

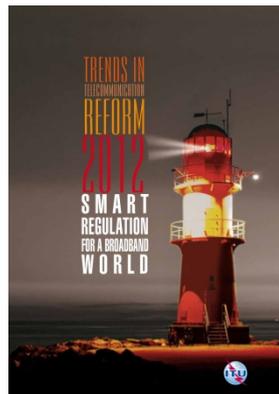
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Discussion

Paper

Intellectual property rights in today's digital economy



Work in progress, for discussion purposes

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Please send your comments on this paper at: gsr@itu.int by 7 October 2011.

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1 INTELLECTUAL PROPERTY RIGHTS IN TODAY'S DIGITAL ECONOMY

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1.1 *Intellectual property rights in today's digital economy*

Intellectual property rights (IPR) play a critical role in the digital economy. They provide the foundation upon which innovation is shared, creativity encouraged and consumer trust reinforced. This is not a new paradigm; IPR has been playing an important role in providing an incentive for creativity and innovation since first introduced in the Statute of Anne in 1709¹ and by 1776 was already significant enough to be included in the US Constitution. Today, IPR remains critical to foster creativity, innovation and growth. Heads of States and Governments participating in the G8 Summit of Deauville held in May 2011 further recognized that "broadband Internet access is an essential infrastructure for participation in today's economy. In order for our countries to benefit fully from the digital economy, we need to seize emerging opportunities, such as cloud computing, social networking and citizen publications, which are driving innovation and enabling growth in our societies. As we adopt more innovative Internet-based services, we face challenges in promoting interoperability and convergence among our public policies on issues such as the protection of personal data, net neutrality, transborder data flow, ICT security, and intellectual property."²

IPR plays an increasingly important role in today's economies. The global trade in IPR-related goods is estimated to be more than \$600 billion annually, with this trade having doubled between 2002 and 2008³. This IPR based knowledge economy is seen as a key enabler of future growth; President Obama recently stated "[Intellectual Property] is essential to our prosperity and it will only become more so in this century."⁴ Having clear frameworks for intellectual property rights and enforcing these rights remains critical to provide the incentives and economic reward for creators and innovators. The opportunity for growth

through the knowledge economy is not only a developed market phenomena; developing economies also have the opportunity to create economic value by encouraging the creation and exploitation of intellectual property. Indian Prime Minister Dr. Singh commented that to secure further international investment, "We have to strengthen investor confidence and have done so by putting in place a new Intellectual Property Rights regime..."⁵ sentiments echoed by President Hu Jintao of China when noting "To protect intellectual property rights serves the interest of all countries and complies with China's efforts of opening wider to the outside world, improving investment environment and enhancing innovation ability."⁶ The wider economic benefits are also recognised with OECD estimates showing that a 1% increase in the strength of IPR protection results in between a 0.7% and 3.3% increase in domestic R&D, depending on the type of IPR⁷.

The rapid growth of the digital economy, enabled by broadband penetration, coupled with increases in computing power and storage, presents huge opportunities for economic and social development, creating global markets for content and rights holders. The growth of broadband networks will accelerate this trend, especially in the developing markets, opening up new markets and providing consumers the opportunity to participate in the digital economy for the first time. The levels of creativity and innovation and content production are astounding. There are now 750 million Facebook users⁸, there are one billion tweets sent per week⁹, over 48 hours of video are uploaded every minute on Youtube¹⁰, Flickr hosts over five billion images¹¹, in July 2011 the Apple I-store announced 15 billion applications had been downloaded from the 425,000 applications available since the introduction of the store in 2008.¹²

Access to broadband infrastructure is however also creating a hugely disruptive challenge to the creative

industries, especially in the area of digital copyright, pressuring business models, market structures, regulatory approaches, law enforcement and the legal system. Estimates of the total value of counterfeit and copyright goods by Frontier Economics¹³ for the International Chambers of Commerce suggest a global value in 2008 of up to \$650bn, of which digital piracy is estimated to be about 12% or \$75bn. Frontier Economics “conservatively” estimates that digital piracy will have trebled by 2015, reaching up to \$215bn. Music piracy is at the forefront of this activity (“the canary in the coal mine”) but peer-to-peer networks, coupled with higher broadband speeds, are increasingly being used to share TV programmes and films with piracy of live rights for sports is also on the increase. ‘Lost’ Series 5 was the most pirated show in 2010 with over 2 million downloads in the first week and reports of over 100,000 people sharing a single ‘torrent’¹⁴. It is reported that within 20 minutes of the broadcast of the final series of ‘Lost’ it appeared, subtitled in Portuguese¹⁵, on a pirate website.

Endemic copyright infringement facilitated by broadband infrastructures is increasingly drawing the telecommunications and internet eco-systems into the IPR debate, especially in the area of enforcing copyright protection. There is increasing pressure from the copyright industries, including film, music, publishing and TV for internet carriers and service providers to play a more active role in addressing both commercial copyright infringement and infringement by consumers. Telecoms policy makers and regulators are playing an increasingly important role in establishing the roles, responsibilities and procedures to both enforce copyright and ensure free and open access to the digital eco-system.

For Telecom/ICT regulators and policy makers there are a number of questions to address in relation to copyright as a consequence of the growth of the digital economy:

- What is the role of regulation and industry self-regulatory approaches in protecting IPR?
 - In a global village, how do national and international rights work together?
 - Can changes to existing market structures help to enable innovative content services?
 - How should rights be enforced and who is responsible for this enforcement?
- What institutional framework needs to be in place to protect, manage and facilitate IPR?
 - What procedures and processes need to be implemented for notice, takedown, filtering and blocking of illegal content?
 - Where the boundary between legal and illegal content lays?
 - Where should the balance be between protecting rights holders and protecting consumer interests?

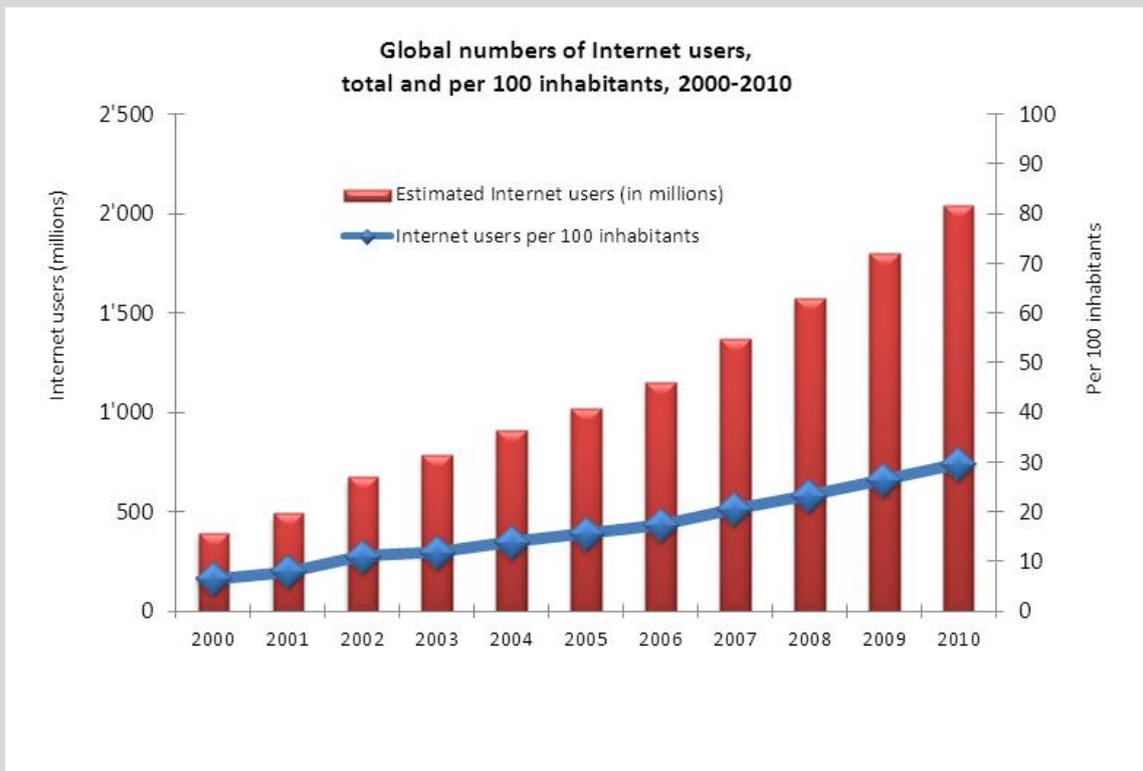
IPR has always faced the challenge of creating the proper balance between the rights holders and those that wish to exploit those rights. This is no different today. The challenge today however is to manage the balance where the consumer is the creator, where the marginal cost of copying is zero, where enforcement of existing law is extremely difficult and where ‘free’ access to information and content is considered by many to be a right.

1.1.1 The growth of the digital economy

The ITU-UNESCO Broadband Commission outlined a vision of broadband for all “that embodies effective and sustainable solutions to the great global challenges of the 21st Century in poverty, health, education, gender equality, climate change and the seismic demographic shifts in youth and ageing populations.”¹⁶ The digital economy, enabled through internet access, broadband networks and affordable subscriber equipment, is transforming the way we work, shop, educate, entertain ourselves and communicate. As the Broadband Commission declaration states, “broadband will be the basis for digital invention and innovation and the foundation for digital and other investments that lie at the very heart of our shared knowledge economy and society..... governments have today an unprecedented opportunity to unleash the creativity and inventiveness of their citizens and industries to innovate and invest in health and education.”¹⁷

ITU figures show that global internet users have surpassed 2 billion, with over 872 million of these accessing the internet through active mobile broadband subscriptions.¹⁸ In the developed markets internet user penetration reached 69% of the population; in developing markets this is only just over 20%. Growth in internet access in the developing markets is however dramatic, driven by improved network availability, lower subscriber costs and access to local services and information.

Figure 1: Global Internet Users



Growth of data on networks has also been dramatic and is expected to continue to increase, with Cisco forecasting that IP traffic will reach the zettabyte threshold in 2015¹⁹. Much of the growth of traffic is driven by video, with 50% of all consumer internet traffic forecasted to be video traffic by 2012. Global growth of global internet traffic is being driven by both the increase in high capacity services, in the developed markets and the growth of broadband and internet access in developing markets.

The social and economic benefits of the digital economy are widely reported. Most studies on the topic

conclude that broadband penetration has an impact on GDP growth. However, such a contribution appears to vary widely, from 0.25 to 1.38 percent for every increase in 10 per cent of penetration.²⁰ Similar impacts have been shown in a range of economic studies for different markets across the world²¹.

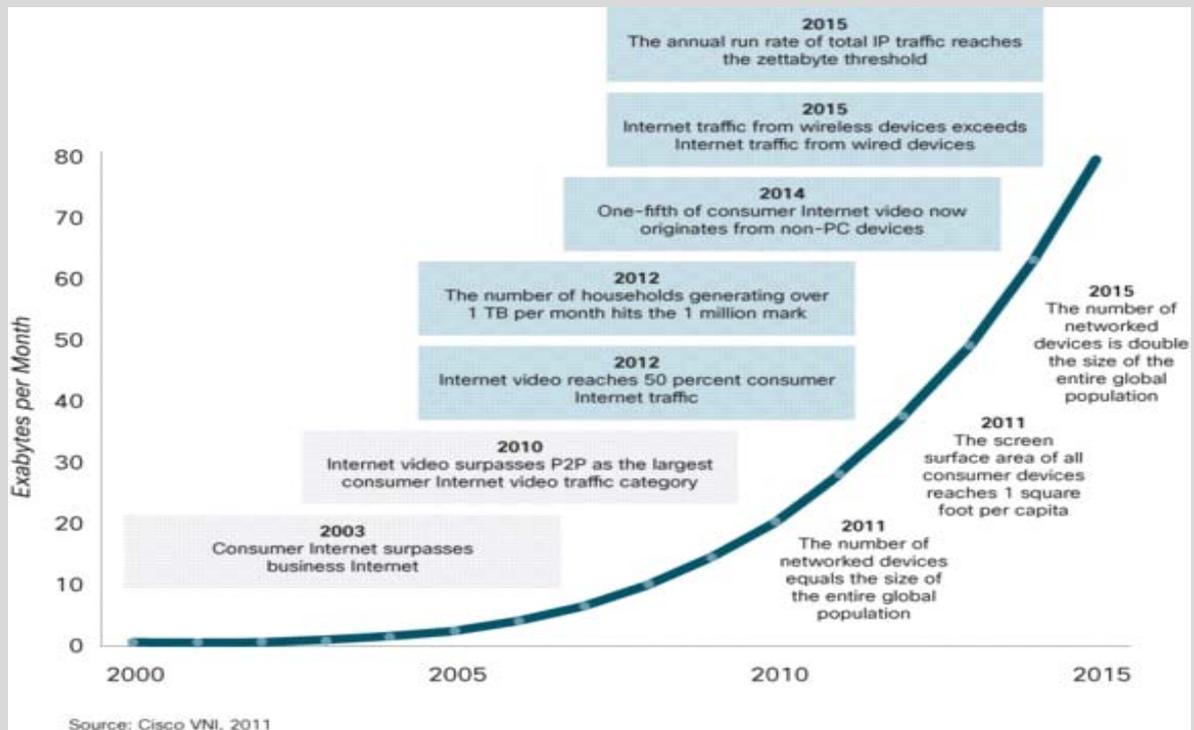
The social impact is also significant, improving access to education and knowledge, access to services, improving communication and improving government

accountability. It is also enabling a change in the way consumers create and consume content. User-generated content (UGC) is a new phenomenon; however, the digital economy has also changed the way consumers access TV, music, film, news and other media services.

The growth of the digital economy provides significant opportunities and access to new global markets but it also creates a risk. Illegal copying and distribution of copyright materials has had a hugely disruptive effect on a range of copyright industries including music, film, software, games and TV. As broadband coverage, capability and capacity increase there is a threat that without adequate controls the disruption will cause permanent, long-term damage to the creative industries. This issue alone is not enough to outweigh the value of providing access to the digital economy but it also can't be ignored. Providing adequate copyright protection will ensure the long-term supply of quality commercial content and will provide protection to incentivise local creative sectors to develop and take advantage of access to the global economy.

Figure 2: Internet Traffic Milestones

Five Traffic Milestones and Three Traffic Generator Milestones by 2015



1.1.2 IPR in the digital economy

Although technology and digital technology create new challenges for IPR, the underlying IPR frameworks remain the same. There are four main IPR areas:

- Patents – covering inventions of technical features or processes. They give exclusive rights, for a limited time (under the WTO a minimum of 20 years) for the owner to use or sell their invention.
- Trade Marks – cover distinctive or unique signs that are used to distinguish goods and services. They can be a word, logo, symbol, design, image, sound, colour or a combination of these. Trademark rights are typically maintained by use and maintenance of the registration.
- Design – covers the visual and physical appearance of products. Design rights extend beyond the purely utilitarian to cover the aesthetics. Like trademarks, they are maintained by use and registration.
- Copyright and related rights – which give automatic and exclusive rights to the author, or creator, of original work. Original work can cover writing,

music, art, films, broadcasts, sound recordings and databases.

These frameworks cover the range of IPR protection, from pharmaceutical to fashion goods, technology to the arts and everything in between. The frameworks also have a strong international element to them to ensure the protection of rights internationally with the World Intellectual Property Organization (WIPO), World Trade Organization (WTO), the World Customs Organization (WCO), the World Health Organization (WHO), the International Telecommunications Union (ITU), the Group of Twenty Finance Ministers and Central Bank Governors (G-20), the International Criminal Police Organization (INTERPOL), the Asia-Pacific Economic Cooperation (APEC) Forum, and the Organisation for Economic Co-operation and Development (OECD) all active in the area of IPR policy and/or enforcement.

For the digital economy the main IPR issues relate to copyright and copyright protection. However, patents and some elements of trademark protection also raise some interesting challenges for policy makers.

1.1.2.1 Patents

Patents and patent protection are areas of significant focus within the ICT sector. Although patent law applies across all industries, it is particularly important within the technology sector where, not only is significant competitive advantage gained through research and development, but innovation and further market development are gained by leveraging these developments under licence. The latest OECD patent statistics for 2007 show that nearly 40% of all patents globally are technology-related, with 80% of these being specifically ICT-related²². A functioning and effective patent environment is therefore critical to ensure a vibrant, innovative, economy by encouraging invention, exploitation and sharing.

In the technology sector some companies have evolved business models that are entirely based on inventing new technologies, patenting the invention and then licensing the rights without ever manufacturing goods. Qualcomm, which has a market capitalisation of \$96 billion, has a business model founded on creating and licensing IPR. As their corporate profile states, “The goal of their [Qualcomm’s] resulting business model is to rapidly develop innovations and license them as broadly as possible”²³. The company’s valuation is the result of an estimated \$12 billion investment in research and development since its foundation in 1985. The value of patents was also recently demonstrated when Google agreed to place a ‘stalking horse’ bid for Nortel’s portfolio of patents of \$900m only for them to lose to a \$4.5bn bid the 6000 patents by a consortium including Apple, RIM, Ericsson, Sony and Microsoft. However, this deal also raised one issue of increasing concern in the area of technology patents, that of patent ‘trolls’²⁴. In commenting on the stalking horse bid Google stated, “The patent system should reward those who create the most useful innovations for society, not those who stake bogus claims or file dubious lawsuits”. It went on to state, “we hope this [Nortel’s] portfolio will not only create a disincentive for others to sue Google, but also help us, our partners and the open source community”. The Coalition for Patent Fairness²⁵ when commenting on the US 2009 Patent Reform Act stated reform is needed to protect “inventors and innovators from unjustified lawsuits and to allow them to continue to make products and services that will help the US

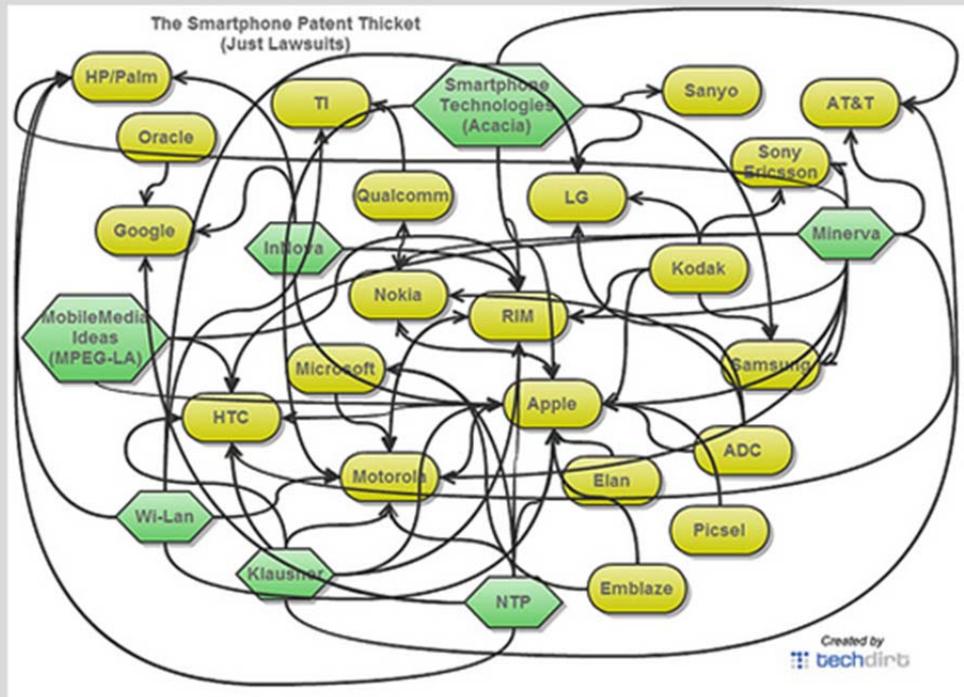
economy grow”²⁶. In May 2011, it was announced Microsoft had become a member of a crowdsourcing service designed to challenge and invalidate specious software patents and to avoid litigation costs.

The nature of the technology sector, which displays rapid innovation and incremental development, is driving a number of challenges. Administratively, the rapid growth in the volume of patent applications is placing administrative pressure on patent offices; more important though, it is resulting in patent ‘thickets’. These occur where interrelated and overlapping patents result in a lack of clarity of who owns the patent and, as a consequence where to go for the licence, which – in turn – potentially inhibits further innovation. A representation of the smartphone ‘thicket’ is shown below.

Patent thickets are not new. In the 1850s a patent thicket prevented Singer from launching his innovative new sewing machine²⁷. After a period of claim and counterclaim the patent owners agreed to settle through a patent pool. Today, patent pools, technology standards and cross-licencing agreements are all attempts to navigate through the complexity of the patent jungle. This is not always successful and the technology sector has become increasingly litigious. Although litigation is not in itself an issue, it becomes a problem if this stifles innovation or acts as a barrier to new market entrants. ITU-T, in conjunction with the International Standards Organisation (ISO) and the International Electrotechnical Commission (IEC) have been active in developing common patent policies. These policies have been designed to ensure that patents used in technology standards encourage patent holders to share their intellectual property in the knowledge that their interests are protected by mitigating against some of the potential issues related to technology patents.

Patents are critical to support new innovation and growth. Most stakeholders see the international patent registration, licensing and enforcement systems as effective. There are concerns that the exploitation of the system by a few patent trolls for financial gain (unrelated to creating and exploiting innovation) is adding unnecessary cost, and risk, to innovators.

Figure 3: Smartphone patent thicket



1.1.2.2 Trademarks

Trademark protection is not significantly impacted by the digital economy. Naturally new channels of distribution and marketing are opened up and there is a wider geographic scope for trademark use. This is true for legitimate and counterfeit use of trademarks but the fundamental issues and challenges of trademark protection remain the same.

Closely related to trademark protection is the effective management of a domain name registry. Having an effective dispute resolution mechanism in place to recover domain names is an area of increasing concern. The .com domain is globally the most popular with over 80 million registrations, while the Chinese .cn is second with 13 million names. However, the volume of national domain names is growing as a consequence of congestion in the .com domain.

In 2010, trademark holders filed 2,696 cybersquatting cases covering 4,370 domain names from 57 countries with the WIPO Arbitration and Mediation Centre, an increase of 28% over the 2009 level and 16% over the previous record year, 2008. Since 1999, 20,000 cases covering 35,000 domain names have been raised with 91% demonstrating evidence of cybersquatting.

As the domain is the critical access point for brands to market and to sell their services globally, the ability to protect domain names and, where appropriate, recover them is an increasingly important aspect of IPR in the digital economy.

1.1.2.3 Copyright

The nature of the digital economy and the nature of digital content create new challenges for the creative industries, law enforcement and regulators. The OECD 2009 report on digital piracy²⁸ highlighted the differences between digital and physical goods:

- The marginal cost of reproduction: Digital goods have an almost zero cost of reproduction. This, along with the fact that the quality of the copy is almost identical to the original and that copying is easy, are key features of digital products. Barriers to entry for digital piracy are low.
- Digital Delivery: Digital delivery is easy. There is limited storage cost, limited transport cost (if any) and little risk of the goods being intercepted like traditional counterfeit goods. Delivery via the internet or through local networks is easy and provides significant flexibility in the way the goods are delivered.

- **Market Scope:** Goods can be delivered instantaneously almost anywhere in the world. Traditional barriers do not constrain the distribution of digital goods, they are solely constrained by the network availability and the capacity of the user’s hardware to store the material.
- **Hardware Dependence:** The availability of hardware is a key difference from most physical goods. There is no hardware necessary to use a counterfeit handbag! With much greater prevalence of broadband devices and network capacity increasing globally, hardware availability will become less of a barrier for legitimate and illegitimate distribution of digital content.
- **Life Span:** The OECD highlights that consumer tastes for digital products appear to be shorter than for physical goods. However, once created digitisation extends the lifespan of digital products and extends their durability.
- **Core industries,** which exist to create copyright materials,
- **Dependent industries,** which manufacture equipment that facilitate copyright activity,
- **Partial industries,** which don’t create copyright but are dependent on copyright and
- **Support industries,** which distribute copyright materials.

The original intention of copyright was to encourage the development of new creative work. It was a system put in place to stimulate incentives for artistic production. Copyright is still a critical foundation for the core copyright, creative industries, and it is these industries that are most impacted by copyright infringement, in particular commercial scale piracy, with counterfeiting having a greater impact on the partial copyright industries. Frontier Economics³⁰ estimated the total value of all counterfeiting and piracy globally was between \$455bn and \$650bn in 2008, with digitally pirated goods estimated to be about ten per cent of the total value.

Digital markets offer significant potential to the creative industries. The very nature of digital products that makes them targets for piracy also creates opportunities for rights holders to exploit the value of their rights more widely, at lower cost and at greater scale. It is unquestionable that digital markets have been hugely disruptive to existing business models, but it remains open to question as to whether, in the long run, legal business models will be able to compete with illegal ones, ultimately to the benefit of the creative industry.

In the digital economy, copyright continues to perform the critical function of encouraging new works but also has a wider impact, playing a significant role in fostering innovation; the impact of copyright is therefore now much wider than the creative industry alone. Digital technologies, the companies that exploit them, and the business models they facilitate are all potentially impacted by copyright.

1.1.3 Who is impacted by copyright and copyright infringement?

Copyright industries are defined by WIPO²⁹ as those industries in which copyright plays an identifiable role in creating tradable private economic (property) rights, and income from use of these economic rights. This classification defines copyright industries in four groups:

Finally, the Internet, coupled with access to broadband networks, has facilitated an explosion of creativity and content production by consumers. This tsunami of content, and the involvement of everyday consumers in the generation and publication of content, places new and different stresses on the existing copyright frameworks.

Classification	Example Industries
Core copyright industries	Literature, music, theatre, film, video, radio, photography
Copyright dependent industries	TV sets, CD players, Games equipment, Photocopiers
Partial copyright industries	Household goods, footwear, apparel, museums, libraries
Non dedicated support industries	Retailing, Transportation, Telecommunications

1.1.3.1 Core Copyright Industries

The biggest impact of the development of the digital economy has been on the core copyright industries. The nature of digital goods means that copyright infringement, both by individuals and through commercial piracy is easy and widespread. Copyright infringement and the need to protect and enforce copyright are critical concerns of all of the creative industries. Without adequate protection, the industries argue that they will not be in a position to invest and develop talent or products.

The prevailing view is summarised by a recent Business Alliance Against Software Counterfeit and Piracy (BASCAP) report on the global impact of piracy and counterfeiting; “The massive infiltration of counterfeit and pirated products, or *IP theft*, creates an enormous drain on the global economy – crowding out billions in legitimate economic activity and facilitating an “underground economy” that deprives governments of revenues for vital public services, forces higher burdens on tax payers, dislocates hundreds of thousands of legitimate jobs and exposes consumers to dangerous and ineffective products.”³¹ The view that there is a significant social and economic impact also is prevalent for copyright as well as for wider IPR infringements. In a joint submission to the United States Intellectual Property Enforcement Coordinator, the US creative industries stated “The Internet in general, and broadband services in particular, offer many new and exciting opportunities to consumers; prime among them are new ways to create, distribute, and enjoy copyrighted works. But, when these networks are abused to provide widespread unauthorized access to these works, that seriously undermines the incentive to invest in the creation of content for this new medium, or for more traditional distribution channels.”³²

Outlined below is an indication of the level of infringement reported for the different industry sectors and their assessment of the potential industry impact.

Music

Without doubt, there is a significant amount of copyright infringement, both through commercial music piracy (where the organisation generates income through the unlicensed sale) and private copying and distribution of music. The International Federation of the Phonographic Industry (IFPI) estimated the number of files illegally shared on a global basis at more than

40 billion in 2008³³, a piracy rate of about 95%. Frontier Economics, drawing on industry figures for retail pricing and the volume of illegal downloads, has estimated the commercial value of all recorded music digital piracy was between \$17 billion and \$40 billion in 2008. They believe the figure was likely to be closer to \$40 billion with an estimated commercial loss to the industry globally of between \$3.5 and \$8bn annually.

The digital music market, and particularly online music, has been a significant disrupter to the existing business models and markets. Despite a growth between 2004 and 2010 of over 1000% for legal digital music downloads and an increase to 29% of all music sales, the overall revenue from recorded music still fell by 31%.³⁴ There are now over 400 licenced music services, which support over 13 million licenced music tracks³⁵. Subscription services, facilitated by better device compatibility have also started to grow. Napster, the original pirate site, now operates legally as a subscriptions service; Spotify, Deezer and Slacker are also proving new advertising and premium content business models. Business models with the ISPs and the mobile operators are seen to offer further potential to integrate payment services and billing arrangements to further grow the legal market for music.

Further new music services are anticipated. Apple has announced i-Cloud³⁶ music services, which allow users to store and access their entire music collection in the cloud for an annual subscription fee regardless of the original source of the music. Facebook and Spotify have also been rumoured to be partnering on a new music service³⁷ demonstrating further innovation and development in legal music services.

Film

Greater broadband penetration is increasing the potential of film piracy as networks have the capacity to handle the volume of the data required to copy video images. As with any illegal activity, estimating the impact and the loss of earnings for the film industry is difficult. Film revenue growth has slowed; however, it is hard to assess whether piracy is directly responsible for this decline or how much it contributes to the loss. The Motion Picture Association (MPA) and L.E.K.³⁸ estimated the economic impact of substitution on the film industry to be \$7bn in 2006, with Frontier assessing the commercial value of pirated films to be between \$10 and \$16bn in 2005. Given the rapid growth of internet penetration, they believe, by now, this is likely to be a conservative estimate.

There is an increasing development in legal online film propositions including Netflix, LOVEFiLM and IMDB (The Internet Movie Database), iTunes, Blinkbox and others, that reflect not only the commercial viability of delivering film over the internet but also the opportunity for commercial piracy. In July 2010 the US government shut down nine websites offering free access to films. The sites, some providing access to films just hours after their official cinema release, had nearly 7 million subscribers each month and, like many illegal music sites, made their money from advertising revenue and donations. Studies and economic analysis by IPSOS and Oxford economics in the UK, Australia and Canada all show high and growing, levels of piracy. The Korean Film Council estimate 50% of households in Korea have illegally downloaded films at an estimated cost of the industry of \$1 billion with the DVD market being most significantly impacted. In May 2011 it was reported that Voltage Pictures was suing 24,583 BitTorrent users, mainly in the US, for illegally downloading 'The Hurt Locker', making this the largest BitTorrent lawsuit and giving an indication of the scale of consumer sharing and copying.

TV and Broadcast Industries

Recently Viacom stated "The growth in broadband connection speeds and internet-connected TV such as Apple TV and Google TV, combined with the proliferation of illegal file-sharing, streaming and downloading sites presents a mortal threat to the economic and creative processes which underpin our business"³⁹

A study by Screen Digest for WIPO⁴⁰ highlighted four forms of 'unauthorised access to broadcast signals', physical piracy, hardware-based unauthorised access, unauthorised re-broadcasting and extra territorial TV access or grey markets. The scale and the nature of the copyright issues vary by region, but hardware-based access and unauthorised retransmission have the biggest commercial impact on the industry. In Europe AEPOC (the European anti Piracy Association) estimates €1bn is spent on pirated cards and set top boxes. In Asia and the Middle East unauthorised rebroadcasting is a greater issue. Globally, it is extremely difficult to accurately estimate the cost of physical piracy on the broadcast sector.

Sports rights face a unique challenge as there is a significant premium for 'live' content and a correspondingly high value associated with the rights to live broadcast. Commercial streaming of 'live' sports events by pirated sites is an area of increasing concern for the

industry and it is technically becoming more feasible for the pirates. As the pirates can now effectively transmit in real time, the live content using unicast (one to one) or via a peer-to-peer (P2P), they have the ability to compete directly with the rights holder. As noted by the OECD⁴¹, many of the sites offering these services, particularly unicast services, are doing so on a commercial basis, P2P sites being supported by advertising and the Unicast sites supported through subscriptions or pay-by-view. For consumers it can be difficult to differentiate between legitimate and illegal services.

Publishing

The digital economy offers significant opportunities for the publishing industry but, as with music and film also presents some threats. In the US e-book revenues grew 146% in March 2011 compared with the same month in 2010, with Amazon announcing e-book sales now outstrip hardback and paperback sales in the US. The increasing availability of e-book readers and tablet PCs suggest this trend is likely to continue, as does the attempt by Google and the American publishers to broker a licensing deal for e-books. This development of e-readers increases the accessibility and offers a new distribution channel for books and other published materials but opens up the possibility of widespread sharing of copyright material.

In book publishing there is a view that the impact of piracy may be less severe than in music and potentially film and TV. Nigel Newton, founder and chief executive of publisher Bloomsbury recently stated: "We should reflect on how lucky we are that we are winning this war and that the public accept they should pay something for e-books."⁴² The publishers Association Infringement portal noted 31,000 titles reported copyright infringement on-line from January to June this year, on over 80,000 web pages. Although there is optimism that illegal copying of books and other published materials can be controlled, there still remains a risk that illegal copying and distribution of copyright material could have a significant commercial impact on the industry.

Games

Games and entertainment software has been reasonably resilient to piracy. This is mainly due to the technical capability needed to 'hack' games consoles. For PC-based games, without the constraint of needing to modify hardware, there have been reports of ratios

of ten to one for pirated games software. Interestingly the games industry has developed business models that are resistant to piracy in other ways too. Monthly subscriptions and value added services for games such as 'World of Warcraft' limit the potential impact of piracy. Online communities also have active debates on the ethics of online piracy, which appears to be a debate missing from other copyright industries.⁴³

Software

The software industry suffers from piracy, both physical and digital. In some markets the vast majority of software used is sourced illegally; however, global estimates by the Business Software Alliance suggest total piracy is approximately 40% of the market. Under-licensing, where companies buy a limited user licence and then install the product on many more PCs or servers, as well as counterfeit and increasingly digital piracy, are all challenges for the industry. Frontier Economics estimate the economic value of digital piracy infringements alone could be as high as \$19 billion. The Business Software Alliance issued 7.5 million take down notices to Peer to Peer and BitTorrent sites in 2009, which gives an indication of the scale of the distribution of illegal software online.

The focus of efforts by the industry has been to encourage governments to ensure that they use legal software across all of their departments and to maintain a focus on business software and targeting commercial, criminal, software distribution rather than consumer copying.

1.1.3.2 Distributors and Carriers of copyright materials

This range of stakeholders covers a number of different commercial users of copyrighted content, including; broadcasters (that create their own programming using copyrighted materials), libraries, educational establishments, new digital businesses, internet service providers, web hosting services and other internet businesses. Given the diverse nature of this range of stakeholders there is naturally a significant divergence in individual company positions.

There is consensus on the value of and need for copyright to stimulate and reward creativity. There is also consensus that piracy levels are endemic and that action is needed to enforce copyright protection. There are however questions as to where the balance in the debate should lie, summarised recently by Google;

"Just as inadequate copyright protection can reduce incentives to create, excessive copyright protection can stifle creativity, harm competition, halt innovation, block free speech, and gridlock economic growth."⁴⁴ Maintaining an effective balance that encourages innovation whilst protecting copyright is a key area of the IPR debate. The main concern with regard to innovation being summarised in 2004 by Edward W. Felten, a computer scientist at Princeton University, "The legal tools that are being used to rein in bad behavior are so blunt that they block a lot of perfectly benign behavior."⁴⁵

As well as this concern distributors and carriers generally have two other main issues with copyright. The complexity of licensing rights is one major area of concern, especially the international rights needed to support regional and/or global businesses. Related to the licensing issue is the problem of orphan rights (copyright material where the rights owner can't be found), which not only add cost and uncertainty into the use of copyright materials but also result in valuable cultural work being unusable.

The role of intermediaries in enforcement is the other area of current debate and discussion, especially with regard to the liability of intermediaries and the balance of consumer rights. These issues are discussed in detail in Section 4.

For telecoms regulators this group of stakeholders is interesting as it includes the telecom carriers. Whilst many of the IPR discussions and debates are somewhat tangential to telecoms policies some of the discussions, particularly on enforcement approaches, are potentially central to telecoms policy issues. As the digital economy becomes an increasingly important part of the economy and society, it is highly likely that telecoms regulators will increasingly be drawn into defining the regulations, rules, procedures and remedies relating to the internet eco-system in general and copyright in particular.

1.1.3.3 Consumers and Consumer Advocates

A number of consumer advocacy groups and academics are increasingly looking at copyright and patent issues. Whilst the consumer advocate groups are not supportive of illegal commercial abuse of copyright they have concerns that enforcement efforts against these pirate operations and efforts against individual consumers can start to rip the fabric of the internet and undermine individuals' rights to privacy

and, in some cases, freedom of expression. Most noteworthy of the advocacy groups is the Pirate Party. The Party advocates for reform of copyright and patent laws and for consumer privacy. The Pirate Party are also strong supporters of net neutrality regulation and have been active on this issue in the European Parliament.

The nature of digital products has changed the way consumers interact with them and has altered consumers' views on copyright. There is a body of research that indicates that consumers are unclear on exactly what their rights are and where the legal boundaries are within the existing copyright regimes. Even where consumers are clear on the law, there is widespread disregard for the existing boundaries, which, in itself, is an issue for policy makers. Also of note is that in certain situations industry and the rights holders no longer 'police' the legal boundary and have openly expressed their view that although existing practices remain technically illegal (in some markets) they are not enforceable and it is unlikely to be in the interests of rights holders to pursue actions against infringers.⁴⁶ Finding the appropriate enforcement balance is a challenge for policy makers and for regulators implementing appropriate enforcement procedures with internet service providers.

The biggest transformation for consumers, however, is that they are now the content creators. Facebook is reported to have 750 million users worldwide; YouTube announced 3 billion views of content per day⁴⁷, and MySpace has over 8 million Bands and Artists hosting 1.5 billion images and uploading 60,000 new videos per day⁴⁸. As noted by Consumer International, "The explosion of creativity from ordinary consumers commenting and building upon works from pop culture, and freely sharing their creations with the world, has been one of the defining cultural phenomena of this century."⁴⁹ The huge increase in user-generated content (UGC), much incorporating copyright material, and the growing ability to share copyright material is placing pressure on existing copyright frameworks.

UGC is an integral part of the today's Internet. The OECD⁵⁰ identified three main characteristics of UGC including a publication requirement (the work needs to be published), a creative effort (some effort to create or adapt is required, not just posting other people's content), and 'outside of professional routines' (it is typically produced by amateurs on a non-commercial basis). The volumes are astounding. Google's Executive Chairman Eric Schmidt recently observed, "Every two days now we create as much information as we did

from the dawn of civilization up until 2003."⁵¹ More than 48 hours of video are uploaded to the YouTube site every minute⁵², users contribute to reviews and news stories, post pictures and videos whilst mashing up content in ways unimaginable when copyright laws were created three hundred years ago.

This explosion of content creation and content reuse has created a challenge for copyright frameworks. The volume of users downloading, editing, mixing, creating and posting content, primarily on a non-commercial basis, is a new aspect in the copyright debate. Techniques and technologies that were only available to professional studios and production houses are now available to anyone with an interest and a \$1500 computer. The volume of UGC, much using copyright material, makes enforcement impractical, in part because of negative reputational damage and in part because it is simply uneconomic to take action against all of the infringements.

UGC is a positive development. The challenge facing policy makers is to find a way of adapting existing copyright frameworks to encourage creativity whilst protecting the rights holders or, as Gowers stated in relation to IPR generally, "*It must strike the right balance in a rapidly changing world so that innovators can see further by standing on the shoulders of giants*".⁵³

1.1.4 Summary

The Internet, broadband and the growth of the digital economy is one of the great transformational catalysts society has seen. The wider social and economic benefits and the potential to further enable change have been widely reported. Although for many the transformational change has been good, for the creative industries it has created significant disruption.

The debate on future copyright is a delicate balance between the protection of the copyright owner and the development of frameworks that encourage use, innovation and creativity. Although there is strong consensus on the principle of copyright, there is a great deal of divergence on what this means in practice with regard to legal protection and enforcement of rights. The digital economy with new technologies, new applications and new markets is placing significant pressure on policies and existing legal frameworks. Finding the right balance between protecting content owners and those wishing to use copyright material with a variety of technologies and for a variety of

purposes is a significant challenge for policy makers and regulators.

Within the overall IPR debate copyright is the issue of most relevance to telecoms regulators and policy makers. Telecoms regulators are increasingly being looked to as the authority to implement rules that protect copyright, provide protection for consumers and encourage investment and service innovation within the digital economy. The focus of this paper is therefore on copyright and the implications of the growth and development of the digital economy on copyright issues.

1.2 Institutional Overview

The goal of a robust framework for international copyright is not only to protect the international rights of the creator but also to allow the global community to benefit from intellectual property.

U.S. Copyright laws exist “to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries” (United States Constitution, Article 1, Section 8, Clause 8)

As earlier mentioned, there are a number of global and regional organisations that support this goal. The World Intellectual Property Organisation (WIPO) administers international treaties, with the World Intellectual Property Organization (WIPO), World Trade Organization (WTO), the World Customs Organization (WCO), the World Health Organization (WHO), the International Telecommunications Union (ITU), the Group of Twenty Finance Ministers and Central Bank Governors (G-20), the International Criminal Police Organization (INTERPOL), the Asia-Pacific Economic Cooperation (APEC) Forum, and the Organisation for Economic Co-operation and Development (OECD) all active in the area of policy and enforcement.

Regionally there is significant cooperation. For example the European Union provides a common framework for the 27 member states through the Copyright Directive⁵⁴ and the IPR Enforcement Directive⁵⁵. In Asia, the 1995 Framework Agreement on Intellectual Property Cooperation agreement between ASEAN markets provides a formal cooperation agreement on intellectual property and collectively coordinates on intellectual property issues. Common frameworks and agreements also exist in Africa through ARIPO (African Regional Industrial Property Organisation) and OAPI (African Intellectual Property

Organisation) and in Latin America through the Andean Pact Countries.

Each national market also, typically, has a number of institutions involved in the management of intellectual property and in the enforcement of intellectual property rights.

1.2.1 Intellectual Property Rights Institutions and Treaties

The World Intellectual Property Organisation (WIPO) is part of the United Nations. Established in 1970, it administers the majority of the global intellectual property treaties and has a mandate to promote intellectual property rights protection globally through cooperation between member states and in collaboration with other international organisations.

The World Trade Organisation also has a significant role in international intellectual property through the TRIPS agreement. The TRIPS agreement⁵⁶ was introduced as a way to provide more “order and predictability” into trade rules for intellectual property and as a way for more systematic dispute resolution. TRIPS establishes the minimum level of protection governments need to provide for the intellectual property of other WTO members. Later treaties also extend these protections for rights holders.

The main international agreements for copyright include:

The Berne Convention (1886) – This was the original international convention for copyright and required minimum rights for a copyright owner to reproduce, translate, perform and broadcast the work as well as national treatment of works from other treaty members..

The Rome Convention (1961) – Extended international protection to the rights of performers, record producers and broadcasters, this was mainly as a reaction to the introduction of new recording technologies.

The TRIPS Agreement (1994) – includes requirements that national laws must meet with regard to copyright rights, patents, industrial designs, trademarks and other confidential information. It extends some the protection in a number of areas including rental rights. TRIPS also specifies enforcement

requirements, remedies and dispute resolution procedures.

The WIPO Copyright Treaty (1996) – updates the Berne Convention provides further extensions to distribution and rental rights as well as including rights for interactive downloading and for the distribution of copies and protection against the circumvention of technology measures.

The WIPO Performances and Phonograms Treaty (1996) – refines the Rome convention and has the objective of providing an updated set of international rights for performers and record producers. The Treaty effectively updates the Rome Convention to accommodate interactive downloading and distribution as well as protection against the circumvention of technical protection measures..

The anti-counterfeiting trade agreement – ACTA (2010) – In October 2010, the Anti-Counterfeiting and Trade Agreement, was signed by a number of countries including the EU (on behalf of member states), US, Japan, Korea, Singapore and others. This agreement, yet to come into force, adds more detail the current TRIPs obligations in the area of IPR enforcement.

1.2.2 IPR Enforcement

The rules for enforcement of IPR at a national level are outlined in the TRIPs agreements. The agreement outlines what protection should be given to rights holders, what enforcement should be available nationally and outlines how international disputes should be handled. In general TRIPs compliance requires governments to be able to ensure that IPR can be adequately enforced under national law, have sufficient penalties available to deter abuse of IPR and should be fair equitable and not too costly. Minimum enforcement standards for members under TRIPs include civil proceedings for rights holders, criminal proceedings against commercial scale trademark and copyright infringement and border measures to prevent commercialisation of imports.

Implementation of enforcement measures is a national responsibility. A number of international organisations are active in promoting and sharing best practice on International IPR enforcement. WIPO and WTO provide technical enforcement advice as well as overseeing international treaties. Interpol is active through the Interpol International Intellectual Property Action Group (IIPAG), providing advice and assistance

on enforcement approaches. The World Customs Organisation (WCO) also provides advice and guidance for border controls.

A number of countries also produce ranking lists on international performance on IPR protection and enforcement. The Special 301 report⁵⁷ produced by the Office of the United States Trade Representative is the US publication ranking their views of IPR protection globally. The EU also produces an enforcement report ranking IPR protection globally⁵⁸. The reports reflect concerns raised by domestic industry on international IPR protection. Although there is some consistency in the reports and the focus is typically on developing markets, concerns are also raised, on developed markets. The Canadian copyright laws being specifically highlighted in both reports recently and the US appearing in the EU report.

The long history of IPR legislation and individual approaches to implementation do result in market specific differences. This makes it complex to converge into a single global IPR approach. Although the broad objectives for IPR protection and enforcement nationally are consistent, the differences in implementation can cause confusion and uncertainty for rights holders. This adds to the transaction costs for legitimate businesses, and weakens the ability for legitimate businesses to compete against illegitimate ones who disregard copyright.

1.3 *How to protect copyright and consumers in the digital environment?*

What legal instruments, business practices and technical measures are there to protect copyright materials and to protect user-generated content?

1.3.1 Types of digital infringement

It is a function of digital products that they are easy to copy and easy to distribute. There are a number of different ways copyright material is made available commercially through illegal ‘pirate’ services or privately between individuals. The different techniques are outlined in summary below:

1.3.1.1 Physical copying

There are a wide variety of methods available to copy and transfer files between computers. These are frequently used to transfer copyrighted materials

where there is limited internet access and between associates, friends and family. Techniques include burning disks, transfer using memory sticks, use of storage drives and direct transfer between two PCs.

Physical copying using CDs for music or DVDs for film content is still the primary method for distributing pirated material in many developing markets. Enforcement techniques are similar to those for other counterfeit and pirated goods and tend to focus on disrupting the supply chain and seizing the assets of the organisations copying and distributing the material.

Copying and transferring files between associates and friends, defined by the OECD as local sources, is increasingly handled by memory sticks, and for larger amounts of data, storage drives. Many consumers don't consider this type of transfer to an illegitimate activity, but a legitimate use of an asset they have bought, the digital equivalent of lending a book or a CD.

Naturally these techniques are also used to back up files legally purchased or to transfer files between old PCs and new PCs. In markets with fair use provisions or specific exceptions that allow format shifting this application is fine; in markets without these provisions even back-up is defined as a copyright infringement.

Transfer of files through email and as attachments through social networking sites is possible for 'small' volumes of data. These methods substitute for physical copying where physical presence isn't possible but remain reasonably limited and tightly linked to an individual's social network.

1.3.1.2 Internet Piracy

A variety of different approaches exist, and are widely used, on the internet to distribute copyrighted materials illegally, both for commercial gain and for free distribution. The techniques used are not illegal and have many legitimate and legal applications. However, as they are also effective for handling large file transfers, they are widely used to transfer copyright material, much of it illegally.

1.3.1.2.2 Peer-to-Peer (P2P)

P2P networks are a "communication structure in which individuals interact directly, without necessarily going through a centralised system or hierarchy. Users can share information, make files available, contribute to shared projects or transfer files"⁵⁹. In technical terms

P2P networks are computer systems that can share information with each other without the need for a central server, each computer acting as a file server as well as a client on the network. For P2P the only requirements are internet access and P2P software which allows the client PC to search other PCs on the network, typically a single P2P file. Examples of P2P sharing networks include gnutella, G2, eDonkey and BitTorrent.

Although there are legitimate services and purposes for P2P technology, it is also widely used to share copyright material across the P2P community on a reciprocal basis. The volumes are significant, with BitTorrent, one of the bigger P2P providers, announcing 100m users worldwide and over 20 million active users daily⁶⁰. A 2011 report by Envisional⁶¹ suggests two-thirds of P2P BitTorrent traffic involved sharing copyright infringed material – estimated as close to 15% of all internet traffic. New P2P techniques also support streaming of live broadcasts which makes it a significant enabler of piracy for live sports rights and other time-sensitive content, although the volumes of this activity are still relatively small.

P2P networks have a legitimate purpose: as they distribute processing across a large number of computers they are efficient and resilient. Research on the potential impact for P2P technology on handling user-generated content showed server workload could be reduced by as much as 98% by using P2P technology rather than traditional server technology.⁶² The technology is used by legitimate, legal, services. Spotify uses P2P technology to relieve pressure on streaming servers and, in their words, using a model "where central servers and peers work in unison to provide you the best, fastest experience in an economically viable fashion"⁶³.

1.3.1.2.2 Warez Sites

Warez sites are sites that host and distribute pirated software on the internet. Often the material is pre-release and is distributed by 'release groups' who break the software security or other content protection and then post it onto Warez sites for download. Originally Warez sites focused on software but they are now a source of films, music and computer games. Although much of the content is delivered free, it isn't uncommon for Warez sites to charge for some content. Distribution and delivery of the content is now often through P2P technology.

1.3.1.2.3 Cyber Lockers

Cyber lockers are internet storage sites, many of which provide free storage for registered users. The sites have a legitimate purpose in that they provide consumers and small businesses with a cloud-based back-up service. However, the way they operate makes them easy to use to distribute copyright material over the internet. Users simply upload a file onto the cyber locker and the cyber locker returns a URL to the user, who, if they wish, can then post the URL onto internet forums. Although used for many legal purposes, cyber lockers are known to transfer and store large quantities of copyright material. Following the introduction of the Hadopi legislation in France there is evidence that users have simply started to share material through cyber lockers, which aren't covered by the legislation. Envisional⁶⁴ suggest that, as with P2P, about 75% of all content in cyber lockers is being illegally downloaded and shared.

With the increasing commercialisation of cloud services and the increasingly global nature of these services there is an increasing risk that both commercial pirates and individuals will exploit these services to transfer and store pirated materials. Wherever there is an ability to move digital content easily there is a probability people will look to exploit this for sharing copyright material.

1.3.1.2.4 Streaming sites

Internet streaming is a challenge and especially a problem for the protection of live rights. Live rights carry a significant premium, with the value of the right declining rapidly for delayed or repeat viewings. Sports rights, from the Olympics through to football, cricket, basketball and motorsport are commercially the most valuable.

Technology has allowed pirates to intercept and retransmit the live video streams in real time, allowing them to compete directly with the original rights holder. Broadband connectivity, computers with TV card and freely available media player software make it technically simple for people to retransmit content onto the Internet.

Originally, streaming solutions were dependent on unicast solutions, which create a small buffer and then retransmit the content in near real time on a one-to-one basis. For unicast there is a dependence on significant server capacity and, as such, these solutions

are nearly always commercial, subscription-based services. For end users it is often hard even to determine that the content is sourced illegally.

Increasingly however, P2P technology is being used to stream content. As with all P2P technology the more users actively downloading the content, the better the quality of the transmission, so P2P is ideally suited to the most popular sports rights. Sites like MyP2P have a professional schedule of live sports covering all major sports events.

1.3.1.2.5 Proxy services (to avoid international restrictions)

For international rights one challenge is preventing the use of proxy services to bypass international rights restrictions. The proxy service allows users to mask their home location to the content server and access material that would otherwise be restricted. Where governments have implemented blacklists, like the recent Malaysian proposal to block P2P sites⁶⁵, use of proxy DNS services is seen as a simple way of getting round the block. Although the proxy services don't host or distribute copyright material, they do help to provide users with anonymity, allowing them to access services and content from which they would otherwise be barred.

1.3.2 Protecting Copyright

Copyright infringement is a civil offence in most jurisdictions. However, where the offence is for commercial gain it is possible for criminal action to be taken against the offenders. Having an effective and proportionate remedy to copyright infringement is one of the key elements of TRIPs and is a focus of many of the discussions on international enforcement of copyright. There are a number of other areas that can either help to redefine copyright, potentially reducing the level of infringement, or can address copyright problems without legal action being taken.

1.3.2.1 Digital Rights Management

Digital Rights Management (DRM) is a set of technologies designed to protect and enforce licence holders rights for digital content. Typically there are two parts to the technology: encryption, which protects the content, and authentication, that only allows authorised users to access the content. DRM technologies are used across the copyright industries to protect films, music, books, games, software and

broadcast content. A variety of different techniques and technical protection measures exist in both the online environment and using encryption related to hardware.

Circumvention of digital rights management, specifically technical protection measures, was a commitment agreed to in the WIPO 1996 Copyright treaty and has subsequently been incorporated into national laws. The agreement requires signatories to “...provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures” and to “...provide adequate and effective legal remedies against any person knowingly performing any of the following acts: (i) to remove or alter any electronic rights management information without authority; (ii) to distribute, import for distribution, broadcast or communicate to the public, without authority, works or copies of works knowing that electronic rights management information has been removed or altered without authority.”

For the majority of legal users DRM is relatively (if not completely) transparent. The existence of Warez sites and the known activities of hackers and crackers in breaking encryption is evidence of illegitimate activity in this area. It would seem unlikely that DRM will be able to prevent all illegitimate copying; however, it does create a barrier which many consumers are unwilling to cross and does also prevent inadvertent copyright infringement. Many services on the market today,

including the BBC I-Player, Spotify and Napster, all use forms of DRM.

1.3.2.2 Exceptions and Fair Use

Whilst having an effective and appropriate fair use policy does not protect copyright, it does define what activities constitute an infringement and therefore have a bearing on any impact assessment assessing the value of illegitimate activity. Clear policies, which are aligned with the views and actions of the majority of people can help to clarify where the boundary between legitimate and illegitimate and will help to focus copyright enforcement efforts on commercial activities and on individuals who are flagrant abusers of rights, rather than those who unintentionally infringe copyright in minor ways.

In the UK (which has reasonably limited exceptions) the Hargreaves review stated “IPRs cannot succeed in their core economic function of incentivising innovation if rights are disregarded or are too expensive to enforce. Ineffective rights regimes are worse than no rights at all: they appear to offer certainty and support for reliable business models, but in practice send misleading signals.”⁶⁶ Hargreaves, in conclusion, supported the introduction of new exceptions to clarify user rights whilst also supporting strong enforcement of clear infringements.

Exemptions and Fair Use

In most cases, if someone wants to make a copy of the original work, permission from the rights holder is required. There are however typically a number of exceptions where copies can be made without first gaining permission from the rights holder. The main exception areas typically provided for in national law include, on a non-commercial basis, exemptions for education, museums, libraries and research, for the press and for a variety of other specific cases. The EU Directive contains over twenty exceptions, which are optional for implementation into national law. Many markets globally use the same approach; copying material without permission is not allowed unless it is specifically included on the list.

The US approach differs in that it contains a ‘fair use’ principle. This is a more flexible approach to copyright exceptions and in many ways could be more appropriate for the digital economy and the rapid pace of innovation. The US fair use provision allows for parody, caricature, news reporting, education and research. These are similar to the EU exceptions in the Copyright Directive. However, under the fair use there is provision for a wider use of copyrighted materials if the use advances knowledge and is transformative in its nature.

Source: Author, based on national sources.

1.3.2.3 New Licensing approaches

New flexible content licensing models are a potential solution to making content more freely available for shared use under clear and simple licences that reserve some rights, but not all rights, all without needing to contact the licensor. Creative Commons licences⁶⁷, are one of the new 'open' licence models being increasingly used⁶⁸. Facebook, Flickr, The White House, The President of the Russian Federation, Wikipedia, Al Jazeera and a host of other sites and content creators make available, or use, Creative Commons. The original licenses were designed for the US legal system however, these have been ported into over 50 other markets and Creative Commons have affiliates working in over 100 markets.

Creative Commons are not an alternative to copyright; they are founded on copyright law and use copyright to protect rights holders if the Creative Commons licence is misused. Their intent is however to make content much more freely available, to allow people to incorporate, transform and share copyright in a simple and easy way without individually needing to seek permission. The intent, and application of the licences, granting limited rights for the use of copyright materials, seems more closely aligned for user-generated licences than existing copyright frameworks. Recently, reports from Russia suggested changes to existing legislation "aimed at allowing authors to let an unlimited number of people use their content on the basis of free licensing"⁶⁹ are an attempt to introduce 'commons' type licensing into Russian copyright law.

1.3.2.4 Industry action to protect copyright

Whilst legal definitions and approaches define permissible activities, there still needs to be a range of enforcement activities to protect rights holders. Intermediaries play an important role in this enforcement either within statutory duties or through voluntary industry action or codes of practice.

1.3.2.4.1 ISP activity and enforcement

ISPs and other members of the internet value chain have been involved in enforcing copyright, either through voluntary codes of practice or through legislative requirement, for some time.

Recently, there is an increasing trend towards ISPs being required to undertake graduated response against copyright infringers using their networks. The

French Hadopi law introduced in 2009, named after the 'High Authority' (Haute autorité pour la diffusion des œuvres et la protection des droits sur Internet) will send notices to infringers in France, similar enforcement approaches are being implemented in the UK, Japan, Korea and New Zealand. This approach is not however without controversy and legal uncertainty. In a May 2011 report, a United Nations Rapporteur was highly critical of the proportionality of the enforcement measures: "The Special Rapporteur considers cutting off users from internet access, regardless of the justification provided, including on the grounds of violating intellectual property rights law, to be disproportionate and thus a violation of article 19, paragraph 3, of the International Covenant on Civil and Political Rights."⁷⁰

Voluntary action and industry codes of practice are also increasingly common, as ISPs and the content industries work together to try to inform customers and, where appropriate, enforce copyright. There is however a balance the ISP community has to achieve when taking action. Taking direct action, restricting access to services or using other enforcement mechanisms (e.g. blocking or throttling) needs to have gone through due legal process before being implemented. In most jurisdictions the telecoms providers have legal obligations to protect consumer privacy and have obligations concerning intercept – both requirements to undertake intercept where required and obligations to protect users from intercept. The role of ISPs in enforcement is an area of on-going legal debate. General for the European Court of Justice, which, when considering a Belgian case that required an ISP to implement filtering on its network to block copyright infringing traffic, found that the broad filtering obligation was inconsistent with EU Law. "The installation of the filtering and blocking system is a restriction on the right to respect for the privacy of communications and the right to protection of personal data, both of which are rights protected under the Charter of Fundamental Rights."⁷¹ In the UK, a recent case between the major film studios and BT ruled that BT should use existing filtering technology (used to filter illegal child abuse images) to block Newzbin2⁷², an illegal pirate site. The ruling was limited to this specific case and not to a general obligation to block illegal content.

Whilst there is pressure to increase the role of ISPs in enforcement and even the liability of intermediaries in handling copyright content, there is also an increasing trend for governments to recognise internet

access as a right; Estonia, Costa Rica and Finland have all provided this for their citizens. Chile has also introduced legislation that requires a court order before an ISP can be obligated to remove content or access and similar proposals are being discussed in Brazil.

1.3.2.4.2 Search engine activity and enforcement

Whilst the ISPs have been the focus of much of the attention in enforcement, there is also concern that search engine algorithms don't differentiate between legal sites and those that are known to provide illegal copyrighted material. Search engines are the main access points into the internet, and are the most visited sites. Google, MSN and Yahoo account for nearly 20% of all site visits⁷³. They are also the primary way that users source content and find sites. As a consequence of this, search engines provide an obvious 'choke point' for sourcing illegal content.

In December 2010 Google, under pressure from the creative industries, implemented a number of policies to help inconvenience people searching for illegal copyright material and also took action against sites hosting illegal content advertising through their AdSense service. The actions included faster take-down requests, stopping auto-complete filling in common piracy terms such as 'torrent' and looking at ways to index legal content to make it 'easier to find' than illegal content. Google's AdSense policy is to ban sites involved in illegal file sharing from their AdSense network.⁷⁴

The role of search engines in the digital eco-system, and their role in helping to manage illegal content downloading, is an area currently being discussed. The Preventing Real Online Threats to Economic Creativity and Theft of Intellectual Property (PROTECT IP) Act currently being discussed in the US contains provisions to mandate, with a court order, that search engines remove links to offending sites. The intent of the Act is clear: that by removing offending sites from search engines, the majority of sites will lose access to their customer base and the distribution of illegal content will be reduced. There are concerns, currently being debated, as to whether the Act could diminish existing safe harbour protections and whether it is necessary to extend provisions beyond the existing notice and takedown provisions.

1.3.2.5 Social Networking

Social networking sites are widely used for publishing and sharing both user-generated content and by content owners sharing their materials. The opportunity for users to inadvertently, or intentionally, post copyrighted material is significant. As such the social networking eco-system has been active in developing guidelines and taking action to manage copyright content.

MySpace introduced a Take Down Stay Down (TDSD) service that not only removes content improperly posted by users it also places a digital 'fingerprint' on the video content which is added to the MySpace copyright filter and prevents the user simply reposting the content under a different user name. The tool works for video and audio content. YouTube has a similar content identification system (CIS)⁷⁵ in operation, which can not only filter content but can also provide the opportunity for rights holders to monetise their content. The bulk of the 1000 content owners who have registered content in the CIS choose to monetise the content.

The content industries and the user-generated content (UGC) service providers have developed a number of principles⁷⁶ for UGC sites with the objective of eliminating infringing content, encouraging uploads of original audio and video content, accommodating fair use of copyrighted content and protecting legitimate interests of user privacy. The fifteen agreed principles include a principle that UGC services should include content identification systems, users should clearly be notified of their obligations to copyright holders, and fair use provisions should be respected, as should a user's right to privacy.

1.3.3 Summary

Digital copyright infringement is ubiquitous. There are a number of technical approaches used by pirates to copy and share content. These techniques are increasingly sophisticated and have increasing scale and scope. Industry is making efforts to work cooperatively to mitigate the risks and to help to enforce copyright. These efforts alone have clearly not managed to limit copyright abuse and there is an on-going debate on the role of different players in the ecosystem in enforcement.

1.4 *Challenges, Risks and Regulatory Responses*

For telecoms policy makers and regulators the copyright debate is an increasingly important issue within their portfolio. The debate is interwoven with parallel debates on child online protection, net neutrality, privacy and open access. Where ISPs are involved in enforcement action there may also be a specific role for the regulator to facilitate industry self regulatory approaches and/or to define and implement enforcement rules and procedures.

This section outlines the main risks for telecoms regulators and policy makers to consider in the copyright debate and considers some of the potential policy implications current challenges and issue with copyright raise.

1.4.1 *Risks in the Digital Economy*

Managing the balance between the IPR creator and the individual user, between innovation and status quo, and between enforcement and liberalisation is a significant challenge for policy makers. If insufficient protection is given to rights holders then the incentive to create new works is lost, if too much protection is given there is a risk innovation and investment in networks will be chilled. Whilst across businesses the digital economy fight a high stakes commercial battle there is also a risk that consumers become the collateral damage. For regulators implementing processes and proportionate rules that protect the rights of all stakeholders whilst encouraging investment, innovation and consumption is a new challenge.

To achieve the optimum balance policy makers and regulators have to encourage creativity, encourage innovation and encourage consumption and use by consumers. The risks relating to these areas are outlined below.

1.4.1.1 *Protecting the creativity incentive*

The original intention of copyright was to encourage and reward the creation of new works. Copyright still fulfils this intent, not just by incentivising the creator but also by providing an environment that offers some certainty to support investment by the creative industries. Despite the enormous growth of UGC, professional content is still the catalyst that drives much of the digital ecosystem and makes up a significant proportion of consumption, either legally or

illegally. Failure to protect copyright, and by implication the industries that invest in the development of new material, is a significant risk to the future of the creative sector. Analysis by the OECD⁷⁷ found evidence of a correlation between foreign direct investment in developing markets and the effectiveness of the IPR regime. The lack of effective copyright enforcement was seen as one of the disincentives for private sector investment in the creative industries in Africa, with many artists choosing to record or publish works in markets with stronger copyright protection⁷⁸.

Copyright protection has, over time, been extended in scope to widen the protection across different technologies and to extend duration. Legal definitions have been tightened and the law made more specific in many jurisdictions, yet copyright abuse remains ubiquitous. An arms race of stronger enforcement and increasing penalties to protect rights holders is an option but may, as discussed below, have unintended consequences. However, failure to protect the rights of the creative industries threatens to remove the incentive to create new works and the incentive to market and distribute copyright material, with the subsequent social and economic benefits this brings. In discussing the impact of digital piracy on the film industry, producer Jeremy Thomas⁷⁹ commented; "Independent film makers are dying on the vine.... Ultimately, if nothing is done, we just won't be here."⁸⁰ For the publishing industry Victoria Barnsley, chief executive of Harper Collins, echoed this sentiment; "If illegal use of creative work is allowed or tolerated, how will authors earn a living in future?"⁸¹

1.4.1.2 *Protecting the innovation incentive*

In the digital ecosystem copying is a function of the technology and is in many markets a breach of copyright unless specifically noted as an exception or considered fair use. When computers cache memory for streaming services, technically this is a copy, and in the IP Watch list analysis this was exempted in less than half of the markets studied.⁸² The Hargreaves review, which was specific to the UK, asked whether laws developed over 300 years ago are obstructing innovation today the review concludes, "IP law must adapt and change. Digital communications technology involves routine copying of text, images and data, meaning that copyright law has started to act as a regulatory barrier to certain kinds of new, internet based businesses."⁸³ New innovators, particularly SMEs, are negatively impacted by copyright where it creates a barrier to new services and innovation, either because of the

complexity of sourcing rights or because of the potential legal risk and liabilities of interpretations of fair use or exemptions.

Tensions between copyright holders, copyright users, dependent industries and support industries are not new. Sceptics look back in history and note that in the 1900s the end of all artistic development was forecast on the introduction of the gramophone⁸⁴. In the 1920s the radio industry was predicted to herald the end of record buying, in the 1960s cable industry was described as a “huge parasite” by the film industry and in the 1980s RIAA described home taping as the industry’s nemesis. Today the position of the industry is summarised by Viacom which has stated: “streaming and down-loading sites presents a mortal threat to the economic and creative processes which underpin our business”⁸⁵. Consumer groups are sceptical as are many others. Francis Gurry recently stated: “... we should constantly remind ourselves that the history of the confrontation of our classical copyright world with the digital environment has been more a sorry tale of Luddite resistance than an example of intelligent engagement”⁸⁶.

New technology innovations and new services have been resisted and challenged on the basis of copyright protection and today a number of industrial processes, critical to digital technologies and exploiting the value of the internet, could potentially be stifled because of copyright concerns⁸⁷. In voicing concerns on proposed legislation extending copyright protection in the US, a group of forty venture capitalists that funded many of the top internet companies stated; “As investors in technology companies, we agree with the goal of fostering a thriving digital content market online. Unfortunately, the current bill will not only fail to achieve that goal, it will stifle investment in Internet services, throttle innovation, and hurt American competitiveness.”⁸⁸ There is a concern that in the arms race to increase enforcement efforts, tighten the rules on copyright and increase the penalties for infringement, innovation will be ‘chilled’ and the potential benefits of these technologies lost. To address this it is advocated that copyright law should provide “flexible laws that can adapt as technology advances provides the best way to ensure our legal framework does not provide a barrier to innovation.”⁸⁹

1.4.1.3 Consumer attitudes to digital piracy

In 2006 the International Federation for the Phonographic Industry (IFPI) suggested 95% of all music

copying fell outside the boundaries of copyright law⁹⁰. A Pew Internet & American Life Project survey in 2000 found that 78% of internet users did not think they were stealing when downloading music. Reports by the OECD, SSRC and others highlight that consumer attitudes to copying and piracy are at odds with current laws. Copyright cannot act as an incentive for creativity if it is widely disregarded and isn’t enforced. The challenge is enforcing copyright when the vast majority of users are infringing copyright routinely and often inadvertently.

The demographic of copyright abuse is also informative; it is predominantly a youth activity. This is a significant risk for rights holders and more widely in society. Attitudes amongst this demographic are already reasonably well formed and attempting to ‘put the genie back in the bottle’ is a major challenge. When discussing P2P technology in Sweden, Marianne Levin, professor of private law and intellectual property at the University of Stockholm, stated “It’s very difficult to make people act legal when they’ve been doing something for some time,..... In Sweden the debate (on file sharing) came very late.”⁹¹ This suggests that early, pre-emptive action to shape consumer attitudes is required as the digital economy reaches new markets. Whether this will be effective is open to question. SSRC analysis suggests consumer attitudes to piracy are already well formed from the CD and DVD markets⁹².

The wider societal implications were summed up by Hargreaves: “Widespread disregard for the law erodes the certainty that underpins consumer and investor confidence. In the most serious cases, it destroys the social solidarity which enables the law abiding majority to unite against a criminal minority.”⁹³ In the case of digital piracy and youth, the social solidarity may not be restricted to copyright infringement but to other activities enabled by the Internet.

1.4.2 Policy Implications

There are a number of areas for policy makers to consider when addressing the opportunities, risks and challenges the development of the digital economy brings. There are a range of issues currently being debated in different markets across the world as regulators and policy makers look to find an appropriate copyright framework to support the digital economy. The highlighted areas below are not intended to be recommendations but are intended to highlight

the main areas of policy discussion across the copyright debate.

1.4.2.1 The scope of copyright and User Generated Content

The growth of the digital economy, development of new applications and services and the dramatic increase in UGC have all placed significant pressure on existing copyright frameworks which have struggled to adapt with the speed of change. As a consequence, in many markets there are areas of existing copyright exceptions that do not comfortably align with the general activity and practices of the majority of citizens. Lawrence Lessig commented that, “We need to recognize you can’t kill the instant the technology produces, we can only criminalise it. We can’t stop our kids from using it, we can only drive them underground. We can’t make our kids passive again, we can only make them “pirates” and that’s not good.....”⁹⁴ Revising and refreshing copyright to better align with market practices and accepted norms is worthwhile.

Simply copying and posting copyright content on UGC sites is a breach of copyright; the commercial harm may be small in each individual case, but the cumulative effect can be significant for the rights holders. UGC site principles, and the technical measures the site owners have put in place, address this kind of infringement. The grey area however, is where the material is being used as “the raw materials for other kinds or creative or transformative works.”⁹⁵ One question facing policy makers is therefore how to amend and adjust the copyright exceptions (or fair use provisions) to allow for copyrighted material to be used for private use that has no commercial impact.

Proponents of a UGC exception have proposed an exemption that would apply to ‘transformative works’ (not simply reposting copyright material unchanged) if the UGC “adds something new, with a further purpose or different character, altering the first with new expression, meaning, or message.”⁹⁶ It has also been suggested that this could be extended to provide a limited right to create new works (using copyright material) for non-commercial activity where there is no demonstrable impact on the existing work and where the licensing transaction costs are disproportionately high. This needs to be achieved within existing legal frameworks and international commitments.

Adapting existing exemptions, or clarifying fair use, for UGC would potentially help legitimise much activity

that today is a copyright infringement. It is argued the commercial harm would be limited and the societal benefit significant as it addresses the ‘corrosive and corruptive’ aspects of copyright on many of today’s amateur creators. Rights holders argue that any use of copyrighted material should be compensated. However, the pragmatic reality is that in most cases the cost of pursuing action against minor private infringement is not economic and the rights holders either turn a blind eye or more likely, openly accept that private use of the material is being made.

Aligning the copyright frameworks to actual behaviour (where this is for private non-commercial use) will help to clarify copyright law for users and to educate, communicate and enforce where there are more serious infringements. The balance is a complex and sensitive one but an important one for policy makers to consider as the status quo doesn’t appear to benefit any of the stakeholders. The internet has enabled creative participation of millions of citizens which should be encouraged, not demonised.

When considering the scope and implementation of copyright, orphan rights are often raised as a significant policy issues. Orphan rights occur where the copyright owner cannot be found. As a consequence the original work cannot be used or copied. Finding a resolution for orphan rights is a challenge and has been the focus of both commercial activity and legal debate recently. Given that copyright extends for at least fifty years after the death of the creator, this can be a significant issue for archive material. There is a general view that not only do orphan rights increase the costs and uncertainty in using the content, they also inhibit innovation and stifle economic exploitation of a valuable asset. “Opening up orphan works is a move to which there is no national economic downside”⁹⁷; most users of content agree with this view. The European commission is working on a Directive to address orphan works as part of the Digital Agenda and there have been commercial initiatives to help address the issue. The Google Books deal with Authors Guild and Association of American publishers was in part an attempt to make orphan works electronically available on a commercial basis.⁹⁸ Addressing orphan rights will help to free up cultural assets, unlocking economic and social value ‘at no costs’.

1.4.2.2 Measurement & Reporting

A significant issue for policy makers is to undertake an evidence-based impact assessment before

implementing policy recommendations or changes. Whilst there are a significant number of reports and many figures have been produced highlighting the economic impact of copyright infringement, there is also a concern that these figures lack transparency and can be potentially misleading. If private sector figures can't be relied on as a basis for policy making then reporting and assessing the impact of infringements on all stakeholders is a role for government. This is a notoriously difficult task. However, where policy decisions will have implications for investment in new enforcement measures, innovation and growth and even human rights, it is important for policy makers to undertake these decisions based on the best available evidence.

That piracy, particularly in music and CD sales, has had a significant impact on some aspects of the business is not generally disputed. There is also a general assumption that where music has led, film DVDs and potentially other electronic goods such as books will probably follow. For these businesses and product lines the impact is significant. Consumer groups question whether the overall impact of piracy on the industries is as great as claimed and whether piracy is fundamentally impacting the incentive to create and stifling the emergence of new talent. The US copyright industries, likely to be the industries most impacted by copyright infringement, grew 5.8% between 2003 and 2007 against an average overall economic growth of 3%. Reported industry figures show that the music industry as a whole has continued to grow in the US and UK, the number of book titles released has grown, as have the number of films and the value of the film industry, the software has grown as has the video games sector.⁹⁹ Consumer groups acknowledge that there would be a commercial impact on the creative industries, but argue that weaker copyright, closer to original copyright laws, is sufficient and may even provide greater social welfare gains.¹⁰⁰

Whilst the difficulty of measuring any illicit activity is acknowledged, concerns have been raised with some of the methodologies and the transparency of these methodologies used in private sector impact assessments.¹⁰¹ A number of government reports have raised concerns. The US Government Accountability Office stated; "...it is difficult, if not impossible, to quantify the net effect of counterfeiting and piracy on the economy as a whole"¹⁰². The Hargreaves review in the UK, whilst looking for an 'evidence based' assessment of the impact of copyright on innovation stated; "we have not found either a figure for the

prevalence and impact of piracy worldwide or for the UK in which we can place our confidence"¹⁰³, the review concludes, "the cost of IPR infringement is neither negligible or overwhelming in economic scale."

Establishing a transparent basis for measuring and reporting the impact of piracy across different stakeholders both nationally and internationally would help to provide a more robust framework within which the debate on future policy decisions can be considered. It is in the interests of all stakeholders that decisions are based on the best possible evidence rather than anecdotes and supposition. This holds not only for industry, but also for consumer advocates and other stakeholders in the debate.

1.4.2.3 Market Structure

Legal alternatives to pirate services reduce the incentive for people to break copyright. The internet and 'free' models of delivery have been very disruptive to existing business models in music, film and other creative industries. There is however a view that the levels of piracy are, in part, a consequence of existing industries trying to protect out dated business models. The SSCR research council quote in an 2009 interview, the Motion Picture Association of America (MPAA) Director of Special Projects, Robert Bauer, outlined a new direction on beating piracy: "to isolate the forms of piracy that compete with legitimate sales, treat those as a proxy for unmet demand, and then find a way to meet that demand." This view reflects the sentiments of the advocacy groups too. Whether the creative industries are doing enough to react to the threat posed to them is a difficult question. Outside the industry there is a perception that they are not. Forrester Research recently commented on the music industry stating, "The record labels are at the start of a very long journey, but they have only taken a couple of steps and they are not walking quickly enough."¹⁰⁴ Where the music industry goes today, it is likely that – facilitated by developments in the digital economy – other industry sectors will follow.

Many stakeholders believe there are inefficiencies in licensing, concerns have been raised on the role and transparency of collecting societies, over overlapping rights, delays in licensing and challenges in efficiently obtaining international rights. All of which inevitably increase uncertainty and costs, which potentially undermine the business case for new services. This also suggests there are structural issues in rights management that increase costs and inhibit innovation

in new services. Even where rights are available, the commercial terms on offer don't always support an economically viable model, a problem exacerbated when competing with 'free'. There is a perception that inflexibility from some rights holders and their collecting societies are stifling legal, innovative, online businesses and as a consequence encouraging and facilitating illegal ones. Pirate services show 'the art of the possible' when unconstrained by licensing and other considerations. The challenge is to see how legal services can be developed to move at the same speed, with as much flexibility but whilst supporting a viable, if evolved, business model.

The content industries are reacting; 'On Air On Sale' policies for music are designed to limit the pre-release window for music.¹⁰⁵ Film studios are increasingly premiering films internationally following the example of the Indian film industry that has had to manage simultaneous regional release strategies to limit piracy and to protect revenues.¹⁰⁶ The creative industry have also been addressing the technical solutions that will allow for a more efficient, transparent licence procedure for rights. The Global Repertoire Database (GRD)¹⁰⁷, International Music Registry (IMR)¹⁰⁸ and the PPL repertoire database (PPL)¹⁰⁹ are examples of these initiatives in the music industry, all of which have the objective of reducing transaction costs and administrative costs. As the industry looks for a market based solution, it would seem appropriate that policy makers allow the market to develop and adapt rather than specify a single regulated solution which may lack the flexibility to adapt to future challenges.

The challenge for policy makers, in what is still a nascent market, is not to intervene but to develop a copyright framework that is simple, cost-effective, transparent, flexible and technology-neutral and will allow the flexibility to adapt to future changes without the need to legislate for specific issues and problems. It should not be the role of policy makers to protect particular business models or business interests, but to ensure there is an effective, competitive, market, which allows all participants to create value and gain a reasonable return on their investment. Encouraging an effective legal market for copyright works is as important, if not more important, than pursuing a pure enforcement agenda and is a critical area for policy makers to consider.

1.4.2.4 Enforcement

The debate on enforcement is the most sensitive and potentially the most challenging for policy makers, it is also the debate telecoms regulators are most closely engaged with. The significant divergence in views between different stakeholders is a major challenge for policy makers and regulators to bridge. On one side the creative industries see greater enforcement activity as the main weapon in the battle against piracy. On the other side, many consumer groups believe that the on-going escalation of industry and government efforts to enforce copyright is at best ineffective and at worst leading to an erosion of consumer rights and civil liberties for the majority of law-abiding citizens. In the middle, carriers and other internet players are concerned that there is no erosion of their safe harbour protection and that they are not obligated to 'police' the activities of users. The enforcement issue is further complicated given that the enforcement debate happens both internationally and nationally as elements of enforcement policy within existing copyright regulation, telecoms regulations, privacy regulations and human rights obligations.

As the effect of the digital economy becomes more pronounced, telecoms policy makers and regulators will become increasingly critical actors in the copyright debate and have a valuable contribution to add, especially to the enforcement discussions. They have a long history of implementing policies that balance the needs of different stakeholders. For intercept regulation they understand the need to protect individual rights, support the needs of the state, protect carriers from liability whilst ensuring carriers protect the communications carried across their networks. Telecoms regulators have a greater understanding of the potential unintended consequences of implementing technical obligations on network operators or other players in the eco-system. Current debates in telecoms policy on privacy, traffic management, child protection and 'internet openness' or net neutrality can all influence, and be influenced by, discussions on copyright enforcement.

The enforcement debate is still evolving and the balance of appropriate obligations for the different stakeholders is still being defined in various markets across the world. It seems increasingly likely, with the growth of the digital economy, that the various stakeholders across the value chain will be involved in enforcement efforts. In the Global Intellectual Property Index Report¹¹⁰ one respondent summarised the crea-

tive industry's view in stating "The health of [the online] environment for doing business will depend on the cooperation of internet service providers – as any other stakeholder seeking to "monetise" consumer access to content – in helping to protect copyrights." A joint IPEC submission¹¹¹ by the creative industries highlighted the following stakeholders who should collectively be acting against piracy.

- Hosting Service Providers – hosting illegal sites, or sites that facilitate illegal sharing of copyright material
- Search Engines – who provide a simple and easy mechanism to source the illegal sites
- Ad Networks – who provide a critical funding source to the illegal sites
- Payment processors – who provide a means to secure revenues where charging models are applied
- Domain Name Registrars – noting ICANN provides resolution for trademark but not on issues of providing illegal content
- Social Networking Sites – used as a channel for promotion of illegal sites

Many of the stakeholders are already involved in enforcement today either through voluntary industry action or through existing enforcement frameworks. Pressure to extend the nature and level of intervention by internet intermediaries is already increasing and is likely to continue to grow. In the US, the IPEC white paper¹¹² released in March 2011 recommended increased enforcement powers, including the right to wiretap as part of enforcement efforts against copyright. In many markets pressure for enforcement measures to include 'graduated response' is the next step in the debate. In France the government passed the 'Hadopi' 3 strikes law that requires ISPs to warn and ultimately block internet services to persistent copyright infringers. In the UK the DEA implements a similar graduated response mechanism and similar policy are implemented in New Zealand and the Republic of Korea.

As with other areas of telecoms regulation and enforcement activity, there are safeguards that need to be in place to protect consumers, businesses, ISPs, hosting service providers and carriers to ensure they are not placed under an obligation to monitor or make value judgments on the nature of content or services. Legal oversight, as with intercept regulation, is critical to ensure the carriers can operate without fear of

litigation by either the copyright owners or the alleged infringers. Procedures for notice and takedown and other protection measures need to be designed to ensure that the carriers, hosts or internet service providers are not placed in a position of making judgments as to rights, or wrongs, of a particular case. In a recent report the UN Rapporteur stated: "Holding intermediaries liable for the content disseminated or created by their users severely undermines the enjoyment of the right to freedom of opinion and expression, because it leads to self-protective and over-broad private censorship, often without transparency and the due process of the law."

Carrier independence, protected by safe harbour, is an important principle, not only for copyright protection issues but also more widely. In any long term-solution to the enforcement challenges of copyright, protecting this principle is an important consideration for regulators implementing enforcement processes. Many legal frameworks provide safe harbour for a range of specific activities undertaken by internet service providers, subject to a number of conditions. This includes the US Digital Millennium Copyright Act¹¹³ (DMCA) in the US and of the European E-Commerce directive¹¹⁴. These provisions are provided to ensure that networks are not held financially responsible for the content that they are merely transmitting or hosting which, in turn, helps to ensure the free unfettered transfer of information.

In considering IP enforcement the US Institute of Intellectual Property and Social Justice stated "Developing and implementing policies that address only current, parochial enforcement concerns based on past actions and traditional business models would be myopic and counterproductive."¹¹⁵ Proportionality, cost-effectiveness and the potential impact of any unintended consequences all need to be balanced against any perceived benefits that new enforcement approaches will deliver. Enforcement mechanisms should be part of a wide range of commercial and educational efforts to address piracy issues. Telecoms regulators have an important role in assessing the proportionality of proposed enforcement measures, understanding the potential unintended consequences of proposed actions and providing expert guidance on the technical challenges and costs involved in implementing any proposed solutions. Extending powers too far to protect the rights of the creative industries could threaten the rights of the majority and even damage the fabric of the internet. However, allowing widespread illegal copying and distribution of

copyrighted materials undermines efforts to establish new services, which in turn prevents access to these services for the law-abiding majority.

1.4.2.5 Industry self regulatory initiatives

All stakeholders in the digital economy have a role to play in protecting copyright and, where appropriate, in enforcing copyright. Different industry stakeholders already undertake, on a voluntary basis, a number of measures to protect copyright whilst also ensuring they meet other obligations. Industry codes of practice potentially play a valuable role in self-regulation by providing a level playing field and consistent 'rules' which set a benchmark and consistency for the players in the eco-system. Industry codes of practice also typically balance a range of interests and factors, providing a consensus view of the appropriate collective action that should be taken.

There are already many Codes of Practice that have been implemented in different markets to address copyright issues. The sites supporting UGC have their principles¹¹⁶ that outline how they address copyright concerns and more recently the ISPs in the US have implemented a Code of Practice, in part to educate consumers on copyright infringement and in part to strengthen enforcement effort.¹¹⁷ In the UK discussions have also started on a code to address concerns over how to block international sites that are hosting copyright material.¹¹⁸

Policy makers can facilitate and encourage industry stakeholders to develop Codes of Practice to protect copyright and to encourage dialogue between the different industry stakeholders. Although it is unlikely there will be unanimity across all the stakeholders on the content and obligations agreed in the Codes, they can provide an effective alternative to regulatory intervention and potentially can be introduced faster and at lower cost to the industry. Industry codes can also be more adaptable and flexible than regulation, allowing for easier evolution in response to market circumstances. This flexibility is helpful in the internet environment. A final advantage of industry Codes is that they can be implemented internationally far more easily than regulation or legal frameworks. This allows the industry to potentially address some of the international issues and challenges faster and more effectively than policy alone.

Naturally, as these Codes are generally self-regulatory in nature, they typically need to go further

than existing obligations, taking into account the views of various stakeholders. They also need to be implemented in a transparent manner. However, assuming these conditions are met, industry Codes of Practice are an effective way of providing a balanced and pragmatic response to policy challenges.

1.4.2.6 Consumer education

An important element of the graduated response systems being introduced is consumer education. Evidence quoted in the press release accompanying the voluntary code of practice in the US highlighted the positive impact ISP letters have had in the Republic of Korea and in France¹¹⁹. Combining education with the potential threat of enforcement action does appear to be more effective than addressing these actions in isolation.

The SSCR study found consumers were typically ambivalent towards copyright, saw price as more important than moral considerations and are typically very aware of whether they are buying legal goods or not. A study commissioned by the ICC and undertaken by StrategyOne in 2009¹²⁰ also showed high acceptance of physical and digital piracy by consumers. This ambivalence is compounded as consumers don't understand many of the subtleties of copyright laws and how they apply in the digital world. Education of consumers on the impact and implications of piracy is an important aspect of the copyright debate.

Education alone will not address the challenges of copyright infringement, but, as the evidence of research into consumer attitudes show, there is an important role to raise awareness, in which all stakeholders need to participate. Globally there have been a number of efforts to increase consumer education, the StrategyOne study identified and reviewed messaging from over 350 campaigns¹²¹. Whilst it is clear that education alone will not be enough to prevent copyright infringement it is one element of the campaign to address the issues. The SSCR study assessed that approximately 25% of these education campaigns were focused on children and students, the key target demographic for downloading and using illegal copyright material.

Educating consumers on the importance of copyright and on the impact and harm of copyright infringement is not only an industry responsibility. There is also a role for government to play in increasing awareness of impact of copyright infringement.

Education alone will not prevent copyright infringement but combined with an effective market structure and proportionate enforcement approaches it forms an integral part of the potential solution. Policy makers should look, in conjunction with industry, to see how they can most effectively educate consumers on copyright issues.

1.4.2.7 Protection of rights

Providing protection for the creative industries is important and protecting rights holders been an important part of stimulating creativity over the last centuries and is likely to remain so. However, in an effort to stem the tide of illegal copying and distribution of copyright material, there is a risk that policies may have unintended consequences. These unintended consequences could have wider societal impacts and this needs to be considered as part of the wider debate on enforcement. The balance, at a policy level and at a legal level, is far from clear today and will continue to be an area of passionate debate for some time to come.

As discussed in the previous section, an increasing role for ISPs and hosting services in enforcing copyright has raised questions over the balance and proportionality of enforcement measures. There is a potential contention between potential obligations to protect copyright and net neutrality concerns as well as concerns over consumer privacy. Recently a Communiqué on Principles for Internet Policy-Making¹²² was not endorsed by the Civil Society representatives. Civil Society Information Society Advisory Council (CSISAC) stated “that certain aspects of the Communiqué could be used to undermine online freedom of expression, freedom of information, the right to privacy and innovation on the Internet. Reportedly, the main point of contention was intellectual property and the role of the ISP in enforcing these rights.¹²³

The main rights concerns include the possibility that enforcement measures can be used to block and filter complete domains on the basis of copyright protection even where the bulk of the domain serves legitimate purposes and may, in the case of social networking sites, be a legitimate channel for free expression. Abuse of notice and takedown procedures is another concern; in general the commercial balance of power is in favour of the accuser and the accused often lacks the resources or the ability to challenge the takedown notice. The potential to abuse notice and

takedown procedures to block political comment has been noted. As intermediaries could be liable if they fail to act on a notice they tend to act on the side of caution, increasing the risk that the procedures can be abused. Certainly, as described above, intermediaries should not be put in a position where they need to make judgment on the legitimacy of content or have liability for their actions.

Achieving a balance in this area is difficult for policy makers and is a key area for regulators promoting industry initiatives or implementing any new rules and procedures.

1.4.2.8 International cooperation

In an increasing global digital economy international cooperation is essential. Opening up markets that allow service providers to access markets delivering innovative services is one of the great advantages of the internet. In this borderless world there is an increasing need to be able to coordinate enforcement efforts at the international level as recognized by Heads of States and Governments participating in the G8 Summit of Deauville held in May 2011¹²⁴ (See Box 2). This requires common approaches to enforcement, consistent legal structures and the enforcement capacity in all markets to tackle infringements. Whilst international coordination is well established in tackling physical counterfeit goods, this is still a developing area for digital copyright enforcement.

Coordinating these efforts is far from easy, even in Europe that has a single Copyright Directive; there is significant difference in the approach different Member States have taken in implementing this directive. This creates uncertainty and makes enforcement efforts more difficult. Whilst a single global approach and legal framework for copyright is not a realistic goal, it is important for policy makers to continue to coordinate and align policies where possible to provide appropriate protection for rights holders globally.

Box 2: Summit of Deauville Declaration, May 2011

II. Internet

15. With regard to the protection of intellectual property, in particular copyright, trademarks, trade secrets and patents, we recognize the need to have national laws and frameworks for improved enforcement. We are thus renewing our commitment to ensuring effective action against violations of intellectual property rights in the digital arena, including action that addresses present and future infringements. We recognize that the effective implementation of intellectual property rules requires suitable international cooperation of relevant stakeholders, including with the private sector. We are committed to identifying ways of facilitating greater access and openness to knowledge, education and culture, including by encouraging continued innovation in legal on line trade in goods and content, that are respectful of intellectual property rights.

Source: www.g20-q8.com/q8-q20/q8/english/live/news/renewed-commitment-for-freedom-and-democracy.1314.html

The challenge associated with international coordination is significant. The digital economy is global, the services provided are global and information flows freely across this environment. Historic, geographic, boundaries are easily usurped by consumers and by illegal services. Moving hosting services is relatively straightforward, as has already been demonstrated by some of the peer-to-peer services that have simply moved country when prosecuted in one market to countries in which have no legal means of recourse against them¹²⁵. Pirate Bay is reported to host services in at least three markets and has already demonstrated, after their servers and back-up files were confiscated in 2006, that they have the ability to re-launch a service with minimal disruption to their users. Their approach has been described as ‘international copyright whack-a-mole’, moving from one jurisdiction to the next as lawyers and authorities move in to shut them down. International coordination will be required if copyright enforcement efforts against commercial criminal activity is to be effective. Attempting to address issues unilaterally makes it relatively easy for infringers, both at a consumer and commercial level, to circumvent controls. Coordinating an international response to address the issues is extremely challenging and the existing international enforcement organisations currently addressing counterfeiting and physical piracy are not yet set up to coordinate action for digital piracy.

International cooperation is not only needed for enforcement. The illegal commercial sites demonstrate the art of the possible where there are no transaction costs and no national barriers. For legitimate, legal, services to compete, international rights management needs to become nearly as streamlined and nearly as flexible. Legitimate businesses need to be able to get to market as fast, supply an equivalent portfolio and do this cost effectively¹²⁶. Policy makers have a role in

enabling markets to respond and actively encouraging them if they don't respond fast enough.

There is a significant history of international legal agreements within which any international action will need to be taken but to date these typically apply national obligations on countries to address international issues. There is a role for policy makers to see how they can enable international solutions that can address both market failures and enforcement concerns.

1.5 Implications for Telecoms Regulators

Commissioner Kroes in November 2010 summarised the current copyright challenges in the European environment stating; “Today our fragmented copyright system is ill-adapted to the real essence of art, which has no frontiers. Instead, that system has ended up giving a more prominent role to intermediaries than to artists. It irritates the public who often cannot access what artists want to offer and leaves a vacuum which is served by illegal content, depriving the artists of their well deserved remuneration. And copyright enforcement is often entangled in sensitive questions about privacy, data protection or even net neutrality.”¹²⁷ Given the global nature of the digital economy many of these challenge increasingly face policy makers and regulators in markets around the world.

Copyright is not a new area of policy or regulation, there is 300 years of case law and precedent that makes the subject complex and nuanced. For telecoms regulators however, it is a new area. Increasing penetration of broadband, low-cost storage and high processing power coupled with the endemic levels of piracy on the internet are placing significant pressures on existing business models, legal frameworks and

regulatory environments. The growth of the digital economy has raised new challenges and has moved regulators into the middle of the copyright debate, particularly in the area of enforcement and internet intermediary liability.

Many of the aspects of the copyright debate align closely to the wider internet policy debate. Industry codes of practice, reliable publicly available data, transparency and accountability, privacy protection, promotion of creativity and innovation, limits to internet intermediary liability, and appropriate enforcement efforts having all been raised as part of the internet policy debate.¹²⁸ Telecoms regulators are increasingly being looked to as the authority to develop the rules, processes and institutions needed to encourage innovation and investment whilst implementing proportionate enforcement approaches against copyright infringement in the digital environment.

There is no simple answer to the questions and challenges raised by the growth of the digital economy. The ambition is significant. It is beyond the scope of telecoms regulators to resolve all of the copyright challenges however there are a number of areas they can, and should, influence:

- Actively encouraging and promoting industry self regulatory approaches developed in collaboration with all industry stakeholders
- Ensuring there is a balanced, proportionate and robust mechanism for content owners to address copyright infringement
- Supporting the implementation of independent institutional structures to arbitrate on copyright disputes and to provide clear guidance to internet intermediaries
- Encouraging the consistent and transparent measurement and the impact assessment of copyright infringement on the creative industries and the digital economy
- Ensuring that internet intermediaries have sufficient protection from liability to continue to protect a free and open internet

- Designing rules and procedures for copyright enforcement that ensure the protection of consumer privacy
- Maintaining a balanced allocation of costs in relation to enforcement activities ensuring no one stakeholder carries a disproportionate cost
- Encouraging the removal of market barriers and inefficiencies in the copyright industries to facilitate legal services as part of an overall solution to managing copyright.
- Actively promoting and encouraging innovation and new service development by assessing the unintended consequence to changes in the scope of copyright protection.
- Collaborating internationally to provide to address international aspects of copyright in relation to the digital economy

Although the pervasiveness of internet broadband networks presents significant opportunities for growth and will deliver wide social benefits, this accessibility also poses a number of risks and raises a number of challenges. Copyright is a critical element of this new environment providing the incentive and remuneration for the creative industries, without this professional creative content the internet would be a duller and less compelling place. Overly draconian protection policies designed to protect existing business models may however have the effect of ‘chilling’ innovation and alienating citizens and stifling mass creativity. Creating an environment that stimulates creativity, enables competition, protects free speech and fully exploits the transformative potential of digital technology may require the ‘Wisdom of Solomon’ to find a balance that both stimulates and protects for all of the different stakeholders.

Telecoms regulators have an increasingly critical role in developing the environment that allows all aspects of the digital economy to flourish and for the societal benefits to be realised. On balance, for now, light touch nurturing of the digital economy still seems a safer regulatory option than strong intervention.

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