

# Intellectual Property Protection -The Growing Need for Virtual Business A Dissertation Submitted To Amity University, Noida in Partial Fulfillment of the Requirement for the Degree

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## I. CHAPTER – 1: INTRODUCTION

### 1.1. Introduction

Intellectual property (IP) rights are privileges granted to people or organizations primarily over creative works, such as inventions, literary and artistic creations,<sup>1</sup> commercially used symbols, names, pictures, and designs. They grant the owner a temporary right to restrict others from using their creations improperly.<sup>3</sup> Industrial property (commercial inventions) and artistic and literary property (culture contributions) are two categories of intellectual property. The industrial revolution introduced its own set of rules governing commerce, business, and post-industrial society government.

The global Information and Communication Revolution is currently altering long-standing institutions and practices in ways that are complex to understand. Unprecedented shifts in political and socioeconomic systems have compelled governments to establish legislation governing the management of information in society.<sup>1</sup>

The importance of intellectual property rights has increased significantly as a result of the Internet's enormous growth, the unprecedented arrival of computers, and the rising popularity of e-

commerce. The challenge created in detecting and protecting intellectual property infringements in the virtual domain is a drawback to this trend of greater reliance on the Internet and information and communication technologies (ICT). The conundrum is how to safeguard one's intellectual property rights and stop illegal usage of them in online spaces.

Due to the ease with which data may be accessed, copied, and transmitted as well as the anonymity associated with the internet, more intellectual property violations occur online than offline.

Cyberspace intellectual property violations include the unauthorized or unlicensed use of trademarks, trade names, service marks, pictures, and the uploading and downloading of audio, video, and literary works. Different sorts of infringements, such as deep hyperlinking, framing, metatags, spamming, and digital copyright violations, have been created by the distinctive structure of the internet.

## II. CHAPTER – 2: THE GROWTH OF VIRTUAL BUSSINESS- E COMMERCE

### 2.1 Introduction

E-commerce is the online buying and selling of goods and services. Internet is the best source to use this tool. Today, the amount of commerce done electronically using e-commerce has increased with the widespread use of the internet and technology. E-commerce has allowed different types of businesses to increase their sales and maintain a direct relationship with customers without anyone standing between you and your

<sup>1</sup>According to Article 1 of the 1883 Paris Convention for the Protection of Industrial Property, "the protection of industrial property has as its object patents, utility models, industrial designs, trademarks, service marks, trade names, indications of source or appellations of origin, and the suppression of unfair competition."(Last Access on 28<sup>th</sup> April 2023)

customer. Online shopping offers all types of goods available in the virtual world. More and more consumers are turning to the World Wide Web (w.w.w) for their shopping needs, giving them access to local or international products at the click of a mouse. Online shopping is a form of e-commerce that allows consumers to purchase goods and services directly over the Internet through a virtual store. People find it convenient and easy to shop from the comfort of their home or office. One of the great benefits of shopping online is the ability to read product reviews written by experts or other online shoppers. In addition to online reviews, peer recommendations on online shopping pages or social media websites play a key role for online shoppers. When considering future purchases, 90% of all purchases are influenced by social media (Pick, 2015). The company's customer base has grown from one million users to 2.5 million in India over the past four years. Some of the most popular imported items imported by Indians are home furnishings, designer and branded clothes, accessories and technology products like laptops (Hiwarkar, T.2013).<sup>2</sup>

E-commerce is transforming the online customer's offline shopping experience using new technological devices such as 3G, 4G and WIFI, which helps to increase the number of online customers. So there has been an impact of the growing trend of online e-commerce on purchase stops. Indeed, India has moved from 14th to 20th place among the main developing countries according to the GRDI (Global Retailers of Development Index) in 2016.<sup>3</sup>

The government's most high-profile project in digital India could take the industry to new heights. But it negatively affects various stores, malls, supermarkets, department stores, kirana stops, etc.

Purchasing products or services over the internet has made online shopping extremely popular in recent times mainly because people find it convenient and easy to shop from the comfort of their home or office and also because it is worth moving from one store to another. shop looking for the good of choice. Online shopping (or e-tail from

electronic retailing or e-shopping) is a form of e-commerce that allows consumers to purchase goods and services directly over the Internet through a virtual store. Some of the major online stores currently in India are Amazon, Flipkart, Snapdeal, Homeshop18, Myntra, etc. Retail is a process of selling goods and services to customers through multiple distribution channels. Stores can be small or large, but they generally operate on the same principles as "buy for sale". The retail form of trade is as old as civilization and is the most basic form of business. The store types are like-

Department Stores - A department store is a store that offers a wide variety of products to end users under one roof. In a department store, consumers can get almost any product they want to buy in one place<sup>4</sup>

Discount Stores – Discount stores also offer a wide range of products to end users, but at a reduced rate. Discount stores usually have a limited range and in some cases the quality may be slightly lower than in department stores.

Supermarket - A store that generally sells food and household items, properly placed and arranged in specific departments is called a supermarket. A supermarket is an advanced form of small supermarkets and serves the household needs of consumers.

The Internet has many advantages over retail stores. Firstly, the choice, whereas the bookstore at the corner of the street or the nearby cloth store hardly offers 5000 references on its stalls or 20 designs of a particular garment of same size, Amazon has got hundreds of thousands of variety. Internet is full of online retailers offering 10 times or even 100 times more products than the average retailer can possibly dream of. For an e-commerce website, the costs of storing and referencing a product represent a small fraction of the cost as compared to the cost of storing and referencing a product for "physical" stores. From the customer satisfaction and availability of services, online shopping is creating a major impact upon the retail stores.

This study looks into various aspects about how retail trade being affected and also the various recovery mechanism to compete with E-

<sup>2</sup>Aldrich, M (2011). Internet online shopping.  
[http://www.aldricharchive.com/internet\\_online\\_shopping.html](http://www.aldricharchive.com/internet_online_shopping.html) (accessed September 2015)

<sup>3</sup> Chandra, A. (2013). Factors affecting the online shopping behavior.  
[\(Last Access on 28<sup>th</sup> April 2023\)](http://www.academica.edu.(acc))

<sup>4</sup>N. F. Doherty and C. F. Ellis (2010). Internet retailing: historical, contemporary, and future perspectives.  
[www.emeraldinsight.com/doi/full/10:1108/09590551011086000](http://www.emeraldinsight.com/doi/full/10:1108/09590551011086000). International Journal of Retail and Distribution Management.(Last Access on 28<sup>th</sup> April 2023)

commerce in their race of survival. It also reveals the emerging E-stores impacting on the retailer's Profitability and it also focuses on strategies need to be adopted by retailers to over the competition in the globalized world.<sup>5</sup>

## 2.2 History of Virtual Business/ E-Commerce

The history of e-commerce began 50 years ago and continues to grow to this day with new technologies, innovations and thousands of businesses entering the online market each year. Electronic data interchange and teleshopping in the 1970s paved the way for the modern e-commerce store. The history of e-commerce is intimately linked to the history of the Internet. Online shopping only became possible with the opening of the Internet to the public in 1991. Amazon.com was one of the first e-commerce sites in the United States to begin selling products and services online. Thousands of companies have since followed. The convenience, security, and user experience of e-commerce have improved exponentially since its inception. This article takes a look at some of the major e-commerce players and milestones.

Online shopping was invented and launched in 1979 by Michael Aldrich in the UK. He connected a modified home television via a telephone line to a real-time multi-user transaction processing computer. The system was marketed from 1980 and mainly offered business-to-business systems sold in the UK, Ireland and Spain. One of the earliest consumer shopping experiences was Book Stacks Unlimited, an online bookstore founded in 1992 by Charles M. Stack. Stack's store started as a message board two years before Amazon was founded by Jeff Bezos. In 1994, Book Stacks Unlimited moved to the Internet as Books.com and was eventually acquired by Barnes & Noble.

The first online transaction, according to some reports, was marijuana sold by Stanford students to MIT students through the Arpanet account in their artificial intelligence lab in 1972. However, the first online purchase transaction on Internet took place about 22 years later. With the headline "Internet is open", the New York Times of August 12, 1994 reported the sale between two friends of a CD of Sting. The Times said: "The team of young cyberspace entrepreneurs celebrated

what was apparently the first retail transaction on the Internet using a readily available version of powerful data encryption software designed to ensure privacy."<sup>6</sup>

## 1960-1982

The development of Electronic Data Interchange (EDI) paved the way for electronic commerce. EDI has replaced the traditional sending and faxing of documents with a digital transfer of data from one computer to another.

Trading partners could transfer orders, invoices, and other business transactions using a data format that complied with ANSI ASC X12, the predominant set of standards in North America.

Once an order has been shipped, it is reviewed by a VAN (Value Added Network) and ultimately transmitted to the recipient's order processing system. EDI made it possible to transfer data seamlessly without any human intervention.

Michael Aldrich, an English inventor, innovator and entrepreneur is credited with developing the precursor to online shopping. The idea was born during a walk with his wife and Labrador when Aldrich complained about their weekly trip to the grocery store. From this conversation came the idea of connecting a television to their supermarket to deliver groceries. Immediately after the discussion, Aldrich quickly planned and implemented his idea. In 1979, Aldrich connected a television to a transaction processing computer with a telephone line and created what he imagined: "teleshopping", i.e. remote shopping.<sup>7</sup>

## 1982 – 1990

It was clear from the start that online B2B shopping would be commercially lucrative, but B2C would only find success with the later widespread use of personal computers and the World Wide Web, also known as the Internet. In 1982, France launched the Internet's predecessor called Minitel. The online service used a videotex terminal accessible through telephone lines. The Minitel was free for subscribers and connected millions of users to a computer network. By 1999, more than 9 million Minitel terminals had been distributed connecting approximately 25 million users in this interconnected network of machines. The Minitel system peaked in 1991 and slowly

<sup>5</sup>Hiwalkar, T. (2013). E-Commerce impact on Indian market.

<http://ijarcet.org/wp-content/uploads/IJARCET-VOL-2-ISSUE-3-870-874.pdf> (Last Access on 28<sup>th</sup> April 2023)

<sup>6</sup> Hsiao, M, H (2008). Shopping mode choice: physical store shopping versus e-shopping. Transportation Research Part E, Volume 45, (86-95)

<sup>7</sup> Aldrich, M (2011). Internet online shopping. (Last Access on 18<sup>th</sup> Feb 2023)

crumbled after internet success 3 years later. Finally, in 2011, France Telecom announced the closure of the Minitel service system. Unfortunately, it did not turn out as he had hoped, the Internet.

That same year, using a NeXT computer, Lee created the first web server and wrote the first web browser. Shortly after, it made its web debut on August 6, 1991 as a public internet service. When Berner's Lee decided he would be in charge of linking hypertext to the Internet, the process led him to develop URL, HTML and HTTP.

When the National Science Foundation lifted restrictions on commercial use of the NET in 1991, the Internet and online shopping experienced remarkable growth. In September 1995, the NSF began charging fees for domain name registration. At that time, there were 120,000 registered domain names and in 3 years, this number grew to more than 2 million. At this time, NSF's role on the Internet was coming to an end, and much of the surveillance shifted to the commercial sector.<sup>8</sup>

The 1992 book, *Future Shop: How Technologies Will Change The Way We Shop And What We Buy*, provided information and predictions about the future of consumerism. An overview of the book explains:

“For hundreds of years, the marketplace has become increasingly complex and difficult for consumers to navigate. Released in 1992, long before the internet became a household name. *Future Shop* argued that new information technologies, combined with innovative government policies, could help consumers overcome this confusion. A prescient manifesto of the coming revolution in e-commerce, *Future Shop's* vision of consumer empowerment still resonates today.

Online shopping caused much hesitation and concern from the start, but the development of a security protocol - the Secure Socket Layers (SSL) encryption certificate - by Netscape<sup>9</sup> in 1994 provided a secure way to transmit data over Internet. Web browsers could check and identify if

<sup>8</sup> Jarvenpaa, S. L., & Todd, P. A. (1997). Consumer reactions to electronic shopping on the World Wide Web. *International Journal of Electronic Commerce*, 1, 59–88.

<sup>9</sup> Katawetawarak, C. (2011). Online Shoppers Behavior Influences of Online Shopping decisions. *Asian Journal of Businesses Research*, Volume.1No.2.(Last Access on 18<sup>th</sup> Feb 2023)

a site had a verified SSL certificate and, based on that, determine whether or not a site could be trusted.

Today, the SSL encryption protocol is an essential part of web security and version 3.0 has become the standard for most web servers today. There is no denying that e-commerce has re-entered India and is here to stay. Even small and medium retailers in the country want to follow and are ready to make a fortune from the market concept. Online shopping may have become popular now, but the concept of e-commerce was introduced in the 20th century.

### **Around 2003: Introduction of the low-cost airline with AirDeccan**

After the unexpected success of IRCTC, the online ticket reservation system was followed by airlines (like AirDeccan, Indian Airlines, Spice jet, etc.). The airline has encouraged online booking to save commission paid to agents and has thus enticed much of the country to try e-commerce for the first time. Nowadays, the reservation system is not limited to transport only, but hotel reservations, bus reservations, etc. are done using websites such as Makemytrip and Yatra.

### **Circa 2007: Flipkart's Deeply Discounted Model**

The widespread adoption of e-commerce by the Indian population has prompted other business players to also try this technique for their e-commerce and reap high profits. Although online shopping has been around since 2000, it only became popular with Flipkart's big discount model. In a sense, it has revived online shopping in India. Soon other portals like Amazon, Flipkart, Jabong, etc. started hunting India for their businesses.<sup>10</sup>

### **Circa 2014: current scenario**

In the beginning, online shopping was a simple method of buying with limited possibilities. Anyone may place an order and pay with cash when it is delivered. However, this region has undergone substantial renovation in recent years, and as a consequence, many visitors are captivated. Online shopping is now popular in India, and this practise has gained popularity due to its appealing websites, user-friendly interface, large selection of new fashions, convenient payment options (such as paying securely through gateways like PayPal or cash on delivery), freedom from restrictions on

<sup>10</sup> Lieber, E and Syreson, C (2011). *Online vs Offline Competition* (Last Access on 18<sup>th</sup> Feb 2023)

quantity and quality, and ability to select items based on attributes such as size, colour, and price. India, a growing nation, has experienced a noteworthy development in the e-commerce sector in recent years, which has caused it to explode on the market. Despite being far behind the US and UK in terms of size, the Indian online economy has been expanding quickly.

Additionally, the sector has taken on new flavours with the addition of discounts, coupons, offers, referral programmes, 30-day return policies, 1–7 day delivery times, etc. to online shopping and e-marketplaces.

The main drivers of Indian e-commerce were:

- Increased penetration of broadband Internet and 3G.
- Rising standard of living
- Availability of a much wider range of products
- Busy lifestyle and lack of time to shop offline
- Increased use of online classified sites
- Evolution of the online market model with websites such as eBay, Flipkart, Snapdeal, etc.

### 2.3 Types of E-Commerce

Electronic commerce, sometimes known as e-commerce, is essentially the exchange of commodities (or services) through the Internet. E-commerce includes a wide range of information, processes, and tools for online consumers and sellers, from mobile shopping to online payment encryption and more. The majority of e-commerce companies manage logistics and fulfilment, undertake online marketing and sales, and/or use an e-commerce platform. Remember that there are a few different ways to spell e-commerce. These are all equivalent and valid; how you choose to use them primarily depends on your preference.

- E-commerce
- e-commerce
- E-commerce
- e-commerce
- e-commerce

### Types of e-commerce

In general, there are six main e-commerce models that businesses can be categorized into:

1. B2C.
2. B2B.
3. C2C.
4. C2B.
5. B2A.
6. C2A.

#### 1. Business to consumer (B2C):

B2C e-commerce involves transactions between a business and a consumer. It is one of the most commonly used selling models in e-

commerce. When you buy shoes from an online shoe store, it is a business-to-consumer transaction.<sup>11</sup>

#### 2. Business to Business (B2B):

B2B e-commerce refers to sales between businesses, such as a manufacturer and a wholesaler or retailer. This type of e-commerce is not directed to the consumer and only takes place between business entities. B2B sales usually focus on raw materials or products that are repackaged or combined before being sold to customers.

#### 3. Consumer to Consumer (C2C):

One of the earliest forms of e-commerce is the C2C e-commerce business model. Customer to customer refers to the sale of products or services between, you guessed it: customers. This includes customer-to-customer sales relationships such as those seen on eBay or Amazon, for example.

#### 4. Consumer to Business (C2B):

C2B reverses the traditional e-commerce model (and this is what we often see in crowdfunding projects). C2B means that individual consumers make their products or services available to professional buyers. An example of this is a business model such as iStock Photo, where stock photos are available online for purchase directly from various photographers.

#### 5. Business to administration (B2A):

This model covers transactions between online businesses and governments. An example is products and services related to legal documents, social security, etc.

#### 6. Consumer to Administration (C2A):

Same idea here, but with consumers selling products or services online to an administration. C2A can include things like online consultation for education, online tax filing, etc. Both B2A and C2A aim to increase efficiency in government through the support of information technology.<sup>12</sup>

<sup>11</sup> Nickson, C. (2015). Has Online Shopping made Life Easier. [www.atechnologysociety.co.uk/has-online-shopping-made-life-easier.html](http://www.atechnologysociety.co.uk/has-online-shopping-made-life-easier.html) (Last Access on 18<sup>th</sup> Feb 2023)

<sup>12</sup> Pick, T. (2015). Social media marketing. <http://www.business2community.com/social-media/106-amazing-social-media-marketing-statistics-2014-2015->

## 2.4 Impact of E-Commerce

The impact of e-commerce is far-reaching and has a ripple effect on everything from small businesses to global enterprises and beyond.

1. Large retailers are forced to sell online:

For many retailers, the growth of e-commerce has expanded the reach of their brands and positively impacted their bottom line. At a high level, retailers in the middle are feeling the biggest shifts in response to the impact of e-commerce.

2. E-commerce helps small businesses sell directly to customers:

For many small businesses, adopting e-commerce has been a slow process. Small business owners are slowly launching e-commerce stores and diversifying their offerings, reaching more customers and better serving customers who prefer online/mobile shopping.

3. The rise of e-commerce marketplaces:

E-commerce marketplaces have proliferated around the world since the mid-1990s with the launch of giants we know today as Amazon, Alibaba and others.

4. New jobs are created, but traditional retail jobs are reduced:

E-commerce jobs have doubled in size over the past five years, growing much faster than other types of retail in terms of growth. However, e-commerce job growth is only a small piece of the overall jobs puzzle.

A few quick facts on the impact of e-commerce on employment:

- E-commerce jobs increased by 334%, 178,000 jobs added since 2002
- Most e-commerce jobs are located in medium to large metropolitan areas
- Most e-commerce businesses have four or fewer employees

The researchers indicate that e-commerce will continue to directly and indirectly create new jobs in highly skilled fields such as the information and software sectors, as well as around the increased demand for productivity.<sup>13</sup>

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01151764#IpRI3jP1DFEfR5qq.97 (Last Access on 18<sup>th</sup> Feb 2023)

<sup>13</sup>S. Saha and A. Rathore (2014). An overview of India's transition from traditional retail to online shopping. An overview of the transition from traditional retail to online retail in India may be found at

## 2.5 Conclusion

As the Internet continues its remarkable expansion, its ability to disseminate information, knowledge and content has thrust the intellectual property system into the center of an endless debate about the future shape of the online world. In this new rapidly changing environment, information and knowledge are increasingly the source of value; hence the system of intellectual property - the law protecting the creations of the mind is crucial to maintaining a stable and equitable basis for the development of the ever-expanding digital society. Although e-commerce activity in the developing world is growing rapidly and transcends physical communication barriers in transportation and communications, it faces a number of challenges in marginalized areas and communities such as the northern from India.

In the context of South Asia, India has made progress in legalizing the format of electronic contracts and electronic transactions through authentication of electronic documents and records. On the other hand, to prevent the misuse of internet in e-commerce, there are already Indian laws to fight cyber crime in cyber law with fixed penalties in the form of imprisonment and fines. Some of the most common breaches are hacking into computer systems or gaining access to protected systems. Users may also be victims of online misrepresentation, breach of confidentiality, privacy, and fraud. The research paper revolves around similar issues related to intellectual property and e-commerce.<sup>14</sup>

## III. CHAPTER – 3: CONCLUSION AND SUGGESTIONS

### 3.1 Conclusion

It's not about robbing a bank or picking pockets. People are being robbed of their creative expressions, innovations, and intellectual property, which includes everything from software and movies to trade secrets and proprietary goods and components.

The printing press, a specific technological advancement, was crucial in shaping the idea of intellectual property rights as a tool for

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<http://www.Scribd.com/doc/233176237>.(Last Access on 24<sup>th</sup> Feb 2023)

<sup>14</sup> Saha, A. (2015). The impact of online shopping upon retail trade business. *Iosrjournals.org/iosr-jbm/papers/AETM'15\_MBA/2/25-MBA-145.pdf*(Last Access on 24<sup>th</sup> Feb 2023)

public policy in relation to social, economic, and political factors. It is recognized in a number of international treaties. It's becoming a bigger issue, particularly with the development of digital technology and online file-sharing communities. Additionally, a large portion of theft occurs abroad, where enforcement of laws is sometimes more challenging.

One of the main problems with the traditional intellectual property system in the information age stems from its definition of what information is in the first place. As information escapes the confines of tangible objects like books or widgets, the traditional intellectual property system, which is predicated on the idea that ideas are solidified in physical products, faces serious challenges. The benefit of Madison's "convenient coincidence" was that the Intellectual Property system focused more on physical goods than it did on abstract concepts. A creative was compensated for his capacity to turn a concept into a salable item. There was no issue because, in reality, ideas and goods were linked. In the same way that items may be purchased, sold, and owned, ideas can also be owned and distributed for the benefit of the general populace.

Intangible knowledge is now being liberated from its concrete product, nevertheless. Information assumes a more supple digital form in cyberspace. As a result, it is now more important than ever to comprehend information in its unprocessed condition rather than as a physical good since, in its unprocessed state, information possesses a number of qualities that go against certain tenets of the economy and defy commercialization.

Information, in contrast to "data," is more of an activity than a "thing"; it is a process that occurs at the intersection of minds; it is experienced rather than possessed; and it is something that "happens" "to" you. Therefore, it becomes difficult to own pure information. Theft of computer source code, trademark and service mark infringement, software piracy, and other acts that breach intellectual property rights are only a few examples.

Being the quickest information and communication medium, the internet has developed into one of the most practical platforms for conducting business. Intellectual property rights abuses are moving into internet as our society continues to change. Despite the fact that India has become a major participant in the outsourcing of information technology, the law governing the protection of intellectual property rights in cyberspace is still in its infancy.

In the outset, the researcher emphasized that the property did not pre-exist the machinery of government (or the state), waiting to be recognized legally; rather, the existing of property in a form that can be recognized as property establishes its legal recognition. Only the law has established the rights that "owners" may assert; possession is not property in the legal sense, particularly when it comes to knowledge or information. The ability to "control the actions of others with respect to the objects of property" is the most important legal privilege that belongs to property owners. Therefore, the legal authority to demand a fee for any specific conduct involving such (intellectual) property maintains control over other economic players.

Some "netizen" ideologues and activists took the term "cyberspace"—used to describe how the Internet functions—so seriously that they even went so far as to assert that it constitutes space outside of our "traditional" world and, as such, should be the realm of absolute freedom, unconstrained by national laws or international agreements. There is nothing outside of our "traditional" world; all of the computers from which and into which protected materials are uploaded and downloaded, all of the communication tools required for online communication, all of the system administrators, all of the people who profit greatly from the use of protected works and other productions (often illegally), and all of the right holders who may suffer significant losses, can all be found in one country or another. Intellectual property's contribution to socio-legal development.

Additionally, the researcher draws the conclusion that intellectual property rights enable people to cultivate their skills and earn a livelihood by using their ability and creativity. The work when the state recognizes it by granting intellectual property rights. When a power is won, it is legitimate to use it to limit the freedom of others. However, under a system of intellectual property law, some works may be "propertied," may be supported by a claim "good against the world," and may be enforced by using governmental authority to stop anybody from violating it.

There are more ways to honor and honor actions that benefit the nation and society. Even if a prize or acknowledgment is warranted, why does it have to come with a solid legal claim, a right?

Through the TRIPs agreement, WIPO and WTO have been instrumental in establishing intellectual property rights at the global fora following the turn of the 20th century. The discussion of a number of common proposals as to

how these problems might be solved has been provided. The overview of the ethical issues that are frequently associated with this international agreement range from the financial benefits and resource exploitation of the rest of the world, excluding the west.

Furthermore, the establishment and use of standard administrative practices as a result of a consistent system of patent rights protection has also in some way resulted in the sovereign rights.<sup>15</sup>

We can get the conclusion that intellectual property rights on socially important items like critical pharmaceuticals give rise to a lot of ethical issues after reviewing Apex court rulings and scholarly literature. This implies that, despite the occasional presentation of a personal viewpoint, the main goal of the concluding remarks is not to defend and advocate for a specific solution to the problems raised. Instead, the goal is to draw attention to, clarify, and put into context a number of significant International Conventions that address the evolving nature of intellectual property rights and technological advancements, so that decision-makers and other interested parties will be reasonably well-equipped to form their own opinions.

Further, it is said that although though India's legal system had a difficult time transitioning to a TRIPs-compliant regime, it has helped to establish India as the 21st century's centre for intellectual property investment. The shift from a limited term process patent system to a product patent regime, the growth of Indian intellectual property legislations passing through multiple modifications, and other far-reaching ramifications may all be considered in the context of the new TRIPs compliant regime. In the ensuing years, the effects of this change will become clear.

The Internet offers creators of intellectual property an apparently limitless market for their products because to its widespread accessibility. However, the Internet also provides correspondingly increased opportunities for individuals looking to violate the rights of others, making it very challenging to identify and stop such infringement. How to encourage the growth of

intellectual property on the Internet while avoiding its unauthorised exploitation has been a concern for law in recent years. But since there are so many instances of intellectual property infringement on the Internet every day, intellectual property owners have to make tough choices about how to deploy resources to find and stop infringement. Furthermore, some of the most widespread Internet infractions involved organized websites devoted to various facets of popular culture. If intellectual property owners exercise excessive caution in defending their rights, they run the risk of alienating their target audience and/or provoking a negative reaction from the public.

In conclusion, intellectual property law has significantly changed as a result of advancements in technology and shifting consumer preferences. The economic aspects of intellectual property rights are at the heart of the new system.

Even though the rhetoric of argument occasionally invokes concepts of justice and equity, modern economic analysis, with its characteristic preoccupation with questions of efficiency, now sets the terms for policy discussions about the protection of intellectual property. The main concern is rewarding investors, rather than the encouragement of individual creation and the public dissemination of knowledge.

To address issues raised by "cyberspace" surrounding the conduct of electronic business, India passed the Information Technology Act (IT Act) 2000, which complies with the UNCITRAL Model Law. The IT Act does not specify a clear procedure for handling certain Internet copyright breaches. The Information Technology Act of 2000's Section 43, which deals with penalties for harm to computer systems, is one provision that may be interpreted as attempting to handle some aspects of copyrights.

With minor modifications, pre-existing intellectual property organizations and laws have been found to be relevant in some of the new fields. This is true, for instance, of computer software, which is now protected by copyright as a literary work after a number of precedents set by national legislation. All TRIPs Agreement signatory nations are expressly required to use such strategy.

Business strategy patents have also been the subject of international discussion and are covered by the WIPO agreement. It has been argued that in the Indian context, the effect of patenting such ideas is at odds with the ideas of a liberal economy, where the forces of supply and demand are thought to be appropriate for regulating and enhancing the current rate of innovation in the business and commercial sector. This is clear from

<sup>15</sup>According to EPC Art. 54, which outlines the need of novelty, an invention should be considered to be new if it does not form a part of the state of the art. Additionally, according to Article 56's definition of an inventive step, an invention meets the criteria if, given the current state of the art, it is not obvious to a person competent in the relevant field. Article 27 provides a concluding definition of industrial applicability.



the legislative constraint allowed under Patents Act of 1970 section 3(k).

Theoretically, the justification for monopoly rights for a constrained time is that it encourages innovation, which in turn boosts competition and overall economic benefit.

However, the empirical data does not conclusively show that there is a connection between patents and innovation. On the one hand, the patent system does encourage breakthroughs that may be quickly copied by rivals when they are introduced to the market, such as pharmaceutical treatments, which entail significant R&D expenditures and labor. On the other hand, actual data demonstrates that it is less clear that the patent system's advantages exceed its drawbacks in fields where advances are incremental and "cumulative inventions" are needed to create a valuable product.

Business Practices Patents are under category two as opposed to category one. Insofar as the outcome of such a grant would contravene the specific legislative restriction set in place by the Patent Act, under Section 3(k), the claim that it will be sufficient to seek patent protection simply by linking a business technique with a computer programme is invalid. Even yet, industrialized countries have tacitly extended the reach of patent protection to commercial practices, particularly in the wake of historic US rulings in the State Street and In Re Bilski cases.

The computer may move in physical space without moving at all in the logical domain space of the Internet if it is associated with a specific Internet protocol address that corresponds to the area in which it is physically situated (for example, a ".in" domain name extension). Alternately, the domain name holder might ask for the name to be connected to a completely other device, in a different geographical area. As a result, a server with a ".in" domain name may not always be in India, but a server with a ".com" domain name may be anywhere, and users aren't even aware of the server's location when they read, purchase, or deal with content.

### 3.2 Suggestions

Therefore, actively attempting to accommodate the internet within and giving innovators a bit more leeway so they may aid the sector in adapting to the new technologies would be a better option in the long run. This is in contrast to focusing on the fruitless practise of trying to stop the Hydra that is internet piracy and broadening protection as advised by the National IPR Draught Policy. This would provide start-ups more leeway to explore fresh, alternative models, accelerating

the growth of the Indian technology sector. Additionally, it would swap out the current unstable structure for a stronger one that can accommodate and even stimulate the adjustments that the content creation industry's continual technological evolution entails. The Business Software Alliance analysis from 2014, which found that 61% of software in India was pirated, shows a prevalent cultural attitude against strict regulations for the preservation of software.

### E-Copyright in India: Suggestions for Protection

According to a research by the Centre for Internet and Society in India, giving private intermediaries the authority to determine whether or not specific information should be made available on the Internet has a "chilling effect" on free expression online. This study demonstrates that some intermediaries simply removed the appropriate information when they received take-down warnings, even though the content did not fit within any of the categories that the intermediary law forbids. This was done to avoid any culpability.

In India, there is no explicit law addressing database protection. Despite being introduced in Parliament in 2006, the Personal Data Protection Bill has not yet been implemented. The overall structure of the European Union Data Privacy Directive, 1996, appears to form the foundation for the Bill. It follows a thorough paradigm, with the Bill's goal being to control the gathering, handling, and dissemination of personal data. It is essential to remember that the Bill's applicability is restricted to "personal data" as that term is defined in Clause 2 of the Bill. The goal of data protection is to safeguard the privacy of personal information about persons, whereas the goal of database protection is to safeguard the creative and financial investment made in the creation, validation, and display of databases.

Works in the literary, dramatic, musical, artistic, and cinematic genres are protected under the Copyright Act of 1957. Computer databases are sometimes considered literary works. Thus, duplicating a computer database or copying a database and disseminating it constitutes a copyright violation for which civil and criminal remedies are applicable. To address issues with cybercrime, the Information Technology Act of 2000 was modified. It includes two significant clauses that have a significant impact on the legal framework for data protection.

The requirements 5 for data security and secrecy are still insufficient, nonetheless.

Therefore, it's critical to increase the scope of accountability for data protection violations and carelessness while managing sensitive personal data.

From the foregoing context, it may be concluded that India's posture regarding database protection is not particularly adequate. The scope of the Bill of 2006 does not include all forms of databases.

In order to resolve the uncertainty, it is proposed that India create a separate piece of legislation.

The most difficult task for intellectual property may be communicating with the intended source of goods and making sure that customers can make purchases with the confidence that they are getting the real goods they want from a reputable and known source given the Internet's global reach, the World Wide Web's millions of websites, the ease of accessing and copying other people's intellectual property, and the renowned anonymity of this new medium. It seems like a strange trend that branding has become more important in creating one's online identity at the same time that the Internet has promoted anonymity. Identity, as attained through the use of trademarks and domain names as business identifiers, has assumed a new significance as a means of differentiating the various players that transact through the medium of the Internet because electronic commerce over the Internet is conducted without physical contact, personal interaction, or the ability to physically inspect the goods. Given the problems associated with diverse types of intellectual property, it is crucial to keep up with legal developments and integrate them with technological developments in order to maintain the appropriate balance.

India is one of the top 10 nations in the world for Internet usage. India has become the world's centre for software development and is a popular location in this field despite having a low rate of Internet penetration. Because of the rise in Internet usage, issues with copyright protection for digital transmission have gotten worse. The situation is contradictory. If India adopts stricter fair use exclusions and stronger legal protection for technical protection measures, the public domain would eventually be depleted and the public interest premise of copyright harmed. The Internet may ruin copyright protection enforcement if it does not offer legal protection for technical means

#### **Recommendations for Patents in E-Form**

By their very nature, intellectual property rights are exclusive, and anyone who has one

acquires a monopolistic right over it that might even fully forbid any other person from utilising it. Any violation of such could incur high restitution fees. The concurrent policies of antitrust law and intellectual property rights merge at SEPs, or "Standard Essential Patents," which serves to attract the public's attention. On this matter, however, the two powers overlap, and so the absolute rights to the intellectual property are limited. In general, when it comes to intellectual property rights, competition laws keep themselves separate from them. The licensing of Standards Essential Patents (SEPs) under fair and reasonable (RAND) terms forms the basis of the standards development process.

RAND's goal is to make money from the inclusion of patented technology in technical standards while preventing the holder of a Standard Essential Patent from abusing the dominant market position that results from the widespread adoption of a voluntary technical standard.

#### **Recommendations for Trademarks in E-Form**

The need for new, stringent regulation is supported by the recommendations made for the Indian context with relation to trademarks in E form. India urgently needs to write new legislation that explicitly covers domain names. Cyber squatters benefit from the lack of direct legislation since they can easily spot legal loopholes that would exempt them from responsibility. Additionally, applying the archaic law of trademarks would consume a significant amount of trial courts' and the online world's valuable time. This is extremely harmful and could lead to the claimed right being permanently lost.

An Indian analogue of the US National Arbitration Forum and the Czech Arbitration Court should be established as examples for an impartial adjudicatory body.

A clear picture of the Indian situation in regards to the requirement to adopt uniformity in the approach can be drawn against the background of the examination of the difficulties to the protection of Intellectual Property Rights in the e-form. India, a developing country, must adopt a proactive strategy to preserve intellectual property, including databases, software, business strategies, and domain names. Governments should attempt to coordinate (which need not mean harmonise) new legislation with other nations on a bilateral and multilateral level given the global nature of internet commerce

## DECLARATION

I, Hereby Declare that this Dissertation titled as “**intellectual property protection -the growing need for virtual business**” is an original work of mine and is a result of my own intellectual efforts. I declare that no part of this dissertation has been published or submitted to any other institution for any other purposes. While sincere attempts have been made to attribute relied works to the rightful author, any omission is inadvertent and deeply regretted.

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## PREFACE

The rapid advancements in technology and the proliferation of the digital landscape have revolutionized the way businesses operate in today's world. The rise of virtual business models has provided immense opportunities for innovation, growth, and global connectivity. However, with this shift towards the virtual realm comes a pressing concern—the protection of intellectual property.

In this dissertation, we delve into the critical issue of intellectual property protection and its growing need in the context of virtual business. As the virtual business environment expands and intertwines with the traditional brick-and-mortar structures, it brings with it a myriad of challenges for safeguarding intellectual property rights. The intangible nature of digital assets, coupled with the ease of replication and distribution, has created an

urgent demand for effective strategies to protect and enforce intellectual property rights in this new landscape.

The aim of this research is to explore the evolving landscape of intellectual property protection in the realm of virtual business, highlighting the challenges faced by businesses and individuals in preserving their intellectual assets. We will examine the legal frameworks, technological advancements, and emerging trends that shape the field of intellectual property protection. By analyzing case studies, current practices, and real-world scenarios, we seek to develop a comprehensive understanding of the complexities and opportunities presented by virtual business.

Throughout this dissertation, we will investigate the multifaceted aspects of intellectual property, including copyrights, trademarks, patents, trade secrets, and other related rights. We will explore the implications of virtual business models on each of these areas, considering issues such as infringement, piracy, counterfeiting, and the enforcement of intellectual property rights across geographical boundaries.

Additionally, we will evaluate the role of international agreements, legislation, and institutions in addressing the challenges of intellectual property protection in the virtual business realm. We will also delve into the ethical considerations surrounding intellectual property, examining the balance between protecting creators' rights and fostering innovation and knowledge-sharing in a digital society.

It is our hope that this dissertation will contribute to the existing body of knowledge on intellectual property protection and serve as a valuable resource for businesses, policymakers, legal practitioners, and academics grappling with the evolving landscape of virtual business. By shedding light on the growing need for robust intellectual property protection in the digital era, we aspire to encourage further research, discussions, and collaborations that will help shape a more secure and innovative future for virtual businesses.

Ultimately, the protection of intellectual property in the virtual business realm is not only crucial for the sustenance and growth of individual businesses, but it also plays a pivotal role in fostering creativity, incentivizing innovation, and driving economic development. By examining this dynamic landscape, we aim to contribute to the broader dialogue on intellectual property rights and help pave the way for a more secure, equitable, and prosperous virtual business ecosystem.

The journey to understand the complexities and implications of intellectual property protection in the virtual business realm begins here. Let us embark on this exploration together, armed with curiosity, critical thinking, and a deep commitment to advancing knowledge in this crucial field.

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**LIST OF ABBREVIATIONS**

Sr. No.	Abbreviation	Full Form
1	AR	AugmentedReality
2	AMOS	AnalysisofaMomentStructures
3	BOGO	BuyOneGetOne
4	BOPIS	BuyOnline Pick-upin Store
5	BtoB	Businessto Business
6	BtoC	Businessto Customer
7	CCI	CompetitionCommissionofIndia
8	CCPA	CentralConsumerProtectionAuthority
9	CEO	ChiefExecutiveOfficer
10	CHM	ChandibaiHimathmalMansukhani
11	COD	CashonDelivery
12	CSR	CorporateSocialResponsibility
13	CtoA	ConsumertoAdministration
14	CtoC	Customerto Customer
15	CVV	CardVerificationValue
16	DGS&D	DirectorateGeneralofSuppliesandDisposals
17	DTH	DirecttoHome
18	E-Commerce	ElectronicCommerce
19	EMI	EquatedMonthlyInstallments
20	FMCG	FastMovingConsumer Goods
21	G E M	GovernmentE-Marketplace
22	GST	GoodsandServicesTax
23	HSC	HigherSecondaryCertificate
24	IBEF	IndiaBrandEquityFoundation
25	IIT	IndianInstitutesofTechnology
26	IKEA	IngvarKampradElmtarydAgunnaryd
27	IRCTC	IndianRailwayCatering andTourismCorporation
28	MIDC	MaharashtraIndustrialDevelopmentCorporation

29	MMRDA	Mumbai Metropolitan Region Development Authority
30	MRP	Maximum Retail Price
31	MSMEs	Micro, Small and Medium Enterprises
32	MSRTC	Maharashtra State Road Transport Corporation
33	e-NAM	Electronic National Agriculture Market
34	NEFT	National Electronic Funds Transfer
35	NGO	Non-Governmental Organization
36	NPCI	National Payments Corporation of India
37	OTP	One Time Password
38	OTT	Over The Top
39	PAN	Permanent Account Number
40	PAN India	Presence Across Nation
41	PIN for Debitor Credit Card	Personal Identification Number
42	PIN Code	Postal Index Number
43	QR Code	Quick Response
44	SEO	Search Engine Optimization
45	SEM	Search Engine Marketing
46	SKU	Stock Keeping Unit
47	SPSS	Statistical Package for the Social Sciences
48	SSL	Secure Sockets Layer
49	SWOT	Strengths, Weaknesses, Opportunities and Threats
50	TRAI	Telecom Regulatory Authority of India
51	T-Mall	Taobao Mall
52	URL	Uniform Resource Locator
53	USA	United States of America
54	USP	Unique Selling Proposition
55	UTAUT	Unified Theory of Acceptance and Use of Technology

56	VR	VirtualReality
57	WAP	WirelessApplicationProtocol
58	WWW	WorldWideWeb

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