




“Impact of digital economic liberalization and capitalization in the era of industrial revolution 4.0: case study in Indonesia”

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# IMPACT OF DIGITAL ECONOMIC LIBERALIZATION AND CAPITALIZATION IN THE ERA OF INDUSTRIAL REVOLUTION 4.0: CASE STUDY IN INDONESIA

## Abstract

The change of trends in the global industrial revolution has impacted various advances in the economic and industrial system until the realization of a liberalization system and capitalization of the global economy. This study aims to examine the impact of the liberalization and capitalization of the digital economy on the middle class, working class, and lower class societies in one of the developing countries in the Southeast Asian region, Indonesia. The methodology used in this study is a descriptive qualitative analysis approach, based on data obtained from official sources and literature studies. The class disparity between the capital owner class, middle class and working-lower class, poverty, and forms of social inequality in the structure of society is increasingly apparent. At present, the emergence of an era known as the Industrial Revolution 4.0 led to the change of social and economic trends towards more advanced systems. This study assumed the changes in the patterns and forms of economic liberalization and capitalization that were previously implemented traditionally towards digital system through opening new online markets platform. The study also argues that the Industrial Revolution 4.0 differently impacted the middle class, working class, and lower class society in developing countries, particularly Indonesia.

## Keywords

development, technology, liberal economy, developing country, opportunity, threat

## JEL Classification

A19, F59, P16

## INTRODUCTION

The development of science and technology has brought immense changes and made an impact on the world's order and civilization. The growth and development of technology is an inevitable part of human evolution from the traditional phase to a more advanced or modern phase. The early form of industrial activity is typically referred to as "cottage industry" or the "putting out system," characterized the period from 1350 to 1750 (Frader, 2006). In the aspect of the traditional economy, evolution has created many conveniences that lead to more massive and structured economic improvement through more sophisticated means of production.

The change that the traditional economy experienced in agriculture and manufacturing processes reached its peak from the 1750s to the 1850s, setting out the scale of industrialization in Britain (More, 2000). It was such rapid progress towards more professional stages, especially in the field of economic industrialization aimed at increasing quick economic growth by using mechanical production machines and steam engines. Steam also powered looms and other industrial machines (Frader, 2006). The use of these technologies is expected to fur-

ther maximize the production of finished goods such as textile products, cotton, wool, etc. The presence of mechanical instruments for production and the use of steam-based machinery for producing those goods can be categorized in the first Industrial Revolution (1.0), should it be categorized into an 'era'. This era of the industrial revolution that gave rise to modern capitalism greatly expanded the possibilities for the material development of humankind (Hawken, A. Lovins, & L. Lovins, 2000). Furthermore, in the 19th century, steam-powered instruments and machines had undergone an evolution and were replaced by electric power. This also marked the emergence of the Second Industrial Revolution (2.0) in which the electric power-based machines became the main source of moving the production equipment and machinery. It was believed to be able to accelerate revenue growth in the manufacturing sector.

In the third stage of the Industrial Revolution (3.0), which came into being in the 20th century, the advancement of technology was marked by computer-based controls that could be programmed through memory. The factory work system for producing goods can be operated automatically without the need for human assistance. Furthermore, in the Fourth Industrial Revolution era (4.0), the vast development of science and technology is marked by information applications, communication technology for industry in a digital form. It took the industrial revolution to establish it as the primary economic ideology (Hawken, A. Lovins, & L. Lovins, 2000). In I.R. 4.0, the production systems that have been operated by computer technology are expanded by network connections in digital space (internet). In this Fourth Industrial Revolution, the production system is connected with a digital operating system. This also induced the emergence of factories that could operate automatically. Moreover, the development of technology in this era is not entirely utilized for factory production; transaction and communication are also carried out through media and digital spaces.

Furthermore, the characteristics of I.R 4.0 are also marked by changes in the style of economic activities in the society. Economic activity is carried out traditionally and digitally or online, without needing to meet in person. Additionally, the medium of exchange that was initially presented in a physical form, such as money and assets, now has a digital form called crypto-currencies and digital assets, which are managed online by digital platforms such as Bitcoin, etc. According to Tapscott (1995), the internet (net) and the World Wide Web (web) gave rise to a new form of economy based on the network of human intelligence (networking of human intelligence). Tapscott (1995) revealed that in the old economic regime, information was physical, whereas, in the digital economy, information is digital. However, the important question is, could the development of science and technologies in I.R 4.0 have a positive impact on the world's society? How far will it affect the life of society, especially the middle class, working class, and lower class who live in semi-periphery or developing countries? Is the society in developing countries merely 'victim' of the progress of digital industrial revolution, or will it become the main player? These questions are imperative to be answered because technological progress is fundamentally meant to ease the production and economic activities, which is then expected to trigger an increase in the country's economy towards a more positive direction. The expected output is to provide benefits and progress towards welfare improvement for every class in society.

## 1. THEORETICAL CONCEPTS

According to Adams (2001), liberal economics is an economic system organized on individual lines, meaning that the greatest possible economic decisions are made by individuals or households rather than by collective institutions or organizations. Economic liberalization is a phenomenon in which economic activities and processes are handed to markets, which are usually implemented in the

form of free trade. When the market sets economic authority, the market will have its own way to find the accordance between demand and supply. Besides, economic liberalism is also marked by the strengthening of private ownership that is motivated by the emergence of an individual entrepreneur class. The class regulates new forms of production by transferring the ownership of capital, which is then used as an instrument to carry out investments in certain economic fields (Thomson, 1973).

According to Smith (1976), classical liberal economics is referred to as “The doctrine and set of principles in organizing and regulating economic growth and individual welfare”. Liberal economics is based on the idea that if the economic market is left alone, it will run spontaneously based on its own mechanism or law. Another explanation of the liberal economic system is that all economic policies are regulated by society or the market; in this case, the government should not interfere but only supervise. In this economic system, economic activity will be determined by market forces, i.e., the forces formed by the meeting between demand and supply or simply described as the *Invisible Hand* (Smith, 1976).

According to Brown (2005), economic liberalism is associated with free markets and private ownership of capital assets. Historically, economic liberalism arose in response to mercantilism and feudalism. Economic liberalism explains how the state and individuals can strengthen trade relations with other groups by reducing barriers and risks, especially those involving interaction, lobbying, and negotiation in exchanging interests for development and economic improvement goals based on positive, sum-game principles promoting the element of rationality. Several scientists have identified economic liberalization to increase development progress, especially for community welfare (Bumann, Hermes, & Lensink, 2013; Carrieri, Chaieb, & Errunza, 2013). As for economic liberalization in the global and regional order, free trade is expected to be carried out based on positive-sum game principles and would lead to the capitalist system. Capitalism is a system of economic organization characterized by private property rights over the means of production and distribution that are used to achieve profits in highly competitive conditions (Spencer, 1990).

Besides, by referring to Marxism and other social critical theory approaches, progress and commercialization of industry in large numbers would only benefit the core states (capitalist states), whereas the semi-periphery and the periphery states only become the locus to exploit natural resources and workers or create gaps in classes; the bourgeoisie class (capital owners) and the proletarian class (workers), domestically and globally. From Marx's perspective, the meaning of capitalism is a system

in which the price of goods and market policies are determined by the owners of capital to obtain the maximum profit. The scholars (critical theorists) pointed out that globalization and the advancement of world economic trends for economic growth are not logically acceptable. The reason is that in reality, the dependence of semi-periphery and periphery countries (Southern countries), including Asia and Latin America, on the core countries (Europe and the United States) creates a gap of inequality in terms of the distribution of wealth and unbalanced production; thus, creates a gap in social class.

Marx's theory of profit concludes that the profit of capitalists is the result of the exploitation of workers because the value produced by workers is greater than the wages they are paid. In contrast, the massiveness of industrialization era brought to the exploitation and discrepancy of the working class and lower class by capital owner class. Furthermore, the liberalization of the world economy in this period does not only occur in the traditional form (the relationship between capital owners and labor). However, the trend of world economic liberalization is also influenced by technological developments, globalization, and digital communication devices. The pro-globalization states that free trade and economic transactions could be carried out not only by big business people but also be accessed by the public, especially through the internet or smartphone (digital form), without any structural boundaries. Economic liberalization in a traditional form has shifted to economic liberalization in digital form, which focused on the relationship between capital owners (as controller), digital platform (as means of production or instrument of economic liberalization and capitalism), and labor. It is characterized by an increase in companies that focus on digital economic transactions or e-commerce. Digital economic liberalism is a new evolution in economic activity that is expected to provide convenience for each group of people or individuals to perform transactions directly (which involves the relationship between seller and buyer) and reduce transaction costs. The public can connect through digital platforms in a market called the marketplace.

According to the OECD (Organisation for Economic Co-operation and Development), the digital economy is comprised of markets based

on digital technologies that facilitate the trade of goods and services through e-commerce (digital economy is a market formed by digital technology that facilitates trade in goods and services via e-commerce). Indeed, this is not something new. In 1994, the US-based companies such as Amazon and eBay founded in 1995 were among the companies that carry out online trading transactions through an internet platform. Apart from Amazon, the Chinese private companies also have a digital trading transaction platform named Alibaba Group Holding Limited, which was founded in 1996, and Lazada Group, which has a base in Singapore, was founded by Rocket Internet in 2012 is also under Alibaba Group ownership.

Furthermore, Lazada Group operates under large investors such as Tesco, Temasek Holdings, Summit Partners, JPMorgan Chase, and AB Kinnevik investments. Lazada currently has branches in several Southeast Asian countries such as Indonesia, Malaysia, Vietnam, etc. There is also Zalora, which performs online trading activities and is founded by Kinnevik AB and Rocket Internet. It has branches in Indonesia, Malaysia, the Philippines, Singapore, Taiwan, Hong Kong, Thailand, and Vietnam. Moreover, in Indonesia, there are several trading companies based on digital platforms such as Tokopedia, Bukalapak, etc. It could be observed that in terms of society's lifestyle, the more obvious the pattern change, especially in urban areas, the higher the desire to achieve satisfaction in possessing the desired goods. Thus, society's life patterns become more consumptive. The ideology of consumerism (culture), as mentioned by Veblen (1899), and the 'technological ideology of society' have given the society a delusion.

The general public appears to be unaware that technology has dominated them and their behavior into a new 'space' called digital era or digital society. As Marcuse (1964) stated, men will enter the 'One Dimensional Men' phase, they will only depend on technology and will lose the ability to think and against the *status-quo* (dominant) system in searching for new non-exploitative and more equitable ideologies. For anti-globalization or anti-liberals groups, digital economy liberalism is merely a continuation of a capitalist form, archaic capitalism, which is only made in another

new form (old wine in a new bottle). At this time, digital economy liberalism has discovered the momentum to restore the world community's belief that the system of capitalism and liberalism in the digital platform (or internet) could provide space for anyone (individuals, groups, or even states) in conducting transactions and economic activities.

The digital economy in Indonesia has begun to show significant development. The positive trends that continue to emerge from the digital economy have made Indonesia one of the countries possessing high potential for the development of the digital economy market in the future (Lingga & Setiawan, 2019). The Ministry of Finance has stated that Indonesia is the third-largest country for the digital economy market after China and India. This statement is supported by the large number of Indonesian citizens who have used the internet.

It can be inferred that Indonesia has entered a demographic bonus era by referring to the demographic position. The number of productive age exceeds the non-productive age, which is a combination of the unproductive and the non-productive age. In terms of demography and population, this situation could be a certain advantage for Indonesia. The progress of a nation depends on the number of people actively participating in the development, namely the population in the productive age range. Meanwhile, BPS also stated that as of April 2019, the number of internet users in Indonesia had reached around 170 million users. Recent research from Google and Temasek stated that in the Southeast Asian economic report, digital economic transactions reached USD 27 billion in 2018 (Lingga & Setiawan, 2019).

Therefore, on the one hand, Indonesia can be considered a very promising country for economic progress and digital transactions. Another form of advantage of this phenomenon is that the digital economy is bringing huge changes to the business world, primarily the supply of goods and services through technology. The ease of technology offered could change the conventional economic order into a new form or combine the two into a hybrid economic form and could establish business networks or obtain large amounts of capital from abroad (Ikhsan, Ghani, & Subhan, 2017). Changes in economic order are noted in changes



in the society's work pattern in general. At the moment, various forms of new jobs have emerged as a consequence of technological advances where the work does not even have to force someone to work outside their home or go to their office as usual. They can do various jobs from home because of the ease of technology and the progress of this digital economy. If this can be maximized, it can be an opportunity for Indonesia's future economic progress.

In the next period, 2000–2007, people's perception of the digital economy changed because of the emergence of various new startups such as Fastn Cheap, Lippo Shop, Iklanbaris.co.id, tokobagus.com. During this period, online payment processing, such as Doku as an electronic money service, was introduced. From 2010 until the present time, many e-commerce startups have emerged, which later developed into unicorns and even decacorns. Among these startup companies, Go-Jek, which was founded in 2010, offers online-based transportation services and various other application derivatives. In the following year, various e-commerce in the form of marketplace emerged: Bukalapak.com, Tiket.com, and Zalora. Then in 2014, Tokopedia emerged with the largest investment throughout the Indonesian startups, which was Rp 1.2 trillion or around USD 100 million. In the following year, 2015, other startups began to join the race, such as Shopee, JD.ID, and OLX, which is a merger of tokobagus.com and berniaga.com that focuses on new and used goods. It was not until 2016 that the government issued a roadmap for e-commerce development in Indonesia.

Based on the various explanations, the digital economy created by various startups and e-commerce that are present in Indonesia has various positive potential and benefits for the people at large. Unfortunately, every positive progress, on the one hand, also has another effect, on the other hand. Other effects are impacts or excesses of the digital economy's progress, which include the emergence of various threats or challenges in the future.

Regarding threats or challenges, the most prominent issues are government's readiness and control of regulations in responding to this phenomenon. This can be measured by how ready the government is to take advantage of this phenomenon, for example, by preparing the formula for taxation policy for every goods and service business that is present and actively participating in enlivening the digital economy in Indonesia, which, in turn, can benefit other community groups, especially the lower classes, as well as the working class. Another threat has started to arise in another conventional or traditional economic sector. The conventional economy sectors have been under pressure since the emergence of the digital economy. It is very apparent in the retail and transport business. In retail, gigantic conventional retail players who were very successful back in the days have started to close their outlets one by one such as Central Department Store at Neo Soho, Hero, Giant, Ramayana, 7-Eleven, Lotus Department Store, Debenhams, to Matahari Department Store (Julianto, 2017; Pryanka, 2019; Hasibuan, 2019). This action follows the decline in their retail in-

**Table 1.** The evolution of e-commerce business in Indonesia

Year	Event	Information
1994	First Indonesian ISP established	IndoNet/Indosat
1996	Bhinneka.com stood up	
1999	Kaskus stood up	Community and buy and sell forums
2000	FastnCheap, LippoShop, iklanbaris.co.id showed up	Online advertising and trading sites but still use conventional systems
2005	TokoBagus.com showed up	Buying and selling second goods
2007	Doku was launched	Pioneers of electronic money services
2010	Go-Jek was founded	Online transportation services and its derivatives
2011	Bukalapak, Tiket.com, and Zalora are established	Marketplace
2012	Traveloka and IDEEA were established	Traveloka as a travel business and the emergence of idEA or the Indonesia e-Commerce Association
2014	Tokopedia showed up	The marketplace with the biggest investment
2015	OLX was merged and Shopee and JD.ID were established	Marketplace
2016	Government-issued roadmap e-commerce	An attempt to re-arrange e-commerce in the future

**Table 2.** List of decacorns and unicorns in Asia

No.	Company	Sector/business sector	Valuation
1	Grab Holdings	Startup Singapore ride-hailing	USD 11 billion
2	Go-Jek	Startup Indonesia ride-hailing	USD 10 billion
3	Tokopedia	Startup e-commerce from Indonesia	USD 7 billion
4	Oyo Rooms	Startup travel tech from India	USD 5 billion
5	Traveloka	Startup travel from Indonesia	USD 2 billion
6	Bukalapak	Startup e-commerce from Indonesia	USD 1 billion
7	MofangGongyu	Startup internet from China	USD 1 billion
8	Revolution Precrafted	Startup property from the Philippines	USD 1 billion

come, so some of these retail players decided to close their shops in several regions in Indonesia.

These conventional retailers are believed to have fallen because they lost the competition caused by consumers' behavior who decided to switch to online transactions to buy similar products. There is evidence of a shift in the way shopping. It is noticeable in the increased sales turnover in some e-commerce sites such as Tokopedia, Bukalapak, Lazada, Blibli, and so forth. Online shopping results in an increase in the number of shipments from the seller to the buyer. This is evident in the surge of shipments on freight forwarding services such as JNE, JNT, Tiki, and several other courier services (Tasmilah, 2017). Meanwhile, in the transportation sector, the giant transportation players of their day, such as Blue Bird and Express (conventional taxis), were also overwhelmed in the face of Uber and Gojek. Cheap and more professional services make this transportation service more popular with the public. Not only does it take passengers to their destinations, but this application also helps consumers to order food, purchase medicines, provide moving services, ship goods, and many other services (Tasmilah, 2017).

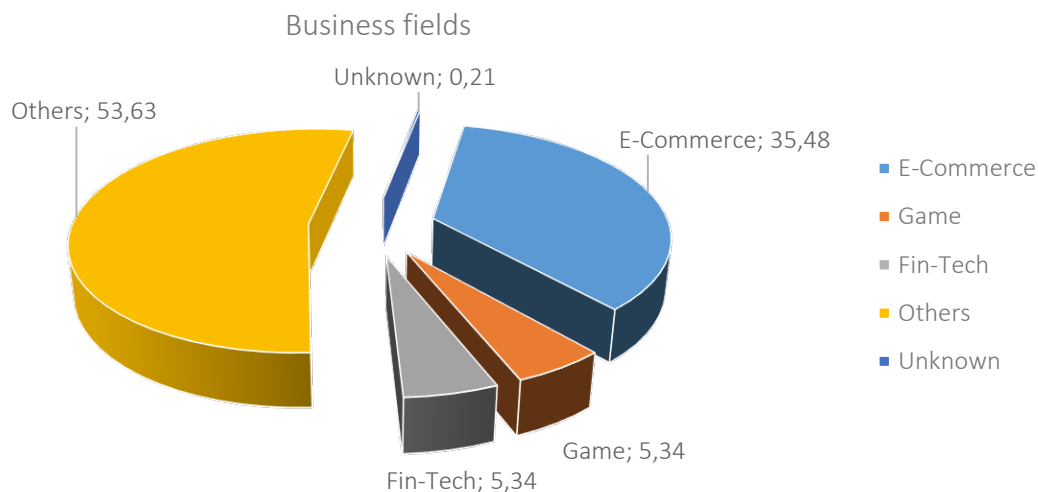
## 2. RESULTS

The strength of digital cannot be ignored considering that when viewed as a whole, e-commerce transaction in Indonesia have 24.74 million buyers or 9% of the total population, which makes the total transaction value reached USD 5.6 billion, a size large enough for a new industry (RI Ministry of Finance, 2017). However, that number is still relatively small, even though the trend of digital economy penetration is arguably tending to increase. It is likely that in the next 10 years, the

digital economy will be able to have a significant impact on the economy as a whole. Entrepreneurs and conventional and digital industry players should be able to capture and analyze existing opportunities and challenges. Conventional economic actors must be able to control the direction of their business to adjust to the conditions, situations, and consumers' behavior who switch to the digital economy.

Opportunities that exist today must be able to be processed and utilized properly by the digital industry players to bring forth progress to not only corporations but also the society in general. Besides, the digital economy's progress is also expected to be the backbone of the Indonesian economy in the future, if the strength of this digital industry can survive and face various crises that may come in the future. That means prospects and potential of digital economy capitalization in Indonesia can certainly be utilized for specific objectives, including economic objectives, such as the effort to increase economic growth in new ways that can reduce transaction costs, strengthen production and productivity, and running competitive values (competitiveness). The next goal is to have middle class groups (which include youths), such as business people and new entrepreneurs (creativepreneur, technopreneur, etc.), that can support growth and strengthen the national economy. Many of Indonesia's youths often use gadgets/smartphones in their daily activities. It is hoped that young people can utilize these gadgets/smartphones to create a creative economic opportunity. Another goal is to provide benefits for individuals, such as convenience for workers, consumers, and society.

On the other hand, behind the goals that seem *utopian*, the digital technology-based economic ecosystem will also be able to bring other threats



**Figure 1.** Distribution of startup business sectors in Indonesia

to the country and society. Apart from some of the threats that have been described previously, it can be concluded that there are at least two potential threats that arise in the ecosystem and the use of digital technology in the modern era in the world and Indonesia. The first is a cyber threat, and the second is a non-cyber threat. The cyber threat is identified with actions that can pose a threat to the state and community, especially those that occur in cyberspace (digital or online). During October-December 2018, Kaspersky Security Network (KSN), a digital security company, detected 29,865,064 local incidents in the computers of KSN users in Indonesia. Overall, 53.7% of users in this country were attacked by local threats during this period; it ranked Indonesia in the 64th place worldwide in that context (Haryanto, 2019; Spremić, 2018) in the future.

By the same issues, other non-cyber threats in the digital technology-based economic ecosystem in Indonesia are also related to traditional threats such as social inequality, justice, poverty, and unemployment. In a digital technology ecosystem that sometimes uses robotic technology, those who will suffer are the lower-middle class, lower class, and working class. When the state and large business circles (in digital economic activities) succeed in accumulating high income, an equal distribution of wealth for society is expected. Ford (2015), in his book *Rise of the Robots*, argues that robots and machine intelligence will create a world wholly different from anything that has come before.

Gojek Indonesia, for instance, has a valuation of more than USD 10 billion or equivalent to Rp. 142 trillion and a work partner of four thousand people (motorcycle and car taxi drivers). This application has provided and created job opportunities, which were previously performed traditionally towards incorporating digital applications. This helps Gojek workers (most of whom are in the lower economic class) to easily acquire access to their customers to easily fulfill their economic income. Some said the digital economy, including the Gojek company, would bring several positive impacts to the society (Gojek driver) because it is believed that the digital system of Gojek would benefit the Gojek driver's community. However, the community values should consist of and emphasize the ethical and psychological value of community members (Ikhsan, Ghani, & Subhan, 2016).

The problems mentioned above are considered as the exploitation of workers. It occurs between the capital owners and the working class, which is not something new. Hundreds of years ago, economic industrialization carried out by the bourgeoisie, capital owners, or the owners of the means of production had carried out exploitative practices towards the working class and lower classes (as Marx said proletarian primarily are the manual laborer) in the traditional industrial system. Thus, the working class (lower class) is only seen as a mere worker or commodities to achieve the economic goals and interests of the upper class in the digital industrial system, or it might be called



as 'digital proletariat' (laborer in the digital era), which means that the biggest 'non-cyber' threat in the digital technology-based ecosystem is 'human or social threats' that can lead to sharp inequality in the class of society.

### 3. DISCUSSION

#### 3.1. The rise of the technological and digital society in Indonesia

The shift of social order in developing countries, especially in Indonesia, has turned the society into what was mentioned by Marcuse (1964) as an 'industrial society'. It shows the visage of the social life phenomenon that is currently highly influenced by the development of sophisticated science and technology in daily activities. Technological development has an impact on the economic, socio-cultural, and political structure of a country. In an economic structure, for example, the online transactions of goods and services based on digital applications are often done to facilitate economic activities. It is because the maximization of income becomes the priority (Ikhsan, Ghani, & Subhan, 2017). For instance, some workers in Indonesia will use online-based transportation services to go to work. During the day, they sometimes order food through online applications. After work, they order online transportation again to return home. Whether it was done consciously or not, it has transformed the society into a digital/technological society that is very dependent on applications (digital/online technology). Moreover, the middle and lower class who have adopted 'digital/technological culture', especially in the context of the society in Indonesia, tend to not think about ideological problems and class struggles on issues of equality and welfare distribution.

It is without a doubt that the digital economy phenomenon becomes very popular when some of the victims of traditional capitalism state that the digital economic platform is a positive alternative way to escape social oppression by other dominant capitalist groups. This indicates that the technological society in Indonesia is increasingly finding the momentum of its rise and, simultaneously, people who focus on ideology (ideological society) will face the downfall. It can be seen as a phenomenon

of the digital economy becoming very popular; a compilation of some who are victims of traditional capitalism, as referred to as a digital economic platform, is a positive alternative way to move out of social oppression by other dominant groups.

#### 3.2. The impact on middle class society

It is undeniable that the middle class in Indonesia is one of the main actors who function as the driving force of the economic system. Based on the data from the Indonesian Ministry of Finance, at present, more than 50 million Indonesians are classified as upper middle class, and 120 million people are aspiring middle class, i.e., groups that are no longer poor and are heading towards a more established middle class (Ministry of Finance of Republic of Indonesia, 2019). It can be seen that there is a change in the patterns of life of Indonesian middle class people who initially emphasized the 'necessity' (niche) changed towards the desire in fulfilling a more modern lifestyle by looking more at aesthetic values which then lead to the 'conspicuous consumption' (refer to Veblen, 1899). The Indonesian Minister of Finance even said that the number of Indonesia's middle class population could increase from the current 60 million to 85 million by 2020 (Alika, 2019).

The middle class position in Indonesia is strategic and potential in utilizing the technological space and digital economy as a platform for economic transactions. That is, it cannot be denied that Indonesian middle class people received positive benefits and impacts for themselves and their social life. A simple form of transaction is a reason why middle class groups in Indonesia have adapted to the development of existing technology, and consciously or not; it has also changed the pattern of life in society. For the middle class, the development of the digital economy is considered a substantial benefit. The behavior of the community, which was previously traditional, is transformed towards a digital society that even sometimes seems more consumptive. For the Indonesian government, the high level of consumption of the middle class, which has changed from traditionalism towards consumerism, is a positive case for the progress and improvement of the country's economy. But, indeed, for intellectuals, academ-

ics, religious spokesmen, and commentators, it becomes a necessity to be criticized. The pattern of society in Indonesia is no longer only seen at the substance and needs of the product purchased, but only emphasizes the fulfillment of social trends for 'recognition' from others that contain existentialism values and shows a higher level of social status.

### 3.3. The impact on working class and lower class societies

The digital economy's strength and capitalization are expected to fulfill social needs at every level of society. The simple access to technology is also expected to change the pattern of society towards being more open. As explained earlier, the capitalization of the digital economy in Indonesia could be seen as positive for the middle class. However, for the working class and lower class people, the digital economy's capitalization tends to be seen as a 'threat' to them. According to the Indonesian Central Statistics Agency, working class (lower) and lower class groups spend around Rp. 410,000 thousand to Rp. 420,000 thousand per month, compared to middle-class society who spend around Rp. 925,000 thousand per month, and upper class society Rp. 2,300.000 and above (Yovanda, 2016).

It can be seen that the most important threat or impact in the digital economy industry on the working class and lower class is the termination

of employment (Pemutusan Hubungan Kerja – PHK) due to the development of digitalization or automation, and economic informalization (Solehudin, 2019). According to research conducted by the Indonesian Labor Institute or the Alternative Labor Policy Development Institute, termination of employment due to digitization or automation massively occurred in 2018 as a result of digital economic activities, such as in retail, banking, transportation, and manufacturing of automotive, textiles, and electronics sectors (Solehudin, 2019). In fact, in 2018, approximately 100,000 workers lost their jobs due to the digitalization of the sector in Indonesia.

Automation, robots, artificial intelligence, and the internet of things represent the Industry 4.0 era, which the World Economic Forum named as the 4th Industrial Revolution. The Indonesian government enthusiastically welcomes this change as a transformation towards the capitalization of the digital economy. In the World Economic Forum's report, *Future of Jobs*, this technology transfer will bring almost 2.1 million jobs, eliminating the previous 7.1 million jobs (Jayalaksana, 2018). According to Marcuse (1964), automation appears to be the great catalyst of advanced industrial society. The social process of automation expresses the transformation, or rather transubstantiation of labor power, in which the latter, separated from the individual, becomes an independent producing object and, thus, a subject itself.

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## CONCLUSION

It could be concluded that the digital economy has various impacts on society in Indonesia. The difference in the impact of the capitalization of the digital economy on the class of people in Indonesia shows several different patterns. First, for the middle class, there is a change in the pattern of society towards people who depend on technology (digital economy) that prioritizes consumerism or become more consumptive. Second, the middle class pattern shows a different style from the working class and lower class towards the acceptance of technology (economics based on digitalization). Third, the appearance of an ideological emptiness raises a new ideology, which is based on technology or might be called digitalism or digital civilization. Fourth, the working class and lower class within the structure of society tend to be victims and only as commodities of capitalist actors (capitalists and regulators of means of production) in the digital economy growth in Indonesia. For liberals, the digital economy is a platform for collecting income and maximizing the velocity of supply and demand using rapidly developing technology and knowledge, especially in the digital age or online. It changes their behavior of life towards more consumptive. Meanwhile, for other critical social theorists, the digital economy only brings stagnant effects that actually occurred before through the power-capital relationship in exploiting the

lower classes and makes the lower classes conform and obey the digital or modern systems. Besides, the Government of Indonesia is expected to be able to represent the interests of the working class and the lower classes, so that the development of the digital economy not only provides potential benefits for the country and businesses group (capital owners) but it also needs to be ensured that it can provide adequate income for the working class or workers and the lower classes in Indonesia so that the digital economy could benefit to all social groups and could be seen through qualitative changes.

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## REFERENCES

- Adams, I. (2001). *Political Ideology Today*. Manchester University Press. Retrieved from [https://books.google.com.ua/books/about/Political\\_Ideology\\_Today.html?id=apstK1qIvMC&redir\\_esc=y](https://books.google.com.ua/books/about/Political_Ideology_Today.html?id=apstK1qIvMC&redir_esc=y)
- Adhi (2016, April 28). *Sejarah Bisnis e-Commerce di Indonesia dari Masa ke Masa*. Retrieved from <https://www.money.id/digital/sejarah-bisnis-e-commerce-di-indonesia-dari-masa-ke-masa-160427f.html>
- Alika, R. (2019, January 23). 85 Juta Penduduk Kelas Menengah di 2020, Peluang Bagi Industri Kreatif. Retrieved from <https://katadata.co.id/berita/2019/01/23/85-juta-penduduk-kelas-menengah-di-2020-peluang-bagi-industri-kreatif>
- Ambaranie, N. K. M. S. N. (2019, September 01). *Waspada! Jebakan Betmen Pinjaman Online*. Retrieved from <https://money.kompas.com/jeo/waspada-jebakan-betmen-pinjaman-online>
- Bakri (2019, September 4). *Tolak Penerapan Sistem Insentif Baru, Ratusan Pengemudi Gojek Gelar Demo*. Retrieved from <https://aceh.tribunnews.com/2019/09/04/tolak-penerapan-sistem-insentif-baru-ratusan-pengemudi-gojek-gelar-demo>
- Brown, W. (2005). *Edgework: Critical Essays on Knowledge and Politics*. Princeton University Press. Retrieved from <https://www.amazon.com/Edgework-Critical-Essays-Knowledge-Politics/dp/0691123616>
- Brynjolfsson, E., & Parker, C. (2019, May 23). *Economists have got GDP calculations wrong for years - here's why*. Retrieved from <https://www.weforum.org/agenda/2019/05/an-economist-explains-how-to-value-the-internet/>
- Bumann, S., Hermes, N., & Lensink, R. (2013). Financial Liberalisation and Economic Growth: A Meta-analysis. *Journal of International Money and Finance*, 33, 255-281. <https://doi.org/10.1016/j.jimonfin.2012.11.013>
- Carrieri, F., Chaieb, I., & Errunza, V. (2013). Do Implicit Barriers Matter for Globalisation? *Review of Financial Studies*, 26, 1594-1739. <https://doi.org/10.1093/rfs/hht003>
- Citra, A. P. A. (2019, November 26). *Insentif Terus Menurun, Driver Go-Car Mojokerto Gelar Demo: Tanpa Nadiem Makarim Gojek Tak Manusiawi*. Retrieved from <https://www.tribunnews.com/regional/2019/11/26/insentif-terus-menurun-driver-go-car-mojokerto-gelar-demo-tanpa-nadiem-makarim-gojek-tak-manusiawi>
- Drucker, P. F. (1993). *Post-Capitalist Society*. HarperInformation.
- Floyd, C. M., & Hoffman, L. R. (1960). *Automation and the Worker. A Study of Social Change in Power Plants* (189 p.). New York, Henry Holt.
- Ford, M. (2015). *Rise of the Robots: Technology and the Threat of a Jobless Future*. London: Oneworld Publications.
- Frader, L. L. (2006). *The Industrial Revolution: A History in Documents*. Oxford University Press, Inc.
- Hadiyatna, D. (2019, September 5). *Ribuan pengemudi ojol lakukan demo tolak pemotongan insentif*. Retrieved from <https://www.antaranews.com/berita/1046318/ribuan-pengemudi-ojol-lakukan-demo-tolak-pemotongan-insentif>
- Haryanto, A. T. (2019, February 7). *Ini Bukti Indonesia Rentan Jadi Sasaran Serangan Siber*. Retrieved from <https://inet.detik.com/security/d-4418609/ini-bukti>

- ti-indonesia-rentan-jadi-sasaran-serangan-siber
17. Hasibuan, L. (2019, January 25). *Gerai Ritel RI Berguguran, Akibat Konsumen Hijrah ke Online?* Retrieved from <https://www.cnbcindonesia.com/life-style/20190125124753-33-52350/gerai-ritel-ri-berguguran-akibat-konsumen-hijrah-ke-online>
  18. Hawken, P., Lovins, A. B., & Lovins, L. H. (2000). *Natural Capitalism: Creating the Next Industrial Revolution*. Retrieved from <https://www.amazon.com/Natural-Capitalism-Creating-Industrial-Revolution/dp/0316353000>
  19. Hermann, Mario Pentek, & Boris Otto (2016). *Design Principles for Industries 4.0 Scenario: A Literature Review*. Paper presented at 49<sup>th</sup> Hawaii International Conference on System Sciences.
  20. Ikhsan, M. F., Ghani, A. B. A., & Subhan, I. (2016). Re-Thinking of ASEAN Regional Integration: People oriented Towards Communitarian Approaches. In *Proceedings of the 6<sup>th</sup> International Conference on International Studies (ICIS 2016) August 20-22, 2016. Kuala Lumpur, Malaysia* (pp. 683-695).
  21. Ikhsan, M. F., Ghani, A. B. A., & Subhan, I. (2017). The Dynamics of the Chinese Business Practice and the Local Elites Behavior: The Legacy of Pseudo-Capitalism in Indonesia's Local Development. *Journal of Governance and Development*, 13(2), 155.
  22. Ikhsan, M. F., Ghani, A. B. A., & Subhan, I. (2017). The Relevancy of the 'Guanxi' and 'Xinyong' Concepts in Chinese Business Capitalisation in Indonesia. *Journal of International Studies*, 13, 97-116. Retrieved from [https://www.researchgate.net/publication/332318822\\_The\\_Relevancy\\_of\\_the\\_'Guanxi\\_'and\\_'Xinyong'\\_Concepts\\_in\\_Chinese\\_Business\\_Capitalization\\_in\\_Indonesia\\_1](https://www.researchgate.net/publication/332318822_The_Relevancy_of_the_'Guanxi_'and_'Xinyong'_Concepts_in_Chinese_Business_Capitalization_in_Indonesia_1)
  23. Jayalaksana, N. (2018, February 5). *Ramai PHK Buruh, Dampak Langsung Perkembangan Ekonomi Digital?* Retrieved from <https://www.femina.co.id/trending-topic/ramai-phk-buruh-dampak-langsung-perkembangan-ekonomi-digital->
  24. Julianto, P. A. (2017, October 22). *Matahari Tutup Gerai Lagi, Apa Penyebab Ritel Modern Berguguran?* Retrieved from <https://ekonomi.kompas.com/read/2017/11/22/073000326/matahari-tutup-gerai-lagi-apa-penyebab-ritel-modern-berguguran?page=all>
  25. Kusnandar, V. B. (2019, September 13). *Jumlah Penduduk Indonesia Diproyeksikan Mencapai 270 Juta pada 2020*. Retrieved from <https://databoks.katadata.co.id/data-publish/2019/09/13/jumlah-penduduk-indonesia-diproyeksikan-mencapai-270-juta-pada-2020>
  26. Lingga, M. A., & Setiawan, S. R. (2019, June 17). *Indonesia Jadi Pasar Menjanjikan untuk Ekonomi Digital*. Retrieved from <https://money.kompas.com/read/2019/07/17/163000726/indonesia-jadi-pasar-menjanjikan-untuk-ekonomi-digital>
  27. Marcuse, H. (1964). *One dimensional man; studies in the ideology of advanced industrial society*. Boston: Beacon Press. Retrieved from <https://www.amazon.com/One-Dimensional-Man-Ideology-Advanced-Industrial/dp/0807014176>
  28. Ministry of Communication and Information Technology. (2015, November 22). *Indonesia Akan Jadi Pemain Ekonomi Digital Terbesar di Asia Tenggara*. Retrieved from [https://kominfo.go.id/index.php/content/detail/6441/Indonesia%2BAkan%2BJadi%2BPemain%2BEkonomi%2BDigital%2BTerb Besar%2Bdi%2BAsia%2BTenggara/0/berita\\_satker](https://kominfo.go.id/index.php/content/detail/6441/Indonesia%2BAkan%2BJadi%2BPemain%2BEkonomi%2BDigital%2BTerb Besar%2Bdi%2BAsia%2BTenggara/0/berita_satker)
  29. Ministry of Finance of Republic of Indonesia. (2017, October 27). *Ekonomi Indonesia Bertransformasi dari Konvensional Menjadi Digital*. Retrieved from <https://www.kemenkeu.go.id/publikasi/berita/ekonomi-indonesia-bertransformasi-dari-konvensional-menjadi-digital/>
  30. Ministry of Finance of Republic of Indonesia. (2019, January 22). *Kelas Menengah Penggerak Ekonomi Indonesia*. Retrieved from <https://www.kemenkeu.go.id/publikasi/berita/kelas-menengah-penggerak-ekonomi-indonesia/>
  31. More, C. (2000). *Understanding the Industrial Revolution*. New York: Routledge.
  32. Pryanka, A. (2019, January 15). *Gerai Central Department Store di Neo Soho akan Ditutup*. Retrieved from <https://www.republika.co.id/berita/ekonomi/korporasi/19/01/15/pld67m382-gerai-central-department-store-di-neo-soho-akan-ditutup>
  33. Sari, S. M. (2018, December 19). *Pengemudi Taksi dan Ojek Online Mengeluh Pendapatan Terus Menurun*. Retrieved from <https://ekonomi.bisnis.com/read/20181219/98/871416/pengemudi-taksi-dan-ojek-online-mengeluh-pendapatan-terus-menurun>
  34. Setiawan, S. R. (2019, October 7). *Tembus 40 Miliar Dollar AS, Ekonomi Digital RI Terbesar di ASEAN*. Retrieved from <https://money.kompas.com/read/2019/10/07/152800026/tembus-40-miliar-dollar-as-ekonomi-digital-ri-terbesar-di-asean?page=all>
  35. Smith, A. (1976). *The Wealth of Nations*. New York: Oxford University Press.
  36. Solehudin, I. (2019, January 1). *Efek Digitalisasi Industri, Indonesia Diintai PHK Besar-besaran*. Retrieved from <https://www.jawapos.com/features/humaniora/01/01/2019/efek-digitalisasi-industri-indonesia-diintai-phk-besar-besaran/>
  37. Spencer, M. H. (1990). *Contemporary Macroeconomics* (823 p.). Worth Publishers.
  38. Spremić, M. (2018). *Cyber Security Challenges in Digital Economy*. Proceedings of the World Congress on Engineering 2018 Vol I WCE 2018, July 4-6, 2018, London, U.K.
  39. Tapscott, D. (1995). *The Digital Economy: Promise and Peril in the Age of Networked Intelligence*. Retrieved from <https://www.amazon.com/Digital-Economy-Promise-Networked-Intelligence/dp/0070633428>



40. Tasmilah. (2017, September 14). *Ekonomi Digital dan Matinya Usaha Konvensional*. Retrieved from <http://harian.analisadaily.com/opini/news/ekonomi-digital-dan-matinya-usaha-konvensional/414702/2017/09/14>
41. Thomson, A. (1973). *The Dynamics of Industrial Revolution*. London: Edward Arnold Publisher.
42. Thomson, G. (1973). *Capitalism and After, The Rise and Fall Commodity Production*. China Policy Study Group, London.
43. Ulya, F. N. (2019, August 14). *Valuasi Gojek Lebih Besar dari Garuda, Ini Sebabnya*. Retrieved from <https://money.kompas.com/read/2019/08/14/070308926/valu-asi-gojek-lebih-besar-dari-garuda-ini-sebabnya?page=all>
44. Umah, Anisatul. (2019, October 1). *Rudiantara: RI Masuk 2 Besar Negara Target Serangan Siber*. Retrieved from <https://www.cnbcindonesia.com/tech/20191001160328-37-103579/rudiantara-ri-masuk-2-besar-negara-target-serangan-siber>
45. Umah, Anisatul. (2019, September 25). *Jika RUU Keamanan Siber Diketok, Siap-Siap Kehilangan Hal Ini*. Retrieved from <https://www.cnbcindonesia.com/tech/20190925102403-37-102059/jika-ruu-keamanan-siber-diketok-siap-siap-kehilangan-hal-ini>
46. Veblen, T. (1953). *The Theory of the Leisure Class: An Economic Study of Institutions*. The Mentor Edition. Introduction by C. Wright Mills. New York: The Macmillan Company.
47. Widiyatno, E. (2019, August 21). *Pengemudi Ojol Banyumas Gelar Aksi Mogok*. Retrieved from <https://nasional.republika.co.id/berita/pwkwni368/pengemudi-ojol-banyumas-gelar-aksi-mogok>
48. Yovanda, Y. R. (2016, April 18). *Ini Pengeluaran Penduduk Kelas Bawah Indonesia*. Retrieved from <https://ekbis.sindonews.com/read/1101957/33/ini-pengeluaran-penduduk-kelas-bawah-indonesia-1460966584>