ONLINE CONSUMER AWARENESS OF INTELLECTUAL PROPERTY RIGHTS Meenakshi Negi*

Abstract

Intellectual property can be characterised as the property in ideas or their expression. The rights granted to the creator of this property are called intellectual property rights. Its protection is necessary to provide incentives and financing for innovation and creation, which in turn leads to economic, cultural and social progress. Increasing use of internet has provided a distinct marketplace to the business. However, increase in electronic commerce also raises concerns of misuse of intellectual property. Copyright, trademarks, patents, database rights, trade secrets and performance rights are the most relevant rights that may apply to digital content. The users of internet are many, ranging from school goers to retired people. They are downloading loads of applications disregarding the legalities involved. Despite the efforts of companies and trade associations to stop counterfeiting and piracy, the problem is swelling at a faster rate than ever. Before putting a stop to this, first of all, it is required that people are made aware of intellectual properties. This paper measures level of awareness of internet users with respect to intellectual property on internet. The sample consisted of college and University students who use internet frequently. Chi square test of dependence was used to association between level of education and awareness of Intellectual Property Rights. The results exhibited a low level of awareness of intellectual property among the respondents. The concepts of patents and copyright were found to be vaguely understood by respondents. Measures to check online intellectual property violations have been suggested in concluding remarks.

Keywords: Intellectual Property, Intellectual Property Rights, Internet, Consumer Awareness, Chi Square

Introduction

With the advent of the new knowledge economy, the old and some of the existing management constructs and approaches are changing. The knowledge economy places a tag of urgency on understanding and managing knowledge based assets such as innovations and know-how. Intellectual property is a form of knowledge which can be assigned specific

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property rights. They have some resemblance to ownership rights over physical property or land. Intellectual property (IP) can be characterised as the property in ideas or their expression. It is a creation of the mind, for example, a technological innovation, a poem, or a design. It protects the rights of individuals and businesses who have transformed their ideas into property by granting rights to the owners of those properties for a limited period. IP is categorised as Industrial Property (functional commercial innovations), and Artistic and Literary Property (cultural creations). The rights granted to the creator of this property are called intellectual property rights. Its protection is necessary to provide incentives and financing for innovation and creation, which in turn leads to economic, cultural and social progress. Increasing use of internet has provided a distinct marketplace to the business. However, increase in electronic commerce also raises concerns of misuse of intellectual property. Copyright, trademarks, patents, database rights, trade secrets and performance rights are the most relevant rights that may apply to digital content. The users of internet are many, ranging from school goers to retired people. They are downloading loads of applications disregarding the legalities involved. Counterfeiting and piracy of intellectual property is growing rapidly and, collectively, the wider economic, social and developmental costs are much more damaging than may be currently understood. A disorder of this magnitude not only discourages innovation and introduces health and safety risks, but creates a significant drain on the global economy, undermining economic development, a sound market economy system and open international trade and investment. Despite the efforts of companies and trade associations to stop counterfeiting and piracy, the problem is swelling at a more dangerous rate than ever. Before putting a stop to this, first of all, it is required that people are made aware of intellectual properties. Therefore, this paper measures level of awareness of internet users with respect to intellectual property on internet.

Conceptual Framework Of Intellectual Property

Almost everyone in society is a user and potential creator of intellectual property. It is unique, as it is the fruit of personal creation and inventiveness. Intellectual property rights as a collective term includes the following independent IP rights which can be collectively used for protecting different aspects of an inventive work for multiple protection:

Patents:

A patent is an exclusive right awarded to an inventor to prevent others from making, selling, distributing, importing or using their invention, without license or authorisation, for a

fixed period of time. Trade Related Aspects of Intellectual Property Rights (TRIPS) stipulates 20 years minimum from filing date. This right can be used either through their own business or by charging a license fee. The earliest known patent on an invention was awarded in Florence in 1421 to Filippo Brunelleschi for a barge with hoisting gear capable of transporting marble. In Britain the first such patent was awarded in 1449. There are three basic requirements that determine the patentability of an invention: novelty, non-obviousness, and utility.

Copyrights:

Copyright grants exclusive rights to the creators of original literary, scientific and artistic works to reproduce dramatic, artistic, literary or musical work or to authorise its reproduction by others. Copyright only prevents copying, not independent derivation. Copyright protection begins, with the creation of the work, and lasts for the life of the creator plus 60 years (70 years in the US and EU). As such it protects the expression of the idea rather than the idea itself. It prevents unauthorised reproduction, public performance, recording, broadcasting, translation, or adaptation, and allows the collection of royalties for authorised use. Computer programs are protected by copyrights, as software source and code have been defined as a literary expression.

Trademarks:

Trademarks provide exclusive rights to use distinctive signs, such as symbols, colours, letters, shapes or names to identify the producer of a product, and protect its associated reputation. In order to be eligible for protection a mark must be distinctive of the proprietor so as to identify the proprietor's goods or services. The main purpose of a trademark is to prevent customers from being misled or deceived. Trademarks can be registered, which gives the holder the exclusive right to use them. They can be sold and are an important form of commercial property. The period of protection is ten years, and it can be renewed indefinitely.

Industrial Designs:

Industrial designs protect the aesthetic aspects (shape, texture, pattern, colour) of an object, rather than the technical features. TRIPS require that an original design be eligible for protection from unauthorised use by others for a minimum of 10 years.

Integrated Computer Circuits Layout Design:

Layout designs of integrated circuits are considered as intellectual property. Integrated circuits are products having transistors and other circuitry elements which are inseparably formed on a semiconductor material and these semiconductors are intended to perform an electronic function. Infringement of these layout designs is punishable. The protection of the integrated circuits and layout designs was internationally recognised and the Treaty on Intellectual Property in Respect of Integrated circuits was made at Washington D.C. on May 26, 1989. The minimum period of protection under TRIPS is 10 years.

Geographical Indications:

Geographical Indications (GIs) identify the specific geographical origin of a product, and the associated qualities, reputation or other characteristics. Most commonly, a geographical indication consists of the name of the place of origin of the goods. The geographical indication prevents unauthorised parties from using a protected GI for products not from that region or from misleading the public as to the true origin of the product. However, no individual can claim this right, it would inhere in all those carrying on their business in that area.

Trade Secrets/ Undisclosed Information:

Trade secrets consist of commercially valuable information about production methods, business plans, clientele, etc. They are protected as long as they remain secret by laws which prevent acquisition by commercially unfair means and unauthorised disclosure. Trade secrets are also like patents but they rely on private measures rather than state action, to maintain exclusivity.

Since the early days of trade and economic activity, companies have invested a large portion of their resources in research and development. These investments have allowed them to create new products, to differentiate themselves, and to become leaders in their sectors. The success of such expenditures is due in large part to the protection of each company's intellectual property rights. Over the years, companies have come to expect that spending on research and development will continue to be rewarded with intellectual property protection. Intellectual property rights (IPRs)promote innovation, which in turn fuels growth in economy. It contributes to economic growth by stimulating innovation and technical development. It adds value for consumers and can provide a guarantee of source and quality. Trading in IPRs also generates revenue for the owner. Protection for intellectual property also encourages the production and dissemination of knowledge and a wide range of quality goods and services. If properly used, intellectual property rights can also be key tools for the alleviation of poverty through trade.

Internet & Intellectual Property Rights

Traditionally, institutions have controlled access to the material they contain, by physically holding the material at their premises. By digitising their holdings and placing them online, institutions have enabled a new form of access, where anyone, anywhere, can view the material. The educational, cultural and quality of life benefits of such access are clear. However, such open access also means that third parties can view, copy and manipulate content beyond the control of the institution. The potential exists for third parties to exploit the content in new ways and to benefit from access to the content in ways not approved, by the holding institution. This creates vulnerability for the institution in two ways:

a) The institution may lose revenue or other benefits which should accrue to it from its holdings

b) If the creator or copyright owner of the material is not the institution, he may make the institution legally and financially viable for the abuse of his intellectual property.

The benefits of digitisation and online publication of material are enormous; for the institution itself, for students, researchers and for the interested public. However, if the legitimate interests of the institution and of the copyright holder are to be protected, then it is essential that intellectual property protection is taken into account from the very start of the digitisation project. Over the years, there has been a long tradition of international Intellectual property laws harmonisation in order to ensure that material protected by IPR is respected globally. The internet and digitisation possibilities mean that national rules do not provide satisfactory protection, when, for example, material can be created in one country, held on a server located in another country and downloaded across the globe. In this case, based upon national legislation alone, it is hard to deal with the misuse of material or the creation of inappropriate content. Internationally-based legislation can help clarify crossborder issues, as well as develop global IPR standards. The most important international treaties include: The Berne Convention, administered by the World Intellectual Property Organisation (WIPO); WIPO Copyright Treaty 1996, WIPO Performances and Phonograms Treaty 1996, the Universal Copyright Convention (UCC) and the TRIPS Agreement under the patronage of the World Trade Organisation. The WIPO Copyright Treaty 1996, WIPO Performances and Phonograms Treaty 1996 are also called as "Internet Treaties" the digital issues addressed by these treaties are:

- a) Software/ Computer Programmes
- b) Data Compilation and other material

- c) Reproduction Rights
- d) Right of Rental
- e) Licensing and enforcement
- f) Issue of Fair Use
- g) Jurisdiction Issues

The evolution and challenges of the digital environment are developing so quickly that the legal rules cannot always keep pace with the new developments. Despite recent changes in national legislations, these are soon outdated before they come into force.

Review of Literature

A thorough review of literature was done in the field of IPR to understand the concept and framework of the subject. IPR is a widely researched subject but review of literature points that very few studies have been done to address the online IP issues.

Although internet represents the promise of better, cheaper, and more efficient marketing in the near future, but its growth has also brought into light some legal issues. **Richards** (1997)gives out that the number of legal issues a marketer may encounter in tapping this new resource is significant, and every marketer should first considering these issues. The author provides an overview of these Internet-related legal issues. These issues are; invasion of privacy, deception, exposure of children to harmful content, social problems, and most importantly Intellectual Property related issues

Kopp and Suter (1998), in this article review and discuss statutory law in copyright policy recently developed in the context of network technologies. The philosophy of freedom and availability of information use and dissemination are driving forces in the development of Web technologies. On the one hand, copyright holders have the right to protection; on the other hand, internet-based technologies are built on the basis of free sharing of information and ideas. Therefore, public policymakers, with insight from marketing academics and practitioners, should develop the appropriate balance for all interested parties.

As managers attempt to leverage the value of the trademarked brand, **Kopp and Suter**, (2000) examine the impact of the current state of technology and law to understand the implications for present and future online trademark strategy. With global expansion and access, it has become more difficult for a company to protect its equity in its brands. The authors suggest that both government and nongovernment entities should step up efforts to manage the conflicts that have arisen as a result of the breathtaking expansion of network

technology use. Managers must be vigilant for infringement, dilution, and counterfeiting on the Web, as well as cognizant of the recourse available.

Copyright protection is a necessity for on-line media distribution e-services. Watermarking technology enables copyright protection for e-services but delays the packaging process and delivery. **Kwok and Yang (2003)** investigate four watermarking schemes and explores such performance issues as preparation time, delivery time, and storage requirements. This paper presents two efficient watermark-insertion schemes for on-line media distribution e-services. These schemes can ensure almost instant delivery of copyright-protected content to consumers.

Nunes *et al* (2004) examine why typically law abiding people are more inclined to steal intellectual property products than more tangible, material products. The authors propose that the inclination to pay for certain types of goods and services is greater than for other types, and it is based on their cost structure. The paper shows that consumers are less willing to pay for products with relatively low Variable Cost. The results show that consumers are more likely to pay for a product if non-payment would cause great harm.

Strowel (2009) addresses the issue of online piracy in this paper. He says that the content providers have a window of opportunity to exploit the willingness, and more consumer-friendly ways to provide content at a reasonable price. Law makers can also help by creating simpler and consumer friendly legal framework for accessing digital content. The author opines that "Graduated response", may solve the problem to some extent. Graduated response is an alternative mechanism to fight internet piracy that relies on a form of cooperation with the internet access providers, and implies an educational notification mechanism for alleged online infringers before imposing stringent measures.

Tamura (2009) argues for a more cautious approach than those currently adopted in many jurisdictions, towards designing new copyright laws, to address controversies brought by digital reproduction and communication technologies. To do so, he points out several aspects which are essential for designing an efficient, operational and feasible institution of copyright in the digital era. He suggests that the institution of copyright for the digital era should be restructured to adjust to the technological progress and the social environment. At the judicial level, the courts should strike the balance between the interests of rights holders and users while considering the governance structure bias.

Hussain (2009) points out that Intellectual Property issues have gained a special importance in today's global business scenario. India is facing serious problems of counterfeiting and piracy. The results show that the reason for this is lack of awareness

amongst Indians regarding Intellectual Property matters. Author suggests that if the government can put more resources in public education to protect IP rights, the public awareness and attitude towards the protection of IP rights is expected to improve and Indian economy will achieve strength in the near future.

Cheemal et al (2011) in their paper, find out the conceptual awareness of research students about plagiarism through different aspects. The objectives of the study are to examine the researcher's conceptual awareness about specific terminologies of plagiarism, types of plagiarism and penalties of plagiarism. Major finding infer that students are partially aware about the plagiarism and Intellectual Property Rights. Students are aware about the definition and terms but are unaware regarding the types and penalties for plagiarism.

Benjamin and Choudary (2011), in this paper study the awareness level of under graduate students regarding Intellectual Property Rights. This study reveals some shocking results for which immediate action is called for. The results show very poor knowledge of students regarding IP. The authors suggest that all the educational institutions, universities, colleges, schools and Government should come forward to take this IPR awareness to the students as they are the future of the nation.

Research Objectives

The primary research objective for this study is to measure the awareness level of students with respect to online Intellectual Property Rights.

The secondary research objective of this study is to identify relationship between education level and Intellectual Property Awareness.

Research Methodology

The methodology for undertaking this study has been detailed below:

Sample Selection

For this study, population comprised of college and university level students that used online data and information resources for research and study purposes. Specifically, the study assessed awareness level of students of commerce and management at graduation, master and doctorate level. While the college going students use internet for academic purposes such as academic study and project work, research scholars at university level use online information sources predominantly for research purposes. A total of 130 students formed the sample for this study. Participation of three types of respondents in the sample was ensured to have comparative view of level of awareness of intellectual property rights.

Fifty (50) Graduate level students of commerce were selected from colleges in Chandigarh having affiliation to Panjab University. Similarly, 50 students of master degree in commerce or management were selected from three departments of Panjab University, namely, University Business School, University Institute of Applied Management Sciences, and University Institute of Hotel Management. The third part of sample was comprised 30 doctoral students (research scholars) at University Business School.

Data Collection

Data was collected through a self-administered structured questionnaire containing questions related to knowledge of IPR, its perceived importance and the willingness to adhere to IPR rules. The questionnaire was designed to assess the following aspects:

- 1. Awareness of concepts of IPR
- 2. Source of knowledge of IPR
- 3. Awareness of types of IPR
- 4. Understanding of IPR
- 5. Awareness of IPR infringement
- 6. Awareness of penalties for violating IPR

A preliminary draft of questionnaire was refined after couple of rounds of pilot testing. Questionnaires were personally distributed to ensure hundred percent response rate.

Data Analysis Technique

Data collected through the questionnaires was tabulated and classified according to the sample categories. On a simple level, frequencies of responses of options for different questions were obtained. After a general assessment, cross section study was conducted using chi square test statistic.

Data Analysis

As stated above, descriptive statistics was used for fulfillment of first objective.

Level of Awareness

The results show that 62 per cent respondents were unaware of the term Intellectual Property Rights, only 38 percent of students had heard this term.

Figure: 1



Sixty-two (62) per cent respondents heard the term IPR in college, 26 per cent respondents came across this term in school and 12 per cent students heard this term at University level.





Out of those people who were aware of IPR, the maximum number of respondents came to know about IPR through books, i.e. 42 per cent; 33 per cent of respondents came to know through social interaction; 25 per cent came to know through news.





There are basically three types of IPRs which people are aware of. These are copyrights, trademarks and patents. In next question, the level of identification of IPR types was asked. Those respondents who had heard of only one term was categorised as having low awareness, those who had heard of two terms were categorised as having medium understanding and similarly, respondents who had heard of all three terms were called a shaving high awareness. 35 per cent respondents had low understanding, 33 per cent students had medium understanding and 32 per cent of them had high understanding of IPR terms.



The next question pertained to know if respondents understood the meaning of the three terms stated above. On similar basis, it was found that only ten per cent of respondents knew the meanings of all these terms. A whopping 53 per cent of respondents did not know about the difference between these three terms.



Regarding the downloading of material, 59 per cent students were aware that it leads to infringement of IPRs, while 49 per cent were unaware about this.



Sixty-two (62) per cent of respondents were aware that infringement of IPRs is a punishable offence, and 38 per cent were unaware regarding legal repercussions of IPR infringement.





Test of Association between Education Level and IPR Awareness

The second objective of this paper was to find if there is any relation between level of education and IPR awareness. For this, chi square test was applied on the data. Analysis of awareness with respect to education level of students reveals interesting trends. It is found that education level has a significant bearing on the various aspects of IPR awareness. Detailed explanation is as follows:

Most students from the sample came across IPRs concepts at college level, followed by school and university level. For the three categories of students included in the sample, the responses differ significantly. While doctoral level students came across IPRs at college and university, graduation and post graduate level students came across these terms at college level only. One possible explanation can be that IPRs have become more popular in recent years. This is in line with the fact that internet become an easily accessible and reliable source in the recent years.

Books serve as the most educative source of IPRs for the sample students, followed by social interaction and news, respectively. Source of information of IPR is independent of level of education of students. Most doctoral and graduate level students came to know about IPRs through Books in the curriculum. On the other hand, post graduate students find social interaction more informative about IPRs. This can be explained by the fact that students in Masters of Business Administration degree are more exposed to group discussions, guest lectures, and debates on emerging issues compared to graduate level students.

Level of awareness of three major types of IPRs (Patents, trademarks and copyrights) is significantly associated with three categories of students. Doctoral students have better awareness level compared to college and post graduate level students. Most graduate students have a low awareness level and post graduate level students have medium awareness level of types of IPR.

With regard to understanding of three types of IPRs, students at three levels of education differ again. Understanding of IPRs seems to be dependent upon the education level of students as doctoral students have a medium understanding and rest of the categories have a low level of understanding of types of IPRs.

Knowledge of IPR infringement is highest for doctoral students with 92 per cent saying they know online downloading can lead to IPR infringement. This can be explained by the fact that doctoral students are more exposed to online downloading and are familiar with the issues of originality of research. On the other hand, only half of the graduate students and 41 per cent of the post graduate students know this know that downloading information from internet may have IPR issues.

A significant chi square statistic indicates that the knowledge of implications of IPR violation is related to education level. Similar to the previous question, most doctoral students know that IPR infringement may be punishable. Post graduates have a better knowledge of this aspect of IPRs as compared to college level students. The detailed results are shown in Table: 1.

Variable	Category	Education Level					
		Doctoral	Graduation	Post- Graduation	Total	Chi sq.	p value
When did you come across the term IPR?	College	11	13	26	50	27.825	.000*
	School	4	9	8	21		
	University	10	0	0	10		
	Total	25	22	34	81		
How did you come to know about IPR?	Books	14	13	7	34	15.687	.003*
	News	4	7	9	20		
	Social Interaction	7	2	18	27		
	Total	25	22	34	81		
What are the types of IPRs?	High	17	4	5	26	30.060	.000*
	Low	2	14	12	28		
	Medium	6	4	17	27		
	Total	25	22	34	81		
What is the meaning of three types of IPRs?	High	5	0	3	8	27.770	.000*
	Low	3	14	26	43		
	Medium	17	8	5	30		
	Total	25	22	34	81		
Do you know downloading from internet may lead to infringement of IPRs?	No	2	11	20	33	16.486	.000*
	Yes	23	11	14	48		
	Total	25	22	34	81		
Do you know	No	5	13	13	31	7.569	.023*
Infringement of IPRs is a punishable offence?	Yes	20	9	21	50		
	Total	25	22	34	81		

 Table: 1 Results of Chi Square Test

*significant at 5% significance level

Findings & Suggestions

The results of this research study show that level of awareness of students regarding Intellectual Property Rights is very low. Till the time they are made aware of IPRs, they will keep on infringing them unintentionally. Even the students who are aware of Intellectual Property Rights, they are also indulging in infringement of IPRs, because there is no proper mechanism which can keep a check on such infringement.

Overall, it can be inferred that doctoral level students have a better understanding and knowledge of IPR issues. Due to their research oriented approach and more exposure to use of internet as source of information, they are more aware to various aspects of IPRs. However, there is still a part of doctoral students that are not aware or have low awareness level about IPRs. Since the doctoral research has the onus of being original and free from plagiarism, it is imperative that this section of academic community has the highest knowledge of IPR issues.

Post graduate and college level students have exhibited medium to low level awareness of various aspects of IPRs. It is only relevant to mention that the importance of internet as a source of information is relentlessly growing and in the times to come digital information is going to be a wide spread phenomena in India.

Government has the onus of raising the level of awareness about IPRs. Starting with the student community is the most effective means to that end. Degree course at graduate and post graduate courses should include a mandatory subject on IPRs. Academicians have a great role to play by educating the students about the intentional and unintentional IPR infringement and their implications. More importantly, importance and contribution of original research work should be emphasised to motivate the students to focus on creating innovative work that contributes to betterment of society and economy.

The governments should create an environment in which intellectual property is respected and protected. It should encourage allocation of resources toward improved IPR enforcement and ensure that intellectual property institutions are efficient and sufficiently funded.

Conclusion

Intellectual property is an increasingly important asset that must be continually protected and stimulated to grow. Protection for intellectual property encourages the production and dissemination of knowledge and a wide range of quality goods and services. Intellectual property rights add value for consumers and can provide a guarantee of source and quality. Infringement of these rights would mean substantial losses. Such loss affects everyone. It affects the economy, affects investment and technology transfer, and raisescosts for governments, businesses and society. The immense adverse economic and social impact of intellectual property theft requires that combating counterfeiting and piracy become a priority for society, and not just right holders. Unless governments, businesses and citizens make a coordinated effort to uphold the intellectual property system, society will not reap its benefits. The study reveals that students' level of awareness regarding online IPRs is very low. Research scholars have a better understanding and knowledge of IPR issues; but since the students at graduate and post graduate level are going to be the academicians, corporate and innovators of tomorrow, it is highly desirable that they are made aware of the issues related to IPR which have assumed immense importance in the competitive global markets.

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