



Network Society, Bubble Economy, and Market Crash: Necessity or Choice?

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Abstract. Manuel Castells believes that ICT is a factor that determines the pattern of life and the level of economic inequality, depending on the failure or success of a person or a group in utilizing it. SDGs (Sustainable Development Goals), on the other hand, seeks to direct the development of the world towards sustainable growth that balances environmental, social and economic dimensions in every human activity. The aim is that progress and prosperity are enjoyed by all interested parties, including humans and nature. To achieve what is aspired in the SDGs requires control and predictability in human activities, but on the other hand the era of the network society is filled with uncertainty and spontaneity, marked by the outbreak of a bubble economy and increasingly unpredictable market crashes. This article will rethink the relationship between the logic of the network society era and the bubble economy as well as market crash phenomena to see the obstacle behind the efforts to create an economy that is more prosperous and sustainable in the network society era in order to maximize the positive impact of the network to realize the eighth point of the SDGs.

Keywords: Network Society · Bubble Economy · Market Crash · ICT · SDGs

1 Introduction

1.1 Overview

Today's world moves and develops in a rhythm which is increasingly fast while its traceability itself is increasingly out of control. This is partly due to the era of network society that Manuel Castells has declared to be a society of an informational age that organizes its dominant functions and processes around networks that intersect with each other [1]. Network is an instrument that is in accordance with the capitalist economy based on innovation, globalization, and decentralization of power. A new economy, in other word, is organized around management, capital, and networks of information. In this case, Castells sees that there is an increasingly financial and industrial capital interdependency. Financial capital depends on information and knowledge produced by ICT devices in the framework of production and generating profits. On the other hand, producers based on the latest technology obviously need financial capital in order to realize production.

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Castells sees ICT as not just a tool for community usage, but a process to develop. Unlike the situation in the past, information and knowledge is intended to produce more information and knowledges with the help of increasingly sophisticated tools. ICT as the engine from the era of network society is a crucial component for the success of a community in competing globally to the extent that the differences in the timing of its adaptation can create disparity problems. The era of network society can be said to be an era where the findings and applications of it interact in the trial-and-error process that never stops. From there, knowledge, investment, and resources are integrated into a synergy that is processed by ICT.

The development of a world full of innovation globally and without a control center not only gave rise to breakthroughs that made life easier, but also increased the uncertainty in various aspects of human life, ranging from politics, social, to economy. In line with the characteristics brought by the era of network society, these aspects of human life are inevitably determined by too many external factors, including those that are clearly displayed and those hidden in the sea of information that fill the public space. The world of economy is one of the most affected by the features of network society era, especially if we reflect on the interdependency between countries that are getting stronger.

On the one hand, this kind of interdependency has a positive impact on global stability and cooperation because each party will be more careful regarding the international relationship issue. But on the other hand, interdependency implies that economic activities are increasingly difficult to go according to plan because there are too many factors that must be considered. Some of the factors that may appear to be insignificant at the beginning, might later prove to have a significant impact when viewed from the perspective of a broader scheme.

On the other hand, the United Nations (UN) is currently working to realize a sustainable development. The points of this effort are contained in the document of the Sustainable Development Goals (SDGs) with its focus is to balance the environmental, economic, and social dimensions in human life [2]. Among the seventeen SDGs points, the eighth point regarding decent work and economic growth is interesting because there is a recognition of the importance of the existence of every economic actor at all levels in building a sustainable economy [3]. In order to realize this goal, the SDGs cannot run without the awareness of the importance of adopting ICT and the logic of network society into its working scheme. But do the steps are as simple as they sound?

1.2 Problems

In order to realize a sustainable economic development, especially to overcome the widening gap of economic inequality, ideally economic actors need to have control in the form of predictability and reliability for the economic activities they carry out. If they do not have deep understanding and information about their activities, it is difficult to expect that they can grow and develop in the market, especially the global market, and improve their welfare. The problem is that the era of network society with the foundation of ICT offers the opposite. Technology and human develop in a kind of relationship that affect each other so we cannot ascertain what will happen tomorrow.

Our inability to gain certainty in today's economy is reflected through several phenomena such as *bubble economy* and *market crash* which do not only happen suddenly,

but often before the occurrences, they have a very little probability to occur. Such condition inevitably makes us wonder whether the improvement in welfare and the decline in inequality that are aspired in the SDGs can really be realized in the era of network society. Do humans have to move counterproductively by leaving one of the SDGs or the network society behind and focusing their attention, instead, only on the other one?

1.3 Questions

There are two important questions that need to be answered in this article. First, how does Castells define a network society? This question is not only in the context of definitional answer, but also in the context of presenting the key features that are important in the network society as an era that is different from previous eras. Second, how does the network society affect the bubble economy and market crash? Before answering this, of course the two terms need to be elaborated in greater depth so that there is a sufficient general picture to understand the problem. Afterwards, it will be possible to further argued the relationship between network society and the two terms, especially regarding the influence of the first one on the rate of growth and movement of the second one. These questions can be summarized in one big question, namely whether the era of network society turns out to be a driving factor for the occurrence of bubbles and crashes that are more frequent, destructive and broad.

1.4 Methods

In line with the problems and questions described above, this article will be built through the study of literature on a number of related theories and technical terms. In addition, some illustrations based on cases that have occurred such as *Tulip Mania* will be used to provide clarification regarding the purpose to be conveyed in this article. Several theories and technical terms will be presented through the perspective of a number of previous researchers in order to provide a wealth of perspectives on research. Castells' idea of network society, for example, is not only explained through direct research of his work, but also comments and analysis by other researchers on his ideas. Technical terms such as bubble and crash will also be explained through a number of features attached to them. Based on the existing theoretical framework, this article will then go into comparative analysis and correlation between network society with bubble and crash to answer the big questions in this article as well as to show what gaps (if any) can be found to improve the situation currently available.

1.5 Literature Studies

When linking the era of network society with the world of economy, especially if today's economic situation is contrasted with the economic situation during the industrial era, we tend to get at least two different impressions. The first impression is a beautiful picture of how the world's overall wealth grows exponentially as the result of accelerated pace of transactions and technological developments that sustain economic activity itself. The second impression, on the other hand, is a kind of sign that warns us about the risk of

failure as well as the social and economic inequalities as the result of the actors' inability to adjust to the latest disruptive technological developments. Although diverse, basically it can be stated that the world community has been paying close attention and alertness to the supporting features of the era of network such as information and communication technology (ICT) because they believe that successes and failures in current era are strongly influenced by mastery these features.

David Golumba in 2013, for example, examined the development of high-frequency trading (HFT) - a feature that is able to automate the transaction of investment instruments such as stocks and bonds - and its relation to the widespread computerized phenomenon in the social environment. His research shows that although individual investors are provided with more supporting tools capable of supplying them with more information which in turn gives them more power in transaction activities, the same applies to the bigger players who ultimately marginalize the small-scaled individual investors and make them increasingly blind to how the economic and political situations are interrelated [4]. So that instead of increasing wealth collectively, the current technology speeds up the marginalization of small economic actors and widens economic inequality in the community.

Jakob Arnoldi in 2006 raised similar issues but in a smaller scope, namely the derivative market. By focusing his research on the problem of "framing" - the ability to interpret information about market based on the conclusion from other information - Arnoldi saw that despite framing supported by network created by social media as suppliers of various types of information could potentially reduce uncertainty, the situation of investors who remained isolated from each other because of the absence of direct interaction makes framing not so effective as a solution to uncertainty [5]. In this case, Arnoldi focuses on techniques, rather than technology like Golumba, as a problem that must be resolved in the era of network society in order to improve the economic situation collectively.

Several other studies have focused on how communication technology is a determining factor for the new patterns of social interaction in society purely without looking at how the new pattern affects the macroeconomic world. Example of this kind of research is in a study conducted by John Urry in 2011. Urry in his study analyzed how developments in communication technology and the formation of new patterns of interaction in society affect the way each individual works in building and caring for social networks through a series of meetings, movements, and redefinition of what they mean as "far" and "near" [6].

Network society and ICT cannot be discussed separately because the first is the consequence of the second's growth. Manuel Castells, as highlighted by Urry in the same study, has emphasized that network composes entirely a new social morphology and the diffusion from the logic of networks into human life substantially changes the total operationalization and results achieved from the production and culture of society. To be able to achieve this change requires an adequate ICT infrastructure.

Regarding to production activities, of course this cannot be separated from the aspects of employment. Christoph Hermann in 2006 highlighted how network built on ICT have drastically changed not only the way of communication and cooperation among workers as Manuel Castells and Antonio Negri characterize positively based on existing phenomena, but also introduce methods of control and division of labor by the capitalists

to the workers. In addition, there is also the problem of contradiction between competition and cooperation in the production network which we still unable to find a solution, even with the help of ICTs [7].

Network society as a concept that seeks to describe this era has been described by many researchers and thinkers who are deeply involved. Castells in his presentation on the networking community has explained comprehensively about how the situation of this era differs from previous eras. The commentators also, as explained above, have sharpened the analysis of the era of network society on more specific topics. Unfortunately, no research so far has explored the negative side of this era towards the world of economy at the macro level. The point is, there has been no research that seeks to examine the link between the emergence of the era of network society (and the logic that built it) with the failure of the world economy today to eliminate the global inequality and prevent the economy bubble from spreading and resulting in a market crash. This article is intended not only to explore this aspect more deeply, but also to look at the possibility of using the same logic to improve the situation.

2 Theoretical Framework

2.1 Network Society by Manuel Castells

The 1970s marked the emergence of the technological revolution as a new chapter as well as a big leap in the history of mankind. In his view, Manuel Castells saw that there has been a shift in the shape of society from what had previously been in the form of industrial society, to a network society [1]. Starting from the invention of microprocessor, human civilization throughout the world slowly, even today, undergo a comprehensive transformation that is not only limited to the development of technology that facilitates human activities, but also changes the human's perspective in understanding the world of work and capital. The main focus of capital expenditure and the use of technology are no longer on the production of physical objects, but on the accumulation of information [8]. That is why the era of network society cannot be separated from the spirit of informationalism as its foundation.

In the era of network society, information spreads in an entirely different logic, where it does not only spread in one direction from a large command center, but rather works like a neuron that creates a connection between one point to another in a two-way relationship. The existence of social media mediated by internet allows everyone to access and disseminate information without being restricted by the limitations of space and time, from and to anyone in the world. This kind of development in Castells' view has an important meaning to the human social world because ICT itself has become an inseparable part of human life. Automatically, the human way of living the social world also needs to be adjusted to how ICTs develop over time.

To understand how the era of network society works on the foundation of ICT, it is very important for us to understand in advance what the community is like, which includes what social processes are going on and what changes have occurred due to the planned social actions [9]. Without this deep understanding according to Castells, we will not only fail to adjust to the era of the network society, but also fail to maximize the convenience offered and actually worsen our standard of living in the future. Deep

understanding will lead us to the realization that the world community has entered a phase that is truly new. This new phase appears, in Castells' view, first, because there has been a paradigm shift towards technology. In the era of network society, technology not only affects how new social formations are formed, but also how information is treated as a very valuable commodity.

Second, there is globalization as a dimension that is no less important because it includes technological capabilities, organizations, and institutions in a unified system that works as a whole. The third dimension is the approach to interactive manifestation of dominant culture which becomes a general reference for symbolic processes from all sources and messages. Fourth, as a result of the formation of a global network that affects economic activity, communication, and information exchange, the state will lose its institutional existence but still has the existence of power apparatus which together with other entities regulates networks.

The era of network society has also changed how the world community views key policies, with the more general issues raised, the stronger public awareness at the local level to contribute to their particular experience. The issue here is no longer limited to country per country, because what people focus on is about shared identity and values that go beyond the boundaries created by the institution-based form of society. By focusing on shared values and identities, knowledge that develops in the era of networking society has a more comprehensive system style because it takes into account the relationship between culture and nature [9].

The internet in Castells' view is a network of computers that exchange information. The emergence of internet as a new form of social network provides the ability to decentralize flexibly without compromising the optimal performance of the network. From here the command center disappeared because it was no longer needed. Every segment that is formed in a network society is designed to work autonomously without having to depend on a center.

The emergence of a new paradigm regarding technology in the era of network society in Castells' view cannot be separated from how the earlier societies formed technology based on needs, values, and objectives. ICT also in this case is so sensitive to how humans create it. A long history of internet proves that what is on the internet today is the result of the vision of its users back then. Therefore, only those who are able to organize the community through a new technological system that will be able to reap financial, power, and knowledge benefits [10].

ICT does not only eliminate the boundaries of space and time, but also opens up the possibility for the birth of new models of interaction and social stratifications due to the transformation of public sphere. As with technology in general, ICT affects the relations of production, power, and experience in the development of human civilization. The difference with existing technology is that, what ICT creates is an era where developers and users are a pair of roles that can be lived by anyone [11]. ICT morphology could adapt to complexity without losing its basic systematics. Therefore, from time to time, a large community called network society is constantly giving birth to new products because of the creativity of those who are in it, even though at the same time it becomes increasingly dependent on each other.

The loss of space and time constraints according to Castells is a form of restructuring and compression which he then named as space of flows and timeless time [1]. Physically it is inevitable that humans still live in space and time. The development of ICTs and the birth of informationalism led to the fact that limitations of physical space and time period for human are not as crucial as in the past. The real-time process of connecting units far apart is commonly found today as the proof. “Territories” seem to be a term that lacks meaning if traditionally interpreted as a physical entity.

Space of flows replaces the concept of space of place because it turns out that the assumption that space is a provision that cannot be compacted can be broken. Space of flows views space as a large current which contains a great deal of interactions and exchange of information mediated by technological assistance. The world is no longer a collection of isolated spaces but is a large room. Compressing the world into a large space means that many components are concentrated, making everyone’s life very crowded with information. This sort of compression is feared to increase uncertainty which in the future betrays the initial purpose of ICT as a means to reduce uncertainty in life. Space of flows creates awareness of global life because those who are connected in the network society are able to see how the influence of something in an area can affect the lives of those who are far away. Globality and locality are juxtaposed through patterns of regional interdependence and actors in the network so that geographical discontinuities are born through spatial disperse.

Timeless time, on the other hand, is a concept that Castells introduced when stating that humans have a history formed by time. At first, time was considered local, crucial, absolute, independent, and only a marker for important events. In the timeless time logic of the network society era, time actually makes the world eternal, unexpanded, random, independent, and able to eliminate the bulk of the process which has so far separated phenomena based on time. Time is now compressed as a result of interactions that work real-time. Compression of time means efficiency in the economy, but again like space of flows, this phenomenon opens the chances for increasing uncertainty and risk because the real-time situation also requires shorter decision-making time. Each individual appears on the surface as a determinant of his/her own rhythm and life cycle. But if we look deeper, there is always a world of other people who determine it.

2.2 Bubble Economy

Alexis Derviz in one of his writings provides a short definition of what is meant by bubble. Derviz views bubble as an equity mispricing that occurs when the public believes that aggregative productivity from producers is biased. Bubble has an influence on equilibrium in economic activity because it also determines the direction of swing of equity values [12]. Deviations in asset values from their fundamental values in the bubble economy phenomenon according to Derviz are caused by false beliefs about the market. In the long run, the bubble has a negative impact on the real economy because it causes misallocation of resources at the same time and later disturbs economic activity when bubble burst occurs as a result of the necessary correction of prices.

This condition is common, for example when there is a massive flushing of home purchase loans as a means of leverage for property investors by banks. When these investors re-examine their opinions about the property they bought, a sudden financial

crisis occurs and if it cannot be addressed properly will spread throughout the world and cause a recession as happened in the 2008 economic crisis. The complexity of the situation cannot be separated from the fact that when banks, one by one, fall due to this phenomenon, business people engaged in the real sectors are also affected because they will also find it difficult to find other places to borrow money.

Michael Hudson on another occasion also commented on the bubble economy problem. Departing from the situation of the United States in recent decades, Hudson has seen that more investment has recently entered the real estate sector rather than industry because many people are tempted by the benefits of capital gains offered by this sector. In fact, many investors are willing to pay credit installments to banks in the hope that the property prices they hold today can grow and when sold give them a big profit. The postindustrial economy can be said to be largely funded economy that carries its debt burden by borrowing money and expecting capital gains to be able to give them enough money to pay off debt [13].

Furthermore, according to Hudson, what happens in the bubble economy phenomenon is that banks are not industrialized, but rather financialized industries. Rather than being a means of production, in the bubble economy we will find many companies turn out to be means to profit from interests, bank fees, and capital markets. The stock market, rather than functioning to supply investment funds, has become a vehicle for corporate raiding since the 1980s. By allowing interest to be included in the tax-deductible and capital gain categories to be taxed low in the United States (for example), tax law tends to favor the replacement of equity with debt. This also contributes to inflation in asset values because it is seen as one of the fastest ways to create wealth.

The booming bubble economy for years cannot be separated from two things according to Lujian Sun and Shengxing Zhang, which are abundant monetary liquidity and a significant increase in asset value [14]. The availability of abundant monetary liquidity makes more funds become idle and not absorbed by productive economic activities. That is why the bubble that exists to this day can continue to grow. In addition, the growth in the number of loan in the view of economists was a stimulus for the emergence of bubbles in the capital market.

In addition, Sun and Zhang also highlighted the bank's peculiar behavior that actually opened large-scale loan taps when property prices were growing fast and cut loan allocations when prices dropped. This kind of behavior only makes price fluctuations uncontrollable and contributes to the growing bubble. Bubble, especially in the real estate sector, according to both is the result of massive capital inflows that change the nominal exchange rate and the domestic price level which ultimately affects the actual exchange rate.

Peter C. B. Phillips in one of his writings highlighted how the bubble that occurs in financial markets can influence the real economy. The problem is, it is difficult to know for certain whether bubble is really happening in a market because it is also difficult for observers to know whether the trends that exist in a period of time are still rational or not. Most people do not realize that a bubble is going on for a period of time. Even when there was a collapse, there was still an academic debate about the presence or absence of the bubble before [15].

2.3 Market Crash

Through the growth of bubble economy, which is increasingly out of control, which means that the value of assets continues to be inflated, a condition will be reached in which price is at a point where no one is willing to pay to own an asset. This condition can also be said as the point where economic actors are aware that the value inherent in an asset is at an unnatural level. This awareness is the beginning of the emergence of a market crash in the sense that David Le Bris is stated as a drastic condition of price decline [16].

Although crash is as simple as drastic price reduction, practically speaking, it is not easy for economists to determine whether a drastic decline in price can always be said to be a crash. Le Bris exemplifies this by referring to the condition of the French stock market in August 2002 which decreased by 16%. Although the same percentage decline could have caused economic failure in 1882, the same figure was no longer considered as dangerous as it was in 2002 because investors themselves were used to dealing with large price volatility.

The existence of a crash cannot be separated from the influence of political and economic news that are milling around at any time in the view of Le Bris. However, there are still difficulties in matching historical events with market reactions effectively. Sometimes big news is not enough to trigger significant movements in the market. Sometimes significant movements in the market can occur without leaving a trace or hint through big news. The definition and magnitude of crash is always an open topic for evaluative questions. What is seen is not only the percentage of decrease in price or value, but also the comparison of the situation when decreasing with historical data. That is why the market that has high volatility cannot be said to be hit by a crash despite the decline as happened in France in August 2002. On the other hand, in a relatively stable market, the same percentage will cause a crash because there has never been a big shift.

As a result of the need to compare it with historical data, crash can only be identified after the event. Not only that, crash also need to be identified by considering the proportion of wealth lost as the result of the decrease in value or price. As a rare event, crash can only be ascertained by involving long-term historical data. Crash is also usually identical with indications that economic fundamentals have changed and recession is taking place in every place even though according to Hart and Tauman in reality it does not always need to be so [17].

Hart and Tauman see that there are times when crash is the result of information processing by participants only. Crash can occur without leaving the impression that something has changed from economic conditions. Behind that, participants always update the information they have which at some point can cause sudden behavioral changes. To be able to understand how the current economic situation is and whether we are in a crash, it is very important for us as participants in economic activities to have what is called mutual knowledge (what we know about what others know and so on). Trade and exchange increases understanding and becomes our knowledge base for the market situation. However, increasing knowledge does not always lead to behavior change.

Jonathan Donier and Jean-Philippe Bouchaud argue that even though a crash is a situation of changes in the value or fundamental price of an asset, its occurrence can sometimes not always be explained by tracing the existing news and therefore we also need to consider the effect of market liquidity and stability as basic quantitative descriptions of the mechanism that leads to crash [18]. Shiller, as quoted by them, sees that price fluctuations are not always related to market efficiency theory, but are also related to behavior bias which in turn leads to excessive volatility and price anomalies.

In the financial world, D. Sornette highlights that risks, rewards, and disasters appear in irregular cycles caused by greed, arrogance, and systematic fluctuations [19]. The case of Tulip Mania in the Netherlands between 1585 and 1650 was the example that Sornette highlighted. During the growth of the tulip market in that period, people did not make money through the actual production process, because tulips were used as a medium of speculation and the price was determined by the wealth of participants in the business. The madness of the situation during the Tulip Mania case caused people to be willing to mortgage their houses for the capital of the tulip business. This case is a small picture of how crash is built through a series of irrational actions by economic actors as a result of excessive optimism for certain assets or investments. This trend is not impossible to repeat again on a number of investment instruments today if we reflect on optimism and excessive irrationality that infect the actors.

3 Analysis

With the advent of the network society era, new information in large quantities every second enters the network and becomes available to the world's consumption at that time. Anyone can share and access that much information, either through credible online news portals or through broadcasts on their respective social media accounts. This is certainly different from the previous era where the circulation of information was clearly limited by time and space. It takes hours, days, months, or maybe years for information from a particular area to be spread through newspapers, magazines, and textbooks. With such limitations, the information that comes in does not only come in fewer number than today, but also has been filtered and/or processed more carefully so that not all things need to be circulated as information like the present era. Both the senders and recipients of information content also have more time to sort out and consider the information before deciding what to do with it.

The arrival of the network society era does not only bring concern about too much information milling about to be processed by each individual. Along with the widespread public awareness of the world globally and how sensitive the world is to things that occur in certain parts of the world, confusion arises as to how each individual can have control over his/her life. This is because, as mentioned earlier, as information is received by an individual, he/she is then confused in sorting out what information is important, and which can be excluded. The situation is exacerbated by the quality of information that is not always straightforward and can make anyone trapped and believe in the wrong information as the right thing.

The world responds to this obstacle, unfortunately, by stuffing public space with more information. The reason is that by doing so, we will have more consideration before

deciding. Look, for example, at how the stock securities company presents news on their website today. There is so much information provided there, starting from the fundamental condition of a company, technical analysis of stock prices and indices, to news about the foreign geopolitical situation. More and more days, more news is presented on the news page with variants increasing every day. Not infrequently, the statement of a foreign political figure who appears to have no significance for domestic share prices is also included. The bombardment of public space with too much information without adequate processing time in turn creates new problems.

With too much information circulating, there will be many different decisions, especially in the economic field by the actors, which are rooted in different considerations. Information that is sometimes only an issue that is unclear in its source is sometimes strong enough to encourage economic actors to take certain actions. Speculation generally arises also as a response to this unclear issue. In Indonesia today, for example, one form of speculation that is quite worrying is in the property sector. Infrastructure development, particularly toll roads, has inevitably in recent years triggered the emergence of land speculators who are competing to hunt land to be bought before the start of land acquisition by the government in hopes that the land can be sold at high price if included in development maps or turn them into houses, commercial buildings, or industrial buildings that can be sold at high price due to strategic access to government infrastructure projects under construction, in this case toll roads. From the perspective of government and investors, this is clearly detrimental because it will have an impact on the inflated value of the project from the original plan [20].

Another example is the period of anthurium plants' booming on 2007 in Indonesia. The luxurious impression of anthurium at that time was inseparable from the information that this plant was said to be a garden and royal palace decoration in Javanese kingdoms era [21]. This makes anthurium plants valued from hundreds of thousands to millions of rupiah even just for the seed. Just like other speculation instruments, anthurium prices continue to experience inflation based on mere sentiments and issues until at one point a crash occurs as a result of the community's awareness to the price of anthurium which is too expensive and unreasonable. As a result, not a few people suffered heavy losses because the capital they used was partly derived from loans, whether they were collateral or not, just like what happened during the Tulip Mania case.

Another recent example is the proliferation of cryptocurrency or digital currency. Digital currency was first introduced by Satoshi Nakamoto with the name Bitcoin with the initial goal not as an exchange instrument that have intrinsic value and can be exchanged with other commodities [22]. It circulates globally after the miners exchange with each other virtually. The emergence of brokers offering BitCoin in exchange for conventional currencies such as U.S. Dollar then makes cryptocurrency become an investment instrument (although more like speculation if observed from the irrational price fluctuations) which also sucks up some of the world's wealth into it. In line with the logic of network that is not centered, cryptocurrency continues to emerge with different variants from various parts of the world, each of which has its own exchange value like investment instruments in general.

The proliferation of various investment instruments with the help of internet network such as cryptocurrency has added to the complexity of the world economic situation

today. Together with the problem of the market sentiment due to the rapid flow of information at all time, these things have led to price bubbling everywhere. People are pushed to buy things that they really don't need to buy if not because of the lure of future value growth. On the other hand, we cannot say that society is only lured by the promise of value growth. Networks expand market coverage through wider dissemination of information in a relatively short period of time. This certainly triggers the emergence of many enthusiasts from a commodity or instrument which inevitably, following the basic rules of demand-supply law, encourage significant price increases. Along with significant price increases, purchasing power has decreased due to differences in wealth between communities.

What is more worrying about the conditions in this network is that more and more days, more and more parties are trying to turn more things into means of price speculation. Sentiments can be created into the network and trigger people to scramble and buy whatever is offered. Not infrequently, objects that are used as means of speculation are vital commodities such as clothing, food, shelter, and energy. From here, there is a problem of decreasing in welfare levels due to the decrease in purchasing ability. In the long run, more people will become victims, whether due to declining purchasing ability or due to being victims of crashes after speculation objects are no longer able to experience price increase due to people's awareness of the price that is too high (again this is also caused by information spread quickly on the network, whether true or false).

In short, economic uncertainties which have more adverse effects on the condition of public welfare are generally rooted in so much information that has not yet been adequately studied before it is circulated and the decisions of economic actors based on diverse considerations (ironically sometimes they are a kind of "gambling" rather than reasonable decisions). Network logic, as mentioned earlier, moves wildly in reciprocal relations and rhizomatic movements so that it is impossible to control it. Efforts to control it automatically uprooted the era of network society from its peculiarities and make us return to the previous era which was full of space and time limitations and the existence of an authority that had the power to censor information.

So then, do efforts to achieve sustainable economic development that touch all levels of society as envisioned in the SDGs will never find a concrete form due to the way the network works? Before attempting to answer this, maybe what needs to be asked first is whether we can continue to live life comfortably and easily like today if we move backwards and leave the network? The obvious answer is no. Today's economy relies heavily on network as its main backbone. Easy and inexpensive online transportation services, access to quality sources of knowledge to improve the quality of human resources, to productive business financing programs with a peer-to-peer system that has touched and changed the lives of people from the lower middle class are proofs of how vital the role of network and ICT in improving the lives of the general public. Access to capital, for example, is no longer exclusive to the economic elite, but can be accessed by anyone and anytime by a process in minutes.

We need to clearly distinguish between the economic impact and the literacy impact brought about by the network society era. The first is the impact associated with the ease in carrying out economic activities that are technical in nature, while the second is the impact associated with information that is taken into consideration for decisions

that will be taken afterwards. It must be understood that ICT is capable of being destructive to the economy only when the information it brings makes economic actors take destructive decisions. If action is not taken based on it, information will continue to settle as information without any impact on economic conditions. Speculators, for example, will not emerge and bring economic losses to themselves and society if each member of the community is not easy to act based on wild issues and considerations of economic benefits are narrow for themselves and are only short-term oriented.

Technology was created in order to make it easier for humans to live their lives. ICT itself is not an exception. Behind the problem of the use of information that results in destructive decisions in the economic field is actually a more acute problem regarding the wisdom of accessing and sharing information in the network. The awareness that not all information in cyberspace is certainly true is not an extraordinary thing to be understood, because with the freedom given to anyone to share anything, the room for error is wide open. But what usually happens also, human subconsciously often assume that any information that corresponds to the value that they adhere to is information that is certainly true, although perhaps he/she does not have the expertise to proof it. In the study of logical fallacies, it is known as the confirmation bias in which a person selectively chooses to trust information that is consistent with his/her beliefs and what he/she wants to hear.

Another problem that arises along with the increasingly familiar way we live in the era of network society is excessive self-confidence in what we know and get through cyberspace. Along with the increasing ease of people in accessing information through internet intermediaries, some often feel that they have enough knowledge about some things like experts so that without further cross-check efforts, they will want to mobilize what they get to be shared with others or be made as the basis for the action to be taken. People like this not only believe that the correct information is abundant in network, but also believe that there is nothing wrong with what they get and accept from there.

In other words, one of the crucial problems in the era of network society, especially in the context of the economy and the continuous improvement of mutual welfare, is the loss of wisdom in addressing information. It's hard to admit that what we believe can be wrong, because it will create discomfort in ourselves. Choosing to be quiet when we do not really understand is also difficult to do. The ease in sharing what we have into the network makes the fighting for "spotlights" in cyberspace as something normal. Those who share are competing to be accepted by as many other network citizens as possible. This competition to share is also manifested in the form of populist sharing of content according to the tastes of people in the network alone and no longer care about the accuracy and usefulness produced.

The network-circulated misinformation and disinformation, which is then used as the basis for taking certain economic actions, is the starting gate to an economic collapse on its own. The deceptive attraction of "investment" products that are more like gambling sucks up capital resources that should be able to be invested in productive fields based on dividends, revenue, and earnings towards capital gains-based products that rely solely on sentiments and trends without intrinsic value. Due to the proportion of capital invested in instruments that are prone to bubble due to the ongoing follow-up of information flow

from networks (which of course confusing), labor-intensive sectors that can involve many people in their operations do not develop in quantity and quality.

What is more dangerous than all of these is ultimately in the general behavior of economic actors who act and make decisions not only from diverse sources of consideration, but also from varying levels of accountability and validity. The era of network society that should have been able to accelerate welfare distribution and reach more people to be assisted in accordance with the objectives set out in the eighth point of the SDGs in fact made more people trapped in difficult economic situations. Limiting information flow and network utilization is certainly not a way out at all.

What can be done is to increase literacy and the ability of the global community to process incoming information. But even this will not be enough to overcome the problem without being followed by a wise attitude and directness of each person related to what he/she can ensure as truth and what is beyond his/her expertise. Network utilization really needs to follow the principles of sharing and cooperation between individuals in it rather than competition and tackle each other. The economic actions taken must not only be oriented towards individual profit, but also the continuity of the existence of others.

4 Conclusion

Without a command center, network is truly a large single space that represents the world. It must be realized that not only does it contain an individual with a sea of information, but it is billions of individuals who transmit information like neurons and establish certain relationships with each other as social beings who understand that they must work together in order to live comfortably and prosperously. There have been frequent price bubbles and economic collapse caused by greedy behavior that controls economic actors. In addition, price bubbles and economic collapse are also caused by too much information with different levels of truth being available for consideration so that almost everyone has different rationalizations for the economic actions he/she takes. The combination of a society that compete against each other and a sea of immeasurable information is a recipe for economic failure that is inevitable sooner or later.

SDGs and the era of network society are not two things that are conflicting, because thanks to this era we are all connected for the first time. Network is also a means to facilitate learning and market penetration so that the economy can move faster, and the benefits can be felt even by those in remote locations, because network does not care about the physical limitation of space and time. Connectivity is the initial gateway to empathy, sympathy, and collective awareness that we all deserve to live happily and adequately.

Two things that are lacking in network utilization in order to realize the eighth point of the SDGs are the wisdom of processing information and awareness that the world is a large body that needs to work together. The emergence of cross-territory forums that share the same interests in certain matters is the first step that must be taken to realize global cooperation and healthy economic growth. Without improving the conditions, the world economy will face more bubbles and crashes that not only become more frequent, but also more destructive in impact.

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