Erciyes İletişim Dergisi / Journal of Erciyes Communication
e-ISSN: 2667-5811 | ISSN: 1308-3198

Review Article | Derleme Makale

A Critical Look at Digital Media, the Intellectual Property Regime and Free Open Source Software

Dijital Medya, Fikri Mülkiyet Rejimi ve Özgür Açık Kaynak Yazılım'a Eleştirel Bir Bakış

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Başvuru Tarihi | Date Received: 09.02.2024
Yayına Kabul Tarihi | Date Accepted: 19.07.2024
Yayınlanma Tarihi | Date Published: 30.07.2024

Alışkan, Y. (2024). A Critical Look at Digital Media, the Intellectual Property Regime and Free Open Source Software. *Erciyes İletişim Dergisi, 11*(2), 813-827 https://doi.org/10.17680/erciyesiletisim.1434384

Abstract

This article examines how the intellectual property regime works in digital media and how free open source software is pushing the boundaries of the regime on the digital realm. The main purpose of this article is to highlight the differences that models of knowledge production can make in the process of building a participatory society. This article uses Michael Gibbons' Mode 1 and Mode 2 theories as a method. In the light of this theory, power relations in the production and distribution of knowledge are discussed. The Mode 2 model points to a commons-based model of knowledge production that has a democratic potential. The intellectual property regime is struggling to control the flow of information on the internet. It is quite difficult for the intellectual property rights regime to control the circulation of knowledge on the Internet, as digital media play a key role in the free flow of knowledge. Free open source software is an effective model for those who support the free flow of information in the digital space.

Keywords: Digital Media, Intellectual Property, Digital Commons, Free Open Source Software, Bittorent.

Öz

Bu makale, fikri mülkiyet rejiminin dijital ortamda nasıl çalıştığını ve özgür açık kaynak yazılımların dijital alanda rejimin sınırlarını nasıl zorladığını incelemektedir. Bilgi üretim modellerinin katılımcı bir toplum inşa etme sürecinde yaratacağı farkları ortaya koymak bu makalenin temel amacını oluşturmaktadır. Bu makalede, yöntem olarak Michael Gibbons'ın Mode 1 ve Mode 2 teorileri kullanılıyor. Bu teori ışığında bilginin üretimi ve dağıtımındaki güç ilişkileri tartışılıyor. Özgür açık kaynak kodlu yazılımlardaki bilgi üretim modeli, Mod 2 için çarpıcı bir örnektir. Mod 2 modeli, bilgi üretiminde demokratik bir potansiyele sahip olan müştereklere dayalı üretim modeline işaret eder. Dijital medya bilginin serbest akışında kilit bir rol oynadığından, fikri mülkiyet rejimi bilginin internet üzerindeki dolaşımını kontrol etmede zorlanmaktadır. Özgür açık kaynak kodlu yazılım dijital alanda bilginin özgür akışını destekleyenler için etkili bir modeldir.

Anahtar Kelimeler: Dijital Medya, Fikri Mülkiyet, Dijital Müşterek, Özgür Açık Kaynak Yazılım, Bittorent.

Introduction

This article examines the contradictions and relationships between digital media and the intellectual property regime. With the effective role of information technologies in the economy, controlling the circulation of knowledge has become increasingly important The article begins by unpacking the characteristics of digital media that allow individuals to become active players in the digital realm. Becoming a user, rather than a passive audience, means that individuals can participate in the creation of content for digital media. The internet, as a tool for self-mass communication gives users with the ability to create counter-power in the digital realm. Online communities include a large number of international users working together on digital projects. The article then explains how knowledge is produced and how the intellectual property regime takes control of technology production. It discusses Gibbons' theory on the model of knowledge production, which includes two models of production: Mode 1 and Mode 2. Intellectual Property Rights have two aspects: on the one hand, they protect the rights of creators; on the other hand, they enable capitalists to use knowledge and technological progress for their own benefit. The article concludes with a discussion of the potential of Free Open-Source Software (FOSS) in terms of the free flow of knowledge. FOSS is a software production model in which hackers benefit from the internet to create alternative platforms for sharing software with third parties. FOSS has strengths and weaknesses in relation to the intellectual property regime.

Digital Media as a Platform

Today, digital media is a powerful communication tool for individuals. The structure of the Internet allows people to become active users in the production of digital media content, unlike traditional media which positions people as passive audience members. Manuel Castells (2013) argues that while traditional mass communication tools are mainly based on vertical communication, where messages are sent from one to many (such as radio, television, and newspapers), the Internet is a new type of interactive communication characterized by messages being sent from one-to-many to many-to-many. The rise of the Internet is a major milestone in the history of mass communication, establishing a communication medium that allows for rapid collaborative production of content.

The Internet has been growing dramatically for three decades, creating new channels of communication that both shape and are shaped by society. As Castells noted in 1999, there were 179 million Internet users and 3.6 million websites in over 200 countries. Approximately 102 million people had access to the Internet in North America, more than 40 million in Europe, about 27 million in Asia, more than 23 million in Latin America, 1.14 million in Africa and 0.88 million in the Middle East. The number of computers connected to the Internet was 63 million (Castells, 2009: 375). According to the Internet World Stats and Hosting Facts Team, in 2022 there were 5.3 billion internet users worldwide, with 348 million users in North America, 747 million users in Europe, over 2.9 billion users in Asia, almost 602 million users in Africa, around 31 million users in Oceania and Australia, and finally 206 million users in the Middle East. Internet users now make up 59.5% of the total world population. Nowadays, more than half of all people on the planet have access to the internet. The number of websites in the world was 1.82 billion in 2022 (Internet Stats & Facts 2021; *World Internet Users Statistics and 2023 World Population Stats*).

These statistics are striking and show how technology and daily life have changed within two decades. Between 1999 and 2022, the number of internet users has increased by a

factor of 30. The rise in the number of websites over those 20 years has been even more dramatic, at a factor of 505. More than half of the total population of internet users is from Asia. China and India have become crucial players in the production and distribution of digital goods. In particular, through tablets and smartphones based on wireless communication, people have a much greater opportunity to gain quick and regular access to the internet (McDonnald, 2018).

The internet is now the backbone of many digital communication tools, including computers, tablets, and smartphones (Wenbo et al., 2015). It is the network that connects most computer networks. The term "network society" is used to refer to a society in which social structure is created around networks supported by information and communication technologies. This global network society is based on a culture of protocols of communication that facilitate interactions between different cultures that share the value of communication (Castells, 2009, 2013). In contrast, Jodi Dean (2005, 2012) argues that "communicative capitalism" is the best term to define the current system, as she believes that communication technologies serve the interests of capitalism rather than liberating people through networks.

It is clear that digital media is an area of contradiction where the dialectical process moves with its opposites. The internet has advantages and disadvantages in the distribution of information. On the one hand, capitalism has found effective ways to accumulate capital using Information Communication Technology (ICT). In particular, the commodification of users' privacy is an effective way of accumulating capital in contemporary capitalism. Surveillance is a new technique for collecting users' private data of users in order to sell it to advertising companies. The privacy of users is frequently used for commercial purposes (Fuchs, 2021). Users commonly do not pay any money to social media companies to benefit from the platforms. Social media platforms are dependent on users, as the content of social media platforms is produced by users. Without users' activities, social media platforms are totally meaningless, and the platforms cannot work. On the other hand, Castells (2013) argues that communication technologies also provide significant opportunities for users to create counter-power. Network power contains two ideas: coordinating and dynamic. Network power enables users to coordinate a considerable number of user activities and galvanize these activities, depending on the openness of the network.

As the internet becomes a global network platform through the sharing of information or knowledge, the holders of copyright, who commodify information, knowledge, music, designs, and photos, claim that it has a detrimental effect on their property rights. The holders argue that the internet causes a significant crisis since the reproduction and distribution of these goods is at almost zero cost on the internet – the notion of "piracy" (Rifkin, 2014). The control of sharing activities, also, is difficult to implement on network platforms, and the holders of intellectual property rights seek to reinstate control.

It is difficult to control the flow of information on the internet as the structure of the internet enables users to form new platforms through which they can distribute information, even if it is restricted by copyright holders. While digital companies support the idea of the "free flow of information" as it facilitates global market creation, they also seek ways to take control of digital media in situations that could potentially reduce their maximum profit in the market. It is important to note that capitalists have a strong tendency to commercialize the data produced by internet users. Digital media is seen as a

business opportunity for capitalists, rather than a platform that provides users with free information as a basic human right.

Intellectual Property Regime on the Internet

Intellectual property is known through the use of licenses and patents, which allow the holders to control the flow of information. Intellectual property is a broad term that includes various legal systems that establish private property rights related to intangible assets (*The Impact of Intellectual Property Regimes on the Enjoyment of Right to Science and Culture*, 2023). Intangible assets encompass a wide range of goods that play a vital role in the production of arts, science, and technology.

In recent times, the importance of protecting industrial designs and models has increased gradually as many products set themselves apart from rivals not just by their use value but also by their design. Inventors may use copyright or design patent laws to safeguard industrial designs and models (Stoll et al. 2009: 23). The supporters of intellectual property assert that the tools of intellectual property protect the rights of inventors who develop technology. According to the supporters, intellectual property law should restrict to flow of design and copy of artefacts created by artists and inventors since they cannot make a living if artefacts are circulated freely in the market. Nobody does make a payment to artists or inventors. Therefore, they can no longer continue their innovations in technology and art (Beantly and Sherman, 2001). The inability of inventors and artists to make a living from their own products will cause them to withdraw from this field completely. Therefore, the production of technology and art in society will decrease and society and the individual will be negatively affected by this process. For this reason, Intellectual property has an important function for sustaining innovations in society.

However, these arguments were seriously eroded during the covid 19 pandemic. The intellectual property applied by developed countries over the formula of the vaccines they developed has triggered a serious inequality in the world. The inequalities that exist between countries and classes have become more clearly visible with the debates over the property rights of vaccines. The assumption that the intellectual property regime is developed for the benefit of the whole society and individuals has also collapsed as copyright laws prevent poor countries from accessing vaccines (Sekalala et al. 2021).

The dispute over who will have control over information is also a human rights issue. According to the Special Rapporteur, the regime of intellectual property rights affects people's living standards in their everyday lives. A number of rights, including the freedom to enjoy and use cultural heritage and the equal access to science and its benefits, including technology, scientific knowledge, and opportunities to contribute to the scientific enterprise, can be impacted by intellectual property laws (*The Impact of Intellectual Property Regimes on the Enjoyment of Right to Science and Culture*, 2023).

Intellectual property rights are effectively used in the production of knowledge, science, and technology. Individuals can have access to patented or copyrighted knowledge if they pay royalties to the copyright holders. However, in some cases, individuals may not have access to knowledge if they refuse to pay royalties. The right to refuse to share knowledge with those who do not pay can be defined as an act of freedom. The rights of indigenous populations and regional populations, as well as artistic freedoms and people's ability to access, participate in and enjoy the arts; the protection of everyone's material and moral rights that arise from any works of art, science or literature of which they are the authors;

and the freedoms necessary for scientific study, including access to scientific information and advances and collaboration (Ibid).

Freedom in this context refers to the right of copyright holders to determine who can access knowledge and who cannot. Knowledge, as a productive force, plays a crucial role in all areas of production. In capitalist production, capitalists are the primary decision-makers regarding how production is carried out and for what purpose. While workers are the main actors providing productive labour in the production and manufacturing of tangible and intangible goods, they do not play an active role in the decision-making process of how surplus value is distributed, as capitalists control the means of production (Marx, 1990). Therefore, the control of knowledge production and distribution is crucial for capitalists to maintain their advantageous positions in the contemporary economic system. Although it is claimed that intellectual property rights are created to support creators or inventors who generate knowledge for science and the arts, most inventors do not make as much money as the companies that hold licenses or patents. Inventors or artists may also sell their artworks to firms for a small amount of money, as the patent application process can often be time-consuming and expensive (Drahos & Braithwaite, 2002). It is difficult to argue that inventors can earn much money from their inventions, but companies can generate substantial income by licensing the projects they acquire from inventors.

Knowledge was part of the public domain until the late nineteenth century. Intellectual Property Rights (IPR) gained prominence in the twentieth-century economy. Technology companies, now referred to as "knowledge-creating companies," became significant centers of knowledge production. These companies were interested in the creation of knowledge because developing new technological goods or improving existing ones relied on the exploration or reutilization of knowledge. The tech companies' private laboratories employed professional staff paid by the company. Innovations or inventions made by the staff were considered the company's private property, and the staff did not have the right to share them with others. This production process helped to privatize knowledge, moving knowledge assets from intellectual commons to private property (Ibid).

The system of knowledge production in contemporary society can be separated into two different modes: Mode 1 and Mode 2. Mode 1 is mostly governed by academics who take into account the interests of a particular community. Mode 1 is disciplinary, hierarchical and characterized by homogeneity. This model is mostly exercised in universities and labs. By contrast, Mode 2 knowledge is transdisciplinary and characterized by heterogeneity. Mode 2 becomes heterarchical and transient, and socially more accountable and reflexive (Gibbons, 2013).

In Mode 2, knowledge is produced in industrial laboratories, think-tanks, non-university institutes, research centers, and consultancies, etc. In particular, through a functioning communication network, researchers are able to interact with organizations or communities where the production of knowledge is carried out. Technological knowledge is especially based on the actions and decisions made by communities of practitioners. Communities play an active role in defining the crucial problems and developing methods to cope with them. The flows of scientific ideas among practitioners have a strong effect on knowledge production. The computer has become a significant tool in the production and distribution of Mode 2 knowledge (Ibid). Computation has led to the development of ICT and the internet, bringing a new dimension to the production of knowledge and

technology on national and international levels. Online communities based on network platforms have become new centers for the production and diffusion of knowledge (Castells, 2013).

Open science and open access policies are becoming popular among scholars in recent days. Free access to knowledge is the basic condition of open science. The type of Mode 2 knowledge production has a strong relationship with open science debates. Mode 2 is a more appropriate model than Mode 1 in terms of free flows of knowledge. Mode 2 requires the interactions between scholars in the process of knowledge production. The distribution of knowledge in Mode 2 is rapid since the structure of Mode 2 is horizontal. It is difficult to control the distribution of knowledge in Mode 2. Copyright tools such as licenses and patents cannot be used in an environment in which the free flows of knowledge play a key role in the production of knowledge. However, it can be difficult to commodify knowledge without copyright tools in the market. Gibbons et al (2010: 4) claim that "it might be said that in Mode 2 science has gone beyond the market! Knowledge production becomes diffused throughout society. This is why we also speak of socially distributed knowledge." It is important to note that no form of knowledge production alone is capable of overcoming the capitalist mode of production as capitalism is a complicated system. Nonetheless, collaborative production of knowledge can provide legitimacy to the policy of free access to knowledge in the contemporary world. Another important point here is that capitalism can also make a profit in an economic model dominated by policies of free access to knowledge (see Aliskan, 2021).

The software industry was one of the most controversial economic sectors in which intellectual property played a crucial role in the late 1970s. Computer companies IBM and Microsoft supported closed source policies for software products. Copyright has been used for software products since the 1980s. Information cartels have benefited from copyright laws to establish their control of the distribution of copyrighted software. The developers working for private laboratories and computer companies did not share software code with their friends or colleagues (see Stallman, 2002). Source code became the computer language, including the program instructions. Software developers often looked at existing software code to understand how a program works, and they developed new ones that work in connection with it (Berry, 2008; Drahos & Braithwaite, 2002). However, the cartels' intellectual property rights policies poisoned the ecosystem in which researchers share knowledge with each other. The production and distribution of knowledge were controlled by a small number of cartels whose primary motivation was, and is, to profit from copyrighted knowledge. The distribution of knowledge, Mode 1, controlled by a few capitalists, caused severe inequalities between people who may or may not have had access to information. For the democratization of technology and a democratic society, people should have a human right to access information; they can become part of the production and distribution of knowledge—Mode 2—to create a democratic and egalitarian system where technology and knowledge are produced for the public interest, rather than for the interests of the cartels.

The control of knowledge by tech giants in the digital era has also been dubbed "the second enclosure movement." The first enclosure movement took place in the UK in the fifteenth century, and common land was transferred to a single owner (Boyle, 2008). However, the second enclosure movement is based on intangible goods including digital products, knowledge, information, and so on. In some senses, digital commons are created by the internet users who do not recognize the boundaries of the second enclosure movement,

but they create alternative digital platforms for sharing code, designs, or knowledge, rather than enclosing them. Unlike the earthly commons, digital commons have virtually no rivals. The reproduction and distribution of digital goods are at almost zero cost. This is one of the most significant aspects of digital commons, facilitating hackers' work for the recopying and distribution of digital goods (Benkler, 2006; Castells, 2013; Rifkin, 2014).

Intellectual property rights have created a new regime in which capitalism finds a new, profitable path through the commodification of information. However, hackers have ignored the rules of the intellectual property regime and created a new production and distribution model through network platforms under the idea of the digital commons. The struggle of hackers against proprietary companies following closed source policies has led to the emergence of hacker culture and ethics (Raymond, 2001; Stallman, 2002). In particular, sharing activities among hacker communities have facilitated the flow of digital goods and pushed the boundaries of the intellectual property regime. This production model is generally called "peer-to-peer production," or "commons-based peer production" (de Rosnay & Musiani, 2018; Benkler, 2006; Kostakis, 2011), "platform cooperativism" (Scholz, 2009).

Free Open Source Software

Free open source software (FOSS) is one of the most popular projects built on CBPP (Benkler, 2006). Part of the wider hacker movement, FOSS has been seen *as* an evolution in the software industry since the beginning of the 1970s. [1] The movement consists of online communities that produce software code and share it with peers. Richard Stallman, who has led a struggle against software companies keeping software code closed, claims that there is a struggle between fascism and freedom on the internet (Stallman, 2004). On the one hand, businesspeople capitalize on the internet through (1) the commodification of information, (2) the exploitation of users' labour, and (3) surveillance of users' activities. Collecting users' data without permission and using this data for commercial purposes represents an invasion of users' privacy. Users are unable to stop surveillance on the internet if they use closed-source software, which prevents users' access to source code. In this way, users cannot play an active role in the extension of the realm of freedom on the internet but rather become obedient followers of the rules of corporations (Fuchs, 2014, 2021; Scholz, 2016). In this respect, this system can be termed as fascism. On the other hand, hackers struggle against technology cartels that keep the source code of software closed to control flows of digital goods on the internet, and hackers further support open-source policies for the freedom of internet users. Hackers have led the formation of a new ethics and culture based on sharing, collaboration, and cooperation (Himanen, 2010; Levy, 2010; Wark, 2004). The struggle of hackers should also be seen as an important struggle for human rights, as the human being is a thinking and acting being (Kar, 2021). They should be able to write what they think and circulate this information freely, so that it can have an impact on society. Therefore, hackers contribute to the development of the struggle for human rights with their technological and intellectual productions.

The Free Software Foundation (FSF) was founded in 1985 in the U.S. The first version of the GNU General Public License (GPL) was released by the foundation in 1989, although Stallman at first refused to go through the rules of copyright for the creation of a free software license in the software industry. The license aimed at supporting the distribution, copying, and modification of software source code and provided legal protection for digital commons-based projects (Berry, 2008). The GNU GPL was indeed created to support the free flow of information, in opposition to other licenses that restrict

the flow of information. Therefore, the concept of copyleft was created by Stallman who uses the concept of "free software" as the organizing principle of the movement. Free software is about to freedom or liberty, not price. Free software is related to "free speech," not as in "free beer" (Stallman, 2004). GPL is a tool of intellectual property rights even though the purpose of GPL is to support the free flow of knowledge. Hackers benefit from GPL to prevent digital commons from becoming private assets on behalf of technology companies.

However, the Open Source Software (OSS) movement, which emerged at the end of the 1990s, ignored Stallman's claims. Supporters of OSS, therefore, did not use the concept of "free software" as a principle for their own movements, simply focusing on the technical and economic aspects of the peer-to-peer production model. Eric S. Raymond, who is the influential leader of the open source movement, states: "Open Source is not particularly a moral or a legal issue. It's an engineering issue. I advocate Open Source because very pragmatically, I think it leads to better engineering results and better economic results" (Raymond, quoted in Berry, 2008: 170). The FSF has different philosophical and political views from the OSS movement, but both use the same production strategy based on peer production and keeping the source code open. In this respect, free open source software (FOSS) is used as a common title to address both software organizations that follow the principles of peer production and advocate keeping the source open rather than following the closed-source policies of proprietary companies (Stallman, 2018).

The FOSS movement raises opportunities for the democratization of software production (Benkler, 2006; Raymond, 2001; Stallman, 2002). Users can become part of FOSS communities where many participate in the production and distribution of software and are able to modify the existing products according to their needs. This production model is more democratic than that of the proprietary company as FOSS enables users to become active players in the production process, rather than being consumers.

FOSS is a collaborative production model for developers who desire free access to software code. Access to source code means access to knowledge for developers in the software industry, as developers frequently learn new things when they look at software source code created by others. Developers can circumvent the rules of the intellectual property regime by sharing source code on the internet through alternative networks. Free open source software includes a wide range of programs, such as Gnu/Linux, Python, R, WinRAR, Mozilla, and so on.

BitTorrent is also one of the most well-known peer-to-peer networks that allows users to share files within a group. Users can download various digital goods, which are mostly copyrighted material, via BitTorrent on the internet. The functioning of BitTorrent is that it approaches web decentralization extreme like other peer to peer movement pioneers do. Each client is a server in its own right; files are divided into smaller pieces that can be supplied from different places, allowing the network of downloaders to be transparently used to supply other users with data and bandwidth. In actuality, a file with greater popularity can be served more quickly because more people are willing to donate bandwidth and partial copies of the content.(O'Reilly, 2007).

BitTorrent is free open-source software developed to support the free flow of knowledge. FOSS is seen as a serious threat by the intellectual property regime as it is impossible to control the flow of knowledge on the decentralized peer-to-peer network. When users share or download copyrighted items on BitTorrent, it is difficult to identify who shared

or downloaded those items.

Copyright holders attempt to link BitTorrent's actions to piracy (Bischoff, 2023). In this regard, the intellectual property regime is trying to label BitTorrent activities as illegal. Sharing copyrighted items on the internet can be considered a criminal activity if users do so without permission. Although science develops faster in a society where access to knowledge is free, it can be said that capitalists focus on maximizing profit from the information produced for their own personal interests rather than supporting the development of science for social benefit. As mentioned earlier, the structure of the internet enables FOSS developers to create alternative networks for the free circulation of knowledge, even though the intellectual property rights regime attempts to block the free flow of knowledge on the internet.

It is important to note that capitalists can encourage open access policies when they benefit from digital commons created by developers' productive fun labour.[2] It is interesting that the action of developers using productive fun labour for the interests of capitalists is not considered illegal. It is clear that capitalists profit from free open source software that is based on productive fun labour. The free time activities of developers can lead to the accumulation of capital in favor of capitalists as long as free open source software is used for commercial purposes in the market. Intellectual property rights, in this sense, can be used as effective tools to determine who has access to digital goods and who does not. The intellectual property rights regime, on one hand, restricts the flow of software on the internet on behalf of technology companies who hold the copyrights. On the other hand, the supporters of digital commons apply intellectual property rights to ensure the free flow of digital goods on the internet. However, it appears that capitalists can utilize free open source software for their own businesses and convert the digital commons into capital accumulation.

Conclusion

Digital products are usually composed of fragments of other digital goods and knowledge, which are raw materials for future technology and innovation (Boyle, 2008). Intellectual property rights are a method of legal protection by which the owners of patented or copyrighted goods decide who may have access to their intellectual properties. Intellectual property rights can also be used as a way for creators to make a living or to protect their creations from the information cartels who seek to profit from them. The argument put up by proponents of intellectual property is that the instruments of intellectual property safeguard the rights of technological innovators. As artists and inventors cannot support themselves if their creations are freely traded on the market, proponents argue that intellectual property laws should limit the flow of design and copy of their creations. Otherwise, inventors cannot earn any income from their innovations. However, intellectual property is a tool mostly controlled by the cartels to restrict the production and distribution of intangible goods, rather than accelerate the production and distribution of knowledge. The intellectual property rights regime cannot be defined as a democratic system that enables individuals to play an active role in the production and distribution of knowledge. Even though technology cartels are in a position of minority in society, they decide how technology is developed, and how knowledge is distributed. The majority of people, who are in the position of users, are unable to attend the decision-making process in the future of technology development. Mode 1 as a knowledge production model ensures that the production and circulation of knowledge is under the control of elites due to its hierarchical structure, while Mode 2 ensures that the

barriers to the production and circulation of knowledge are reduced. CBPP is based on Mode 2 as the internet allows users to create alternative networks that form horizontal networks in which users directly share knowledge with peers. FOSS communities push the boundaries of the regime to share software source code with users. As mentioned before, BitTorrent, which is a free open source software tool used for the distribution of digital goods, is defined as an illegal tool by the regime since users can even share copyrighted goods with each other via peer-to-peer networks. In this respect, if FOSS can prevent the exploitation of productive fun labour in communities, it can be a site of resistance against the intellectual property rights regime. FOSS can lead to the formation of an alternative digital space, which allows users to play an active role in deciding for what purpose and how technology should be produced.

Notlar

1 In this research, the term "hacker" refers to "someone who loves the program and enjoys being clever about it" (Stallman, 2002: 17).

2 Productive fun labour means voluntary labour provided by hackers in communities. The main motivation of hackers is to have fun when they participate in the production of free open source software, but software developed by hackers' efforts has exchange value in the market so efforts turn into labour in this way. That is why I call this type of labour "productive fun labour" (See Alışkan, 2023).

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A Critical Look at Digital Media, the Intellectual Property Regime and Free Open Source Software

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Extended Abstract

This study examines the ways in which information is produced and disseminated. With the development of digital media, alternative models of knowledge production and their limitations and potentials for a democratic society are discussed. The Mode 1 and Mode 2 of knowledge production developed by Michael Gibbons have made it possible to rethink knowledge on a different axis in the context of power relations. According to Gibbons, the Mode 1 model of production is mainly used by academics to produce knowledge of interest to small communities. Mode 1 has a style dominated by a hierarchical, disciplined and homogeneous structure. This model is used in universities and laboratories. Mode 2 has an interdisciplinary and heterogeneous structure.

Mode 2 promotes the dissemination of knowledge over large areas. It emphasises the active participation of researchers in this production process. This model is usually applied in industrial laboratories, research centres, extra-university institutes, think tanks and consultancy centres. In particular, communication networks allow researchers to interact with the communities and organisations where knowledge is produced. Technology-oriented knowledge is based on the decisions and actions of technical personnel who produce technology. Communities play a crucial role in identifying important problems and developing methods to solve them. Scientific ideas circulating among technology producers have a significant impact on the knowledge production process. In this sense, the computer is a tool that has made significant contributions to Mode 2 in terms of the production and dissemination of information.

Commons-based peer production has emerged with the development of digital media. Thanks to the infrastructure provided by digital media, users can create alternative network platforms and become part of international knowledge and technology production through the digital communities they create. In commons-based production, users do not need to be experts in any field. A significant proportion of the users involved in the communities can contribute to the technology production process with the information they gain from the discussions in the community.

Free Open Source Software (FOSS) is one of the best known examples of a commons-based production model. Companies that dominate the software industry control the production and distribution of information by using intellectual property laws to prevent the sharing of software code with third parties. The hacker movement's fight for the free circulation of information has led to the emergence of a new production model in the digital sphere. Thanks to digital communities, FOSS has brought together hundreds of software developers and amateurs living in different parts of the world, enabling the production of technology and knowledge through the development of collaborative projects. The ability of software to be distributed via the Internet at almost no cost has enabled the widespread use of FOSS products. The easy and free integration of this software with hardware has enabled the rapid development of the commons-based model of knowledge production.

Although the intellectual property system claims to allow inventors and artists to continue their activities and monetise their products, it is now often used by large technology cartels as a means of controlling the production of science and technology. The commons-based production model encourages mass participation in the process of knowledge production. The more hackers and software developers participate in the production process, the faster and higher quality technology is produced. For this reason, OCR advocates encourage the dissemination of the production process to the masses and the distribution of open source software for widespread use, so that these products can be preferred by users and recommended to others.

Although there are software developers who earn a financial income from this area, making money is not the main motivation of the vast majority of FOSS supporters. It is clear that volunteer labour in this area is critical to FOSS and commons-based production. It is possible that labour will be transformed into exchange value and become a new source of income for large corporations. This possibility is the weakness of FOSS and commons-based production. However, alternative digital communities and technologies can prevent the monopolisation of information by certain elites.

Bittorent is a digital product sharing tool developed using free and open source software. This tool has been repeatedly declared illegal by the intellectual property regimes in various countries and its use is prohibited. Digital products such as books, films, videos, articles, software, designs, etc. shared through Bittorent reduce the profit margins of the technology cartels in this field and make it difficult to commodify information in the digital field. For this reason, the capitalist system is able to outlaw, through the legal system, technological tools and methods that could put the capital accumulation model in a difficult situation. It also demands criminal action against users who use these tools or methods.

This article argues that the commons-based model of production is part of the Mode 2 model of knowledge production. Knowledge production processes in the digital community are horizontal rather than hierarchical. There is a heterogeneous structure within the community. There are specialised software developers and graphic designers as well as amateurs interested in technology production. There are not many barriers to joining digital communities and participating in the conversations that take place in the production process in that community. These communities become training grounds for most amateurs. As the activities of amateurs within the community increase, their visibility increases, and this gives them a positive reputation. Mass participation in production processes is essential for participatory democracy. Unlike technology cartels that seek to gain economic privileges by excluding the masses from the production process, proponents of FOSS argue that technology develops faster when technological production is done by the masses. In addition, open source policies allow individuals to take a more active role by moving them from the position of users to that of producers.

Keywords: Digital Media, Intellectual Property, Digital Commons, Free Open Source Software, Bittorent.

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In this study, the rules stated in the **"Higher Education Institutions Scientific Research and Publication Ethics Directive"** were followed.

Araştırma tek bir yazar tarafından yürütülmüştür.

The research was conducted by a single author.

Çalışma kapsamında herhangi bir kurum veya kişi ile **çıkar çatışması** bulunmamaktadır.

There is no **conflict of interest** with any institution or person within the scope of the study.