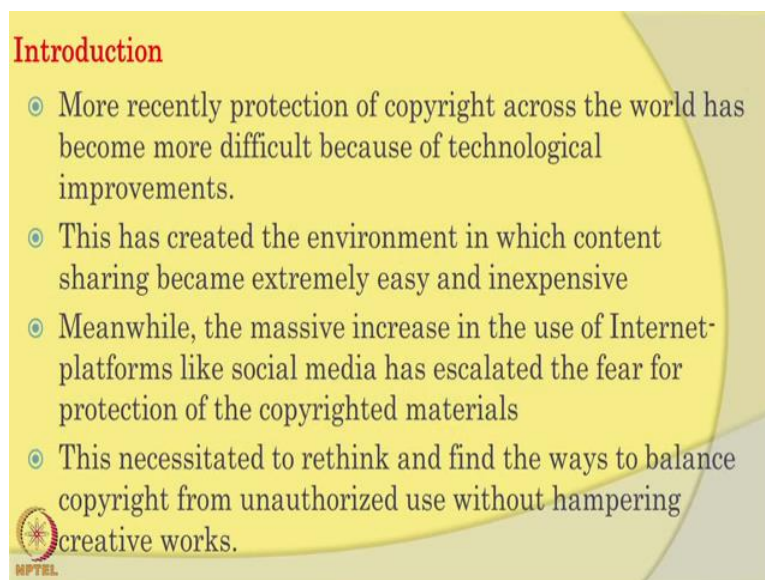


Economics of IPR
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Indian Institute of Technology, Patna

Module - 3
Lecture - 2
Critical Issues in Copyrights and Related Rights


As a part of victory series of a lecture on issues an intellectual property right, this particular lecture is try to explore the different issues involve in copyrights and related rights. So, let me begin with this introduction that, more recently protection of copyright across the world has become more difficult due to the technological improvements.

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Introduction

- More recently protection of copyright across the world has become more difficult because of technological improvements.
- This has created the environment in which content sharing became extremely easy and inexpensive
- Meanwhile, the massive increase in the use of Internet platforms like social media has escalated the fear for protection of the copyrighted materials
- This necessitated to rethink and find the ways to balance copyright from unauthorized use without hampering creative works.

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This technological improvement or development has created a new environment in which content sharing, downloading, uploading of contents, became extremely easy and very less expensive. So, we are finding that, the massive increase day by day is in the use of internet platforms like social media has escalated the fear, for the protection of to copyright materials.

So, this type of environment is really putting us new direction to rethink and find the ways to really finalize a proper balance of copyright from unauthorized use, without happening the creative works.

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The Rise of Technology: Fear or Strength

- Global markets for content and copyrights holders have been created and fuelled by the massive increase in the **digital economy**, facilitated by the diffusion of broadband, and consolidated with increases in computing power and storage
- However, there is a risk of the protection of copyrights
- Piracy will damage the creative works, because the growing **digital tools** are infringing the copyrights.

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So, with this background let me discuss the certain issues, which is involved in the copyright and one of the measure issue is rise of technology.

So, one thing which comes in our mind is, whether this rise of technology is a fear, is a strength, is a weak point or a strong point and seen the global market for content and copyright holders, that have been created and completely full by massive increase in the digital economy, which facilities by the diffusion of broad band and consolidate with increase in the computing powers and storage. Now it is quite difficult and quit challenging task for the copyright owner, to really counter this type of challenge in coming a days.

So, however, there is a risk of protection of copyrights and piracy is going to damage the creative works because of the growing digital works and when we say going to damage the creative work, it means that the creativity as a whole, is being challenged by the digital world, because the creators or the owner of copyright materials are not really in the position to save or to make it secure work for those who really demands, those copyrighted material on the paid basis. The fact is that these digital tools are infusing the copyrights, because the copyright owner is not able to really get the benefit out of it, with help of digital technology, infringers are taking the benefit of infringing the right copy right owner.

And ultimately the owner a who has to get the benefit, who has to get the return, they are not really in the position to get the return and this entire environment is providing us very disincentive environment for the copyright owners and it really hamper to creative works and whether it is the film industry or whether it is the book industry every were we find this challenge due to the digital interferences.

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Copyright Challenges

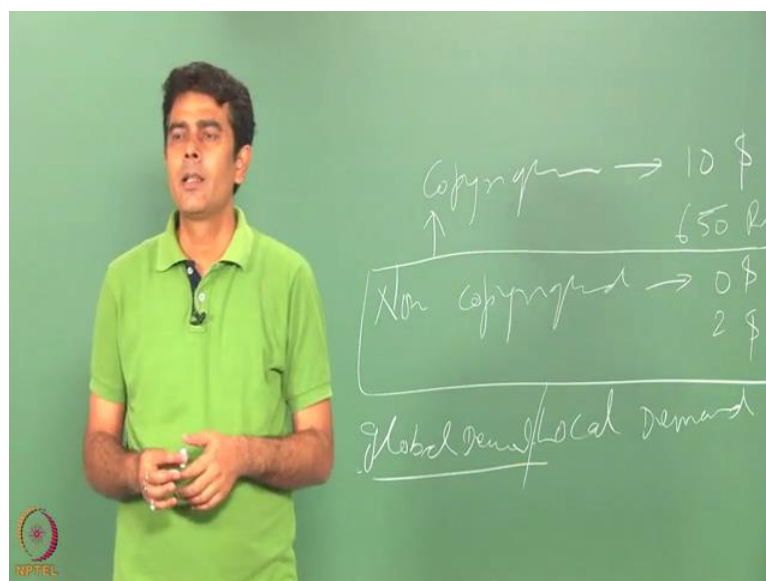
- IPRs are immensely significant for sharing the innovation, encouraging creativity and building consumer trust
- However, in the age of digitization new challenges appeared in managing the copyrights, when the consumer is the creator
- Marginal cost of copying is zero- the problem of copyright violation will be difficult to lessen
- Again, the **administration of copyright laws** is extremely difficult, in this scenario
- Free access to information and content- **global demand**
- The challenge is that how **copyright laws will respond to technological changes**

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So, intellectual property rights are, day by day becoming significant for sharing the innovations, encouraging creativity and building consumer trust, so, however, in the age of this digital technology and its fast growing rate, the new challenges appeared in managing the copyright, when the consumer is the creator and some time when I am or anybody else is really willing to get the product copy righted material.

And when we find that there are certain available materials which are not really asking for the price, which is the price, asked by the real copyright owner, as a customer we find very different condition were copyright material, a material which is copyrighted.

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Suppose it is available in 10 dollar, probably 650 rupees and the non copyrighted material, is available in 0 dollars, or may be with payment of 2 dollar, the customer, bulk of customer is finding very easy to select this type of non copyrighted material as their choice of consumption. So, consumers of copyright materials are trying to get involved in the consumption of non copyright material and they are not looking for the copy righted material, because there is a price difference and that price difference makes us or makes a consumer really willing to get the benefit of those materials which is easily available with help of information technology tools.

So, as a owner of the copyrighted material, it is true that marginal cost of copying is a 0, because what we have to expend is, what we have to incur the cost is nothing, but the point is a the problem of a copyright palsied will be difficult to reduce, because large number of people are available in the market to have, to involve in such practice, which motivates them to get money out of investing all most or out of investing 0 cost in copying the material. So, there is a huge cost involved in the administration of copyright material, by the real copyright owner. So, one side you have invested in terms of time, in terms of money, in terms of your creativity, but in return you have after all your investment; in terms of time, money, in terms of ideas and creation, what new it is available in the market for you, is a new challenge not a new opportunity. So, the fact is that the challenge is bigger than the new opportunity; which is waiting for you in the

world market. So, you have a great challenge ahead, that that great challenge is extremely difficult challenge.

So, in this scenario, free access to information and content is not a local demand. So, non copyrighted material is not a material which is demanded locally, it is not a local demand, but today we find that; such non copyrighted material is becoming the method for the global demand. So, this local verses global when we had less technology in our hand, the copying of the material was localized, but when we have not fully copying of the material was localized, but the transmission of those materials was also localized at the local level.

But when we have fast raising internet sources and information technology, today all these materials are globally demanded and globally supplied and it has the fast transmission from one economy to other economy, one customer to other customers. So, the challenge is that, how copyright large will respond to the technological change, this is the major challenge today for the copyright material.

So, the digital piracy in some of our lectures we have seen, the gene piracy, we have see the case of bio piracy, but here we are finding in case of copyright, we are finding the case of digital piracy.

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Copyrights And Digital Piracy: General Considerations

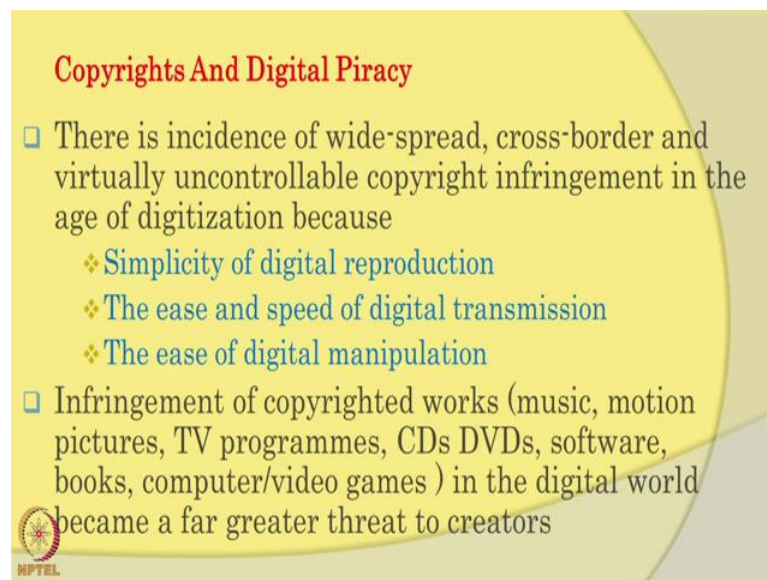
- ◎ Piracy is a function of the market for the copyrighted materials, the more weak the market is, the more limited piracy will be
- ◎ Piracy and sales are simultaneously related to each other: piracy crowd out legitimate sales from copyright owners, but sales determine the extent of piracy
- ◎ Piracy and counterfeiting occurs as a result of inadequate standard of copyright protection
- ◎ There is found to be highly inverse correlation between piracy and the level of economic development



So, piracy is a function of the market, for the copyrighted materials, the more we more weak; the market is more limited piracy will occur, but piracy and sales are stimulating, fact is that piracy crowd out the legitimate sales from copyright owners. So, piracy and counterfeiting occurs as a result of inadequate standard of copyright protection and there is found to be highly inverse correlation between the piracy and the level of economic development, as we have also discuss the way the world is busy in copying the material with help of information technology. And how fast it is be transmitted from one economy to other economy that really demotivate the creator of the copyright material.


So, whether author, publisher or the film producer, they have the real customers ready also to watch the movie in the big cinema hall, but are the same time there is a parallel market available in the world were these movies are also watched by the people, who has not really paid any cost to the real producer of the film. So, this entire digital piracy business; is really demotivating the investors and the producer to have the copyright material in the coming world today. So, this is one of the major issues which we have really seen.

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Copyrights And Digital Piracy

- ❑ There is incidence of wide-spread, cross-border and virtually uncontrollable copyright infringement in the age of digitization because
 - ❖ Simplicity of digital reproduction
 - ❖ The ease and speed of digital transmission
 - ❖ The ease of digital manipulation
- ❑ Infringement of copyrighted works (music, motion pictures, TV programmes, CDs DVDs, software, books, computer/video games) in the digital world became a far greater threat to creators

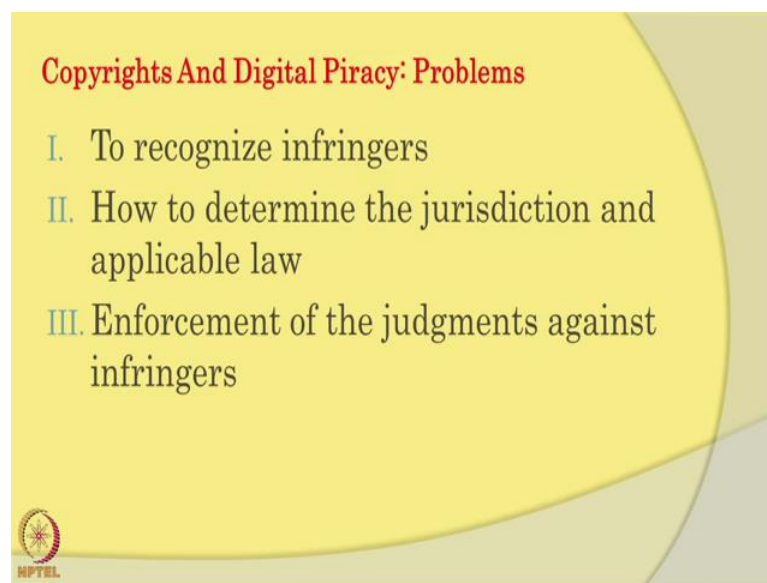
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So, there is incident of, wide spread and cross boarder and virtually uncontrolled copyright infringement in the age of digitization because simplicity of digital reproduction, the ease and speed of digital transmission which we have also discussed and the ease of digital manipulation is on very high speed. So, the infringement of

copyright works, whether it is music or motion or picture or to programs or CD or DVD's software books, computer videos, games, video games these all are becoming a for greater threat to the creators and the way digital piracy is growing and becoming day by day intense.

We do have nothing except demotivating the creators, in coming years. So, copyright and digital piracy is a problem because it is a difficult to recognizing infringers the information technology tool are good, in the same set; it is copying the material, but it is not giving you a proper clue that; when it was happen, how it was happen, who did it because technology sometime technology is blind, so how to determine the jurisdiction and applicable law, because the world is huge and the internet database and the resources are.

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So, well networked in the world today, that it might so that, somebody from India is doing that, but the fact is that such infringement with the investigation, proper investigation may be found by some infringer by outside India.

So, enforcement of the judgments against in infringers, again becoming a major issue and those infringers are well aware with the recent technology and recent IT base system and also IT law and the IPR law of any country. So, digital piracy is a problem, and there are certain issues which a large number of industries are facing such as the television,


songs and music and films, publishing software, entertainment and video games that are being badly affected due to the illegal copying and dissemination of copyright materials

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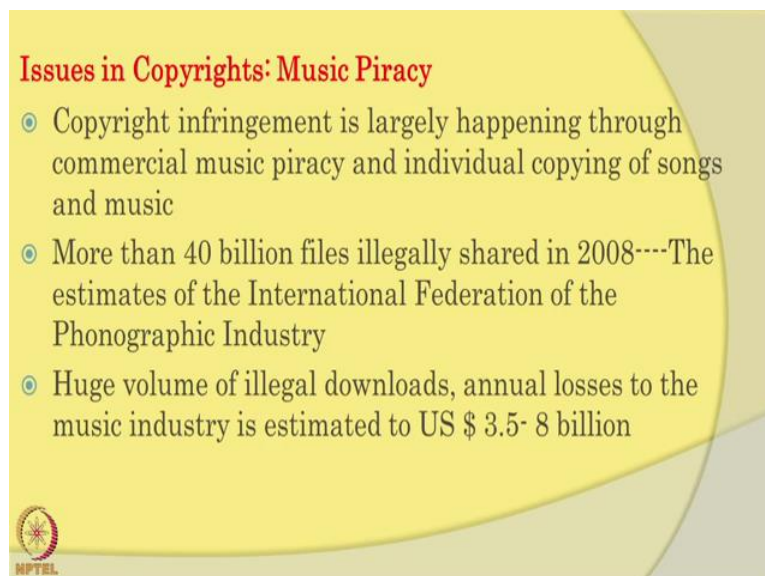
Issues in Copyrights

- A large no. of industries; television, songs and music, film, publishing, software, entertainment including video games, etc. are being badly affected by the illegal copying and dissemination of copyrighted materials




So, one of the important data more than 45 million files illegally shared in 2008 the estimates of international federation of the phonographic industry is giving this data. And huge volume of illegal downloads annual losses to the music industry estimated to 3.528 million dollar, these some of the data which really showing music piracy going on in world today.

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Issues in Copyrights: Music Piracy

- Copyright infringement is largely happening through commercial music piracy and individual copying of songs and music
- More than 40 billion files illegally shared in 2008----The estimates of the International Federation of the Phonographic Industry
- Huge volume of illegal downloads, annual losses to the music industry is estimated to US \$ 3.5- 8 billion



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Issues in Copyrights: Movie

- Internet Movie Database, Netflix, iTunes, LOVEFiLM, and Blinkbox success can largely be attributed to the internet and digitization of the film industry
- However, the piracy has also become very easy without any cost
- US authorities have shut down 9 websites that offer free access to movies in July 2010
- Large no. of sites provide downloading facilities of movies even before its official release or hours just after their release
- 50 % of households have illegally downloaded movies in South Korea---reported by the Korean Film Council
- It constitutes losses to the DVD market of US \$ 1 billion

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Apart from this, if we see the data related to the movie, US authorities have shut down 9 websites that offer free access to movies in July 2010. So, internet, movie database some of the names are here blink box, are one of the example of the success, which can largely be attributed to the internet and a digitization of the film industry.

Large number of sites provides downloading facilities of movies, even before its official release or hours just after their release. 50 percent of households have illegally downloading movie in South Korea reported by the Korean film council and it constitutes the losses to the DVD market of us 1 billion dollar. So, these are some of the statistics, which is I open at to understand that, how a fast this digital, a challenge it we are having in the field of copyright.

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Issues in Copyrights: Broadcast

Study by Screen Digest for the WIPO: 4 forms of unauthorized access to broadcast signals:

- Physical Piracy
- Hardware-based Unauthorized Access
- Unauthorized Re-broadcasting
- Extra-territorial Television Access

Unauthorized re-broadcasting is a huge challenge---Asia and States of Arab

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So, physical piracy hardware based unauthorized access, unauthorized free broad casting and extra territorial television access, are 4 issues related to the copyright material, which is related to the broadcast. So, when we see the software related piracy both physical and digital piracy is also on a very high speed in the software industry and the business software alliance estimated that, the piracy accounts for about 40 percent of the global copyright market.

So, this large volume and value of software was obtained illegally worldwide and one problem is that, some company is purchased a limited user license and then installs the software on computers or servers. So, counterfeit and illegal piracy are all threats for the software industry like film industry or the broad casting and some other copyrighted material.

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Issues in Copyrights: Entertainment

- Entertainment especially gaming is somewhat more protected
- Because gaming software are technically difficult to imitate or copy
- The industry has developed models that are more protected from piracy

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So, in entertainment industry, especially gaming in; is somehow more protected, because gaming software are technically difficult to imitate or copy and the industry has developed models, that are more protected from piracy, compared to other copyrighted material.

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Copyright Industries in Developed & Developing Countries

- The share of copyright industries in GDP and employment for both developed and developing countries can be seen from table 1.
- As the table shows the share of **copyright industries in GDP and employment is relatively low in developing countries than developed countries.**

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So, the share of copyright industries in GDP, and employment for both developed and developing countries can be seen from the from a statistical comparison now, and as the

table shows that the share of copyright industries in GDP and employment is relatively low in developing country, compared to the developed country.

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Table 1. Share of Copyright Industries in The Economy

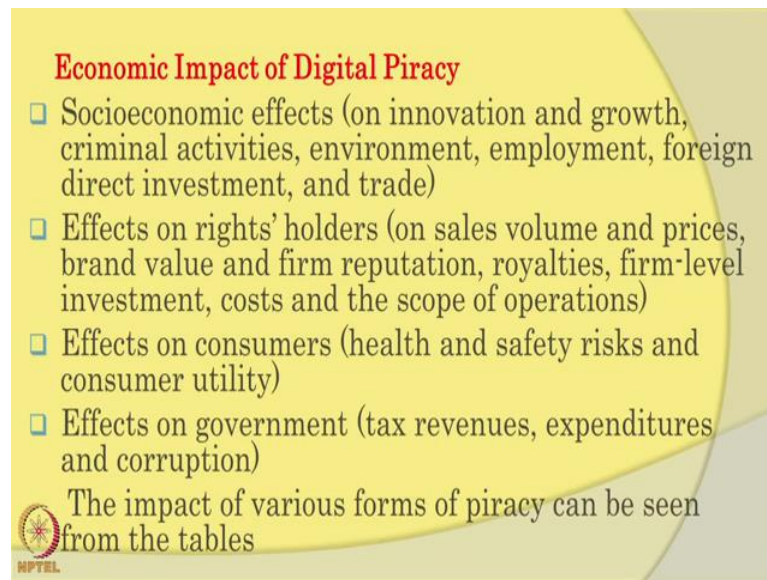
Countries	Year of publication	% of GDP	% of employment
Australia	2011	6.60	8.00
Canada	2004	5.38	5.55
U.S.A	2013	11.25	8.35
Netherlands	2009	5.90	8.80
Pakistan	2010	4.45	3.71
Columbia	2008	3.30	5.80
Ukraine	2008	2.85	1.90
Jamaica	2007	4.81	3.03
Jordan	2012	2.43	2.88

Source: WIPO

So, if we see the a data related to a United States, the percentage of GDP the fear of copyright industries in United States GDP is 11.25 percent, While the 8.3 percent population or the work force is employed in this particular copyright related industries, while if we see the data related to Jordon, the percentage of GDP is 2.4 percent of the copyright in the stage and the employment again 2.8 only.

We can also see one of the other examples from Australia, where the copyright industry contribute 6.6 percent of GDP, while it contributes 8 percent in employment. So, this shows that, more developed countries are better and half in terms of contributing total GDP and the percentage of employment. This is the data from the world intellectual property organization.


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Economic Impact of Digital Piracy

- ❑ Socioeconomic effects (on innovation and growth, criminal activities, environment, employment, foreign direct investment, and trade)
- ❑ Effects on rights' holders (on sales volume and prices, brand value and firm reputation, royalties, firm-level investment, costs and the scope of operations)
- ❑ Effects on consumers (health and safety risks and consumer utility)
- ❑ Effects on government (tax revenues, expenditures and corruption)

The impact of various forms of piracy can be seen from the tables

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So, there is huge impact of digital piracy on socio-economic side or on the right holder side, effects on the consumers, and effects on the government. So, on socio-economic side no innovation and growth, criminal activities, environment, employment, foreign direct investment and trade are related. So, effects on right (Refer Time:18:11) on sell on sales volume and prices brand value and firms reputation, royalties and firm level investment and cross and the scope of operations are attached with the effects on right solders at the part of the consumer, the hell constructive risk and consumer utility is again one of the major issue.

In terms of the governments, if all these unauthorized users and unauthorized producers are available in the market, the tax revenue is also declining, because we are not aware that, who has downloaded and who has uploaded copyrighted material and it really rampage the level of corruption, you can make it as the digital corruption and you can also consider it as the expenditure side of the government will be effective because government is losing the revenue.

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Various Forms of Piracy and Consequences	
Various Forms Of Piracy	Consequences
Software piracy	According to the new Global Software Survey from BSA ,39 percent of software installed on computers around the world was not properly licensed in 2015. due to use of illegal software possibility of cyber attacks increases
Music piracy	According to Digital music report 2015 some 4 billion music had been downloaded via <i>Bit Torrent</i> (P2P File Sharing) alone, with 20% of fixed-line Internet users worldwide regularly access services that offer pirated music.

So, impact of various forms of piracy can be seen from this particular table software piracy music piracy and in case of software piracy we are finding that 39 percent of the software installed on computers around the world was not properly licensed in 2015. Again in terms of music piracy, according to digital music report 2015 some 400 billion music had been downloaded via bit torrent P2P file sharing alone with 20 percent of the fixed line internet users worldwide, this regularly access service that offer a pirated music.

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Cont...	
Various Forms Of Piracy	Consequences
Book piracy	In 2011, the total lost to book publishers in India was up to \$387,000 (20 Million Indian Rupees) due to book piracy
Video game piracy	Between 2004 and 2009, file-sharing sites downloaded illegally nearly \$42 billion worth of Sony PSP and Nintendo DS games according to study by the Computer Entertainment Suppliers Association.
Movie piracy	before releasing the movie people all over the world already watch them online. For example- 'The Expendables 3' leaked three weeks prior to its release. It has since been downloaded more than 200,000 times

In 2011, the total lost to book publishers in India was up to 20 million Indian rupees due to book piracy. So, in case of video game piracy, between 2004 to 2009 file sharing sites downloaded illegally, nearly 42 billion dollar worth of Sony PSP and other DS, games according to this study by the computer entertainment a suppliers association.

So, the movie piracy around the one of the movie was downloaded 200,000 times and this shows that there is a varieties of a piracy going on, whether it is advertisement or television and broad casting piracy, in each type of copyrighted material, whether it is book whether it is film whether it is a game whether it is advertisement or television and broad casting material we are finding a large number of piracy going on.

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Measures to Reduce Online Piracy

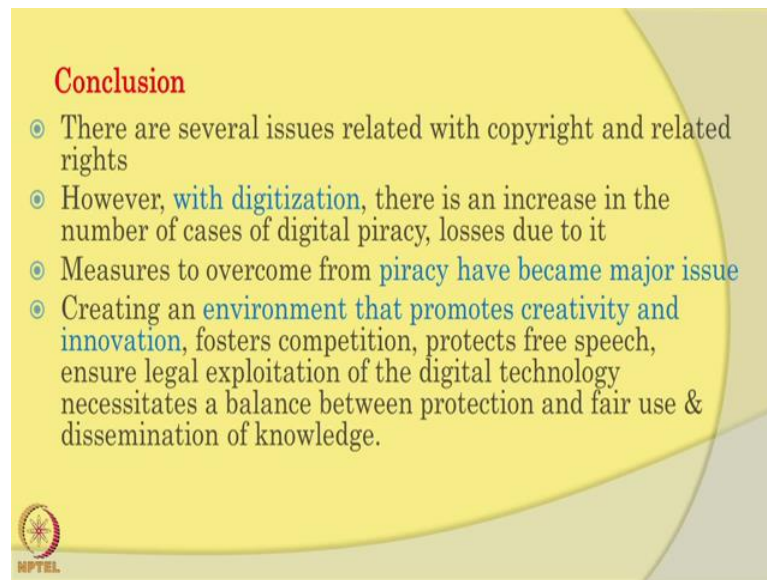
- ❑ The private sector has created a number of successful voluntary partnerships to reduce online piracy such as
- ❑ The Copyright Alert System (CAS)
- ❑ The Trust Accountability Group's Brand Integrity Program Against Piracy (TAG Anti-Piracy Program)
- ❑ In-house Software Asset Management (SAM) program

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So, what are basically the measures to reduce online piracy, the private sector has created a number of successful voluntary partnerships to reduce online piracy such as the copyright alert system. The trust accountability groups brand integrity, program against piracy and the in house software asset management.


But these are the technical tools and when we are really discussing about entire copying especially, in the digital world, there are several issues related with copyright and related rights.

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Conclusion

- There are several issues related with copyright and related rights
- However, with digitization, there is an increase in the number of cases of digital piracy, losses due to it
- Measures to overcome from piracy have become major issue
- Creating an environment that promotes creativity and innovation, fosters competition, protects free speech, ensure legal exploitation of the digital technology necessitates a balance between protection and fair use & dissemination of knowledge.

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One challenge is non digital challenge, where some of authors are also infringing the rights of other authors, some of the film producers are infringing the rights of established film producers, those are at the level of concept where their stories are stolen were the music is a stolen and reproduced, but are same time, there is a huge number of copying of those materials a through the IT tools and not only copying, but also the transmitting of those materials from one part to other part of world.

So, we can say that we are more Globalized, but we are more Globalized to get the benefit of those materials, which is available through the digital piracy, but overall loss is to the society to the economy as a whole because neither the creators are getting the benefit of such digital piracy not the consumer in the long run will be really happy to be benefited because may be after certain generation the art, the music the culture or the book or the story which is available through certain publishers, certain producers. They might not be able to be reduced by these people because if the high level of disincentives will be involved and if there is a huge loss paid to by the producer and if there is a great set back to the author or to the musician, then in that case it will be really very hard to get such creative material and copyrighted material to the consumers. So, there is a need to find out the measures to overcome from piracy, which is one of the most pressing issues today.

So, the creating an environment that promotes creativity and innovation and which fosters the competition, protect the free a speech, which infuse the legal exploitations of the digital technology. These are necessitating the balance between the protection and fair use and a dissemination of knowledge. So, this particular is basically giving you the idea that how fast these copyrighted material are being challenged and one of the major issue today is to handle those digital piracy with appropriate copyright law, and it is really difficult to follow the those piracy from the existing law.

So, the copyright law and they IT law or the copyright protection law and the IT law are not really complimenting to each other because information technology is really fasten enough, at a changing very fast every day it is facing a new change and in that case the copyright law not really able to follow what type of changes are there, since large number of digital piracy is going on and creators and the owners of copyright materials are really uncertain about their future.

So, this particular issue is one of the great issues for everyone to understand and there is economics behind the copyright material and if we do not have proper protection, the level of disincentive is going to hamper the entire demand and supply equilibrium of the copyright material.

Thank you.