

The value and price of digital media commodities

Media, Culture & Society

2024, Vol. 46(2) 219–234

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DOI: 10.1177/01634437231188464

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Abstract

Focusing on the fact that digital media commodities are easily reproduced once initially produced, this paper explains, against the backdrop of Marxist insights, just how these commodities are produced, distributed, and consumed in the current digital media environment. Working with Marx's definition of the value of commodities as the social labor time required for their production, we can thereby define the value and price of reproduced digital media commodities as zero, but the market price of these commodities as in fact constituting the Marxist monopoly price. These determinations are then supported by a review of the ways valueless digital media goods are commodified in a monopolistic real world. The approach here, borrowing from Marx's research methods, starts from commodity analysis to explain comprehensively the wider political and economic system of capitalism. This viewpoint of the inherent value of media products is foreign to neoclassical economics as well as to mainstream media and communication studies embracing the utility theory of value.

Keywords

digital media environment, labor theory of value, marxist media and communication studies, marxist monopoly price, utility theory of value, value and price of commodities

Introduction

With the rapid spread of digital technology, most media products have been digitized. For example, books, records, movies, games, and software are produced and distributed digitally, and once produced, goods can be easily and very simply copied and transmitted. This is a characteristic that can be used by multiple people at the same time and does

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not disappear even after multiple uses. In the early days of digital technology, there were conspicuously many people who claimed to use it for free, or that a sharing economy could be realized. Recently, as prices are set for them, and they are produced and sold as full-fledged commodities, the trend is instead to pay. It seems entirely natural now to pay for digital media commodities once thought of as free. There is a strong perception that unauthorized copying or transmission is illegal, but as long as you search well, often even the ones demanding payment can possibly be found for free. Under such circumstances, it is necessary to clarify the “economic” value and price of digital media commodities or to make the boundary between paid and free goods more clear.

The analysis of the value and price of commodities can be found in classical political economics. Representatively, in the Marxist labor theory of value, the value and price of commodities are explained in terms of the social labor time required to produce them. A higher or lower price means more or less the labor time required to produce the commodity. This is differentiated from explaining the price of a commodity centered on use-value, called “utility” in the utility theory of value actively accepted by neoclassical economics (Mazzucato, 2018). We can find recent discussions in Marxist economics that elucidate the value and price of software represented by digital media commodities. According to Chae (2004), the value and price of software is such that when these goods are reproduced, no additional cost (labor) is required, so copied software becomes valueless. Nonetheless, these so-called valueless objects are indeed traded at a certain price in the market, and Chae explains this price as the Marxist monopoly price.

In this respect, we need to look at how the value and price of digital media commodities are explained in the Marxist labor theory of value, because Marxist labor theory of value is still one of the value theories that explains the value and price of commodities in economics; and furthermore, the basic concepts of Marxist economics have been a theoretical foundation in media and communication studies since their inception (see Fuchs, 2016; Garnham, 1979). Above all, the reason why we are adhering to the Marxist labor theory of value is that there are still many unresolved problems in (digital) capitalism. There are fundamental problems with the capitalist economic system, such as the sluggish growth rate of whole societies, the increasing amount of global debt (now at \$310 trillion), the growing gap between the rich and the poor, and the causes of repeated economic crises.

We would suggest that these problems can be more actively addressed in the Marxist labor theory of value. This assertion will be supported by the fact that explanations of the value and price of digital media commodities can explain digital capitalism as we attempt in this paper. We need to compare and review how the Marxist labor theory of value explains the value and price of easily and simply reproduced digital media commodities. Likewise, we will examine the renewed implications of the Marxist labor theory of value for media and communication studies.

Value theory and commodity analysis

Economics has intimately studied the value as well as the price contained in commodities (Chang, 2014). For many economists, commodity analysis is about explaining how

the values and prices of these commodities are realized. If classical economist Adam Smith studied the price (value) of water and diamonds, recently several scholars in their turn have tried to explain the value of Internet companies such as Google (Wulfers, 2019). This value study, or price study, was an approach to understanding the economic and political systems in which these commodities were produced, consumed, and distributed through the analysis of the value contained in them. Indeed, Adam Smith, through his value analysis, went on to explain that the source of national wealth is labor.

Smith's research was the result of a critical analysis of mercantilism and physiocracy, and became the cornerstone of scientific political economics. The position that the source of wealth is labor was made more concrete by Karl Marx, and the Marxist labor theory of value is still regarded as classical political economy, but, as such, evaluated as an outdated economic theory by neoclassical economists. Neoclassical economics rejected the labor theory of value and presented a new utility theory of value (Mazzucato, 2018). The utility theory of value, as representing the value theory of mainstream economics today, has become a major theoretical basis for explaining the value and price of commodities. However, for those fundamentally grappling with capitalism, Marxist economics still remains an inescapable theory (Heinrich, 2005).

Commodity analysis in labor theory of value

Adam Smith and David Ricardo, the leading theorists of classical economics, rightly discussed in their price theories initially, "Why water is cheap and why diamonds are expensive" (Mazzucato, 2018). In their publications, the value of an object is evaluated through exchange; and then, added to this, there arises the affiliated question of how one evaluates whether that commodity is cheap or expensive. It was thus a question of what constitutes value and how the amount of each value is determined. For example, if three different products A, B, and C can be exchanged for each other, this is possible because they have the same value; the exchange value contained in these commodities is the same. In this respect, classical political economy held that the amount of labor required to produce an object determined the "original" value of the commodity. Besides Smith and Ricardo, Marx also viewed the value of commodities as attributable to the labor involved in producing them. However, Marx, unlike them, proceeded to offer the explanation that it is not the time spent by individual producers that alone creates value, but rather the overall "socially" necessary labor time. In this way, in Marx's day, the labor theory of value was the recognized viewpoint used within political economy (Heinrich, 2005).

Marx, who developed the labor theory of value in classical political economy, did not define all products as commodities just because they satisfy human desires (needs). Commodities must be objects "produced" in order to be exchanged with the labor products of others. According to Marx, after removing the property of use-value from the things that are exchanged with each other, what is common to them is that they are all products of human labor. In this way, the production of an object includes abstractly identical labor, and this abstract labor defines the value of the commodity. For Marx, the value of a commodity is determined and measured by the amount of labor involved in the

production of the commodity. Even if a producer makes a commodity longer time than socially necessary in respect to labor time, the value of the commodity is as much as the socially necessary labor time to make it. Conversely, even if a producer makes it in a shorter time than the average social time, the commodity has only the value of socially necessary labor times. The high or low price of a commodity indicates that the labor time required to make it is high or low. In Marxist economics, the value of a commodity and its price are substantially the same, and the price is merely a form in which the value is expressed. Marx, who distinguished fundamentally between value and price, saw that the price of a commodity is never fixed, but constantly changes. For example, changes in the means of production, such as the Industrial Revolution or the Digital Revolution, are developments in labor productivity, which in turn change the value and price of commodities. As the average labor time of society as a whole decrease, the price of commodities also changes.

In this way, the value of a commodity is expressed in its price, but Marx points out that there is no guarantee that the price of a commodity will always be expressed in its “original” value (Marx, 1990: 196). In other words, not all prices of commodities represent precisely a corresponding magnitude of the specific value. In addition, not all price fluctuations indicate corresponding fluctuations in the size of the value. There could arise a discrepancy between the price of a product and the degree or size of its value. Marx never thought that the price of a commodity should be explained solely in terms of value measured directly via labor times, being as other considerations too play their part. If a commodity is sold “at its own value”, each sector of industry will have a completely different rate of profit (surplus value rate) (Heinrich, 2005). If the price of the commodity expresses the value of the commodity as it is, there will be no need to strive for more profits. Capital, however, is only interested to multiply its capital as much as possible. Competition between capitalists with the pursuit of the highest possible rate of profit has two consequences. On the one hand, the price can go against the proper expression of value. And on the other hand, based on this price, all capital tends to yield the same average rate of profit or general rate of profit (Heinrich, 2005). The commodity prices at the point where these average rates of profit are derived are called “production price” by Marx. And in the real world, the price of a commodity is defined by the production price, not by its value. In this nexus, the production price is the cost price (the cost of the means of production and wages engaged in commodity production), plus the average profit (Marx, 1990). So, although the price of a commodity does not seem to be sold according to its value, in fact, the price of production is still at the center of the fluctuation in price. The size of the value still regulates and reflects the production price.

Marx explained that the source of wealth (profit) is the surplus labor of laborers viewed through the analysis of the value and price of commodities. He denoted the laws of movement throughout capitalist society, such as the competition between capitals seeking more profits and the class relationship between labors and capitalists. In this vein, Ernest Mandel, a Marxist economist, evaluates the importance of the labor theory of value something on the order of the inescapable need for the concept of basic particles in the area of physics (Mandel, 1990: 41). Like Mandel’s interpretation, the basic principles of classical Marxist political economy start from the labor theory of value.

Value and price of digital media commodities

Even in Marxist economics, there are varying discussions to explain digital capitalism. Among them, the most notable research revolves around the analysis of the value and price of software (Fuchs, 2008). Among these discussions, we will focus on the “Information Goods Value Controversy” that took place recently in South Korea.¹ The reason we pay attention to this discussion is that the value and price of software represented by digital media commodities are here explained in the Marxist labor theory of value. Plus, they explain the value and price of (digital) media commodities with non-excludability and non-rivalry as the social labor time required for (re)production. This approach differentiates itself from mainstream media studies which accepts utility theory of value (see Dewenter and Rösch, 2015), or even that of “political economy of media,” which explains the value and price of commodities in terms of size of knowledge and information (Fuchs, 2016). Thus we need to examine how the original value and price of digital media commodities are explained in the “traditional” Marxist labor theory of value.

Value and price of software

In the Korean “Information Goods Value Controversy,” the main subject of discussion is the value and price of software, but here software is software itself, not knowledge. According to Kang (2008: 57), “In the Marxist labor theory of value, the value of software would not be the value of knowledge or information that can produce software, but rather the software itself as a result of that knowledge.” It is not the knowledge or information itself that has value, but rather the product of knowledge which has become a commodity. If software itself is regarded as knowledge, knowledge itself becomes a commodity, but in this case, Kang insists, the same object, that is knowledge and software, is referred to differently. He points out that “the value of research and developmental labor to develop (produce) software is as much as the labor time required to reproduce the software, whether it is the knowledge to produce the software or the software itself” (Kang, 2008).

This is a differentiated approach from media product analysis. The assertion that knowledge or information itself is not a commodity is also confirmed for the purpose of reproducing software. Kang explains that when we reproduce certain scientific laws or knowledge to apply those laws, it is in order to understand and actually to use that knowledge. This is the same in the case of software, “the purpose of imitation (reproduction, citation) is never in the production of software itself, but in the use of the produced software” (Kang, 2008). There is no need to independently and repeatedly produce known scientific facts or knowledge.

In the “Information Goods Value Controversy” reference is made to digitized information such as software, that is, goods in which information constituting contents is produced and distributed in a digital state. All of these goods have the characteristic that the labor time required for their production approaches zero from the second unit onwards. Subsequently, Chae and Kang focused on the issue of how to explain the huge profits generated from software being sold at a high price in the real world, even though the original value of reproduced software is close to zero.

Chae and Kang define copied software as valueless things and point out that the value of software once produced is never actually transferred to a second unit, and so on. It is a property of digital information goods that anyone can easily and perfectly reproduce (reproduce) digital contents once produced; this in itself is a result of the development of digital technology. Kang (2009) argues that for a new machine or a new invention, a very large cost is required for the initial production, but much less cost is required to reproduce a run. The R&D labor of software does not have to be repeated every time to get the required result. The R&D labor expended in producing the first unit of any commodity forms the value of that commodity. But and here is his point, labor adds no value to commodities produced from the second time onwards. This view is also confirmed by Chae, "The scientific and technological revolution that has developed rapidly in recent decades is realizing unmanned production in the major material production sectors of society," "The values of not only information goods, but also major commodities are virtually approaching zero" (Chae, 2004: 258).

Why then, can a valueless object like software become such a valuable product in the market place? According to Chae (2004), it is only possible with (legal) interventions such as intellectual property rights. Since the amount of labor required for software reproduction is close to zero, normal duplication (reproduction) is possible at virtually no additional cost. However, if its reproduction (copying) is technically restricted or legally restricted, software can indeed become a commodity. And this is why they are commercialized as they are; the market is monopolized from the start. The price becomes a monopoly price that does not depend on its value or production price, but only on the buyer's desire to purchase and his ability to pay (Chae, 2008; Marx, 1991).

The argument precedes along the following lines: copied software is defined as valueless things in the fact that its original value is close to zero, but software can become a commodity due to legal compulsion such as intellectual property rights. Software, which is a valueless good, is sold at a high price, and this market price is explained by the Marxist monopoly price. As an adjunct to this explanation, Kang reminds us that the Marxist monopoly "price" theory which explains the real world where software is sold at a high price is already anticipated by the Marxist "labor" theory of value.

The Marxist monopoly price is established when a part of the socially produced total surplus value is transferred to other sectors. Therefore, explaining the price of software by Marxist monopoly price is by no means an exceptional category outside the framework of the Marxist labor theory of value. (Kang, 2009: 289)

But we need to expand and apply onwards the explanation of the value and price of software to digital media commodities in general.

Monopoly price of digital media commodities

First of all, the unique characteristics of software are the same as the general characteristics of media products. Such goods too once produced can be easily copied and passed on. Software characteristics can be expanded and applied to digital media commodities in general. News, for example, is a representative good that can be easily copied and

transmitted once produced, and at the same time has high use-value. When a news content is sold directly to subscribers, the set price becomes a monopoly price that has nothing to do with “original” economic value or production price. Even if Google pays a content access fee or usage fee to a media outlet due to legal intervention, the transaction price is a price determined by the buyer’s purchasing desire and purchasing ability. In this respect, news content that is reproduced without additional cost or labor can theoretically still be produced and distributed free of charge, and it is impossible to set a reasonable price in the market. This is because economical valueless goods have become commodities only through the intervention of the state, thus, they cannot be traded reasonably in the market. Some news content can be traded as a commodity due to its high use-value. However, these commodities traded on the market do not produce any “economic surplus value.” Marx does offer an explanation of how things with no value are priced, one is “fictitious capital” such as stocks and bonds, and the other is how land is priced (Marx, 1991). In this respect, we can add that the price of news content is a Marxist monopoly price, and the enormous profits of media companies can be explained by monopoly profits.

Meanwhile, as digital media goods increase, the government’s intervention to legally block the reproduction of these products is notable. For example, the German publishing industry declared in the 2009 Hamburg Declaration that “universal access to a website does not necessarily mean free access” (Die Welt, 2009). This is the beginning of the ancillary copyright for press publishers, which enforces copyright fees on search engines such as Google. Since then, the EU has strengthened its legal intervention in the Internet market, citing a European single market. However, whether the giant IT companies will pay copyright or usage fees to media outlets is unlikely. The state’s intervention for media outlets is also confirmed in places such as South Korea. The news copyright trust business, which has been in effect since 2006, is operated through a brand called “News Korea,” which is a form of business in which a government agency leads the charge-based content business to guarantee media companies’ income. (Lim, 2013). Such state intervention can help goods emerge as commodities and increase media revenues to some extent. However, state intervention does not equate to commodification of all goods, which are valueless, in the market; and the way in which the price of commodities is set is still determined by the buyer’s purchasing desire and purchasing ability.

We can also find how reproduced goods become commodities through intellectual property rights (state intervention) in media products in general. Ronald Bettig (1996), who explains the historical origin and philosophical background of copyright, points out that with the invention of the printing press, the publishing business grew through the legal intervention of the state. He explains the commodification process in which literary works, originally the property of the entire community, became privately owned in capitalist society. Bettig points out that the extension and protection of intellectual property rights is in fact for the copyright owner, not necessarily for the creator. This means that the establishment of legal rights may prove irrelevant to the creator in that the substantive rights of intellectual property rights can be easily transferred. Bettig’s explanation is contrary to the necessity of intellectual property rights so often claimed in mainstream media economics, that is, enforced solely for the protection of creators’ rights or private property; and likewise, infused with the over-simplified explanation that this motivates

production activities (Kiefer, 2001). In cases where the creator does not own the copyright, intellectual property rights function for the rights holder, that is, capital, not the creator; in most media industries, including music records, movies, and publications, copyrights are functioning for the rights holders.

We can find additional critical views on intellectual property rights within the digital environment. For example, legal scholars such as Lessig (2002), “copyleft” activists, and free software activists have pointed out the semantic validity or legal ambiguity between property and rights. To them, intellectual property rights are interpreted as laws that restrict creative activities, harm health (as in the case of pharmaceutical patents), and are injurious to the public interest. Rifkin (2014) argues that copyrights should be replaced or expanded with access rights for the sharing economy. Mainstream economist Boldrin (2009) prefers the term “intellectual monopoly” over intellectual property rights.

The explanation of the value and price of the product helps to understand the intrinsic value and production price of digital media products, and furthermore, the monopoly structure of the media industry that obtains such higher than average profits. The development of digital technology has made it easier to produce and distribute valueless goods, and, on the other hand, means that strong state intervention is required if the capitalist mode of production is to be maintained. The role of the state intervening in the market is to commoditize goods that are valueless, while also preparing protection policies to protect its own capital. The explanation of digital media commodities with monopoly prices can be detected in the Marxist labor theory of value, which states that labor is the source of wealth, and serves as a theoretical basis for a more active understanding of the digital media environment.

From commodity analysis to description of the digital media environment

The original value of digital media commodities is defined as the social labor time required when these products are reproduced. The original value of digitally reproduced media commodities is close to zero. In this respect, they are goods, not commodities.² However, goods without value (or that have only use-value) can become commodities due to various external interventions in the market. If several additional, artificial conditions are not met, they remain goods deliverable free of charge. The market price of digital media commodities is explained as a Marxist monopoly price that is completely unrelated to the product’s original value or production price; this explanation is also buttressed by classical Marxist labor theory of value. And, if the value and price of digital media commodities are objectively explained in the Marxist labor theory of value, we need to expand this analysis of value and price to a more concrete analysis of the overall digital media environment.

Concrete analysis of the digital media environment

In Marxist economics, commodity analysis is the basis for elucidating the laws of movement in capitalism. Marx’s dissection of capitalist society begins with the analysis of commodities, and goes on to explain capitalist society as a whole. The trajectories of

these explanations are described as both “from the concrete to the abstract,” and “from the abstract to the concrete.” At that time, the original meaning of the term abstraction was to suspend all other aspects among various aspects of a concretely existing object and leave focused one specific aspect. For example, in his analysis of the capitalist mode of production, Marx did not begin with the concept of capital, but with the analysis of commodities. The main concept was extracted through the method of “from concrete to abstract,” and subsequently the real world was explained more scientifically through the method of “from abstract to concrete” (Ilyenkov, 1982).

This is different from the research approach in mainstream economics (mainstream media economics), which has never even asked in depth where the value and price of (media) products come from (see Shapiro and Varian, 1998). The following explanation is how the explanation of the value and price of digital media commodities is presented in detail in the digital media environment.

About surplus value (profit)

Most of Google’s and Facebook’s revenue comes from selling ad space and user information to companies. Even personal information is commercialized and monetarized. However, in Marxist economics, surplus value (profit) originates from workers’ surplus labor. And thus, “robots don’t produce any surplus value” (Goldstein, 2008: 8). This is connected to the pertinent question of where the enormous profits of digital media companies that produce and sell digital information goods comes from. It is necessary to look at how huge profits are possible for companies selling valueless goods. In the ever-accelerating digital revolution, the economy of a capitalist society does not guarantee only continuous growth. And this leads us to the question of whether the digital media industry is a sector that always increases GDP.

We should pay attention to the fact that companies producing digital information goods do not produce any surplus value (profit). This is because digital information goods do not contain any surplus value in that they are economically valueless. Nevertheless, these companies are earning huge profits by selling valueless goods as commodities. To this aspect, we need to focus on the Marxist monopoly price. Marxist monopoly price means that a price higher than the production price of a commodity is set in the market, and thus goes on to obtain a higher monopoly rate of profit compared to other firms still operating at the average rate of profit. The monopoly profit of digital media companies that produce and sell valueless goods should be seen as the transfer of surplus value produced in other industries to these industries. For example, companies such as The New York Times, Google, Netflix, and YouTube exclusively (re)sell digital information goods and earn high profits. They sell digital information goods at a monopoly price, completely unrelated to their original value or production price, and these companies earn monopoly profits that are higher than the average profit rate. Marxist analysis attributes the production of surplus value to surplus labor, and is still explained in the Marxist labor theory of value, which explores the total socially produced surplus value.

This explanation of profit reflects the monopoly profits of monopolistic companies that earn high profits in the digital media environment, and further explains the reality in which numerous digital information goods are produced and distributed without even

appearing to recover production prices. Not all digital workers' labor is exploited, nor does all their labor create surplus value. But this explanation is likewise reaffirmed in the fact that the overall rate of profit in capitalist society is still falling in today's technologically advanced, so-called digital or automation age.

About competition

The multiplication of capital in Marxist economics is a constant drive to obtain more profits. Individual capitals are constantly forced into an unstoppable, profit-generating movement because of competition with other capitals. They face the threat of being overpowered by competitors who produce cheaper or better products, or both. Therefore, if accumulation does not continue and production facilities are not improved, an individual company is at the risk of failing. In capitalism, the pursuit of excessive profits may not necessarily be not a matter of greed or immorality on the part of individual capitalists, but rather relates to an innate structural problem of the capitalist mode of production itself.

On the other hand, on the positive side, the constant competition between capitals introduces new technologies; and capitalist society achieves high productivity. These results are confirmed throughout capitalist society, and we can equally observe this competitive structure in the media industry. For example, media companies consolidate newsrooms, newspaper companies enter the broadcasting market, and IT companies such as Amazon acquire the Washington Post. But this represents the disappearance of the boundaries between industries and the blurring of the distinction between media capital and IT capital, all of which are the result of capitalist competition. IT companies such as Google, Meta, and Netflix are entering the media industry and, as media companies, exert a great influence on public opinion. Not only that, but car manufacturers like Tesla are now also big data companies, covering all areas of industry. Competition for capital, in which telecommunication companies acquire cable TV, while broadcasters merge with telecommunication companies, is an ongoing series of concentration and centralization of capital. It comes down to monopoly capital.

In mainstream (media) economics, competition is primarily understood as a dynamic process in which stages of innovation and imitation alternate (Kiefer, 2001). The inter-capitalist competition mechanism is explained as a fatal problem for media companies. German media economist Klaus Beck points out that "media companies are fundamentally caught in a contradiction between private and public interests" (Beck, 2007: 216). This contradiction is a realistic problem facing media companies in a capitalist society. In mainstream media communication studies, they try to solve this competitive mechanism (the fateful contradiction of media outlets) operating in the form of a corporation through rational(?) coordination (Kiefer, 2001). They borrow theories such as natural monopoly, market failure, or state failure. However, these theories focus on issues of rational(?) regulation, coordination, or operation rather than on offering an underlying fundamental solution.

These are extremely subjective solutions that cannot be objectified as to what is reasonable and fair. A typical example is the attempt at limiting the level of monopoly in the media market to 30%. It is not possible to objectively explain how these figures were set, and the aforementioned fatal problem of media companies remains unresolved. We see

this approach as a hallmark of mainstream economics. Mainstream economists who approach competition in capitalism as a subjective problem seek a solution generally through market self-regulation (Mazzucato, 2018). Industries such as railroads, water works, which have historically tended to be natural monopolies, have emphasized public ownership or protected public interests from corporations through strong regulation. However, as the competitive mechanism of capital is heightened, privatization in areas where natural monopoly is maximized is now claimed as a matter of course. In recent years, even natural monopolies in the fields of Internet technology and artificial intelligence are either privately owned or almost unregulated. Rather, powerful state interventions are expanding to encourage private ownership and protect national capital. The introduction of new technologies due to constant competition means high productivity in capitalist society. The capitalist mechanism wants to make even these achievements privately owned. In this respect, we need to look at the capitalist state identified in the digital media environment.

About the capitalist state

The capitalist state intervenes in the market through policies. State intervention is confirmed in the digital media market where digital media goods are increasing. In particular, intellectual property rights or data protection laws must be strengthened in order to commercialize valueless objects that do not require any labor for reproduction, that is, in order to ensure private ownership. In brief, we live in a society where information is money. Marxist economics explains that it is the destiny of capitalist states to protect their capital.

We can confirm this destiny in the fact that when a valueless good appears as a commodity in the digital environment, this was and remains impossible without legal intervention. Conversely, since no additional labor or cost is required to reproduce a commodity once produced, these goods can theoretically and economically be provided free of charge to all members of society. This approach is also confirmed by Rifkin (2014). According to him, patents and copyrights thrive in an economy organized around scarcity, but are useless in an economy organized around abundance.

We should re-examine the role of the state in the digital environment. Digital media goods once produced do not require additional labor (cost) for reproduction. Even in a digital environment, however, the production of the first unit of goods can be highly costly. For example, if a well is dug to provide drinking water to the villagers, a great deal of labor is required to dig the well. Water provided from a well once completed can serve as valuable bottled water for all villagers, or we can sell the water in a capitalistic way, but we can also use it as a public good. Parallel to this syndrome, we need to think about how to produce, distribute and maintain³ digital media goods as public goods. Producing and distributing public goods becomes a new revised task that the state, not individuals, must do through policies. The state is then not functioning in the capitalist mode of production, but serving as an organ organized and adopted to this new mode of production. This role of the state can lead in a digital sense to public use of online platforms that otherwise tend to be natural monopolies.

Of course, capitalist countries are also making efforts to operate the media market rationally. Several countries have sought various measures to control corporate mergers

and acquisitions or to control public opinion monopolies so that they do not monopolize the media market. But to them, monopoly means when only one firm controls the relevant market. Monopoly pricing is explained by the price set by the only supplier. Given this point of view, in today's media market or IT industry, monopoly companies will never merge or monopoly prices will never be used in any other sense. However, many companies are already earning monopoly profits that are higher than the average rate of profit. And goods that are valueless become commodities and are sold at Marxist monopoly prices. The state should re-think, if not retreat, from its self-assigned role to protect the achievements of digital technology solely as private property. Communities need to think about how to produce collectively and distribute public goods for free to all.

About alternative journalism

It is necessary to look at the commercial privatization of communication media in the digital environment. As the benefits of scientific and technological development are fixed in the capitalist way (goods are sold as commodities), great changes are also confirmed in the area of journalism. For example, as large media companies swallow local newspapers, the number of "news deserts" without local newspapers is increasing. We may seem to live more and more in an era of news flooding, but the gap between rich and poor in obtaining information grows wider. Large media outlets are actively increasing their use of big data and artificial intelligence technologies in journalism. In this situation, journalists had to quickly learn filming and editing skills, and become multiplayers. Technological development does not lead to reduction of working hours or improvement of work environments for a journalist, but rather is emerging as a heightened competition that requires individual development and improvement of ability. The benefits of technological advances are being used almost exclusively for capital, not necessarily for journalists or readers.

Meanwhile, along with quality journalism, fake news also increases, confirming the emergence of a market movement concerned to emphasize quality. However, since quality was originally the criterion for determining prices in utility value theory, this logic invites a strategy to guarantee higher prices for media monopolies companies. Furthermore, symbiotic copyrights such as ancillary copyright for press publishers or for media companies try to decentralize the media market, but legal effectiveness is determined by the influence (monopoly power) between business operators. Copyright is also a refuge that seems to apply only to giant media outlets.

Codes and data generated for free, mainly by major media outlets, are already being reproduced at no additional cost. For example, computational journalism uses all the code or data to (re)produce another commodity. In all these cases, the benefits of digital technology are used for higher profits for an ever-diminishing number of capitals rather than for the community as a whole.

We can also see the commercial privatization of journalism in so-called public broadcasting. Public broadcasting is guaranteed a natural monopoly, licensed and operated by the compulsory force of the state. Public broadcasting service such as the British BBC, German ARD, and Korean KBS, serve members of nation-state units. Public broadcasting can also provide economically valueless broadcasting goods free of charge without

any technical restrictions. Nonetheless, they limit public beneficiaries to members at the national level and sell their broadcasting goods as commodities on the open global market place. We can accordingly understand the destiny of public broadcasting, which sells public goods as commodities, from the underlying structure in which it has to compete with other broadcasting capitals in the global market. In this respect, German public broadcasting's attempts at reform are a form of competition that cannot be absolutely excluded in the engaged digital environment, and is an example of how a monopoly capitalist state operates public broadcasting so as to maintain monopoly capital.

If digital media goods once produced can be reproduced without further cost, innovation and welfare should be able to be increased to the benefit of the whole society. In this respect we can think of alternative journalism in an anti-capitalist way. The alternative here means that the products of labor are retained and used as goods, not as commodities. If community members use goods, not commodities, in a digital environment, digital space can naturally become open space. Community members could even cross the boundaries of the nation-state unit. Already, computational journalism collects and analyzes information in real time, writes and edits news, and distributes it automatically. In other words, technological advances in which production and delivery of digital media goods can be made free of charge are already feasible. However, if society tries to own these productions in an exclusive and rivalrous way, the use of public goods is bound, instead of becoming wide spread, to stay extremely limited.

So far, in mainstream economics, the value and price of news has mostly been determined by its high utility (use value). A society where news (information) and knowledge become money is not unfamiliar. However, we have seen that in the Marxist labor theory of value, news once produced can be reproduced without any additional labor. And based on this, we can see an alternative vision for journalism in the digital environment.

Conclusion

We have looked at the value and price of digital media commodities in the Marxist labor theory of value, and confirmed that the value and price of copied digital media commodities are virtually zero. In addition, in that no labor was applied, these copies were defined, rather than as "commodities," as goods without economic value, that is, as valueless. Nonetheless, these goods can turn into commodities in the market dominated by capitalism. In other words, because these goods are easily copied and transmitted, they cannot be produced or sold as commodities apart from state interventions, such as technical restrictions or intellectual property rights. Thus, through technical restrictions or legal interventions, these goods appear on the market as commodities and have an elevated price. In this respect, we could define and view the price of digital media commodities sold and produced in the market as a Marxist monopoly price that has nothing to do with the original value or production price; that is, a price determined by the buyer's desire and ability to pay.

Our account as such differentiates it from neoclassical economics which embraces the utility theory of value. In other words, we looked at the original value and production price included in commodities in terms of social labor time, and not utility theory based. For even in the capitalist mode of production, commodities are still being exchanged

today, and the standards of exchange are objectively explained. However, the main purpose of this paper is not merely to be understood as questioning a mainstream media economics that accepts neoclassical economics, but helpfully to assert the optional vitality of Marxist economics and insights. We seek a more differentiated, and enlarged approach in order to more clearly understand the political and economic issues that need clarification in the real world of digital capitalism. This search is supported additionally by how the analysis of the price and value of digital media commodities in traditional Marxist economics extends to the digital media environment as a whole.

Our study has the following limitations. First of all, our research has been limited to digital media commodities that can be easily reproduced once produced. However, in the rapidly changing digital media environment, various additional digital services, such as social media and digital commerce, are being provided. In this respect, our research needs to expand further the range of digital media commodities. Moreover, in order to produce goods that have no economic value, specific discussions are needed on how the entire society can bear the high cost of producing the first unit. In addition, the concept of monopoly explained in Marxist economics needs to be actively expanded and applied to policies regulating the media market in order to more insightfully explain the real world. These additional studies are ongoing efforts to understand digital capitalism more objectively, and at the same time expand and apply our research to media and communication studies in general; all this in order to seek how mankind can share the benefits of these scientific and technological developments. This is because, although there are still a lot of problems to be solved in complicated reality, a one-sided viewpoint of utility still dominates and warps our conceptual thinking.

Author's note

This article is based on the completed PhD thesis, which is in preparation for publication.

Declaration of conflicting interests

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: Critique of the Neo-Marxist perspective. Critique of media product analysis in the political economics of media. Study of public service and alternative media via traditionalist Marxist insights.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.

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Notes

1. In South Korea, in the early 2000s, there was a discussion centering on how scholars majoring in Marxist economics might explain digital capitalism. We find one doctoral dissertation in the faculty of economics, six books, and about 30 research essays.

2. Things which in and of themselves are not commodities, things such as conscience, honor, and so on, can be offered for sale by their holders, and thus acquire at least the form of commodities through their price. Hence a thing can, formally speaking, have a price without having a value (Marx, 1990: 197).
3. In the parallel example additional costs are also required to maintain and repair the wells created. Likewise, even the cost invested in producing the first unit in a digital context cannot be recouped when the reproduced digital codes are not sold. However, the monopoly capital that can sell a myriad of digital codes easily obtains the maintenance cost from the enormous monopoly profits.

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