secrets. These property rights allow the right holder to enjoy monopoly over the use of item for a specific time period. On one hand restricting imitation and duplication, give rise to extreme monopoly power, but on another hand social benefit derive from higher creativity overpower the social costs of monopoly. Such rights are set out in the International Declaration of Human Rights, which provide for the right to benefit from the protection of the moral and physical interests resulting from the right holder's work. It forms the basis of development. Intellectual property rights are of different kinds .The term property in IPRs implies something which is owned by an individual or an organisation. For example, when a movie producer makes a film, it is the individual's intellectual property. Or if a drug company comes up with an innovative new product, it is considered as intellectual property.

Different forms of intellectual property rights are:

❖ Patent

A patent is granting of property right to the inventor/ creator of the intellectual product by sovereign authority. For disclosure of his invention an owner can avail benefits for a certain specific time period. The work of handling and approving applications for patents is done by government agencies. According to the U.S. Patent and Trademark Office, any person who discovers a new product, design or technique by fulfilling the specific conditions and requirements can avail the patent.

There are three types of patents:

1. Utility patents are given to those owners of inventions who invented a machine, a new and useful process or article or a composition of matter.
2. Design patents are concern with developing a new and original design for a manufactured product.
3. Plant patents are granted to those who invent a new type of plant which is capable of reproduction.

❖ Trademark

A trademark is a sign or symbol by which a business organisation can identify or differentiate its products and services from that of competitors. It helps in easy identification and comparison of product among multiple substitute products. A trademark helps the consumers in identifying the source of particular goods or services. Trademark can be a mark, word, slogans, tagline or other features which helps in identification of products or services.

❖ Design Protection

Design protection is concerned with physical appearance of whole or part of the product. It includes various features such as product colour, shape, pattern, textures, surface of articles etc, all these are protected by design right. When an owner registers his design he gets an exclusive right to use it for a limited period, he can also authorise others to use it.

❖ Copyright

Copyright is a term that describes the legal right granted to the creator for their original work with regards to literacy, artistic or musical fields. It allows the creator to control the subsequent use of his original work. It includes computer programs, movies, poems, novels, paintings, videos etc.

Copyright protection has two components:

- Moral rights: It is the right given to the creator to be identified as the author of the work and in case of any distortions or mutilation of work, he has right to raise an objection. Moral rights are not transferrable.
- Economic rights: These are the rights which entitle the owner to obtain an appropriate economic award and to control the use of its creation in various ways like issuing copies to public, broadcasting, performing in public etc. It is essentials to state that copyright is not a monopoly. Two people could create identical items independently but there is no copying, no violation of law or right and both can hold copyright in their respective works.

❖ Trade Secrets

Trade secrets are confidential information by which a business can take competitive edge over other businesses which produces the substitute product. The owners of the trade secrets take reasonable steps to maintain the secrecy or to keep its valuable information confidential. Owners must ensure that the secret information should not be publically disclosed. These include the techniques of manufacturing a product, any business idea, ingredients of a product etc.

❖ Industrial Designs

Industrial design is a production technique of a certain products or articles. For example, a furniture company could come up with a new way of making a sofa-cum-bed and may want to protect it from

being copied by someone else. In many countries, the industrial design must be registered to get protection under industrial design law. In other countries, patents may as well do the trick.

- **Geographical Indications**

Some products are related to specific geographical locations. To ensure the protection of their indication from producer of other areas the concern producer has to take intellectual property protection. For instance, Basmati rice has been registered Under the Department of Commerce in India; Basmati rice has been registered as a product with a geographical indication. This tag is given only to that variety of rice grown in seven states in the foothills of the Himalayas.

Advantages of having Intellectual Property Rights

- Turning ideas into money
- It can enhance opportunities related to exports in business
- It can enhance business market value
- It can help you stand out from the competition.
- An important asset for start-ups in raising funds:

Some other advantages of intellectual property rights are

- Provides exclusive rights to the inventor of the product.
- Encourages the right holder to share information instead of keeping it secret.
- Provides legal defence and offers the creators the incentive for their work.
- Helps in social and financial development.

How IPRs can be protected?

There are certain rules and conditions regarding protection of intellectual Property rights. For different forms of intellectual property different conditions are applicable. The following conditions are:

- **Patents**

Patents grant an exclusive right to the inventor to use his/her product in the marketplace or to get benefit by transferring it to some other person. Patent rights are time specific; these are valid for 20 years depending on the nature and type of invention. Qualifying items include improved technology, invention of new machine, manufactured goods including the design or look of the product. In case, if any invention proves to be common, morally offensive or not much useful then patent protection will be denied. The period of a patent begins with effect from the date of submission of the application for patent. After the permission for patent is granted, the patent holder has to deposit the renewal fees every year in order to preserve it. This fee gets started from the third year of the grant of patent.

- **Trademark**

Trademark includes words, symbols, names, taglines and slogans which are used to identify and distinguish goods and services of different producers. The main purpose of trademark is avoidance of confusion between two or more identical products. It protects the name, tagline and other symbols associated with the product. Once the trademark is registered it is valid for 10 years. Its renewal can be done again for the following 10 years after the payment of fixed financial charges.

- **Copyright**

Copyrights are applicable for music, architecture, original intellect, artistic expressions, writing, motion pictures etc. It is not mandatory to use copyright symbol and date but it is commonly used by businesses. The term of copyright is time bound. These are valid up to the creator's lifetime, plus 70 years.

- **Geographical Indications**

Under the geographical indications mainly the agricultural, natural and manufactured products are included. The product is either produced or manufactured in a special or unique geographical area. The products to which security is provided under geographical indications should have such special features as are related to only a special area. Generally the geographical indication rights are concerned with a product, but in certain countries, services are also provided with the geographical indications security. The validity period for geographical indications is of 10 years after registration. After the expiry of this period, it can be got renewed by submitting the fixed fees.

- **Trade Secrets**

In order to get the trade secret rights on a certain intellectual property the following conditions are required to be fulfilled:

a) It should be such information as if kept secret becomes commercially valuable.
b) Efforts should have been put into keep the concerned information secret.

There are no time boundaries on trade secrets. The owner of the rights get the benefit until the secret is unknown to the public.

Trends in IPRs

Trends in respect of application for IPRs

For the purpose of protecting intellectual property rights an application has to be filed with Controller General of Patents, Designs, and Trademarks (CGPDTM). Trends show that over the years there is consistent growth in number of applications but in 2017-2018(350546) there is slight increase in number of applications for registration as compared to year 2016-2017(3,50,467). The increasing trend in filing of applications for patents, designs, geographical indicators and copyright has been observed except for Trademarks where there is slight decrease as compared to 2016-2017.

Trends of the years from 2013-2014 to 2017-2018 in respect of intellectual property applications are shown below:

Applications	**2013-2014**	**2014-2015**	**2015-2016**	**2016-2017**	**2017-2018**
Patent	42,951	42,763	46,904	45,444	47,854
Design	8,533	9,327	11,108	10,213	2,72,974
Trademark	2,00,005	2,10,501	2,83,060	2,78,170	38
Geographical Indication	75	47	14	32	
Copyrights	Copyright administration shifted to DIPP/CGPDTM IN 2016-2017		-	-	17,841
Semiconductor Integrated Layout Designs(SCLID)	SCLID Administration shifted to DIPP/CGPDTM in 2016-2017		-	-	02
Total	**2,51,564**	**2,62,638**	**3,55,898**	**3,50,467**	**3,50,546**

Trends in respect of registration for IPRs

A comparative trend of IPRs granted or registered from 2013-2014 to 2017-2018 in respect of intellectual property are:

Applications	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Patent	4,227	5,978	6,326	9,847	13,045
Design	7,178	7,147	7,904	8,276	10,020
Trademark	67,876	41,583	65,045	2,50,070	3,00,913
Geographical Indication	22	20	26	34	25
Copyrights	Copyright administration shifted to DIPP/CGPDTM IN 2016-2017		-	3,596	17,841
Semiconductor Integrated Layout Designs(SCLID)	SCLID Administration shifted to DIPP/CGPDTM in 2016-2017		-	Nil	Nil
Total	**79,303**	**54,728**	**79,301**	**2,71,823**	**3,41,844**

World Intellectual Property Organisation-(WIPO)

WIPO is the forum for intellectual property services at global level. It provides information, frame policies and ensures cooperation with respect to IPRs. It is an international organization established to promote the worldwide protection of both industrial property (inventions, trademarks, and designs) and copyrighted materials (literary, musical, photographic, and other artistic works). WIPO currently has 192 member states, it administers 26 international treaties. The organization was established in 1967 by a convention signed in Stockholm. It started its operations in 1970. In December 1974 WIPO became a specialized agency of the United Nations. It's headquartered is in Geneva, Switzerland. The current director general of WIPO is Francis Gurry.It is created to encourage creative activities and to promote the protection of intellectual property throughout the world.

Role of WIPO in Dispute Settlement

The WIPO Arbitration and Mediation Centre plays significant role in solving intellectual property disputes. WIPO Arbitration and Mediation Centre perform the following functions:

- If parties to dispute do not agree on WIPO clause then it helps in submitting existing dispute according to WIPO procedures.
- In intellectual property disputes, it helps in selection of arbitrators, experts and mediator from the centre's database.
- It ensures procedural efficiency and efficient communication while contacting with parties.
- After consulting with parties it sets the neutral fees and also administers the financial aspects of proceedings.
- It provides several support services required with regards to intellectual property disputes.

CONCLUSION

Intellectual Property Rights (IPRs) are legal rights provided to the creators of inventions that results from intellectual activity in several areas such as industrial, scientific, literary or artistic fields. The most common IPRs include patents, copyrights, trademarks, industrial designs and trade secrets. The countries care for intellectual property rights so that new innovations in all intellectual property domains lead to human progress and advancement, legal protection of new innovations encourage

safe spending on other innovations and caring for and protecting IPR contribute to achieving economic and social development. Thus, intellectual property rights results in progress of humankind as it rewards creativity and human endeavour. If the rewards are not provided to the researchers and inventors there would have little chances to continue producing better and more efficient products for consumers. WIPO is an international organisation which protects and promotes intellectual property rights internationally. WIPO generates more than 90 percent of its annual budget by way of international registration and filing system and also through arbitration and mediation services. Basically it is a large self financed organisation. The member states contribute the remaining funds to WIPO. WIPO ensures its benefits are accessible, well recognised and properly understood by all. It works in collaboration with its member states to make available information on intellectual property. In nutshell, IPRs promote innovation and creativity which leads to economic development.

REFERENCES

1. https://www.wipo.int/edocs/pubdocs/en/intproperty/450/wipo_pub_450.pdf
2. http://www.google.com/amp/s/m.businesstoday.in/lite/story/india-sees-huge-surge-in-intellectual-property-property-rights-applications/1/280092.html
3. http://mfa.gov.by/en/organizations/membership/list/de8e52a750f138ec.html
4. https://www.wipo.int/amc/en/center/role.html
5. https://www.wto.org/english/thewto_e/thewto_e.htm
6. https://www.dubaicustoms.gov.ae/en/IPR/Pages/WhatIsIPR.aspx
7. http://www.ipindia.nic.in/annual-reports-ipo.htm

COUNTERFEIT: VIOLATION OF IPR FROM THE CONSUMER'S ASPECT

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Abstract

In this full competitive world, where it is always seen as a difficulty to judge a product's credibility, we have intellectual property rights. Infringement of these rights is generally seen around us. Various studies have conducted for knowing the wrong practices from the supply side of these counterfeit products. There is a need to see this counterfeiting, which is absolutely in contrast to Intellectual Property Rights from consumer point of view in purchase of these products. The present study has tried to find out the various factors which affect consumers for buying or not buying of counterfeit products by reviewing the past studies based on consumer's aspects.

Keywords: Attitude, Counterfeit, Intellectual Property Rights, Ethical concern, Knowledge, Consumer

Introduction

It is always seen that every company struggle for protecting their intellectual property from counterfeit products (Chaudhry and Stumpf, 2011). Counterfeit is a term which depicts an act in which people try to steal or replace the valuable thing which has a good reputation in the market. IPR refers to intellectual property rights in which right of patent, trademark, copyrights and industrial design rights and many more are included. Counterfeiting is becoming a big problem (Chiu, 2016) and it is contrary to the intellectual property rights. Generally it is observed that mainly consumers go for counterfeit products due to its feature of lower prices. Mostly the people who have low income and less education move for the buying of counterfeit products (Chiu, 2016). Studies have been conducted in which consumer's attitude and their purchase intentions were checked in the purchasing of counterfeit products. Studies of different countries showed consumer's demand for counterfeit products is also an important aspect with the supply side in which marketers and companies blame to manufacturer of these products. In the dictionary of Webster's New World, the word original is defined as something that is "initial, earliest, never having occurred or existed before and not copied", in contrast to the original term counterfeit is defined as something "made in imitation of something genuine so as to deceived or defraud" (Triandewi& Tjiptono, 2013).Non-deceptive counterfeiting means when consumer knows about this product is counterfeit and still he/she is purchasing (Chiu, 2016). When we take an overlook on the consumer's perspective generally it has seen consumers buy more counterfeit things in the case of fashion products (Triandewi&Tjiptono,2013).There are various factors which affect the purchase or non-purchase of counterfeit products.

Attitude

Attitude refers how an individual feel and act towards its surroundings (Petty, Wegener, and Fabriger, 1997). Attitude of consumer towards economic benefits while purchasing counterfeit product is an important factor which affect their buying. Counterfeit products are less costly as compared to original brands so people who have low income generally buy counterfeit products. In a study it has been seen that people buy counterfeit products due to its economic benefits (Triandewi & Tjiptono, 2013). Positive attitude of consumers towards right products buy takes away them from buying counterfeit products (Marcketti& Shelley, 2009).

Past Purchase Behaviour

Past purchase behaviour of consumers also affect the purchase of counterfeit products because consumers have used these products earlier and they don't have any issue for buying these in future also.

Health

Health is an important element which affects their thinking process while purchasing counterfeit products. Consumers who are more health conscious and try to make himself/herself as a healthy person do not buy these counterfeit products (Hamelin, Nwankwo and Hadouchi, 2012).

Disappointment risk

While purchasing the counterfeit products, risk of disappointment also contains in it. Risk of poor performance as compared to originals and a kind of status demolishing in purchase and use of these products always prevail. So, consumers who have doubt regarding the good performance feature of these products avoid buying these (Hamelin, Nwankwo and Hadouchi, 2012).

Knowledge and concern

People who are more knowledgeable and have concern always for ethical behaviour do not involve themselves in buying counterfeit products. They know that it is a wrong act,therefore they don't buy these but purchase original products (Marcketti& Shelley, 2009).

Lack of ethical values

Consumer's act of purchasing counterfeit products was also determined by their ethical values. Those who have ethical concern will not buy the counterfeit products (Chaudhry&Stumpf, 2011;Fernandes C., 2013;Quoquab et al., 2017).

Self-Ambiguity

Self-Ambiguity means how an individual is confident about himself/herself. The people who have good self-confidence more involved in buying originals and those who don't have high level of self-confidence mostly involve in buying counterfeit brands. Self-ambiguity is a matter of how he/she can take stand for himself/herself (Fernandes C., 2013).

Perceived Behavioural Control

Perceived behavioural control is an important part of theory of planned behaviour. It means perception of a person is all about his ability to perform certain behaviour. Consumers who have more perceived behavioural control mostly go for the purchase of originals.

Literature Review

There are various studies which considered counterfeiting from consumer's aspect:

Kim & Karpova (2009) conducted their study on "Consumer Attitudes toward Fashion Counterfeits: Application of the Theory of Planned Behaviour". The purpose of this study was to know the constituents that form motivation of consumers for purchasing the counterfeit products.Total 336 college going girls were chosen as respondents for data collection purpose. The effects of various factors like informational and normative susceptibility, value consciousness, integrity, status consumption, materialism, product appearance, and past purchase behaviour were analysed on attitude formation. With the help of stepwise multiple regression analysis, results revealed that product appearance, past purchase behaviour, value consciousness had positive effect while normative susceptibility had significant negative influence on the attitude formation. Perceived behavioural control was a weak predictor of studying the purchase intention.

Phau, Marishka and Dix (2009) gave their valuable contribution on 'Consumers' willingness to knowingly purchase counterfeit products '. The objective of this study was to check the influence of personality factors on consumer's willingness and attitude to purchase the counterfeit products by having proper knowledge of it. After applying regression, results revealed that there is not any influence of attitudinal and personality factors on the purchase of counterfeit products. Integrity

showed a high influence on the buying attitude of consumers. Integrity is a person's own judgement about ethicality of any action.

Marcketti& Shelley (2009) gave their deep insight on the research topic of 'Consumer concern, knowledge and attitude towards counterfeit apparel products' and the survey was conducted in the large Midwestern University. The total number of respondents was 244 undergraduate students and the selected product category was apparel fashion brand. On the basis of three variables ; the concern of customers, their knowledge level and their formation of attitude towards the counterfeiting product were checked to know the intention of willingness to pay more for non-counterfeit products.

Nordin (2009) provided a valuable contribution on 'a study on consumers' attitude towards counterfeit products in Malaysia'. The purpose of this study was to get knowledge about the effect of personality and social factors on the attitude of consumers while purchasing counterfeits. The data was collected from 270 respondents. With the help of Pearson correlation, multiple regression and Sobel analysis results revealed that perceived risk, price consciousness, novelty seeking and normative susceptibility are the independent variables yet strongly influence consumers' attitude towards counterfeit product.

Chaudhry & Stumpf (2011) conducted their study on the consumer's part with the emphasis on 'Consumer complicity with counterfeit products' and the study area was UK. The convenience sampling technique was used in the selection of respondents and college going 254 youngsters were selected for the fulfilment of the survey. The main objective of this survey was to get insight for managers about how to make a decline in demand of customers for the counterfeit of their original brands. The specific product categories were movies and pharmaceuticals. The researchers used ethical ideologies, collectivism and attitude for knowing the factors which affect customers for their purchase of counterfeits. Through factor analysis and regression analysis results showed that customer's hedonic motivations affect their willingness to purchase counterfeit products and lack of ethical values also affects the willingness of customers to buy counterfeits.

Hamelin, Nwankwo and Hadouchi (2012) provided their valuable contribution on 'Faking brands: Consumer responses to counterfeiting' and this research was held in Morocco. The purpose of this paper was to study about the factors which motivate customers to buy counterfeit products and to find out the demotivating factors to go towards the counterfeits in 400 respondents. The total number of respondents was 400. To analyse these collected data properly, researchers used the logistic regression analysis. Product categories were specific and these were clothing, cosmetics and mobile phones. Findings revealed that low income consumers more interested in buying counterfeit because people were more price sensitive. Highly educated female were also more likely to buy original products as compared to counterfeits. Health, disappointment risk and integrity were most triggering factors for the purchase of originals. Quality and price were two significant factors among the consumers.

Triandewi & Tjiptono (2013) conducted their study on 'Consumer Intention to Buy Original Brands versus Counterfeits' and study area for this research work was Indonesia. In this study mainly three factors were considered in which consumer attitude, their past purchase behaviour and the third one was their personal characteristics. The total number of participants in their survey was 170 females. To analyse the collected data properly multiple regression analysis was applied on it. While studying the attitude of consumers they included attitude for getting the economic benefits and hedonic benefits. In personal characteristics they constituted materialism, self-image and perceived future social benefits. Results showed that people tend to buy more counterfeits when they purchased it in the past and they give more weightage to price it means they give importance to economic benefits but hedonic motivations had not any influence on consumer's intention to buy counterfeit fashion product brands. The very much interesting finding was that the people don't feel any hesitation to buy counterfeit although they have already purchased and used original products.

Hidayat&Diwasasri (2013) provided their valuable insight on the topic 'Factors Influencing Attitudes and Intention to Purchase Counterfeit Luxury Brands among Indonesian Consumers'. The purpose of this study was to know the effect of antecedents of attitude on counterfeit product's purchase intention in 250 respondents of age between 16 to 40 years. The specific product category was handbags and mainly two factors were taken as antecedents of attitude formation and these were personality and

social factors. With the help of path coefficient analysis results revealed that social and personality factors has mostly significant impact towards attitudes. With this researchers also added by saying more positive attitude of consumers towards counterfeit products will further strengthen the purchasing intentions.

Fernandes (2013**)** provided their valuable contribution on 'Analysis of counterfeit fashion purchase behaviour in UAE'. The purpose of this research was to know about various factors which motivate the consumers to buy the counterfeit products. The whole study was based on the theory of planned behaviour of 172 respondents of Ajzen. Subjective norms and fashion consciousness were also included in. After analysing the data through regression results gave outlook that various factors influence the consumers to buy counterfeit products. Being susceptible to the opinions of others, lack of ethical judgement, value consciousness and self-ambiguity were main factors which influence them to buy the counterfeit products. There is significant relation between purchase intention and value consciousness, consumer's ethical judgement. The higher the level of good ethical judgement, the lesser the intention for purchasing counterfeit products

Leng (2016) provided their valuable contribution on 'Consumers' intention to purchase counterfeit sporting goods in Singapore and Taiwan'. The theory of planned behaviour was taken as the base for this study. The main and important aspect of this study was country differences that have considered in this study. Students of these two countries were taken as the base for the collection of data. 168 respondents were Taiwanese and 127 respondents belong to the Singapore. Three main variables of theory of planned behaviour are attitude, subjective norms and perceived behavioural control. After analysing the data results showed that the person who have strong attitude, good subjective norms for the acceptance of his/her purchase and have full control over their behaviour have more intention to buy counterfeits except those who have not.

Poaps & Kang (2017) provided their valuable contribution on 'An experiment on non-luxury fashion counterfeit purchase: the effects of brand reputation, fashion attributes, and attitudes toward counterfeiting'. This study was conducted in USA and snowball sampling technique was used for the respondents. The purpose of this study was to examine the effect of purchase situation and brand reputation on the attitude while purchasing the counterfeit products. This entire research was based on non-luxury brand products in which they included shirts, shoes and handbags. The total number of respondents was 121 females .The reputation of brands have found significant factor which affect likelihood of consumers to buy more counterfeits, attitude's effect was not supported and the last third one effect of fashion attributes was significant on the purchase of non-luxury counterfeit products.

Quoquab et al. (2017) conducted a study on 'Factors affecting consumers' intention to purchase counterfeit product: Empirical study in the Malaysian market' in Malaysia. The purpose of this study was to know the impact of ethical aspects on attitude of consumers while purchasing the counterfeit products. The data was collected from 400 respondents. By using SPSS and PLS-SEM data, results revealed that intention for purchasing counterfeit products was determined by religiosity, ethical concern, and perception of lawfulness.

Conclusion

Counterfeiting is an infringement of IPR. Consumers have a significant role in buying counterfeit products. They have an important role for counterfeiting phenomenon. There are various factors which affect buying or not buying of counterfeit products from consumer's side. The main factors are their attitude formation, past purchase behaviour, self-ambiguity, subjective norms, health, disappointment risk, knowledge and concern, lack of ethical values and perceived behavioural control.

References

1. Triandewi, E., &Tjiptono, F. (2013).Consumer intention to buy original brands versus counterfeits. *International Journal of Marketing Studies*, *5*(2), 23.
2. Hamelin, N., Nwankwo, S., & El Hadouchi, R. (2013). 'Faking brands': Consumer responses to counterfeiting. *Journal of Consumer Behaviour*, *12*(3), 159-170.
3. Marcketti, S. B., & Shelley, M. C. (2009).Consumer concern, knowledge and attitude towards counterfeit apparel products. *International Journal of Consumer Studies*, *33*(3), 327-337.

4. Chaudhry, P. E., &Stumpf, S. A. (2011).Consumer complicity with counterfeit products. *Journal of Consumer Marketing*.

5. Phau, I., Sequeira, M., & Dix, S. (2009). Consumers' willingness to knowingly purchase counterfeit products. *Direct Marketing: An International Journal*.

6. Fernandes, C. (2013). Analysis of counterfeit fashion purchase behaviour in UAE. *Journal of Fashion Marketing and Management: An International Journal*

7. Kim, H., &Karpova, E. (2010). Consumer attitudes toward fashion counterfeits: Application of the theory of planned behavior. *Clothing and Textiles research journal*, *28*(2), 79-94..

8. Park-Poaps, H., & Kang, J. (2018). An experiment on non-luxury fashion counterfeit purchase: the effects of brand reputation, fashion attributes, and attitudes toward counterfeiting. *Journal of Brand Management*, *25*(2), 185-196.

9. Hidayat, A., &Diwasasri, A. H. A. (2013).Factors influencing attitudes and intention to purchase counterfeit luxury brands among Indonesian consumers. *International Journal of Marketing Studies*, *5*(4), 143.

10. Quoquab, F., Pahlevan, S., Mohammad, J., &Thurasamy, R. (2017).Factors affecting consumers' intention to purchase counterfeit product. *Asia Pacific Journal of Marketing and Logistics*.

11. Nordin, N. (2009). *A study on consumers' attitude towards counterfeit products in Malaysia* (Doctoral dissertation, University Malaya).

12. Chiu, W., &Leng, H. K. (2015). Consumers' intention to purchase counterfeit sporting goods in Singapore and Taiwan. *Asia Pacific Journal of Marketing and Logistics*.

ESSENTIALS, RULES, REGISTRATION AND CLASSIFICATION OF TRADEMARK

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Abstract

A "Trademark" means a mark used in relation to goods for the purpose of indicating or so as to indicate a connection in the course of trade between the goods and some person having the right as proprietor to use that mark. The Trade and Merchandise Marks Act was passed in year 1958. Since then it had been amended several times. According the Trade Marks Bill, 1999 was introduced in both the houses of Parliament received the assent of the President. It came on the Statute book as THE TRADEMARKS ACT, 1999. 'Mark' includes a device, brand, heading, label, ticket, name, signature, word, letter, shape of goods, packaging or combination of colors, numeral shape of goods, packaging or combination of color or any combination. There are five Territorial Jurisdictions of trade mark registration offices which are in Delhi, Mumbai, Ahmedabad, Kolkata and Chennai. There are total 45 Classes of Trade mark. Class 1-34 belongs to manufacturing, Class 35 is for marketing & advertisement and Class 36-45 belongs to Services.

Keywords: trademark, Classes, merchandise, goods, services

INTRODUCTION:

A "Trademark" means a mark used in relation to goods for the purpose of indicating or so as to indicate a connection in the course of trade between the goods and some person having the right as proprietor to use that mark. The function of a trademark is to give an indication to the purchaser or a possible purchaser as to the manufacture or quality of the goods, to give an indication to his eye of the trade source from which the goods come, or the trade hands through which they pass on their way to the market. Trademark concerns the goods themselves, while a property mark concerns the proprietor. A property mark attached to the movable property of a person remains even if a part of such property goes out of his hands and ceases to be his. The word "trademark" as defined in the Act is a Mark used or Proposed to be Used in Relation to good for the purpose of indicating or so as to indicate a connection in the course of trade between the goods and some person having the right to use the Mark.

HISTORY

Bass Brewer's logo became the first image to be registered as a trademark in the UK, in 1876. The first trademark legislation was passed by Parliament of England under the reign of King Henry III in 1266. In trademark treatises it is usually reported that blacksmiths who made swords in the Roman Empire are thought of as being the first users of trademark.

Legislative History

The law of trademark in India before 1940 was based on the common law principles of passing off and equity as followed in England before the enactment of the first Registration Act, 1875. The first statutory law related to trademark in India was the Trade Marks Act, 1940 which had similar provision like the UK Trade Marks Act, 1938. In 1958, the Trade and Merchandise Marks Act, 1958 was enacted which consolidated the provisions related to trademarks contained in other statutes like, the Indian Penal Code, Criminal Procedure Code and the Sea Customs Act. The Trade and Merchandise Marks Act, 1958 was repealed by the Trade Marks Act, 1999 and is the current governing law related to registered trademarks. The 1999 Act was enacted to comply with the provisions of the TRIPS. Though some aspects of the unregistered trademarks have been enacted into the 1999 Act, but they are primarily governed by the common law rules based on the principles evolved out of the judgments of the Courts. Where the law is ambiguous, the principles evolved and

interpretation made by the Courts in England have been applied in India taking into consideration the context of the legal procedure, laws and realities of India

LAW RELATING TO TRADE MARK

The Trade and Merchandise Marks Act was passed in year 1958. Since then it had been amended several times. Moreover, in the view of developments in trading and commercial practices, increases globalization of trade and industry, the need to encourage investment flows and transfer of technology and need to simplify and harmonies trademark management system, it was considered necessary to bring out comprehensive legislation on the subject. According the Trade Marks Bill, 1999 was introduced in both the houses of Parliament received the assent of the President. It came on the Statute book as THE TRADEMARKS ACT, 1999.

DEFINITION

Section 2(1) (m) of Trade Marks Act, 1999 defines a mark as:

'Mark' includes a device, brand, heading, label, ticket, name, signature, word, letter, shape of goods, packaging or combination of colors, numeral shape of goods, packaging or combination of color or any combination.

In Sumat Prasad Jain vs Sheojanan Prasad(Dead) by LRs and State of Bihar, AIR 1972 SC 2488 the court observed that a Trade Mark means a mark used in relation to goods for the purpose of indicating or so as to indicate a connection in the course of trade between the goods and some person having the right as proprietor to use that mark. The function of a trade mark is to give an indication to the purchaser or a possible purchaser as to the manufacture or quality of the goods, to give an indication to his eye of the trade source from which the goods come, or the trade hands through which they poss.

TRADE DESCRIPTION

"Trade Description" is defined under the 1999 Act as any description, statement, or other indication, direct or indirect:-

i. As to the standard, quantity, measure, gauge, or other goods; or
ii. As to the standard of quality of any goods or service according to a classification commonly used or recognized in the trade; or
iii. As to fitness for the purpose, strength, performance, or behavior of any goods, being 'drug' as defined in Drug and Cosmetic Act ,1940 or 'food' as defined in the Prevention of Food Adulteration Act,1934; or
iv. As to the place or country in which or the time at which any goods or service were made, produced or provided, as the case may be; or
v. As to the name and address or other indication of the identity of the manufacturer or of the person proving the services or of the person for whom the goods are manufactured or services are provided; or
vi. As to the mode of manufacture or producing any goods or providing services; or
vii. As to the material of which any goods are composed; or
viii. As to any goods being the subject of an existing patent, privilege or copyright.

ESSENTIALS OF A TRADE MARK

i. Distinctiveness of the trade mark. A trade mark would be considered a good trade mark when it is distinctive.
ii. The trade mark should preferably be an invented word. In fact, the best trade marks are invented words.
iii. The trade mark, if a word or name, should be easy to pronounce and remember. For instance, 'MADAME' is for women clothing; 'CAPRESE' for Hand Bag; 'SONY' for Electronics
iv. In case of a device mark, the device should be capable of being described by a single word.
v. It must be easy to spell correctly and write legibly
vi. It should not be descriptive but may be suggestive of the quality of goods. For Example, a mark A-1 would generally suggest superior quality. Avon (A-1) cycle for instance

vii. It should be short
viii. It should appeal to the Eye as well as Ear
ix. It should satisfy the requirement of registration
x. It should not belong to the class of marks prohibited for registration

TERRITORIAL JURISDICTIONS OF TRADE MARK REGISTRATION OFFICES

- **MUMBAI :** The State of Maharashtra, Madhya Pradesh, Chhattisgarh and Goa
- **AHMEDABAD:** The State of Gujarat and Rajasthan and Union Territories of Daman, Diu, Dadra and Nagar Haveli.
- **KOLKATA :** The State of Arunachal Pradesh, Assam, Bihar, Orissa, West Bengal, Manipur, Mizoram, Meghalaya, Sikkim, Tripura, Jharkhand and Union Territories of Nagaland, Andaman & Nikobar Islands.
- **NEW DELHI :** The state of Jammu & Kashmir, Punjab, Haryana, Uttar Pradesh, Himachal Pradesh, Uttarakhand, Delhi and Union Territories of Chandigarh
- **CHENNAI :** The state of Andhra Pradesh, Telangana, Kerala, Tamilnadu, Karnataka and Union Territories of Pondicherry and Lakshadweep Island

THE TRADE MARK RULES, 2002

The Trade Marks Rules, 2002 were published in the Gazette of India, Extra, Pt 2, Sec. 3(i) dated Feb 26, 2002

Principal Place of Business in India

Within the meaning of rule 4 of the Trade Marks Rules, 2002, the Principal Place of business in India is that Particular Place only, where the business is carried on. Where the business is carried on at more than one place then it is the place mentioned by the person, carrying on the business.

Procedure for Registration of Trade Mark

The application for registration of trademark for various purpose, etc. were made in Forms, TM-1, TM-2, TM-22, TM-37, TM-45, TM-51, TM-52, TM-53, TM-61, TM-64, TM-65, TM-66 and TM-68, as provided in Schedule of the Trade Marks Rules, 2002. But after amendment of Schedule of the Trade Marks Rules, 2017 shall made in Forms, TM-A, TM-O, TM-R, TM-P, TM-U, TM-C, TM-M, TM-G. The application can also be signed by the agent of the applicant. A single application can also be made for different class of goods or services included in any one class from a convection country. A single application can also be made for series of trade marks.

Advertisement of Application

Accordingly to the rules 43, an application for registration shall be advertised in the Trade Mark Journal ordinarily within 6 months of the acceptance of the application of after the expire of the period refer to sub section(2) of section 154 whichever is later. Where a Trade Mark applied for is other than a word, the Registrar may call upon the applicant to furnish a camera-ready copy of the Trade Mark

Opposition to Registration

Section 21 of the Trade Marks, Act, 1999 provides for opposition to registration. Any person can give notice in writing of opposition to the registration within three months from the date of advertisement or re-advertisement of an application for registration.

Registration of Trade Mark

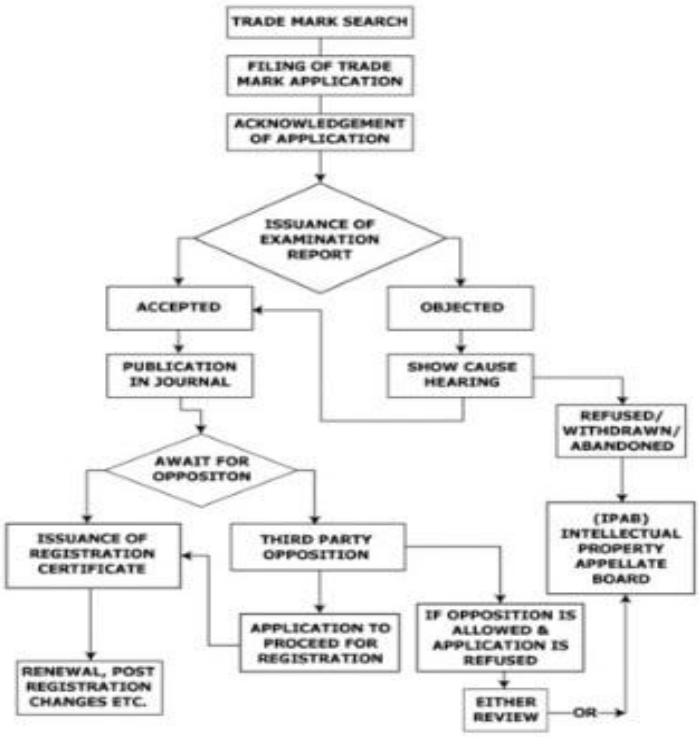

Image Source:

https://www.indiamart.com/proddetail/trademark-registration-process-3416712155.html

SYMBOLS

The two symbols associated with Indian trademarks are:

- ™ (the trademark symbol) and
- ® (the registered trademark symbol)

which represent the status of a mark and accordingly its level of protection. While ™ can be used with any common law usage of a mark, ® may only be used by the owner of a mark following registration with the relevant national authority.

TRADEMARK CLASSES

Trademark classification is popularly known as classification of goods and services. There are several categories of trademark and they are classified into several classes. It is an orderly arrangement of documents according to the type and the description the goods and services. Trademark classification is classified into classes in almost all the countries. There are different classes for services and products. There are 34 classes for products out of 45 classes and 11 for services.

Trademark Classification is a way by which trademark attorneys and trademark examiners arrange documents, such as trademark and service mark applications, according to the description and scope of the types of goods or services to which the marks apply. The same trademark or service may be classified in numerous classes, and some countries permit several classes to be registered in the same document. Trademarks are also classified in various classes in India. Trademark classification helps in precise and easy work.

- Class 1: Chemicals
- Class 2: Paints

- Class 3: Cosmetics and Cleaning Preparations
- Class 4: lubricants & Fuels
- Class 5: Pharmaceuticals
- Class 6: Metal Goods
- Class 7: Machinery
- Class 8: Hand Tools
- Class 9: Electrical and Scientific Apparatus
- Class 10: Medical Apparatus
- Class 11: Environmental Control Apparatus
- Class 12: Vehicles
- Class 13: Firearms
- Class 14: Jewelry
- Class 15: Musical Instruments
- Class 16: Paper Goods and Printed Matter
- Class 17: Rubber Goods
- Class 18: Leather Goods
- Class 19: Non-metallic Building Material
- Class 20: Furniture and Articles(not included in other classes)
- Class 21: Housewares and Glass
- Class 22: Cordage and Fibers
- Class 23: Yarns and Threads
- Class 24: Fabrics
- Class 25: Clothing
- Class 26: Fancy Goods
- Class 27: Floor Coverings
- Class 28: Toys and Sporting Goods
- Class 29: Meats and Processed Food
- Class 30: Staple Food
- Class 31: Natural Agricultural Products
- Class 32: Light Beverages
- Class 33: Wines and Spirits
- Class 34: Smokers' Articles

Services

- Class 35: Advertising and Bussiness
- Class 36: Insurance and Financial
- Class 37: Building, Construction and Repair
- Class 38: Telecommunication

- Class 39: Transportation and Storage
- Class 40: Treatment of Materials
- Class 41: Education and Entertainment
- Class 42: Computer Scientific and Legal
- Class 43: Hotel and Restaurants
- Class 44: Medical, Beauty and Agricultural
- Class 45: Personal and Social Services

TRADEMARK FEE FOR NEW APPLICATION

The Application Fee for New Trademark Registration or Certification Mark or Collective Mark or Series of Trademark for Specification or Goods or Services included in one Class has been increased to Rs 10,000 for physical filing (Rs5,000 for **Individual, Startup and Small Enterprises**) and Rs 9,000 for E-filing.(Rs 4,500 for **Individual, Startup and Small Enterprises**).

VALIDITY OF TRADEMARK

Trademark is valid for a period of 10 years from the date of application, once it is registered. The registration can then be renewed indefinitely as long as the renewal fees are paid every 10 years.

REFRENCES:

1. Dr. B.L. Wadehra (Fifth Edition) "Law Relating to Intellectual Property" Published by Universal Law Publishing Co. Page 129-140
2. Nayan Joshi "Law of Trade Marks And Passing Off" Published by M/s Kamal Publishers Page 3-5
3. AIR 1972 SC 2488
4. https://www.indiamart.com/proddetail/trademark-registration-process-3416712155.html
5. http://www.ipindia.nic.in/locations-and-jurisdiction.html
6. http://www.tm-india.com/trademark-classes

INTELLECTUAL PROPERTY RIGHTS IN DIFFERENT SECTORS OF ECONOMY: AN OVERVIEW

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Abstract:

Intellectual property rights have now become 'intellectual currency' that has been used widely in each and every sector of the economy. This research paper is conceptual in nature. Authors tried to add some body of knowledge by synthesizing the past literature on intellectual property rights. Conceptually analyzing the research work of other researchers it was found that IPRs is the essence of growth in different sectors as it induces in growth in economy by enhancing the competitiveness and innovation world-wide. It acts as the power house of the growth that monetizes the innovation of the firms and helps to grow. Government should focus on IPRs improvement to fulfill the aim to improve their economies, help their citizens and build national capabilities in many areas of technology, information and culture.

Keywords: Intellectual property rights, patents, innovation and copyrights.

Introduction:

Rights that are given to the creators or innovators to use their creations for a certain period of time are known as intellectual property rights. As per Intellectual Property Rights Organizations (WIPO) there are many type of intellectual rights such as trademarks, patents, copyrights, industrial designs, geographical indications, industrial designs, trade secrets. IPRO used various way in order to raise awareness for the intellectual property rights such as the world IP day, WIPO magazine, various tools for public outreach and WIPO awards to foster the culture of innovation and creativity. Implementing proper intellectual property rights strategy helps businesses to gain market leader position by gaining competitive advantage and high rate of return. Companies can get leverage benefits by licensing the intellectual property rights. According to OECD (2014) from 2009 to 2011, ICT's patents filed under Patent Cooperation Treaty (PCT) were over 38% of total. Trademark protection registration of ICT related products, in the period of 2010-13 have reached about 1/3 of the total trademark filed in Europe and 1/5 in the US. When two or more instruments are used for the protection of ICT products then it is known as IP bundle. Intellectual property rights not only benefit the small and medium enterprises but consumer and societies. Effective protection of intellectual property rights attracts inward foreign direct investment (FDI) in developed, developing and least-developed countries. IPR helps provide consumers with innovative products and services in virtually every area of life, and helps protect consumers from counterfeit and pirated products. IPR encourages competition among diverse product, function and quality offerings, giving consumers a greater choice among the goods and services they want and need. IPR also provides important mechanisms to help many of society's most important needs, from clean energy and reduced carbon emissions to health care and a truly 'digital economy'.

Review of literature:

The following is the review of past literature on the emergence of intellectual property rights in the different sector of the economy. Review perfectly highlights the role and importance of IPRs in different areas of economy.

IPRs in Information and communication technology:

As per Comino and Maneti (2015), the ICT industry is nowadays considered as the most dynamic and advanced industry in any economy. ICT inventions are highly cumulative as the products and

techniques developed by others are improved or modified in order to make new applications of these products and techniques. ICT industry is being intensively impacted by the IPRs because ICT sector's products and techniques are complex in nature and generally of a short life cycle. Hence, they demand protection of the inventions through intellectual property rights. The inventions can be protected through several instruments such as patents, copyrights, trademark, industrial design, etc (Hall et al., 2014). Recently the largest producers of mobile phones, telecom devices and software- Samsung, Microsoft, Apple, Motorola and the others engage in a high state battle of the patents.

IPRs in tourism sector:

Lis-Gutierrez et al.(2016) The IPRs are also being used in the tourism sector as a tool for indigenous development. In this sector IPRs are the best ways to differentiate the products and services with identifiable tangible and intangible features. Use of copyrights, trademarks and brand, domain names, geographical indications and industrial designs is very common in the tourism sector. Copyrights are used for the protection of brochures, guides, maps and other promotional materials.

Pereira (2012) says that destination branding is a new development in the tourism sector. It is combining the culture and environment of a place to the marketing of products and services. This emphasizes the uniqueness of the place. Websites and reservation systems in cities or regions are protected by domain names. Geographical indication is also a mean of protection for the products which have qualities or features that are specially due to their place of origin. While according to (Lis-Gutierrez et al., 2017) the merchandising objects such as handicraft and traditional products can be protected either through geographical indication or industrial design.

IPRs Telecom Sector:

According to Canalys (2017) the telecom sector in India has witnessed an impressive growth especially from the last one decade. India has become the second largest market of smartphones leaving the US behind. The growth rate is expected to remain high in coming years which can be possible only if the innovation in the sector is protected through IPRs. As per PI crooks (2010) international competitiveness of Indian telecom sector has also increased due to the adoption of copyrights and trademarks. The reasons for embracing the IPRs are: Increased revenue and different legislation passed by the government. Chopra and Chawla (2018) suggested in their study that there is an urgent need to re-evaluate the regulatory system related to IPRs and competition in order to encourage innovation. Also, if the IP protection remains weak it will lead to uncertain return on investment. This, in turn, will reduce investment in research and development and thus lower innovation efforts.

IPRs in Pharmaceutical Sector:

The impact of agreement related to IPRs of the World Trade Organization can also be seen in the Indian pharmaceutical sector.

Aggarwal (2004) stated that in our country when it comes to the pharmaceutical sector most of the innovative activities and research & development efforts are undertaken by those firms which are large in size.

Kiran (2018) found in his study that small and medium pharmaceutical firms are also getting indulged in Research & Development efforts through product and process innovation.

The SMEs are competing in the market with large firms by adopting patents, copyrights, trademarks and trade secrets. Intensity of R & D efforts is increasing and the inventions in the sectors are being protected through increased filing of patents (Kubo, 2004). But still the filing of IPRs is low by SMEs as they are not focusing on the organizational competitive policies and relying more on policy measures by the government.

IPRs in Fashion Industry:

Barrere and Delabruyere (2011) stated that Intellectual property rights play major role in the fashion industry. Day by day new fashion trends and innovative designs are introduced in industry. Fashion industry has become the hub of luxury groups due to the spectacular growth in this sector and now

these luxury groups are facing challenges because of limiting legal protection to their designs and brands. This allows boulevard and road side fashion firms to copy their ideas and these type of unethical activities will have long term negative impact on the inventive, innovative, artistic and imaginative component of the fashion segment. Many countries are working in the direction of copyright conventions and laws for shielding designs and innovation in fashion sector.

According to Tiwari (2018) fashion industry is facing the problem of piracy due to the illegal production and dispensation of fashion design and logo of brand protected by patents, copyright and trademark law. Fashion piracy falls into two categories named as counterfeits and knockoffs. Knockoffs are mimicking the original design of the designer and sell it with logo other than original blueprint. In this design is copied line to line but sold with the name of another designer. On the other hand counterfeits involve both imitation of the original design as well as the logo or brand name of the original designer. The main intention behind these kinds of piracy related activities is to deceive the consumer in the name of original design. This is the main menace in the fashion industry sector. In order to tackle the problem of piracy in fashion industry, three different legislations are provided by IPR Regime. These are as follows: The Indian Copyright Act,1957, The Design Act,2000 and the Trade Marks Act, 1999.

IPRs in Agriculture sector:

Manchikanti & Sengupta (2011) found that higher number of patents has been filed in the field of equipment and machinery that are being used to perform various agricultural functions such as irrigation, machinery associated with growth of plants and post-harvesting processes. Research also emphasizes on the IPR need in the current agricultural inventions in the area of automation, machinery related to specific crop and energy efficient equipment.

Nair (2011) says that various international level forums like: WTO, GATT, CBD plays major role in the development of agriculture pursuits. When the Indian patent act 1970 came in India it did not include the provision of patenting the Agri -based innovations. But since 2005 after the arrival of TRIPS agreement application has been filed for the IPRs in the field of agriculture also, like for food processing, Agro products, new varieties of plants and agro chemicals such as fertilizers, pesticides, biocides, etc. As per the article 23 of the agreement, geographical indications related to the products like wine and spirits are to be protected. Main idea behind this provision is to save the consumer from malpractices of misleading in the name of geographical origin of the product.

CONCLUSION

IPRs play crucial role in each and every sector of the economy and main action place of IP rights is in innovation field of each businesses. In the ICT sector the importance of patents and trademarks has increased in spite of high costs mainly from the last few years for the protection of technology. Here, the role of intermediaries is found crucial for improving the market efficiency. In order to foster economic growth and to add value to the GDP, use of IPs in the tourism sector can work as the tool for promotion of tourist spots, national culture, traditions etc. it can further help in social development, increased competitiveness and innovation along with reduced inequality. When it comes to the telecom sector, Investment in IPRs can be increased if the government provides assurance that the local inventions will be protected by IP, and strong actions will be taken against IP frauds (The Economist, 2003). Indian pharmaceutical sector is facing a crucial phase of changes. In order to keep this sector competitive at the global level, it requires filing of more and more IPRs applications by medium as well as small firms. The government should also take measures to promote the use of IPRS. Some authors claim that there should be no protection to fashion designs as it induces designers to innovate more and more new innovative designs. Intellectual property rights play very important role in the agricultural sector. As a result of innovation in the field of automated machinery, many applications for getting patents for these innovations will have indirect positive relation with the welfare of the consumer. Marketers can't be able to deceive or mislead consumer in the name of origin of the product. Innovations are important to be successful for every business and can be patented to eliminate competitors from exploiting the new inventions during the period and thus gain competitive advantages in the market. Intellectual property rights gain more importance in those

industries where technology is the key driven factor for the survival of the business and very important to hide secrets of the same.

References

1. Barrère, C., & Delabruyère, S. (2011). Intellectual property rights on creativity and heritage: the case of the fashion industry. *European journal of law and economics*, *32*(3), 305-339.
2. Canalys, 'India overtakes US to become second largest smartphone market'(Canalys.com, 26 October 2017) <https://www.canalys.com/newsroom/india-overtakes-us-become-second-largest-smartphone-market>
3. Chopra, S. and Chawla, P. (2018). Innovation, Growth and Intellectual Property: A Study of The Indian Telecom Sector and the Way Forward. Journal of National Law University Delhi, 5(1), 40-60.
4. Comino, S. and Maneti, F.M., (2015). Intellectual Property and Innovation in Information and Communication Technology (ICT), JRC Science and Policy Report, European Commission.
5. Hall, B., Helmers, C., Rogers, M., and Sena, V. (2014). The Choice between Formal and Informal Intellectual Property: A Review, Journal of Economic Literature, 52(2): 375-423.
6. https://economictimes.indiatimes.com/small-biz/legal/relevance-of-intellectual-property-for-business/articleshow/49563911.cms?from=mdr
7. https://www.wto.org/english/tratop_e/trips_e/intel1_e.htm
8. Kubo, K. (2004). Product patents and vertical integration in the post TRIPS Indian pharmaceutical industry. Retrieved from http://are.berkeley.edu/jobmarket/ken.pdf
9. Lis-Gutierrez, J.P., Angulo, M.G., Ochoa, M.A.M., and Lis-Gutierrez, M. (2017). Use of Intellectual Property in the Tourism Sector. Journal of Engineering and Applied Sciences, 12(11), 2838-3841.
10. Lis-Gutierrez, J.P., Viloria, A., Angulo, M.G., Balaguera, M.I. and Rodriguez, P.A. (2016). Museums and Management of Intellectual Property. Intl. J. Control Theor. Appl., 9, 457-462.
11. Manchikanti, P., & Sengupta, M. (2011). Agricultural machinery in India: IPR perspective.
12. Nair, M. D. (2011). GATT, TRIPS, WTO and CBD–Relevance to Agriculture.
13. OECD (2014), Measuring the Digital Economy: A New Perspective, OECD Publishing.
14. Pereira, R., Correia, A. and Schutz, R. (2012). Destination Branding: A Critical Review. Journal of Quality Assurance in Hospitality and Tourism, 13, 81-102.
15. Ravi Kiran (2017) IPR scenario and factors for promoting IPR culture: a post-TRIPS period analysis of selected pharmaceutical firms in North India, Economic Research-Ekonomska Istraživanja, 30:1, 873-891
16. The Economist, 'In Praise of the Real Thing', The Economist (15 May 2003) http://www.economist.com/node/1781204
17. Tiwari, S. (2016). Intellectual Property Rights Protection of Fashion Design in India: A Panoramic View. *Available at SSRN 2805346*.
18. Aggarwal, A. (2004). A strategic approach to strengthening the international competitiveness in knowledge based industries: The Indian pharmaceutical industry, RIS-DP 80. Retrieved from
19. http://www.ris.org.in/sites/default/files/pdf/Dp80_pap.pdf
20. PI Crookes, Intellectual Property Regime Evolution in China and India (2010, Leiden: Brill) 17.
21. https://iccwbo.org/content/uploads/sites/3/2011/02/Intellectual-Property-Powerhouse-for-Innovation-and-Economic-Growth.pdf

IMPORTANCE OF IP FOR FASHION DESIGNERS

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ABSTRACT

Fashion design is a form of art which is dedicated to creativity of clothing and accessory. Fashion designers have a keen visual imagination as they always put their ideas into garments. Intellectual Property (IP) plays a very important role in the workplace of a designer. A designer has to be aware of the dynamic fashion markets, keeping their Intellectual Property intact. Intellectual Property (IP) refers to an invention, a design or other kind of creation, which provides authenticity to any business. It will not be wrong to term Intellectual Property as the strongest asset for any business.

Keywords: Intellectual Property, fashion designers.

Introduction

"Last year, India experienced weddings of some of the top-notch celebrities, and the very next month, the well sought through markets Old Delhi were flooded with first copies of Sabyasachi designed Priyanka Chopra and Deepika Padukone's wedding collection or Isha Ambani's Bridal wear by Manish Malhotra. One news report suggested that the highest selling lehengas were the copies of Sonam Kapoor and Anushka Sharma's wedding outfits. The most coveted brands such as 'Gucci", 'Armani' 'Louis Vuitton', 'Versace', 'Hermes' 'Heron Preston', 'Kenzo' and many more might be a big deal for some but the street markets across the country are thriving on first and second copies of these names. The penetration of internet has made the "duplicate goods" accessible to consumers from every section of the society.

"The damage actioned by knock- offs is twofold", noted Gary Assim, partner and Intellectual property right specialist at London law firm Shoosmiths, "Firstly, it robs the designer of the proceeds from the sale of his/her product, which would often have been a result of a considerable research and development, not to forget the monetary investments involved. In addition, it denies the designer of the rightful recognition as the original creator", as we all saw in the above-mentioned story.

Intellectual Property can be referred to as a double-edged sword. Not only does it protect a designer against the mask of plagiarism, but also helps in recognizing the creator of the content. IP plays a very important role in Protecting the Classic Trends. While fashion trends may come and go in the blink of an eye, some never pass. One such example can be the one year waiting period observed at the French fashion house **Hermès** for the classic "Kelly" Bag, which grew to fame in 1956 after Princess Grace Kelly of Monaco appeared carrying the bag on the cover of LIFE Magazine. Another one of a kind creation- The classic **Chanel** suit – designed by Coco Chanel in the 1930s – is still sold for US $5,000 a suit. Many fashion houses strive to create such classic design pieces. When they succeed, if they have not obtained the appropriate IP protection in time, imitators will be able to 'free ride' on their creative work.

A registered IP can prove to be a valuable commercial asset. It gives the creator, a right to enforce the design against infringement. It also provides exclusivity over the design. It becomes a personal property and can grow in value and be sold.

The legal protection of these rights provides creators, artists, designers, business people, and entrepreneurs with the exclusive right to use, control, and profit from, their creative masterpiece. IP is a very valuable asset for those in the design industry and an important differentiating factor between the designer and the copier.

The rights that are most likely to be relevant to a fashion designer are: Trademarks, Copyright, Patents and Design Rights.

Trademark

Trademark is an IPR which deems to protect an identity in the form of a logo, work, brand, design or anything for that matter, with respect to the product and differentiate the same from its competitors. The use of trade mark law ranges from protection of logos and brand names to other distinct features of a product, namely the style, its production cycle etc. Often trademarks can be identified either inside the garment or as a subtle display on small elements such as buttons. Trademark law not only protects a brand's right to revenue, but also helps consumers distinguish between genuine products and counterfeit products.

For example, if we talk about the brand- "Nike", for the word itself, the brand has filed several registrations, in which most notable are the registrations for the "Swoosh" design symbol and "Just do it" slogan. These kind of trademark registrations are the most basic ones required in the protection of a Brand.

Copyright

It refers to a kind of IPR which guarantees protection for literary and artistic work which might be published already and put to use. It can be sought under the Copyright Act, 1957 in India for a lifetime period of the artist and an additional 60 years, after he is no more. Copyright helps in motivating the creator, which therefore helps to cease any illegal use of his creativity or skill. It helps to protect the artistic expressions, which could be identified separately from, and are capable of existing independently of, the utilitarian aspects of the article. If we talk in respect to a garment, "Textile designs might benefit the most from copyright protection but an actual dress, when ready, with all elements does not". In situations like these, it will be necessary to rely on the Designs Act 2003 for protection. Copyright protection might also be available for works of artistic craftsmanship, such as jewelry and one-off fashion garments. However, one should rely on the design law rather than copyright law for producing or making multiple copies of items.

Trade Secrets

Trade Secrets are the core concepts by which the use of software tools for fashion design, computer-implementation, software-based business models and logistics management can be protected. A business concern can focus on a well-established position in the market through the protection of information by IP and can further regulate its market share, profit margins, differentiation and innovation. This all helps in avoiding the risk of IP infringement. IP protection of assets creates an overall image in the eyes of the investor and a consumer.

For example- The fashion brand-Zara, opted for an innovative information technology system in order to shorten its production cycle to just 30 days, while that of its competitors ranges from 4 to 12 months. It also has a high-tech distribution system, with some 200 kilometers of underground traces and over 400 chutes, which further ensures shipping and arrival of the finished stock in the stores within 48 hours.

Patents

Whenever there is a new invention, innovation in terms of technical aspect and fabric design, the need of patent protection arises. Novozymes, a Danish biotech company, developed an enzyme and microorganisms named cellulose for the protection of fabrics. This enzyme is known to remove some of the indigo dye from the denim to provide a wash look. This has now been recognized worldwide for the improvement of production methods. A secured Patent, for such inventions proves to be biggest boon for the designers.

Some other examples of innovative and Patent worthy design include the technology used to manufacture wrinkle-free fabrics, CROCS shoes, Ultra-Violet-filtering textiles that are fire resistant and textiles which are water-repelling. Patents are essential for successfully commercialized inventions, particularly which require large sum of investments to develop to the commercial stage. One must understand that only the tech- aspects of one's creations can be patented. The artistic creations cannot be patented and hence, not many designers could use this as a tool.

Tech- fabrics, which earlier were mere imaginations are a reality in today's times, which require these ideas to be patented. For example, Lauren Scott, an American designer is currently working on providing radio frequency identification tags to her line of children's wear. These tags are known to be used by water transport industry to track shipments of freight. In clothes, these tags could carry medical information for when an accident occurs or in case of an emergency and could also prevent abductions by triggering an alarm in case of breach of a certain perimeter.

For registering a new design, few arguments have to be considered, which may differ on a case-by-case basis. Registering a design is necessary to prevent others from copying it, and to fight unethical competitors who do so. Moreover, protection of a design is not always financially burdensome, it is the least to begin with. In some countries and regions, such as the United Kingdom and the European Union (EU), an Unregistered form of protection for industrial designs is offered for a very short period of time. Unregistered design protection, wherever available and applicable, could prove to be extremely useful for fashion designers or businesses that have limited budgets, and for the ones who wish to test their new designs in the market before deciding to register a full-fledged trademark. This unregistered community design right can offer protection for about a maximum period of three years, beginning from the date of introduction of the design to the public, in any of the 25 countries of the EU.

Filing an application for a registered industrial design may be the best way to prevent others from using the design, especially for the fashion items having a longer life span. It is possible to request the publication to defer the application for up to 30 months at the time of filing. This useful feature, offered under the Hague System, and many other national systems, can be a boon for those who wish to keep their design a secret, until it is offered in the market.

Some of the rules governing the Intellectual Property in India include, the Patents Act of 1970, 2003 Patent Rules and the 2016 Patent Amendment Rules. The Patent Registrar under the office of Controller General of Patents, Designs and Trade Marks, is the regulatory authority for patents which forms integral part of India's Ministry of Commerce and Industry. The validity of a Patent is 20 years, from the date of filing an application, which is subject to an annual renewal fee. India's patent law follows first come first serve principle, which refers to awarding patent to the one who files the application first, in case, when two people apply for a patent on an identical invention. Some of the Laws which govern designs are the Designs Act 2000 and the Designs Rules 2001. The validity of a Design is for a maximum of ten years, which can be further renewed for a span of five years. Additionally, Governance of trademarks in India is done by the "1999 Trade Marks Act "and the "Trade Marks Rules of 2002 and 2017". A trademark registration can take up to two years and is valid for ten years which can be further renewed indefinitely for ten-year periods. The regulatory authority for Designs and Trade Marks fall under the Department of Industrial Policy and Promotion.

Conclusion

Huge sum of time, money and intellect is invested by the fashion industry to create new and original designs every year. Despite this significant investment, the fashion designers have been reluctant in protecting their IP, mostly because of being unaware of their rights and the procedures that follow. Another major justification for not registering one's design is that the product life cycle is known to be very short, ranging from one to six to twelve months which does not justify the considerable time and monetary investment involved. These Fashion Designers should also consider fact that Fashion is a dynamic industry and the saying "Fashion repeats itself" is the biggest truth of this industry. Moreover, design protection is not always a major financial burden, it is the least to begin with. They should also not forget the amount of recognition offered by acquiring a trademark or a patent. For fashion items with a longer life span, protecting the IP is any day the best way to save their design for themselves and thus serves to boost income through sale, licensing, and commercialization, to improve market share, and raise profit margins. Good management of IP assets in a business or marketing plan helps to enhance the value of an enterprise in the eyes of investors and financing institutions.

As better said by Coco Chanel -"In order to be irreplaceable one must always be different." -

References

1. https://www.upcounsel.com/trademark-clothing
2. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/627956/IP-Rights-in-India.pdf
3. https://www.altacit.com/publication/ipr-in-fashion-industry/
4. https://www.iipta.com/new-trend-season-role-ip-fashion-industry/

गृह वास्तु में बौद्धिक सम्पदा अधिकार

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सारांश

प्राचीन काल से ही भारतवर्ष ज्ञान के क्षेत्र में अग्रणी रहा है। समस्त ज्ञान का लक्ष्य मानव का हित साधन करना है । मनुष्य को अपने सभी उद्देश्यों की प्राप्ति के लिए आवास अथवा गृह की परम आवश्यकता है । मनुष्य के गृह अथवा आवास निर्माण सम्बन्धी समस्त तत्त्वों-सिद्धांतों का वर्णन जिस शास्त्र में होता है उसे वास्तुशास्त्र के नाम से अभिहित किया गया है । वास्तुशास्त्र के अट्ठारह प्रवर्तक आचार्य हैं जिन्होंने इस शास्त्र के सिद्धांतों का प्रणयन मानव के कल्याण हेतु किया । आज हमें वास्तुशास्त्र जिस रूप में प्राप्त होता है, यह हमें उन ऋषियों की ही देन है जिन्होंने गुरु शिष्य परम्परा के रूप में इस स्व आविष्कृत बौद्धिक सम्पदा को अधिकारी शिष्य को प्रदान करके सुरक्षित एवं संरक्षित किया ।

विषयसूचक शब्द-प्राचीन,गृह.वास्तु, बौद्धिक-सम्पदा, अधिकारी ।

शोधपत्र

भारतवर्ष प्राचीनकाल से ही ज्ञान के क्षेत्र में अग्रणी रहा है । समस्त भारतीय ज्ञान की धारा का उद्गम वेदों से हुआ है वेदों को अपौरुषेय माना जाता है तथा ऋषियों को वैदिक ज्ञान का द्रष्टा कहा जाता है । ऋषियों ने समाज को व्यवस्थित करने के लिए चातुर्वर्ण्य का विधान बनाया तथा इसके अन्तर्गत ब्राह्मण,क्षत्रिय,वैश्य तथा शूद्र नामक चार वर्णों का निर्माण किया । सब वर्णों के लिये पृथक पृथक कर्मों का विधान किया । इस क्रम में ऋषियों ने सभी वर्णों को उनके वर्ण के अनुरूप बौद्धिक सम्पदा का अधिकार प्रदान किया जिससे सुयोग्य व्यक्ति को उपयुक्त विद्या अथवा ज्ञान प्राप्त हो सके । जिस वर्ण के लोग अत्यधिक बौद्धिक क्षमता से सम्पन्न थे उन्हें ब्राह्मण वर्ण में समाहित किया गया तथा उनको अध्यात्म, दर्शन, साहित्य, व्याकरण, चिकित्सा तथा तथा यज्ञ सम्बन्धी शिक्षा का अधिकार दिया गया । जो लोग अत्यधिक शारीरिक बल से युक्त थे उन्हें क्षत्रिय नाम से व्यवहृत किया गया तथा उन्हें शरीर सम्बन्धी शिक्षा, युद्धकला, अस्त्र-शस्त्र विद्या तथा राजनीति सम्बन्धी शिक्षा का अधिकार दिया गया । जो व्यक्ति व्यापारिक तथा कृषि कर्म में निपुण थे उन्हें वैश्य की संज्ञा दी गयी तथा उन्हें समस्त व्यापारिक व कृषि कर्म की शिक्षा का अधिकार दिया गया । जो अवशिष्ट जनसमूह अति परिश्रम करने में तथा अन्य वर्णों की सेवा सहायता में सिद्धहस्त थे, उन्हें भी चौसठ कलाओं के ज्ञान को प्राप्त करने का अधिकार दिया गया ।इस प्रकार प्राचीन भारत में सभी लोगों को बौद्धिक-सम्पदा का अधिकार था परन्तु सभी प्रकार का ज्ञान अथवा बौद्धिक-सम्पदा सभी के

लिए नहीं थी अपितु जो व्यक्ति जिस बौद्धिक-सम्पदा को प्राप्त करने का अधिकारी होता था उसे ही वह ज्ञान प्रदान किया जाता था । लार्ड मैकाले ने समस्त भारत में भ्रमण के उपरान्त ब्रिटिश संसद में प्रदान किये अपने भाषण में इस तथ्य को स्वीकार किया है कि भारत में सभी लोगों को शिक्षा का अधिकार प्राप्त था । प्राचीन भारत में गुरुकुल शिक्षण प्रणाली थी तथा इसमें सैद्धान्तिक ज्ञान के साथ-साथ प्रायोगिक ज्ञान को अधिक महत्त्व दिया जाता था । समस्त बौद्धिक-सम्पदा का उद्देश्य मानव जीवन को सुखमय बनाते हुए उसे परम-लक्ष्य मुक्ति की और अग्रसर करना मात्र था । अपने समस्त लक्ष्यों को साधने के लिए मानव को पृथ्वी पर आवास अथवा गृह की परम आवश्यकता थी जो उसे सर्दी, गर्मी, वर्षा तथा विविध आपदाओं से सुरक्षित रख सके । सुखमय जीवन तथा प्रकृति के साथ सामञ्जस्य पूर्ण आवास की प्राप्ति के लिए ऋषियों ने वास्तु शास्त्र को आविष्कृत किया । वास्तु शब्द वस् निवासे धातु से निष्पन्न हुआ है जिसका अर्थ निवास करने से सम्बन्धी होता है तथा शास्त्र का अर्थ अनुशासन अथवा नियम से होता है । इस प्रकार वास्तुशास्त्र का सर्वमान्य अर्थ उस शास्त्र से है जिसमें प्राणी के निवास करने हेतु समस्त नियमों का वर्णन होता है । मत्स्य पुराण के अनुसार भृगु, अत्रि, वशिष्ठ, विश्वकर्मा, मय, नारद, नग्नजित, विशालाक्ष, पुरन्दर, ब्रह्मा, कुमार, नंदीश शौनक, गर्ग, वासुदेव, अनिरुद्ध, शुक्र तथा बृहस्पति वास्तु शास्त्र के उपदेशक आचार्य हैं जिन्होंने गुरु-शिष्य परम्परा के माध्यम से वास्तुशास्त्रीय सिद्धान्तों का प्रतिपादन एवं विस्तार मानव कल्याण हेतु किया । इन ऋषियों ने इस बौद्धिक सम्पदा को अपने तपयोगबल एवं सूक्ष्म अनुसन्धान से ज्ञात करके वास्तुशास्त्र का प्रतिपादन किया । वास्तुशास्त्र का क्षेत्र अत्यन्त विस्तृत एवं व्यापक है जिसमें गृह निर्माण, देव स्थान, राजमहल, प्रतिमा निर्माण, सभाभवन, उपवन, ग्राम, नगर, जनपद, देश तथा समस्त भूमण्डल तक की व्यवस्था का विचार किया जाता है । वास्तुशास्त्र के वे सिद्धान्त जो गृह निर्माण से सम्बन्ध रखते हैं उन्हें गृहवास्तु के सिद्धान्त कहा जाता है, यद्यपि यह सिद्धान्त अन्यत्र भी क्रियान्वित होते तथापि प्रसङ्गवश गृहवास्तु की बौद्धिक सम्पदा के कतिपय सिद्धान्तों का वर्णन करते हैं । ये प्रमुख सिद्धान्त हैं 1.भूमिचयन 2.वास्तुपद विन्यास तथा 3. भवन निवेश । इनका क्रमशः वर्णन करते हैं-

1.भूमिचयन- ऋषियों ने गृह निर्माण हेतु सर्वप्रथम भूमिचयन के सिद्धांतों का प्रतिपादन किया । यह समस्त ब्रह्माण्ड पृथ्वी, जल, वायु, आकाश तथा अग्नि नामक पञ्च महाभूतों से निर्मित है ।मनुष्य का शरीर भी पञ्च तत्त्वों से निर्मित है तथा ये ब्रह्माण्ड भी इसके समान है । "यथा पिण्डे तथा ब्रह्माण्डे" इस नियम के अनुसार गृहवास्तु भी इस ब्रह्माण्ड का एक भाग है तथा मानव देह भी उस परमसत्ता का अंश है । चाहे ब्रह्माण्ड हो या भूमण्डल या मानवदेह या गृहवास्तु कहीं पर भी जब ये पंचतत्त्व संतुलित होंगे तो वहां सुव्यवस्था बनी रहेगी और जहाँ ये असंतुलित होंगे वहाँ अव्यवस्था तथा आपत्तियां ही आएँगी । गृह निर्माण हेतु भूमिचयन में प्रमुख रूप से भूमि तत्त्व का विचार किया जाता है ।ऋषियों ने अपने बुद्धिबल से भूमि के भी चार वर्ण निर्धारित किये हैं । जिस प्रकार शास्त्रों में ब्राह्मणादि चार वर्ण सामाजिक

व्यवस्था के लिए बने थे उसी प्रकार उन सभी के लिए भिन्न-भिन्न भूमि का भी चयन किया गया था । ऋषियों ने भूमि के रंग, रूप, गुण, स्वाद तथा उर्वरता के आधार पर यह निश्चित किया की कैसी भूमि पर किस व्यक्ति को रहना चाहिए ? वास्तुशास्त्र में भूमि के चार प्रकार बताए गए हैं 1.ब्राह्मणी भूमि 2.क्षत्रिया भूमि 3.वैश्या भूमि तथा 4.शूद्रा भूमि । इनका क्रमबद्ध तथा संक्षिप्त विवरण प्रस्तुत है- **1.ब्राह्मणी भूमि**- यह भूमि बुद्धिजीवी वैज्ञानिक तथा शिक्षण कार्य करने वाले लोगों के लिए उपयुक्त है । इस भूमि की पहचान यह है कि इसमें तुलसी आदि उत्तम वनस्पतियाँ विकसित होती हैं । इसका रंग सफ़ेद तथा इस भूमि की सुगंध घी के समान और स्वाद मीठा होता है । **2.क्षत्रिया भूमि**-क्षत्रियवर्ण में राजनेता, प्रशासक, सैनिक, खिलाडी तथा सैन्यकर्मी आते हैं । इन सबके लिए क्षत्रिया भूमि भूमि उपयुक्त है । यह भूमि लाल रंग की होती है तथा इसकी गंध रक्त के समान होती है । इस भूमि में मूँज आदि उत्पन्न होते हैं । **3.वैश्या भूमि**- इस भूमि का रंग पीला होता है तथा गंध शहद के समान होती है । इस भूमि पर कुशा उत्पन्न होती है । यह भूमि अन्न, धन व धान्य की वृद्धि करने वाली होती है । व्यापारी वर्ग एवं कृषि वर्ग के लोगों के आवास के लिए यह भूमि उत्तम होती है । **4.शूद्रा भूमि**- इस भूमि की मिट्टी का रंग काला तथा गंध मद्य के समान होती है । इसका स्वाद तीखा होता है । यह भूमि अति परिश्रमी वर्ग तथा सेवक वर्ग के लिए उपयुक्त होती है । उपर्युक्त भूमि के वर्गीकरण के अतिरिक्त भी ऋषियों ने प्राकृतिक वातावरण, भूप्लवत्व(ढलान) तथा भूखण्ड की आकृति के आधार पर भी भूमि चयन के सिद्धान्त वर्णित किये हैं । इनका संक्षिप्त वर्णन प्रस्तुत है - **प्राकृतिक वातावरण**- गृहनिर्माण के लिए भूमिचयन का वर्णन करते हुए आचार्य वराहमिहिर कहते हैं "कि जो भूमि दूर से ही आकर्षक हो, तुलसी आदि उत्तम औषधि से युक्त हो, उत्तम वृक्ष तथा लता आदि के सहित हो, सुगन्धित एवं समतल हो, जिसकी मिट्टी मधुर एवं चिकनी हो, थके हुए व्यक्ति को बैठते ही शांति प्रदान करती हो, प्राकृतिक वातावरण से युक्त हो तथा सुन्दर पक्षियों के कलरव से गुंजायमान हो इस प्रकार की भूमि गृह निर्माण हेतु प्रशस्त होती है" । **भूप्लवत्व(ढलान)**- भूमि चयन हेतु भूमि के ढलान की भी महती भूमिका है । वास्तुशास्त्र का निश्चित मत है कि पूर्व, आग्नेय, दक्षिण, नैऋत्य, पश्चिम, वायव्य, उत्तर तथा ईशान कोण में निम्न भूमि को क्रमशः गोवीथि, वैश्वानरी, यमवीथी, भूतवीथि, जलवीथि, नागवीथि, गजवीथि तथा धनवीथि के नाम से अभिहित किया जाता है तथा इन सब में से केवल गोवीथि, गजवीथि तथा धनवीथि भूमियाँ ही गृह निर्माण हेतु शुभ मानी गयी हैं । **भूखण्ड की आकृति** - वास्तुशास्त्र में भूखण्ड की अनेक आकृतियों का वर्णन उपलब्ध होता है । प्रमुख सोलह आकृतियाँ इस प्रकार है - आयताकार, समचतुर्भुज, विषमचतुर्भुज, वर्गाकार, भद्रासन, वृत्ताकार, चक्राकार, वक्राकार, त्रिकोणाकार, शकटाकार, दण्डाकार, धनुषाकार, व्यजनाकार, कूर्माकार, कुम्भाकार तथा मुरजाकार । इन सब आकृतियों से युक्त भूखण्ड में निवास का फल भी भिन्न भिन्न होता है । गृह निर्माण के लिए इनमें से केवल आयताकार, समचतुर्भुज, विषमचतुर्भुज, वर्गाकार,

भद्रासन तथा वृत्ताकार भूखण्ड ही उपादेय होता है । भूखण्ड चयन के उपरान्त दिक्साधन पूर्वक वास्तुपद विन्यास गृह निर्माण का मुख्य कार्य है । वास्तुपदके अंतर्गत एक भूखंड में पैंतालीस शक्तियों की भावना की जाती है । वस्तुतः यह वास्तुपद भूमि की ऊर्जा और सौर ऊर्जा के सम्मिलित विविध रूप ही हैं, जो भूखण्ड में विद्यमान रहती हैं । इन ऊर्जा क्षेत्रों को जानने का सम्पूर्ण श्रेय महान ऋषिगण को ही है । वास्तुपद विन्यास के उपरान्त भूखण्ड में कक्ष विन्यास किया जाता है जिसको निम्न सारणी से सरलतापूर्वक समझा जा सकता है ।

वास्तुसम्मत कक्षविन्यास

क्रम	दिशा	कक्ष
1	ईशान	देवगृह
2	ईशान-पूर्व के मध्य	वस्तुसंग्रह
3	पूर्व	स्नानघर
4	पूर्व-आग्नेय के मध्य	मन्थनकार्य
5	आग्नेय	पाकशाला
6	आग्नेय- दक्षिण के मध्य	घृतस्थान
7	दक्षिण	शयनकक्ष
8	दक्षिण- नैऋत्य के मध्य	शौचालय
9	नैऋत्य	गृहसामग्री भण्डार
10	नैऋत्य- पश्चिम के मध्य	विद्याभ्यास
11	पश्चिम	भोजनकक्ष
12	पश्चिम- वायव्य के मध्य	रोदनकक्ष
13	वायव्य	पशुगृह
14	वायव्य- उत्तर के मध्य	रतिकक्ष
15	उत्तर	धनसंग्रह
16	उत्तर- ईशान के मध्य	औषधि कक्ष

इस प्रकार वास्तुशास्त्र के प्रवर्तक आचार्यों ने गृहवास्तु में भूमिचयन वास्तुपद एवं कक्षविन्यास की बौद्धिक सम्पदा का वर्णन किया है । इस बौद्धिक सम्पदा के ज्ञान को प्राप्त करने का अधिकार सभी को नही था । समरांगण सूत्रधार नामक वास्तु ग्रंथ में वास्तु विद्या

के ज्ञाता को स्थपति के नाम से अभिहित किया है तथा स्थपति लक्षण प्रकरण में स्थपति की योग्यता के लिए कहा है, कि स्थपति को सामुद्रिक शास्त्र, गणित, ज्योतिष, छन्दस, शिराज्ञान, शिल्प तथा यन्त्र कर्म में निपुण होना चाहिए । सैद्धान्तिक ज्ञान के साथ साथ उसे प्रायोगिक ज्ञान में भी कुशल होना चाहिए । सद्गुणी व सत्यनिष्ठ स्थपति श्रेष्ठ होता है । वास्तुराज वल्ल्भ ग्रंथ में सूत्रधार के विषय में कहा है कि जो द्विज सुशील, चतुर, प्रवीण, विद्वान्, लोभहीन तथा शान्त आदि गुणों से युक्त है वह सूत्रधार अर्थात वास्तु शास्त्र का ज्ञाता होता है । वास्तु विद्या के प्रख्यात ग्रन्थ बृहत्संहिता में भी दैवज्ञ के लक्षण प्रसंग में दैवज्ञ में निष्पापत्व, पवित्रता, प्रतिभासम्पन्नता, वाक्पटुता तथा व्यसन हीनता आदि गुणों को आवश्यक बताया है । वास्तु शास्त्र व्यापक व्यावहारिक एवं सर्वजनोपयोगी शास्त्र है । यह मूलतः मानव को प्रकृति के साथ सामञ्जस्य स्थापित करके जीवन जीने की प्रेरणा देता है । इसके प्रवर्तक ऋषियों ने सद्गुणी,योग्य, ज्ञानी व सत्यनिष्ठ व्यक्ति को ही इस बौद्धिक सम्पदा का अधिकारी माना है, जिससे इस शास्त्र का समुचित प्रचार और प्रयोग लोकहित के लिए किया जा सके ।

सन्दर्भ सूची

1. बृहद्वास्तुमाला, पण्डित रामनिहोर द्विवेदी, चौखम्बा सुरभारती प्रकाशन, वाराणसी, 1998 ।
2. बृहत्संहिता, वराहमिहिर, चौखम्बा विद्याभवन वाराणसी, 2005 ।
3. भवनभास्कर, राजेन्द्रकुमारधवन, गीताप्रेस, गोरखपुर, 2004 ।
4. भारतीय वास्तुशास्त्र, राष्ट्रियसंस्कृतसंस्थान, नई दिल्ली, 2007 ।
5. वास्तुविद्या, पण्डित सतीशशर्मा, ज्योतिषमन्थनप्रकाशन, जयपुर, 2017 ।
6. वास्तुराजवल्ल्भ, श्रीमण्डनसूत्रधार, मास्टर खेलाड़ी लाल एंड संस वाराणसी, 1996 ।
7. वास्तुसारः, डॉ. देवीप्रसादत्रिपाठी, ईस्टर्न बुक लिंकर्स, दिल्ली, 2016 ।
8. विश्वकर्माप्रकाश, विश्वकर्मा/डॉ. उमेशपुरीज्ञानेश्वर रणधीप्रकाशन, हरिद्वार,2017 ।
9. समराङ्गणसूत्रधार-वास्तुशास्त्रीयभवननिवेश, डॉ.द्विजेन्द्रनाथशुक्ल, मेहरचन्दलछमनदास पुब्लिकेशन्स, नईदिल्ली, 2008 ।

INTELLECTUAL PROPERTY RIGHTS AND INNOVATION IN INDIA AND ITS STATES

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Abstract

This paper proposes to present a data view of India's position in world on account of intellectual property rights (IPRs) and innovation. In addition to it, it also presents a brief study of the patents filed and held by different states across India. It also tries to locate problems faced by innovators regarding IPRs in India and their plausible solutions. India's rapidly improving performance on Innovation and inventions platform should be augmented with knowledge and better implementation of Intellectual Property Right Laws. Combination of both is necessary to reap the benefits of innovations.

Keywords: Intellectual Property Rights, Innovation, Invention, Patents.

Introduction: Innovation plays a crucial role in economic development of a country. Innovations and inventions give birth to intellectual property in the form of novel creations. These novel creations are protected by different intellectual property rights like patents which are used for new methods, processes, machines or any other manufactured articles like solar cell. Copyrights are used to protect the literary works such as books. Trademarks is that intellectual property right which is given for an exclusive use of some design or tag line which highlights the specificity of holder like logo of famous clothing brands. Geographical indications are used to highlight product's identity by peculiar features credited to its location of origin like Darjeeling tea.

Knowledge of laws pertaining to protection of intellectual property rights become as important as intellectual property itself.

India's Position on IPRs and Innovation: India has witnessed a growing trend in the field of industrial innovation during last 5 years. India has taken a leap of 29 places in Global Innovation Index in last five years. A climb from 57th place in 2018 to 52nd place in 2019 shows its improved performance.

Moreover, if we talk about Global Innovation Efficiency Index, India is second best country in the world. Global Innovation Efficiency Index shows the rankings of countries which actually are best in converting innovation inputs into innovation outputs.

According to Global Intellectual Property Index, India ranked 40 among 53 countries in 2020. It scored 19.23 out of 50 which is an improvement over 16.22 out of 45 in 2019.Thus India has gained 6.71 percent in score from 36.04 percent to 38.46.

Delhi High court used measures to reduce online content infringement which helped India to score more on two copyrights related indicators. It enabled India to score ahead 24 countries in the copyrights indicators placing India at par with global leaders like U.K.

State/Union Territory	2016-17 - Filed	2016-17 - Granted	2017-18 - Filed	2017-18 - Granted	2018-19 - Filed	2018-19 - Granted
Andaman & Nicobar	2	0	3	0	2	0
Andhra Pradesh	278	66	276	104	330	113
Arunachal Pradesh	6	0	5	0	5	0
Assam	69	5	71	6	111	12
Bihar	27	1	63	0	50	6
Chandigarh	35	9	33	8	76	7
Chhattisgarh	23	0	50	5	42	7
Dadra and Nagar Haveli	3	0	0	0	2	0
Daman & Diu	0	0	4	0	2	1
Delhi	1075	278	1434	458	1355	440
Goa	29	1	22	5	45	2
Gujarat	633	50	712	60	837	107
Haryana	444	18	449	38	531	73
Himachal Pradesh	40	1	110	5	193	5
Jammu & Kashmir	49	0	34	0	41	3
Jharkhand	144	27	168	90	162	105
Karnataka	1815	196	2022	143	2230	196
Kerala	276	14	312	23	278	25
Madhya Pradesh	141	0	191	9	201	7
Manipur	2	0	1	0	7	0
Meghalaya	0	0	4	0	6	2
Mizoram	3	0	0	1	25	0
Nagaland	1	0	3	0	5	1
Odisha	103	8	166	13	165	17
Pondicherry	27	0	24	2	56	4
Punjab	207	18	247	27	664	41
Rajasthan	181	5	190	17	308	15
Sikkim	0	0	4	0	4	0
Tamil Nadu	2018	138	2742	153	2433	220
Telangana	805	10	999	11	1061	43
Tripura	7	0	4	0	9	0
Uttar Pradesh	637	26	721	65	984	89
Uttaranchal/Uttarakhand	64	2	128	7	157	8
West Bengal	480	85	538	163	536	216
Total	13219	1311	15550	1893	17221	2515

Source: ***https://data.gov.in***

Data of Patents filed and granted to states and Union Territories in India(2016-17 to 2018-19): From the table above we can conclude that Tamilnadu, Karnatka and Delhi are top states and territory to file patents but when it comes to patents granted Delhi is on top despite the lesser number filed than Tamilnadu and Karnatka. Industrialised states like Gujarat and West Bengal are other two states among top patent grantees.

Challenges faced by Innovators for Intellectual Property Rights in India: According to Global Intellectual Property Centre, there are several challenges which are hindrance in the way of getting a rather better position on Intellectual property index. Some of these are:

1. Requirements relating to patentability
2. Loose Patent enforcement
3. Compulsory Licensing
4. Protection of Regulatory Data
5. Delay at bureaucratic level with pending cases at criminal as well as civil courts
6. Significant number of small players infringing IP rights making tracing costly.
7. Lack of transparency at local level.

Plausible Solutions: Prevention is better than cure can rightly be applied to safeguard innovations. Innovator should be alert in advance to protect his creation from potential threats. Some proposed solutions are:

1. Advice from IP firms: Innovators are advised to seek help of IP firms as these people are better equipped with the information concerning possible threats at local level as well. Thus they can help innovators protecting their intellectual properties.
2. IP Websites: There are certain government websites and publications which provides useful information on intellectual property rights and concerned laws.
3. Experts on Local level: In case person is unable to take help of professional IP firms, he can seek help from experts like lawyers, local officials and chamber of commerce, agents, distributors and suppliers etc. on local level.
4. Leaders in Similar Business: one may have a good chunk of knowledge by imitating the ideas to protect intellectual property rights used by already established business in similar products.
5. Pre- registration precautions: Innovator should check with the patent or trademark attorney if there is already registration of logo, process or product similar to yours.
6. Awareness about Laws: The most important thing to consider for protecting intellectual property rights is to be fully aware of the laws pertaining to IPRs in India so that can be used whenever required.

Helping Agencies and Website in India for IPRs protection:

1. Department for Promotion of Industry and Internal Trade
2. Rajiv Gandhi National Institute of Intellectual Property Management
3. www.ipindia.nic.in

Conclusion

Though India has made significant progress both in the area of innovation and intellectual property rights, still there are certain bottlenecks in the swift attainment of intellectual property rights and implementation of laws pertaining to IPRs. If innovators keep in mind some basic tricks to protect their intellectual properties, it can significantly boost the innovation culture in India. This in return, can make India a hub of manufacturing and industry and help in generating employment and income.

References:

1. www.wipo.int
2. http://data.gov.in
3. http://deccanherard.com

CONCEPT, IMPORTANCE AND PROTECTION OF INTELLECTUAL PROPERTY RIGHTS

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ABSTRACT

In contrast to physical property, intellectual property is an aerial asset of a person. Intellectual Property Rights (IPR) are the entire rights given to the composer to their formation. Usual types of Intellectual Property Rights are patents, copyrights, trademarks, industrial deigns, geographical explanation, trade secrets, layout designs for unsegregated circuits and even concept. Intellectual Property Rights provide a revival to the composer to develop his formation and to share it with other people for the development of the society. The basic aim of the IPRs is to avail benefit in meeting the challenges in Intellectual Property refers to the development like reducing poverty, restoring economic growth, improving the health status by availing medicines to the poor, improving access to education and contributing the overall sustainable development. Though IPRs provide incentive to the creator and lead to a competition in the field of discovery but it is also an intellectual protectionism or a form of a temporary monopoly enacted by the state.

Keywords: Intellectual Property, Intellectual Property Rights, patents, copyrights, trademarks, geographical indications

INTRODUCTION

Intellectual property is the product of the human intellect including creative concepts, inventions, industrial models, trademarks, songs, literature, symbols, names, brands,....etc. Intellectual Property Rights do not differ from other property rights. They allow their owner to completely benefit from their product which was initially an idea that developed and crystallized. They also entitle him/her to prevent others from using, dealing or tampering with his/her product without prior permission from him/her. He/she can in fact legally sue them and force them to stop and compensate for any damages. The main purpose of intellectual property law is to encourage the creation of a wide variety of intellectual goods.

CONCEPT

Intellectual property, very broadly, means the legal property which upshot from intellectual activity in the industrial, scientific and artistic fields. Generally speaking, IP law aims at safeguarding creators and other producers of intellectual goods and services by allowing them certain time- limited rights to control the use made of those productions.

"Intellectual property shall include rights relating to:

1) literary, artistic and scientific works:
2) performances of performing artists, phonograms and broadcasts;
3) inventions in all fields of human conduct;
4) scientific discoveries;
5) industrial designs;
6) trademarks, service marks, and commercial names and designations;

Types of Intellectual Property

IP as an asset category can be divided into four distinct types:

- Trade Marks
- Copyrights
- Patents
- Secrets

The Scope of Intellectual Property Rights

While the scope of IP rights is broad, two classification modes are used to determine if IP is a copyright or industrial property.

Industrial properties refer to patents or inventions, trademarks, trade names, biodiversity, plant breeder rights, and other commercial interests. A patent gives its holder exclusive use of the intellectual property for the purposes of making money off the invention. An invention itself is a new manufacture, process, machine, or composition.

Holding a copyright doesn't necessarily give you exclusive rights to an idea, but it does protect the expression of ideas, which is different from a patent. Copyrights have covered numerous fields from art and literature to scientific works and software. Even musical and audio-visual works are covered by copyright laws.

In addition to copyright protections, neighboring rights exist that protect the expression of ideas. Neighboring rights are enjoyed by:

- Theater performers
- Broadcasters
- Actors
- Dancers
- Producers

If you need help understanding the scope of intellectual property rights, you can post a job on Up Counsel's marketplace. Up Counsel accepts only the top 5 percent of lawyers to its site. Lawyers on Up Counsel come from law schools such as Harvard Law and Yale Law and average 14 years of legal experience, including work with or on behalf of companies like Google, Menlo Ventures, and Airbnb.

Why Are Intellectual Property Rights Important?

Intellectual property (IP) contributes enormously to our national and state economies. Dozens of industries across our economy rely on the adequate enforcement of their patents, trademarks, and copyrights, while consumers use IP to ensure they are purchasing safe, guaranteed products. We believe IP rights are worth protecting, both domestically and abroad. This is why:

Intellectual Property Creates and Supports High-Paying Jobs

- Jobs in IP-intensive industries are expected to grow faster over the next decade than the national average.
- The average worker in an IP-intensive industry earned about 30% more than his counterpart in a non-IP industry
- The average salary in IP-intensive industries pay $50,576 per worker compared to the national average of $38,768.

Intellectual Property Drives Economic Growth and Competitiveness

- America's IP is worth $5.8 trillion, more than the nominal GDP of any other country in the world.

- These industries also have 72.5% higher output per worker than the national average, valued at $136,556 per worker.
- IP accounts for 74% of all U.S. exports- which amounts to nearly $1 trillion.

Strong and Enforced Intellectual Property Rights Protect Consumers and Families

- Strong IP rights help consumers make an educated choice about the safety, reliability, and effectiveness of their purchases.
- IP rights foster the confidence and ease of mind that consumers demand and markets rely on.

Intellectual Property Rights Encourage Innovation and Reward Entrepreneurs

- Risk and occasional failure are the lifeblood of the innovation economy. IP rights incentivize entrepreneurs to keep pushing for new advances in the face of adversity.
- IP rights facilitate the free flow of information by sharing the protected know-how critical to the original, patented invention. In turn, this process leads to new innovations and improvements on existing ones.

These rights are embraced by all sectors of industry—small, medium and large companies alike—and by labor organizations, consumer groups, and other trade associations we bring together.

Why Intellectual Property should be protected

There is an ongoing pursuit to protect Intellectual Property Rights (IPR), because it contributes enormously to countries' national economies. Dozens of industries across countries' economies rely on the adequate enforcement of their patents, trademarks, and copyrights, while consumers use IP to ensure they are purchasing safe, guaranteed products.

The protection of Intellectual Property Rights (IPR) is essential for the economy and for its further growth in areas such as research, innovation and employment. Effective IPR enforcement is also essential to health and safety. Particularly, IPR creates and supports high-paying jobs, drives economic growth and competitiveness, protect consumers and families, helps generate breakthrough solutions to global challenges, encourage innovation and reward entrepreneurs. For these reasons, IP rights are worth protecting, both domestically and internationally.

The customs authorities at the EU borders are aware that IP infringement can cause some unwelcome consequences. Therefore, the EU takes several precautions such as adopting a new EU Customs Action Plan (CAP). This plan aims to combat IPR infringement for the years 2013 to 2017.

Since 2000, the EU custom authorities publish an annual report on the activities of the customs' services with respect to IPR enforcement. It contains statistics on the type, origin and transport of counterfeit goods at the EU's external borders which have been confiscated. It is important to acknowledge for what kind of infringement goods have been seized by customs authorities over the year in order to adopt an adequate strategy and take necessary measures.

According to this report customs had held nearly 36 million units of counterfeit goods at EU borders in 2013. It represents a value of 760 million euros. As expected, the 66% of all detained goods come from China and 13% from Hong Kong. Turkey and Egypt are also high ranking countries when it comes to specific product categories such as perfumes, cosmetics and food.

Finally, as mentioned above IPR protection is very important in many ways. Even the high efforts of the EU custom authorities are not sufficient to dissolve the IP infringements. However, it is possible to decrease the number of IP infringements by increasing the awareness of consumers and following the rules that the authorities adopt.

CHALLENGES TO INTELLECTUAL PROPERTY RIGHTS

- **Issue of compulsory licensing**: With the provision of compulsory licensing the government of India can Issued the owner,company,or other companies to mass produce some drugs in emergency irrespective of

- **Issue of drug price control order**: With this provision companies can not charge an unfair price for drugs that they are producing. The price has to be justified regarding investment, and if someone places foul, then the government has the right to intervene.
- **Issues related to food security**: India is a land of farmers wherein most of the people are engaged in doing farming for their livelihood. In such a country government offers many subsidies to farmers. India's

  domestic support schemes are generally in the form of minimum support price for major agricultural commodities and input subsidies provided to farmers in the types of electricity, fertilizers ,seeds etc.

Conclusion

For sustainable and innovative development, it is not possible to achieve competitive innovative development in the global economy. Hence, in the national strategy and corresponding programs to be adopted, it is important to safeguard scientists' interests at a higher level to increase productivity.

References

1. www.dubaicustoms.gov.ae
2. www.upcounsel.com
3. www.theglobalipcentre.com
4. www.marsh.com
5. www.spiegeler.com
6. www.yourpatentteam.com

THE MENACE OF PLAGIARISM IN INDIA

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Abstract

Plagiarism is the unethical act whereby the user steals the ideas, research work, published or unpublished work or project of another researcher. In India, the gravity of plagiarism is high although, there is less awareness regarding this among the researchers, the users and all other stakeholders. There are no strict laws in the academic world in India. UGC Guidelines in the context of plagiarism have been recently implemented in higher education. The infringement of copyright is sometimes not clear because of the right of reprography. The moral of the story for all of us is that we can get knowledge and motivation from other's work but we should not steal and copy other's work. The Indian government seeks to enhance the quality of research within the country's academic institutions by deterring research misconduct and plagiarism.

Keywords: Plagiarism, copyright, academic Integrity, Infringement

Introduction

The unlawful use of the work of other person is called Plagiarism. Plagiarism is the unethical act whereby the user steals the ideas, research work, published or unpublished work or project of another researcher. The advancement of technology helps to do such unlawful act. The easy access of research work on the internet along with technology use has led to the wide spread act of plagiarism. The lack of awareness among the researchers (the creators) and the users (the imitators) is also responsible for ever rising plagiarism. The non-implementation of the principles of academic integrity is also responsible.

There are various forms of Plagiarism like Verbatim, Paraphrasing, and Copy Paste.

Verbatim: where the imitator copies 100 percent material without acknowledgement.

Paraphrasing: means a minor alteration in the research work/material of other person and changing lines in one's own language. The interesting point is that the work of other is acknowledged.

Copy Paste: This is the easiest form of plagiarism. The imitator copy and paste the information available on the internet.

Inadequate Citation: The inaccurate citation of the original creator or wrong citation in references is also an act of plagiarism

Joint Work: When the joint work by two or more than two authors is used by a single author and is referred as one's own work. This is a serious case of plagiarism.

Auto Plagiarism: It is an act of using one's own work again in partial or full way in variety of books or journals.

Plagiarism leads to breach of academic integrity. It is an act of theft of creation of other person. It is unethical and illegal. It is not in coherence with the rules of Intellectual property Rights.

It is a shameful and highly unprofessional act and is against the spirit of education.

Review of Literature

Tracy,Bretag(2013) found that even established researchers are not immune to the plagiarism and there is need to take a holistic approach to address the act of Plagiarism.

Rabeb. A.A. Mohammed and Others (2015) found that researchers have lack of knowledge about the subject. Researchers have low skills and understanding of the subject.

Campbell Andrew (2017) found that US and other countries like New Zealand and Australia teach their children in schools to prepare their projects and to cite the work of others and at college and university levels, students are required to formally use the citation pattern in their research papers and projects.

Kadam, Dinesh (2018) described that institutions and authors should have an easy access to good screening software for manuscripts. The responsibility of submitting an original work lies with the authors, researchers and supervisors, especially with the senior authors. The final manuscript must be screened for any manipulations done in the form of language or paraphrasing. The guilty must be awarded with penalty.

Causes of Plagiarism in India

In India, the gravity of plagiarism is high in colleges and universities.

- There is less awareness among the researchers, the users and all other stakeholders.
- There are no strict laws in the academic world in India. Therefore, the rate of plagiarism is very high especially in research work even in the institutions of higher learning.
- The students at school level have no idea about plagiarism. Even at college level, they copy their project reports of others and the college authorities did not check for plagiarism.
- The easy availability of readymade minor research projects with the computer shops make it possible for the students to buy the projects.
- The teachers must assign the projects as per the capability of each student.

The act of learning at higher education levels demands academic integrity. The basic purpose of education is to learn, understand and create newer ideas or work for the well being of the society. Education means enlightenment of the human mind. Education and research helps to sharpen the skills of a person so as to enable him/her to contribute towards the sea of knowledge. We can get inspiration from the great works of many researchers, innovators, scientists and teachers who innovated some new knowledge, method, material or theory to enhance the standard of living of the masses, by acknowledging their work. We all know the contributions of Marie Curie, Linus Pauling, Mother Teresa, APJ Abdul Kalam, Albert Einstein, Herman Muller, Amartya Sen and many more. Had these famous persons copied the work of others, the society would have been deprived of many well being innovations and ideas.

Therefore, we as students, teachers, researchers and leaders must avoid the shameful and unlawful act of plagiarism by not copying and stealing the work of others because in this way we respect the work of others.

Rationale for the prevention of Plagiarism: In this globalised era with knowledge at one click away, there is wide spread infringement of copy right. The creation and work of any person can be easily used or manipulated. It is also very economical and convenient to copy past the work others.

Reddy,A.N.M.and Ashwah,L.(2016) linked copyright with other rights which are described below.

CopyRight	
1)Economic Right section 14	2) Moral Right section- 57 3) Neighbouring Right sections- 37,38,38A,38B

- By indulging in plagiarism, we deny the economic, moral and neighboring rights to others.
- It is unethical to copy the work of others.
- It is illegal (as per copyright Act, India).
- It is an act of infringement of copyright of others.
- It leads to end of healthy research and fair competition.
- It leads to unfair business practices by the publishing houses.
- It amounts to penalty by universities and University Grants Commission, India.

Prevention of Plagiarism:

Plagiarism is on the rise and this is a serious concern. On August 3, 2018, University Grants Commission (UGC) announced the rules with effect from July 23, 2018.

The UGC Rules establish that Plagiarism means 'taking someone else's work or idea and projecting as one's own. 867 universities and their affiliated institutions will implement UGC Rules. There is provision of punishment and ban on such researchers.

UGC Guidelines in the context of plagiarism in higher education are as under:

1) Creating awareness regarding original work and plagiarism.
2) Use of technology based plagiarism check.
3) Oath of Academic Integrity.
4) Submission of certificate /undertaking regarding original work.
5) Follow similarity checks for exclusion from plagiarism like quotes, references etc.
6) Zero tolerance towards copied work.
7) There will be different levels of plagiarism in non-core areas like similarity up to 10 percent excluded, up to 40 percent(level I), up to 60 percent (Level II) and above 60 percent (Level III).
8) Disciplinary action to be taken by higher education authorities.
9) Penalty for Level I-submit revised work within one and half years; for Level II- revised work after up to one and a half year; for Level III- Cancellation of registration.
10) Various other penalties for Faculty of educational Institutions.

It is disheartening that the researchers, college teachers, students are not aware of UGC rules. The awareness about the guidelines has to be spread to make the stakeholders aware about the serious consequences of plagiarism. Various universities in India have made it compulsory to get the research work checked through plagiarism checkers like Urkund, Trintin.

The students and teachers must understand that they are free to use the work of others for the pursuit of knowledge but at the same time, it is the responsibility of each user to give due acknowledgement and recognition to the original contributors. The proper way of recognition is to add footnotes, add citation in the bibliography/references. This practice will lead to a healthy research and original contributions. This will also motivate other fresh researchers, students and teachers.

Laws regarding Plagiarism

As per section 57 and section 63,63A of copyright Act 1957, the rights of authors are protected which will help them to get the claims of their work, to get damages in case of Plagiarism. As per Section 63, there is punishment for the offence f breach of rights bestowed under the Act. Section 63 A of the Act contains the punishment for the offence of breach of rights concerned under this Act for the second time.

The infringement of copyright is sometimes not clear because of the right of reprography. The example of the case of University of Oxford and Rameshwari photocopy Services shows that the photocopy of the printed material is infringement under section 2(o) of the copy right Act. But in this special case, the Rameshwari photocopy Services has the Reprography license, so the case was withdrawn.

Copyright is a legal right but not a divine right.

The basic purpose of published work is to spread knowledge.

Another important case is Vanilla Ice vs. David Bowie which involved a copy of the song 'Ice Ice Baby' sung by Vanilla Ice and it did not acknowledge the original song 'Under Pressure' sung by David Bowie and Queen. Later on, it was admitted by Vanilla Ice that he copied the original one. Vanilla Ice paid a handsome amount to David Bowie and Queen.

Microsoft won the case against Apple; Galactica won the case of Star wars Vs Battle wars.

The moral of the story for all of us is that we can get knowledge and motivation from other's work but we should not steal and copy other's work.

Registered by the Ministry of Human Resource Development, Government of India, Indian Reproduction Rights Organisation (IRRO) has the exclusive right to commence and carry on the copyright business of 'reprographic rights'. It is in the field of literary works in India. IRRO represents the rights of owners of literary works and provides licenses to content users on the behalf of its creators. Reprography involves reproduction through printing, photocopying, scanning, digital copying.

Therefore, the fabrication and falsification are the core elements of plagiarism.

In India, the major cause of ever rising plagiarism in the academic field is due to the fact that the financial increments of the Assistant Professors, Associate Professors are linked to the published research work. The career growth demands publication of research papers in the related fields. This compels the teachers or the persons to steal and copy the work of others. The publishers fail to check the plagiarism because they charge higher publication fees for research papers.

Towards Effective Solution

In a move to promote originality of thought and innovation, the Indian Union Ministry of Human Resource Development (MHRD) has awarded a nationwide contract to Swedish company Urkund to provide their machine learning-powered tool for checking plagiarism. The Indian government seeks to enhance the quality of research within the country's academic institutions by deterring research misconduct and plagiarism. It is compulsory for all publishing Journal and books houses to get the certificate of originality from the contributors and also to get the plagiarism checked. All the universities in India have issued guidelines to all the teaching departments for effective implementation of the UGC guidelines in the context of Plagiarism.

The following Plagiarism tools on these websites can be used.

www.copyscape.com

www.doccop.com

www.scanmyessay.com

www.researchgate.net

www.urkund.com

www.smallseotools.com

www.plagiarismdetector.net

Conclusion

Plagiarism is a menace which will perish the research sooner or later. Strict implementation of Copyright Act and UGC guidelines is the best solution to prevent and check plagiarism. By obeying the academic integrity and truthfulness to the teaching profession and research, the plagiarism can be easily avoided.

References

1. Campbell, A. (2017) Cultural differences in Plagiarism. Dec.20, 2017. Turtin.com
2. Juyal, D., Vijay Thawani and Shweta Thaledi (2015) Plagiarism: An Egregious Form of Misconduct.www.ncbi.nlm.gov.
3. Kadam Dinesh (2018) Academic Integrity and Plagiarism: New Regulations in India. May 2018 May-Aug; 51(2). doi: 10.4103/ijps.IJPS_208_18.
4. Reddy, A.N.M. and Ashwath, L. (2016) Understanding Copyright Law: Infringement, Protection and exception. International Journal of research in Literary Science No.1 (2016); 48-53.
5. Tracy Bretag (2013) Challenges in Addressing Plagiarism in Education.2013 PLoSMed 10(12):e1001574. Doi:10.1371/journal.premeds1001574.
6. www.copyscape.com
7. www.doccop.com(2017)
8. www.scanmyessay.com
9. www.researchgate.net
10. www.urkund.com
11. www.smallseotools.com
12. www.plagiarismdetector.net
13. www.quetext.com
14. www.ugc.ac. in

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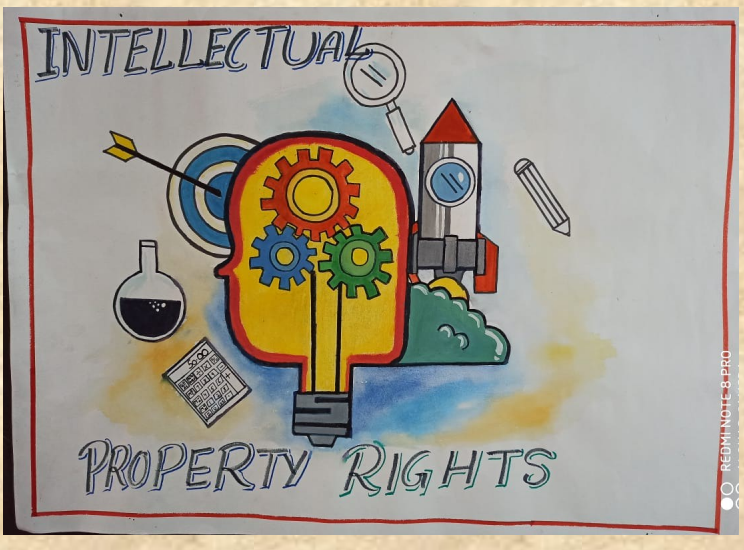

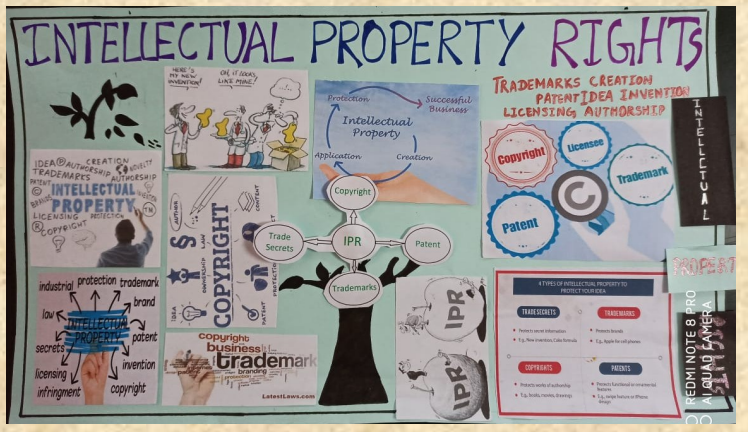

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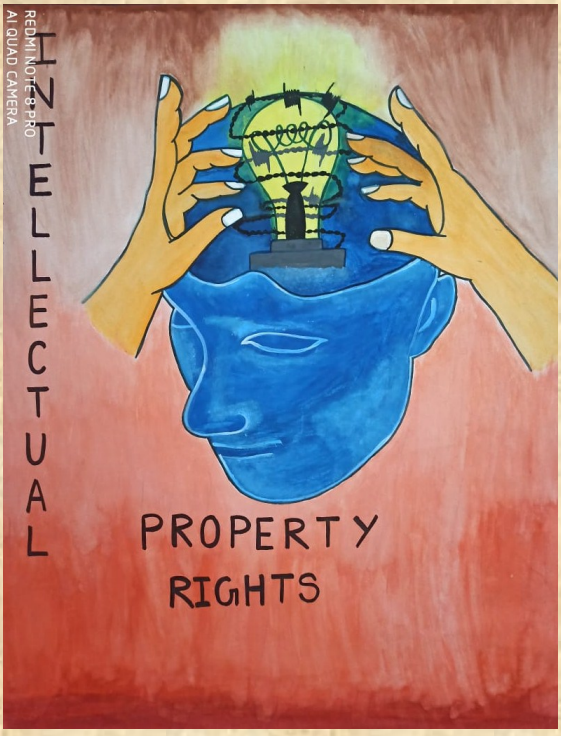

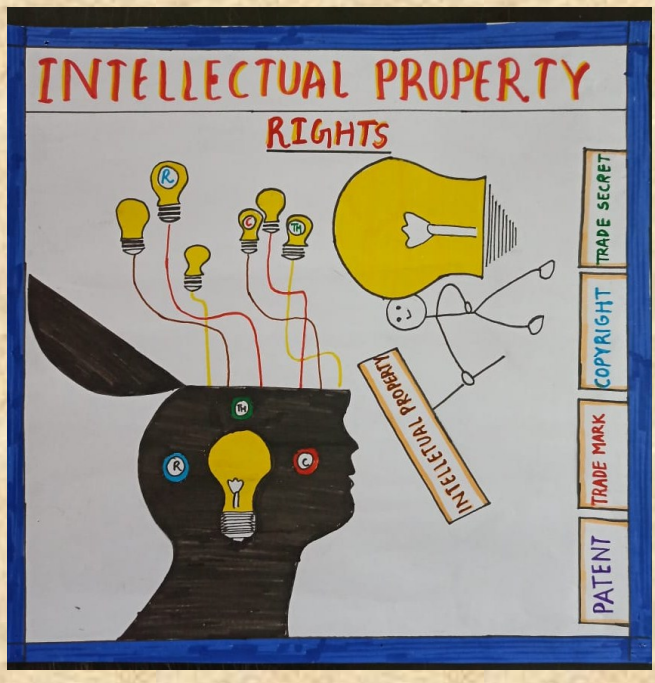

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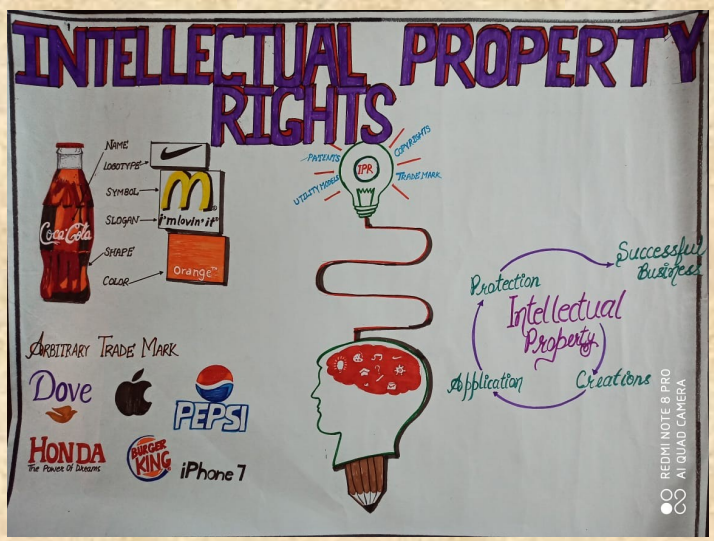

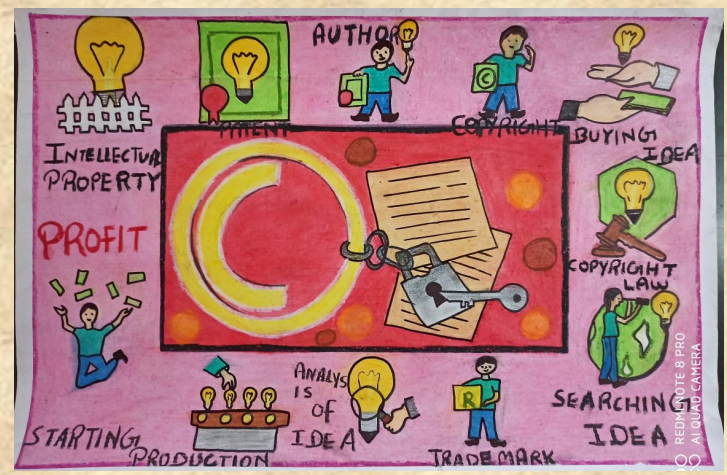

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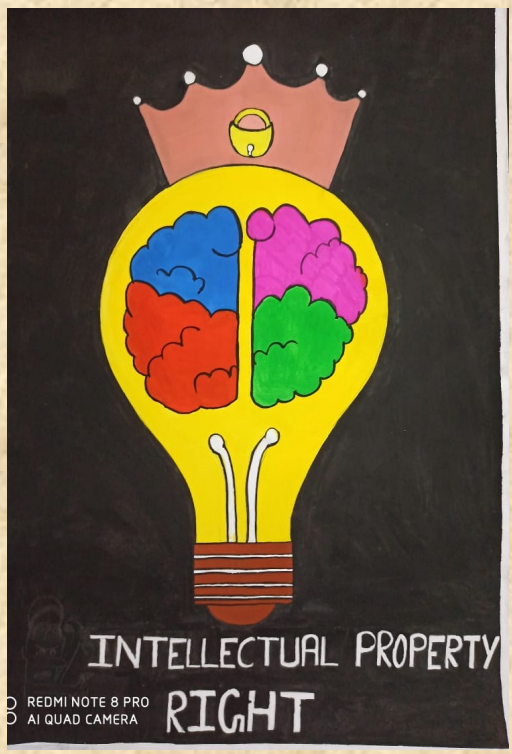

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