

# The Impact of Industry 4.0 in Responding to the Digital Economy's Potential in Indonesia at Pandemic Covid 19

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## ABSTRACT

In general, Indonesia has been actively occupying a new era marked by the digitalization of various sectors of life. This phenomenon can be seen in the growing number of digital-based businesses. Call it anything from Google to Facebook to YouTube to messaging application services or messenger. These businesses provide new ways of doing business that were not available decades ago. The global industrial world is currently entering a new era known as the Industrial Revolution 4.0. Industry 4.0 is a new phase in the industrial revolution that emphasizes interconnectedness, automation, machine learning, and real-time data. Even so, not only industrial workers are affected by 4.0, but now everyone is part of the digital 4.0 era. This study uses a qualitative descriptive method. This study uses secondary data from various literatures such as books, articles, and homepages to access data and information related to the digital economy in Indonesia. Based on this research, it shows that the impact of industry 4.0 during the COVID-19 pandemic accelerates the growth of the digital economy ecosystem in Indonesia.

**Keywords:** Empowerment, Fisherman Community and Community Welfare.

## 1. INTRODUCTION

In general, Indonesia has actively entered the digital ecosystem, as evidenced by the digitalization of various sectors of life. This phenomenon can be seen in the growing number of digital-based companies with operational bases in Indonesia. These businesses provide new ways of doing business that were not available decades ago.

The global industrial world is currently entering a new era known as the Industrial Revolution 4.0. Industry 4.0 is a new phase in the industrial revolution that emphasizes interconnectedness, automation, machine learning, and real-time data. The main feature of Industry 4.0 is the increased importance of data. Every day, billions of people share data on the internet. They send everything from letters to photos to videos. All of this is possible with a device that connects to the internet. There is artificial intelligence among all the uploaded data, which is then translated into an algorithm. his algorithm is then transformed into data that can be used to assist businesses in a variety of

ways, such as reading consumer demand trends, locating the best target market, and optimizing prices.

From the page of the Coordinating Ministry for Economic Affairs of the Republic of Indonesia, it is stated that in the midst of the Covid-19 pandemic, the digital economy in Indonesia in 2020 grew 11% compared to the previous year. This figure is the highest compared to Malaysia, the Philippines, Singapore, Thailand and Vietnam. This is driven by changes in people's behavior during the pandemic. People who are more active at home prefer to do a less contact economy, such as shopping online, and doing work activities through virtual meetings.

The shift in people's consumption patterns has also encouraged small and medium-sized businesses that previously carried out their business through conventional methods to adapt to using e-commerce. As many as 1 in 5 business actors who are actively selling in e-commerce are new users. In addition, the potential of the digital economy in Indonesia can still be developed. In terms of demographics, based on BPS

data in 2020, of the 270.2 million Indonesian population, 163 million people are in the age range of 15-64 years. In addition, internet penetration is at 71%, and social media usage is 59% [1].

According to a report released in 2020 by the International Institute for Management Development (IIMD) World Competitiveness Center, Indonesia's digital talent readiness rating in facing digital transformation is ranked 45th, far behind Singapore in first place and Malaysia in 18th place. Indonesia faces a challenge in developing digital talent.

When viewed from the value of the digital economy per capita. Sequentially, the largest values are still led by Singapore, Malaysia, and Thailand. Thus, Indonesia is still in fourth place compared to neighboring countries. To be the best, various challenges in the development of the digital economy in Indonesia need to be resolved, including infrastructure, digital Human Resources, and regulations.

The goal of this research is to assess the potential of Indonesia's digital economy and identify the challenges that will face the growing digital economy in the 4.0 revolution era.

The goal of this study is to determine how the covid-19 pandemic situation has encouraged an increase in the value of the digital economy in several major sectors of society in indonesia, thereby saving the national economy. as a result, the author is interested in conducting research on "How The Potential Of Indonesia's Digital Economy In The Time Of Covid-19 Accelerate The Industry Base 4.0."

## **2. RESEARCH METHODOLOGY**

The purpose of this study is to identify the potential of the digital economy in Indonesia during the COVID-19 pandemic using a qualitative descriptive method. This study accesses data and information about the Indonesian digital economy by using secondary data from various literatures such as books, articles, and homepages. The descriptive analysis technique is used for the analysis.

## **3. RESULTS AND DISCUSSION**

In the era of the fourth industrial revolution, which is characterized by widespread adoption of technology in everyday life, it also has implications for the thriving economic sector known as the digital economy. The digital economy can be defined simply as a shift in economic transactions from physical to virtual forms, or as a series of economic activities that result from online connectivity between communities, business actors, devices, data, and the processes that follow. The digital economy is also associated with the definition of the

sharing economy, which emphasizes the use of the internet to facilitate transactions, indirectly shifting the role of the centralized corporation in everyday economic transactions.

Digitalization of economic activity is claimed to be capable of ushering the economy into a new phase in which market friction and inefficiency inherent in physical market characteristics can be eliminated, allowing the market to become more open and transactions to take place more efficiently.

The digital economy not only has significant societal benefits, but it also has unanticipated consequences, one of which is the negative impact that may result from the new form of work system, Chaffey and Chadwick[2]

Tapscott (2013) first introduced the concept of the digital economy, describing it as a sociopolitical and economic system with intelligence space characteristics such as information, various access to information instruments, and information processing and communication capacity. The ICT industry, e-commerce activities between businesses and individuals, digital distribution of goods and services, and support for the sale of goods, particularly systems and services that use the internet, were identified for the first time as components of the digital economy.

The concept of the digital economy was first introduced by Tapscott (2013), explaining a sociopolitical and economic system that has characteristics as an intelligence space, including information, various access to information instruments and information processing and communication capacity[3]. The components of the digital economy that were identified for the first time were the ICT industry, e-commerce activities between companies and individuals, digital distribution of goods and services, support for the sale of goods, especially systems and services that use the internet. According to Amir Hartman (2000), the digital economy is "the virtual arena in which business is actually conducted, value is created and exchanged, transactions occur, and one-to-one relationships mature by using any internet initiative as a medium of exchange"[4]. The activities carried out are similar to the original version in that real business is carried out, value is created and exchanged, transactions take place, and one-to-one relationships mature using internet initiatives as a medium of exchange.

The digital economy is growing quite rapidly in Indonesia. This is supported by several factors, ranging from the breadth of internet penetration to the warm welcome from a generation that does not hesitate to accept changes in the form of a touch of technology. This generation believes that technology can encourage the creation of more comfortable, effective, and efficient economic activities. In June 2019, Indonesia was ranked fourth in the world in terms of the number of internet

users with 171,260,000 users out of 269,536,482 Indonesian population. Access to the internet is mostly done through smartphones with an estimated penetration percentage of 47.6% of the population[5].

The development of the digital economy in Indonesia can be seen from a survey conducted by Google Temasek which noted that Indonesia is the country with the most developed digital-based economy in Southeast Asia with a valuation of USD 27 billion in 2018 and is projected to grow to reach USD 100 billion in 2025. This growth projection is based on a Compound Annual Growth Rate (CAGR) of 49% from 2015 to 2018. The valuation of Indonesia's digital economy exceeds that of other countries such as Thailand (USD 12 Billion, CAGR 27%), Vietnam (USD 9 Billion, CAGR 38%), and Malaysia (USD 8 Billion, CAGR 19%). This achievement cannot be separated from the number of Indonesian internet users who are the largest in Southeast Asia, namely 150 million users in 2018[6].

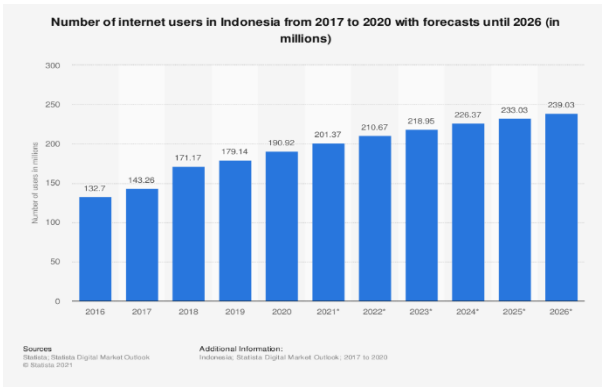
The development of the digital economy in Indonesia cannot be underestimated. A survey conducted by Google Temasek noted that Indonesia is the country with the most developed digital-based economy in Southeast Asia with a valuation of USD 27 billion in 2018 and is projected to grow to reach USD 100 billion in 2025. The growth projection is based on the Compound Annual Growth Rate (CAGR) of 49% from 2015 to 2018. Indonesia's digital economy valuation exceeds other countries such as Thailand (USD 12 Billion, CAGR 27%), Vietnam (USD 9 Billion, CAGR 38%), and Malaysia (USD 8 Billion, CAGR 19%). This achievement cannot be separated from the number of Indonesian internet users who are the most in Southeast Asia, namely 150 million users in 2018.

Shifting to digitalization in urban communities, digital banking this year has become popular and has become a trend in the financial management of the millennial generation. Digital banking is a banking innovation offered by minimizing the role of third parties in various banking activities. Prior to the advent of digital banking, customers would depend on the existence of a branch office of a bank to find out various variations of services and obtain them with the assistance of bank officers. Digital banking provides flexibility for customers to determine their financial management patterns. Through research on the CfDS Fisipol UGM Case Study entitled "Pentahelix Collaboration in Data Protection for Users of E-Commerce and Digital Banking Services in Indonesia", collaboration between the government (Government), providers of e-commerce and digital banking services (Companies), academics (Academicians), communities (Community), and users of e-commerce and digital banking services (Users) are needed to present a safe

and comfortable digital economy ecosystem for smooth digital economic transactions.

Aside from finances, urban communities have relied on digitizing transportation services to support their day-to-day activities. This need is met by the availability of ride-sharing services, which are more time efficient and cost effective than traditional on-demand transportation services performed offline. They are Gojek and Grab, the two most popular applications among the general public. In addition to ride-sharing, the two apps provide services such as food delivery, product delivery, and movie ticket ordering. The two unicorn startups incorporated the sharing economy concept into their operations. The platform acts as a go-between for supply (partners) and demand (customers) (customers). The platform's presence also contributes to economic growth by providing jobs for many people who join as partners. After the euphoria of transportation disruption became the status quo, and the platform was successful in winning the hearts of both the public and the government with its innovations, employment issues for partners began to emerge.

The gig economy is causing euphoria all over the world, and it is claimed to have succeeded in replacing the corporate-centered with a spirit of sharing. Unfortunately, while their innovations have undeniable benefits for many, the issue of fairness in the work of partners is unavoidable. The work of a "partner" is a new type of work. The classification of jobs as entrepreneurs (entrepreneurs) does not appear to be correct because they are bound by the platform's rules of the game, whereas the classification as employees (employment) is also inconsistent with the concept of their work being flexible in terms of time and income. Ambiguous classifications that go unanswered by regulations have consequences for job vulnerability. Until now, a partner has lacked a legal shield to protect them from risks such as workplace accidents, harassment, and exploitation due to platform arbitrariness in changing the rules of the game. It is at this point that the government should step in. The government is expected to present a study on this new phenomenon of employment, after which each actor will be positioned in a balanced manner based on their respective rights and obligations as regulated by regulations.



Source : Data Statista 2021

From the Statista data, it is clear that from 2019 to 2021 it is clear that the number of people using the internet is increasing. This indicates that people have switched all aspects of any field to the internet. In general, Indonesia has been actively treading a new era marked by the movement of various sectors of life towards fully automated digital, including in the economic realm[7]. We can see this phenomenon with evidence that there are more and more digital-based companies around us. Call it Google, Facebook, Youtube to messaging application services or messenger. These businesses provide new ways of doing business that we were not aware of decades ago. And these data show that the COVID-19 period had an impact on Indonesia's growing digital economy. And statistical data on Indonesia's digital economy can show rapid growth projections for the next few years. It can be predicted that the economy will continue to develop with the help of digitalization, which will make every sector of the economy digital-based, making it easier to carry out the dynamics of the Indonesian economy.

Furthermore, the challenges confronting us in this digitalization era are significant. The first challenge is that there are still quite a lot of areas that have not been reached by a signal (blind-spot) so that network access has not been widely felt by the public. This happens due to inadequate infrastructure, difficulty in accessing development and the small population in the area so that the economic valuation is low. The next challenge is that the average internet speed or bandwidth in Indonesia is still low. Compared to neighboring countries such as Malaysia or Thailand, the average internet speed in Indonesia is only 17.26 Mbps, compared to Malaysia which reached 33.9 Mbps and Thailand at 47.35 Mbps (Ookla Speedtest Global Index, 2018).

Another issue is that people's digital literacy is low, so their use of technology is still restricted to social media and entertainment. The general public must be educated on the knowledge and skills required to use digital tools (particularly smartphones) to analyze the market, market their products, and use data as a business

development strategy. As a result, the digital-based economy in Indonesia is growing at a rapid pace.

#### 4. CONCLUSION

Economic digitization is unavoidable in the industry of the revolutionary era. The most obvious advantage of the digital economy is its inclusiveness, which allows everyone to contribute to economic growth. The digital economy in Indonesia will continue to expand, and there are numerous opportunities for Indonesia to compete on a global scale. With a large number of digitally literate millennials and a demographic boost in 2030, Indonesia's human resources have sufficient potential.

The government's task is to encourage this generation to maximize their potential through educational facilitation and means of developing creativity. To become a country that is ready to compete in the digital economy, there are several challenges that Indonesia still has to face. Among these challenges are: First, there is a need for equitable distribution of digital infrastructure which includes connection quality and internet speed and equitable distribution of facilities for the development of digitization of business units. Second, there are still knowledge and human resource gaps that are still found with many complaints about the digital divide where not everyone is able to access and experience the innovations offered by the digital economy, especially the older generation. Third, in terms of employment, the gig economy also presents challenges to fair-work for workers who are partners.

The digital economy is good not only in terms of valuation and ranking, but also in terms of human resource well-being. It would be preferable if the rapid growth of Indonesia's digital economy was accompanied by an improvement in human life quality. The government is expected to be able to respond to these challenges in the future through a series of policies that promote the development of the digital economy. The government must prepare at least three structures and layers to improve the performance of the digital economy. When these two aspects are met, people will be more enthusiastic about enlivening the digital economy by constructing a third aspect, namely beginning to build startup companies or start-ups, revitalizing the creative industry through digital content creation, and engaging in digital economic activities with a sense of security. The government must be present in overcoming the aforementioned issues so that the digital economy can be optimized and felt by the community. This government participation can also be realized through the most recent innovations related to the community's convenience in carrying out economic activities.

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