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THE PROTECTION OF COPYRIGHT IN THE DEVELOPMENT OF NEW DIGITAL TECHNOLOGIES

There is an assumption that as a type of intellectual property, copyright has become more vulnerable and at risk due to the new technologies and digital information. It can be argued that a digital world allows people to copy easier, cheaper and faster copyrighted materials, therefore increasing the threat of copyright infringement. For example any person is able to copy, reproduce or distribute to public a large number of copyright work such as music, photocopies or literary works through the internet. Recent technological advances, in particularly high-speed Internet connections have helped make the legal storage and dissemination of such works more efficient and marketable. By considering a current situation, the author raises a legal question whether a legal framework for the protection of the copyright is effective or not. To answer for the question, the author shows some problems which have been emerged around copyright such as file sharing, illicit copying and piracy and refers to a number of cases which based on Anglo-American legal system. By reviewing the legal framework against copyright infringement such as the Copyright, Designs and Patents Act 1988 (CDPA) and the Digital Millennium Copyright Act 1998(DMCA), the authors concludes that regardless of mass digitization, copyright is still considered to be an useful and appropriate protection for copyright owners.

Key words: copyright infringement, digital technologies, peer-to-peer file sharing, copying, piracy.

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Жаңа сандық технологиялардың даму кезеңіндегі авторлық құқықты қорғау

Қазіргі уақытта жаңа технологиялар мен ақпараттық қоғамның қарқынды дамуы – зияткерлік меншік құқық түрлеріне, әсіресе, авторлық құқыққа ықпал етуде. Өйткені, тәжірибе көрсетіп отырғандай кез келген адам авторлық құқық материалдарына сандық технология арқылы оңай, арзан әрі жылдам қол жеткізіп авторлық құқықтың өрескел бұзылуына жол беріп отыр. Мысалы, кез келген азамат интернет-ресурс арқылы авторлық құқықтың объектілері болып табылатын миллиондаған бейне, музыка және әдебиет туындыларын еркін көшіріп, қайта шығарып не жариялы түрде тарата алады. Қазіргі қалыптасқан жағдайды ескере отырып, автор ағымдағы заңнаманың авторлық құқықты қорғаудағы жай-күйі туралы мәселені көтереді. Осы сұраққа жауап беру мақсатында авторлар англо-американ заң жүйесіндегі кейстерге сүйене отырып, авторлық құқыққа қатысты файлмен бөлісу, заңсыз көшіру және сандық қарақшылық тәрізді құқықбұзушылықтарға тоқталады. Авторлық құқықбұзушылыққа қарсы заңнамаларға, әсіресе, Ұлыбританияның 1988 жылғы Авторлық құқық, Дизайн және Патент туралы және Құрама Штаттардың 1998 жылғы Сандық Мыңжылдық Авторлық құқық туралы заңдарыңа шолу

жасайды. Мақала соңында авторлар сандық технологияға қарамастан, авторлық құқық өзінің өзектілігі мен негізділігін жоғалтпағандығы туралы қорытынды жасайды.

Түйін сөздер: авторлық құқықбұзушылық, сандық технологиялар, файлдарды ортақ пайдалану, көшіру, қарақшылық.

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Защита авторских прав в условиях развития новых цифровых технологий

В связи с развитием новых технологий и цифровой информации авторское право как вид интеллектуальной собственности стало более уязвимым и подверженным риску. Как показывает реальный мир, цифровые технологии позволяют людям копировать более примитивные, более дешевые и быстрые материалы, защищенные авторскими правами, что увеличивает угрозу нарушения авторских прав. Например, любое лицо может копировать, воспроизводить или распространять большое количество авторских произведений, таких как музыка, фотокопии или литературные произведения через интернет. Последние технические достижения, особенно в области высокоскоростного подключения к Интернету, помогли сделать хранение и распространение таких произведений более эффективным и востребованным на рынке. Оценивая текущую ситуацию, авторы поднимают правовой вопрос об эффективности правовой основы защиты авторских прав. Чтобы ответить на этот вопрос, авторы указывают некоторые проблемы, возникшие по поводу защиты авторского права, такие как совместное использование файлов, незаконное копирование и пиратство и ссылаются на ряд кэйсов, основанных на англоамериканской правовой системе. Проведен анализ зарубежного законодательства по защите авторских прав: Закон 1988 года «Об авторских правах, дизайнов и патентах (CDPA)» и Закон 1998 года «Об авторском праве в цифровую эпоху (DMCA)». В заключении авторы приходят к выводу, что независимо от массовой цифровизации авторское право не утратило своей актуальности и достоверности.

Ключевые слова: авторское правонарушение, цифровые технологии, совместное использование файлов, копирование, пиратство.

Introduction

In recent years, digital technology has touched almost all our public and private lives, performing the way that we communicate with one another and engage with the world around us. The digital technology not only has changed the way in which entertainment and media are consumed and distributed, but it also has broken the functions related to these manners. Because of this challenge, laws also have attempted to keep pace with new digital developments. Copyright is one of the legal sphere that has been especially affected by new technologies and activities (Klein, Moss and Edwards, 2015:1).

Such rapid changes in a digital age have serious effect on copyright, for example, any individual can reproduce and distribute millions of copies of works, namely music, motion of pictures and photographs through the internet. In fact, people tend to cause extensive and wide-ranging infringement. Also, it is widely accepted that to sue against individuals who want to take advantage of copyright

owners' works is more difficult (Klein, Moss and Edwards, 2015:2).

Methodology

This article will, therefore, discuss some of the main reasons why copyright has become a worrying issue during a digital age. It will be questioned, whether copyright is irrelevant in a digital age, and if not, to what extent have digital technologies affected copyright. I argue that as a property right, copyright becomes still applicable to current realities due to a digital age. This article will focus on some case laws and legislations based on world experience. The structure is organized as follows. In part one I will focus on the different definitions of copyright. Secondly, the results of digitization concerning copyright will be viewed. The third part will cover some infringement activities, which undermines copyright. Finally, the current legal acts concerning copyright in terms of digital technology will be considered by taking into account their rules against copyright infringement.

Defining of copyright

It seems fair to point out that there are range of sources from the academic's publication to statutory materials which aim to define copyright. Lawyers and scholars have proposed their own definitions of copyright; for example, copyright is defined as a range of exclusive rights regarding to some cultural goods such as literature, newspapers, photographs, drawings, artworks, movies, music, and plays(Andrews, 2005: 256-282). It also regulates computer software and databases. In spite of its territorial nature, copyright has wide importance. Therefore, this has caused international and national attempt to harmonize and to ensure constancy of approach (Aplin and Davis, 2013: 47). Copyright might be subsist in works of copyright holder that are kept in a material form. It has been argued that nobody can elaborate why people say «subsist» instead of «exist». However, it is worth saying that copyright will not be granted unless the necessary preconditions are carried out by the work and subsisted by copyright automatically (Hunter and Patterson, 2012:33). Some people say that copyright is described as an instrument for regulating a clashing area, because a considerable number of authors attempt to control over significant things such as knowledge, information, and culture. As a result, copyright signifies «hitting a balance» which means the clash of interest between the position of «the copyright holders» and 'the consumers». Therefore, it might be called as the clash-and-balance of paradigm, which causes binary expressions: property v. commons, owners v. users, public domain v. exclusivity (Borghi, 2011:1).

It has been suggested by most academic that copyright is assortment of property rights. However, the foundation of these rights could be disputable in terms of the aim of the rights and the protection. There are two approach, which dominate copyright theory. The first approach of copyright is 'natural law's which relies on labor and personality and another one is a state policy to attain set goals (Spinello and Tavani, 2004:308).

It is widely accepted that the definition 'copyright' might be contained in different types of statutory materials such as acts, bills, treaty articles, regulations and directives. Although these statutory materials have varied approaches about the definition of copyright around the world, they have the same fundamental principle of copyright, which has been founded by key treaties such as Berne convention and Rome convention (Herman, 2013: 23). For example, the phrase 'copyright' refers to property

rights that include some descriptions of work e.g. original literary, dramatic, musical, artistic works, sound recordings, films [broadcast], and the typographical arrangement of published editions (Copyright, Designs and Patent Act 1988, s 1). In addition, there are some acts, which include a considerably more number of the works of copyright, namely the Act on Copyright and Neighboring Rights (as amended 1998) of Germany. It states that copyright includes, in particular, works of language, such as writings, speeches and computer programs, musicals, works of pantomime, works of fine art, photographic works, cinematographic works, and illustrations of a scientific or technical nature like drawings, plans, maps, sketches, tables and three-dimensional representations (Act on Copyright and Neighboring Rights 1965 (GER) s 2(1)).

Thus, summarizing the different interpretations, copyright might be defined as the right to create and use some cultural, essential works or goods.

Discussion

The Digital disruption. In the late 1990s, the digital revolution led to far greater changes in copyright's history. For instance, translating information into a digital format and shifting in communication and media from analogue to digital (Westbrook, 2010: 56). Studies have demonstrated that whereas in the late twentieth century cassettes and vinyl records were replaced by compact discs, in the beginning of a new millennium, physical retail activity was replaced by tele market by virtue of the powerful World Wide Web (Doyle, 2013:27). As the popularity of the internet increased, a significant number of end users could see huge profits from a digital world, greater possibilities and finer access. Also, new technology allowed consumers to make money from intellectual property and as a result, it raised some questions regarding to copyright in a digital age (Klein, Moss and Edwards, 2015:18).

There are some crucial outcomes of digitization in which copyright needs to be thought about, talked about and regulated. The first outcome of digitization opened possibilities for the copyright affluent who made profits from the licensing of copyrights such as making, copying and distributing media faster and cheaper. It also had potential for the copyright poor who are known as the end users of copyrighted material (Schell, 2016: 104). Apart from it, some common people took advantage of digital technology by the distribution and copying of copyrighted materials through alternative websites. Thus, everyone could copy easier and cheaper

through digital technologies. Contrary to the copies of previous time, the quality of digital copy tends to make reproductions more complicated to manage because of being perfect (Klein, Moss and Edwards, 2015:18).

The second outcome related to digitization was the collapse of boundaries. Some boundaries of copyright have been challenged by alteration due to a digital age. For example, published in 1993, the editors of the collection *Music and Copyright*, Frith and Marshall gave two reasons for the increasing academic and professional importance in copyright. Firstly, one obvious cause of complication in legal definitions of copyright was new technologies related to the storage, sound and picture. Secondly, the culture relating to globalization motivated some multinational companies to look for the «harmonization» of copyright beyond the boundaries of national states (Klein, Moss and Edwards, 2015:19).

The third outcome of digitization was amendments to copyright, which were made nationally and internationally. Meanwhile, new copyright policies, legislation and international copyright agreements were a main response from individual states (Ke Steven, 2011: 375-412). Furthermore, the main concepts and notions of copyright were shared by the members of agreements and treaties, namely TRIPS, which responded to the new demands of a digital age. As before, copyright was seen as a system of incentives, so, recently it has been changed to a system which allows copyright holders maximum protection (Klein, Moss and Edwards, 2015:19-20). Therefore, digitization not only has made unlicensed access and distribution of copyrighted work easy, but also it has brought about considerable amendments in the legislation of copyright.

Issues around copyright in terms of digital environment

It could be argued that copyright in the digital environment shows the battle between copyright holders and consumers due to infringement such as file sharing, illicit copying and piracy. While some individuals tend to say that unmanageable peer-topeer (P2P) file sharing has affected all copyright industries detrimentally, others believe that illegal copying of copyright might be the largest danger to copyright industries and some others are concerned about the emergence of ordinary movie, music and video games (Murray, 2016:276).

One of the most important phenomena of widespread unauthorized sharing of sound recordings, music, computer software, games, movies, and videos across the internet was a change in the law (Edwards and Waelde, 2009:183) as was held in *Sony* Music Entertainment (Ireland) Ltd and others v UPC Communications Ireland Ltd, where there was a huge problem. For instance, in November 2012, the agent of the Plaintiffs' clarified that through the defendant's internet provider, people had illegally uploaded around 7500 copies of 250 songs within one month ([2015] IEHC 317, [2015] E.C.D.R. 23 [4]).

Additionally, peer-to-peer file sharing (P2P) has become a well-known activity on the internet. P2P file sharing is the process of sharing and transferring digital files from one computer to another (Deflem, 2013: 75). It means that end-users can share some contents between each other on the internet. The file sharing of unlicensed copyright works allows people to share various sorts of files ranging from music to movies (Rowland and Macdonald, 2005: 504).

A further significant principle of using P2P file sharing was highlighted in the case Twentieth century Fox film Corporation and others v Sky UK Ltd and others in that the consumers organize the Popcorn time application on their devices to view content and it shows what movies and TV programs are available. Then the application will start to download the content via the BitTorrent protocol, if any works have been chosen. Being a BiTorrent client, the application starts to identify peers over the internet to get necessary content. After that, BiTorrent helps a file of content, namely movies to be divided into plentiful pieces and computers anywhere in the world. In order to download a file, the BiTorrent client should collect those pieces and assemble them into a content file to view ([2015] EWHC 1082 (Ch), [2015] ALL ER (D) 229 [19]).

Another reason for using BiTorrent is that the pieces of the content file are assembled in a special order, but it depends on accessibility from peers. The content file will not be ready to view unless all the pieces have been assembled. Yet there is a feature of BiTorrent called a sequential downloading and it aims to start from the beginning of the content. Users can view a file or watch some of the movie or TV programme as soon as a stream starts. Finally, the entire content file might be downloaded and saved on the user's device in a temporary folder (Mosco, 2017: 112).

Moreover, issues around copyright take place in other types of copyright infringement such as literal copies, usually called as pirated copies. For example, recent figures from the Recording Industry Association of America (IRAA) Web site and the Institute for Policy Innovation (IPI) provides some facts that the music industry loses \$ 12.5 billion annually because of the piracy. It has been argued that

to some extent music, movie, software, video, and game industries lose \$ 58 billion dollars every year. Therefore, those figures have been used frequently and have been reported on by industries in order to attract the general public to their plight (Fisk, 2011:82-83).

Additionally, the most popular kind of piracy in today's world is online piracy. One well-known type is related to hardware suppliers' illicitly loading software. The software is usually installed by the hardware supplier into the hard drives of computers, tablets, or mobile devices and the devices are sold with the software pre-installed (Murray, 2016:242). This can be illustrated by cases such as *Microsoft* Corporation v Electro-Wide Limited and Atlantic Business Systems Limited, where Microsoft claimed that it's operating systems software had been engaged in the unauthorized copying by the defendants and the copies were disseminated unlawfully. Microsoft alleged that the defendants have engaged in piracy campaign. In other words, these copyright infringements present a more modern image of copyright for lawyers and scholars to determine strengths and weakness of copyright and indicates the necessity of effective legal regulation.

Results

Law enforcement vs copyright infringement. It has been argued that intellectual property laws, in particular, copyright laws are still necessary in a digital environment. Today the expression of ideas (images, words and sound) might be kept in files and as a rule, the file is considered as another way of storing the expressed idea. Despite the format of storage, the core principles of copyright remain the same and it is fair to say that copyright will be modified for the internet eventually (Rowland and Macdonald, 2005: 491).

Nowadays there are some legal acts in Anglo-American legal system, which regulate copyright infringement effectively in terms of digital technology and digital environment. One of the important act is the Copyright, Designs and Patents Act 1988(CDPA), which is a valuable example of the potential of the rights protected and the harmonization is reached between the interests of copyright holders and consumers (Philips, Durie and Karet, 1997:10). Regarding copyright infringement the Section 16(1) (a) of the CDPA entitles the exclusive right to reproduce the work to the copyright holders in that work. Additionally, Section 16(2) provides that a person who without the license of the copyright owner does, or authorizes another to do, any of

the acts restricted by the copyright, might infringe copyright in a work.

Another significant copyright act in digital environment was the Digital Millennium Copyright Act 1998(DMCA), which was enacted by the US Congress in 1998. The DMCA aimed to avoid «pirates», who copied and distributed the digital copies of the works. Since DMCA protects computer software, it has accumulated a significant control (Carrier, 2009:163). Before the DMCA there was reason for action against anyone who circumvented any sort of technological control without infringement (Sookman, 2005:143). The meaning of circumvention is to «decrypt an encrypted work, to descramble a scrambled work or in other words to deactivate, avoid, bypass digital measures, without the permission of the copyright holder (Carrier, 2009:180). The DMCA in principle provided US copyright law with two provisions. While copyright owners 'protection against the circumvention of digital rights management' of the work of copyright are provided by Title I of the DMCA, the four safe harbor provisions are established by Title II of the DMCA (Ellis Jr, 2013:315).

In addition to aforementioned acts, the Digital Economy Act 2010(Act) was introduced in November 2009, and received royal assent on April 2010. It focused on the use of digital copyright. There were some goals but one of the main goals was related to the copyright provisions in the Bill, which meant to make it easier for copyright owners to realize their rights in a digital environment (Barron, 2011:315). The capability of copyright owners to control the actions of significant infringers is raised by the Act. For example, Section 3 of the Act provides that internet service providers (ISP) will have a duty to 'notify subscribers of copyright infringement reports'. Section 4 of the Act states that depending on a request by right holders or the request of a code by the Office of Communications, ISPs will have a duty to provide a 'copyright infringement list' to right holders (Griffin, 2010:251). Therefore, it can be considered that the digital age caused the rise of some statues, which have been mentioned above. It is fair to say that while these statues might have diverse doctrines or approaches against infringement, it is necessary to say that they play a key role to reduce the amount of online infringement of copyright.

Conclusion

In conclusion, it should be noted that the irrelevance of copyright in terms of a digital age has been the subject of widespread debate and contro-

versy. This article has attempted to assess critically some of the main arguments of the breadth of the discussion on the irrelevance of copyright in digital environments as has appeared amongst lawyers and academics. Although there are a considerable number of sources and approaches to define copyright as a property right, they indicate the same core principle of copyright which came down from Berne and Rome conventions. It also appears that the rise of mass digitization in the late XX century added a significant change in copyright law from replacing some old devices to making copyright much easier and faster. What is more, it destroyed boundaries between states creating the globalization of culture. An additional point is that digital environment led to a change in the system of copyright affecting it nationally and internationally and altering from the system of incentives to the system of protection copyright. In relation to the irrelevance

of copyright, the essay demonstrates the multiplicity of problems around copyright such as peer-to-peer file sharing, illegal copying and piracy. In order to explain these infringement activities some examples have been given from case law, showing how they are detrimental for copyright holders. In order to explain file-sharing activity, some reasons for using communications protocols such as BitTorrent were given. While some people appear to say that copyright has outlived its usefulness or digital environment has destroyed copyright, making it irrelevant, copyright should be viewed as a useful and safe protection for copyright holders. The regulation of copyright by the acts such as Digital Millennium Copyright Act or Digital Economy Act is liable to emphasize this position. To summarize, I argue that despite the legal and technological challenges faced by it, the concept of copyright is still relevant in a digital age.

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