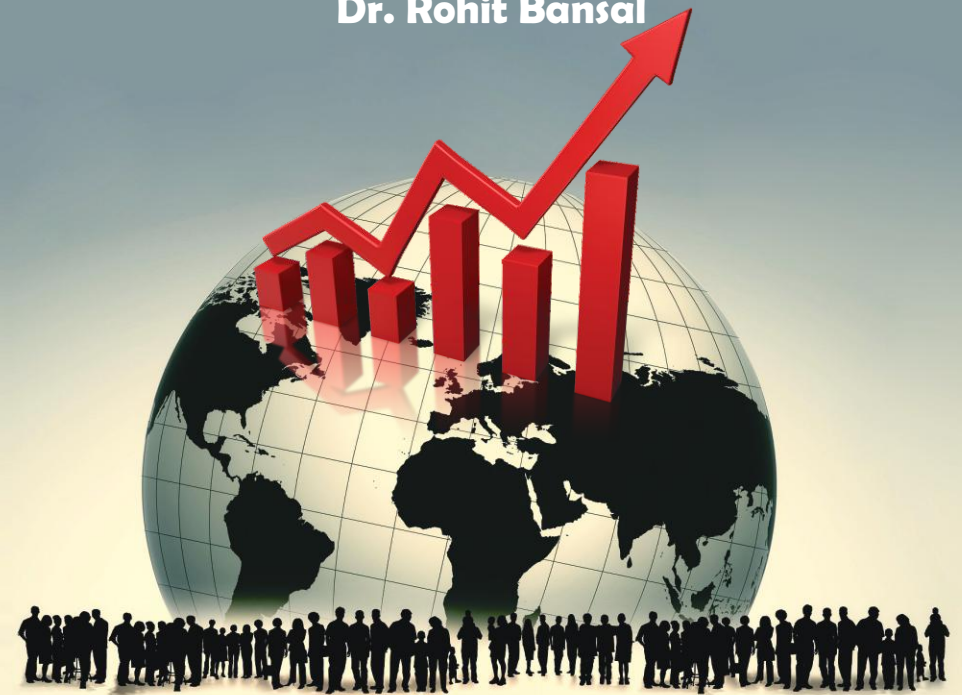


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Volume - 2

Chief editor
Dr. Rohit Bansal



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Chapter - 6

The Development of Digital Economy in Indonesia, Opportunities or Challenges?

Ni Nyoman Reni Suasih and Putu Yudy Wijaya

Abstract

Digital economy is growing rapidly, especially in developing countries. Indonesia is a country that is very potential in developing the digital economy. The digital economy has had a positive and negative impact on Indonesia's development. The impact of the development of the digital economy is a challenge for the government and society. For this reason, this paper will present the concept of the digital economy and try to analyze the impacts that occur as an opportunity and challenge that must be faced by the government and the people of Indonesia in the development of the digital economy. In addressing the development of the digital economy, the government must be able to create policies such as the ease of financing for pilot businesses, tax incentives, and fostering mastery of information and communication technology for SMEs. The development of telecommunications infrastructure and the development of ICT education also need to be carried out by the government. Community participation in improving education and skills in the field of ICT also needs to be done so that they can take advantage of the opportunities available for their welfare.

Keywords: Digital economics, business opportunities, economic challenges, government policy

Introduction

Digital economy is born and develops along with the use of information and communication technology that is increasingly globalized in the world. According to Dalle (2016), a digital economy expert from Indonesia, in Hermanto (2016), world economic history has gone through four eras in human life, namely the era of agricultural society, the era of machinery after the industrial revolution, the era of oil hunting, and the era of multinational corporation capitalism. The previous four economic waves have exclusive characteristics and can only be reached by certain elite groups. Digital

economic waves come with sloping topography, inclusiveness, and spreads equality of opportunities. This characteristic has the concept of competition which is an industrial spirit that is easily adapted by startups who prioritize collaboration and synergy. Because of that, the digital economy is a 'sharing economy' that raises many small and medium enterprises to enter the world business.

Indonesia is considered to have great potential in the development of the digital economy because the penetration rate of its internet users continues to increase. In terms of social and culture, the people of Indonesia at this time are increasingly advanced. Evidently according to a survey from the site WorldBank.org, Indonesia experienced a significant increase in internet users. This shows that the population of Indonesia began to follow technological developments in the world. This is also a parameter of the growth of a country's digital economy (Musafak, 2012). In terms of consumers, although the development of internet users in Indonesia began to increase. However, it does not guarantee the large number of consumers in digital economic transactions. This is because Indonesians use the internet more to play games or socialize with social networks. In addition, there is still a lack of consumer confidence in conducting online transactions (Musafak, 2012).

In 2017, the number of internet users in Indonesia reached 143.26 million, an increase of 7.96 percent compared to 2016 of 132.7 people. The number of internet users in 2017 covered 54.68 percent of Indonesia's total population of 262 million. The Indonesian government in the era of President Joko Widodo targeted Indonesia to become the largest digital economic power in ASEAN by 2020 with a projected value of e-commerce transactions reaching 130 million USD and creating 1000 technopreneur with a business value of US \$ 10 billion in 2020 (Sayekti, 2018).

To achieve this target, a roadmap is needed that can open access to various business sectors to enter, join and strengthen the building of a digital economy ecosystem. One of them is knowing the growth potential of the digital economy in Indonesia, as well as other countries' e-commerce benchmarks. For example, USA, where the government was very visionary about the development of the internet in 1998. At that time, President Bill Clinton, ratified the Digital Millennium Copyright Act (DMCA). Through this regulation various innovations have been created, such as eBay, YouTube, etc. The DMCA regulation protects not the consumer but protects the occurrence of innovation, namely protecting the immunity of the owner of the platform. Unlike the case with China, where the government is so protective that it filters access to sites from outside. But the Chinese

government was able to force foreign investment to enter there with a value of hundreds of millions of dollars. The government can also withdraw engineers who study in America or elsewhere to return to their countries, build jobs and also build startup technology. The next digital economic benchmarking is India, where for decades, India has been known as an outsourced destination. Indian Prime Minister Narendra Modi seeks to invite many foreign investors to increase the number of global competing local entrepreneurs. As a result, Amazon has opened an office in India and poured billions of dollars there. The latest is Softbank, which has committed to invest as much as Rp130 trillion in India.

It is undeniable that a variety of problems in achieving this target are quite numerous, including changes in the business models of various sectors from conventional to digital. The socio-cultural factors of the people who cannot quickly adopt a digital economic system. Other factors are constraints experienced by startups, internationalization problems (national companies acquired by foreign companies), consumer protection, and regulation of online transactions themselves.

Based on the background above, several study questions were formulated to be able to answer the problems, namely: What are the concepts and characteristics of the digital economy? What is the condition of the existing digital economy in Indonesia? What are the opportunities for business models in the digital economy era? What are the challenges of the digital economy? What are the competitive strategies and government policy recommendations in the digital economy era?

The Digital Economy Concept Digital

Economy is a marker of future development and economic growth, characterized by the rapid development of business or trade transactions that use internet services as a medium for communication, collaboration and collaboration between companies or individuals.

The concept of digital economy was first introduced by Don Tapscott (1996) in his book entitled 'The Digital Economy', that digital economics is a sociopolitical and economic system that has characteristics as an intelligence space, including information, various instrument access, capacity, and processing information. The digital economic component that was identified for the first time was the technology, information and communication (ICT) industry, e-commerce activities, and digital distribution of goods and services (Sayekti, 2018). Tapscott (1996) intelligently argues that we have actually surpassed the Information Age. Now is the Networked Intelligence

Era, which certainly opens up the widest possible market. As a result, the unity of planet Earth as a single market with a variety of uniqueness in each niche is increasingly clear (Xue, 2014).

Based on this understanding, Indrasari (2017) concludes that digital economics can be understood as an economic sector including goods and services during development, production, sales or supply depending on digital technology. The digital economy is the impact of globalization of information and communication technology (ICT) which is not only concerned with the internet, but is related to the economic field. The digital economy is an interaction between the development of innovation and the advancement of information technology and its impact on macro and micro economics. The digital economy is developing in accordance with the development of information and communication technology which is characterized by five indicators, such as knowledge-based work, globalization, economic dynamism, transformation into digital economics and technological capacity. While the basic value that is the basis for the development of the digital economy is the creation of value, the product in the form of distribution channel efficiency, and the structure in the form of personal services and as desired.

The digital economic concept according to Zimmerman and Koerner (2000) is often used to explain the global impact of information and communication technology, not only on the internet but also on the economic field. Become a view of the interaction between the development of innovation and technological advances that have an impact on macro and micro economics. The sector includes goods and services during development, production, sales or supply depending on digital technology. In addition there is also a digital economic understanding according to PC Magazine, which is "The Impact of information technology on the economy" which means more emphasis on the application of ICT in the economic field.

As explained by Mesenbourg (2001), that there are three main components of the 'Digital Economy' concept that can be identified, namely:

- 1) E-business infrastructure (hardware, software, telecommunications, networks, human capital, etc.)
- 2) E-business (how business is carried out, every process carried out by an organization through a computer-mediated network)
- 3) E-commerce (transfer of goods, for example when books are sold online)

Bukht and Heeks (2017) define the digital economy as "that part of economic output derived solely from digital technologies with a business

model based on digital goods or services". The definition has a blurred boundary but it is also flexible enough to incorporate digital and digital business innovation models over time. Figure 1 shows both the digital core sector and the broader range of digital activity, without claiming that all the digitized activity is part of the digital economy.

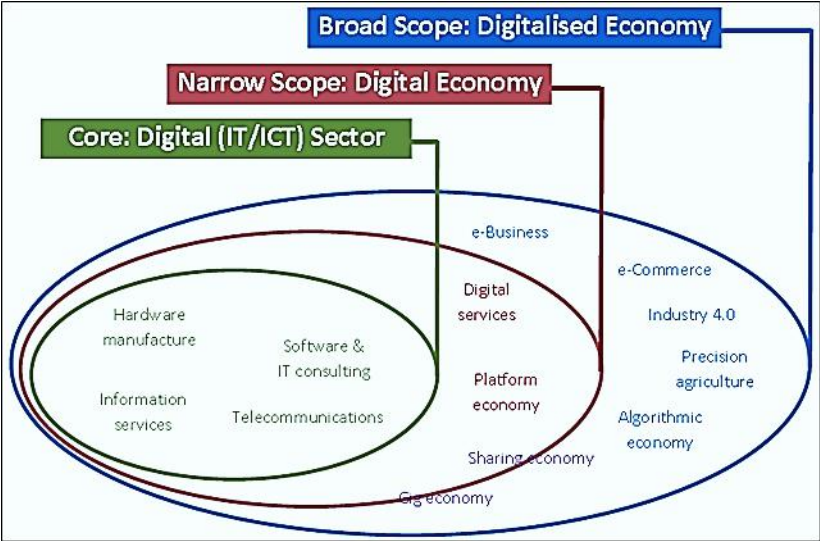


Fig 1: Scoping the digital economy

Source: Bukht and Heeks (2017)

Characteristics of Digital Economy

According to Balneg (2018), there are 12 important characteristics of a digital economy that must be known and understood. In more detail, Tapscott (1996) states that the 12 characteristics are knowledge, digitization, virtualization, molecularization, internetworking, disintermediation, convergence, innovation, presumption, immediacy, globalization, and discordance.

1) Knowledge

The concept of knowledge management in the digital economic era will be the key to success a company, because knowledge is inherent in the human brain which has become a determining factor. In addition, the advancement of technology has been able to create a variety of artificial intelligence products, which in principle are able to help management and company staff to improve their intelligence (knowledge leveraging).

2) Digitization

Digitalization is a breakthrough and a big change in the world of business transactions. For example, two-dimensional image forms such as paintings can be converted into a collection of bits that are easily stored and exchanged through electronic media. In addition, the advancement of technology can be done to exchange information through e-mail to all corners of the world with greater ease. In other words, if the products and services offered can be represented in digital form, the company can easily and cheaply offer products and services throughout the world.

3) Virtualization

Virtualization allows someone to start a business with a simple device and can protect all potential customers worldwide. Customers are only dealing with an internet site as a company as well as relations between various companies that want to work together. In establishing this relationship, the process that occurs more in transactions is the exchange of data and information virtually, without the physical presence between the parties or individuals who make transactions. In other words, business can be done anytime and anywhere for 24 hours per day and 7 days a week on-line and real time.

4) Molecularization

Organizations that will survive in the digital economic era are those who succeed in applying molecular forms. Molecular form is a system where organizations can easily adapt to any dynamic changes that occur in the environment around the company.

5) Internetworking

No company can work alone without cooperating with other parties, thus one of the prerequisites to succeed in cyberspace. Based on the chosen business model, the related company must determine its core activities (core activity) and establish cooperation with other institutions to help carry out supporting activities.

6) Disintermediation

Another distinctive feature of the digital economy arena is the tendency of reduced brokers as brokers for transactions between suppliers and customers. For example, mediators in economic activities are wholesalers, retailers, broadcasters, record companies, and so on. Classic companies that rely on themselves as mediators by themselves are forced to go out of business with an internet business. Free markets allow transactions to occur between individuals without having to involve other parties.

7) Convergence The

Key to a company's success in internet business lies in the level of ability and quality of the company in converging three industrial sectors, namely: computing, communications, and content. The computer which is the core of the computing industry is the nerve center for processing data and information needed in conducting business transactions. The most relevant industrial communications products are information and communication technology infrastructure as a pipeline for channeling data and information from one place to another. Real competition lies in the content industry which is a type of service or service offered by a company to the market in cyberspace. The three things above are absolute requirements that must be owned and mastered by their use to be able to successfully run a business successfully.

8) Innovation

Activities on the internet are 24-hour business, not 8 hours like companies in the real world. Competitive advantage is very difficult to maintain considering that what someone or another internet company does is very easy to imitate. Therefore, innovation is quickly and continuously needed so that a company can survive. Company management must be able to find a way so that key players in the organization (management and staff) can always innovate like companies in Silicon Valley. The concept of a learning organization is worth considering and implementing in the company.

9) Prosumption

In the digital economy the boundaries between consumers and producers have been blurred. Almost all information technology consumers can easily become producers who are ready to offer products and services to the community and business community. An example is someone who has to pay US \$ 5 to gain access to a mailing list system. Then the person created a mailing list community where each member must pay US \$ 1 to him. In a short period of time the person concerned has been able to get a profit from the small business. In this context, the individual concerned is categorized as prosumer.

10) Immediacy

In cyberspace, customers are faced with a variety of companies offering the same product or service. In choosing a company, they only use three main criteria. In principle, they will conduct transactions with companies

that offer products or services cheaper, better, and faster compared to similar companies. Given that switching costs on the internet are very easy and inexpensive, customers will continue to look for companies that provide the highest benefits for them. Seeing this, companies must always be sensitive to various customer needs that require satisfaction of certain services.

11) Globalization The

Essence of globalization is the collapse of the boundaries of space and time (time and space). Knowledge or knowledge as the main resource, knows no geographical boundaries so that the existence of state entities becomes less relevant in carrying out business contexts in cyberspace. A pure capitalist will tend to do his business from a cheap and comfortable place, sell his products and services to a wealthy society, and the proceeds of his profits will be transferred and stored in the safest bank and provide the greatest interest. Market segmentation which has often been carried out based on time and space boundaries must also be redefined given that the whole community has become one in cyberspace, both the producer and consumer communities.

12) Discordance

The last characteristic in the digital economy is the phenomenon of changes in social and cultural structures as a consequence of the logical consequences of changing a number of paradigms related to everyday life. The more concise the organization will cause unemployment everywhere, the livelihoods of mediators (brokers) will be lost, the workers become workaholics because competition is very tight, the influence of western culture is difficult to prevent because it can be freely accessed by anyone through the internet, etc. an example of a phenomenon that occurs in the digital economy era. The unpreparedness of an organization in dealing with all possible negative impacts that arise will have a bad impact (boomerang) for the survival of the company.

Existing Digital Economy Conditions in Indonesia

In the next five-year time horizon, Abubakar (2018) explained that the strategic environment (PESTEL-Political, Economy, Social, Technology, Environmental, Legal) is still conducive for Indonesia to grow. However, to grow more sustainable, risky and inclusive, Indonesia needs to address quickly the economic diversification strategy and the green economy concept, improve the quality of human resources, narrow the disparity, optimize the benefits of technology, and synchronize central-regional law.

Whereas the existing condition of Indonesia when compared to other countries in the world in terms of three sides shows that in 2017 the GDP / stamp of Indonesia ranks 123. Whereas the Global Competitiveness Index Indonesia ranks 36th. Furthermore, the Global Innovation Index Indonesia ranks 87. (Source: indexmundi.com; reportsweforum.org; globalinnovationindex.com).

Indonesian people increasingly feel the presence of the digital era that is entering various fields of life, following the trends that occur at the global level. Digitalization has changed the way humans behave, especially in the economic field because business processes are faster, more efficient and effective. At the same time, the digital era offers new economic opportunities that were not seen before, through a variety of creative ways based on digital services. The business model in transactions also moves rapidly from conventional market systems to e-commerce platform markets, which no longer recognize regional boundaries for both producers and consumers (Telkom Indonesia, 2016).

In Indonesia the digital economy has increasingly developed in the field of e-commerce. For example, with the use of E-Banking in transactions, this proves that Indonesia is competing in the world of digital economy.

The e-commerce industry is not merely talking about buying and selling goods and services via the internet. But there are also other things in it such as service providers between telecommunications providers and others. This is what makes the e-commerce industry must be monitored in order to be able to push the economic pace.

As a country with a population of more than 250 million, Indonesia has a huge digital economic potential. The increasing public internet literacy driven by the widespread use of smartphones and fixed-broadband is an important component for the growth of the digital economy, in addition to the availability of various applications or content that support, the readiness of Small and Medium Enterprises (SMEs) to be able to make products that standardized and reliable logistics network support. The government has also seen the magnitude of the potential that exists and proclaims Indonesia as the largest digital economy in Southeast Asia by 2020 (Telkom Indonesia, 2016).

Opportunity Business Model in the Digital Economy Era

Often people surf the social networking features, the rise of people who want activities and businesses to be known by many people, making everyone easily know the people who have not been in the circle of daily

life. This is what causes someone to find his best friend, his family who has been separated. Just by typing in a name, or other identities, the internet will give a lot of descriptions of someone we mean.

To be able to exist in the Digital Economy era, like it or not, like it or not, people are required to be able to understand the existing technological developments. With the mastery of technology, people will avoid adverse transactions, and certainly not be considered as people who stutter technology. So that the development of digital economy is considered to encourage people to understand or master technology.

With the increasing need for transactions by using e-commerce technology in the upper middle class, encouraging e-commerce service providers to compete to improve the facilities they provide to consumers. This has a positive impact on the wider community to be able to choose which service provider is best for them.

Digital economic and financial opportunities, among others, foster innovation, entrepreneurship, and economic growth, expanding greater access especially in the inclusion of finance and MSMEs, digital identities that can improve social and public services for the better, and more affordable. The presence of new technology (DLT, Block chain) broadens the opportunity to provide services that are more affordable, faster and better.

Business competition in the world of e-commerce is also very tight, competition between companies is a natural thing to happen, because every company must always issue and develop products to be the best of the best. Many threats that occur, for example, come from competitors who offer products or services with relatively the same characteristics, some come from companies that are capable of offering substitute products, which have a better value than the products or services produced by their company, besides dating also from the customer himself because the customer has the right to choose which product he will buy that covers all of his needs.

Business competition in the digital economy era must be customer oriented and also competition oriented. If it does not immediately apply such a concept it will be possible to crush the competitor company directly or indirectly. Consumers demand a lot of things from the company, for example in the delivery of goods that are timely and also customer satisfaction from the authenticity of the goods. So every company must have good management in managing its business. Related to general technology is very closely related to business activities. All technology is definitely needed in

business activities to be more effective and efficient. Business needs sophisticated technology so that its activities run smoothly and can help all activities with consumers and producers. Figure 2 displays a new business model that dominates the issue, even if it hasn't happened, namely "industry 4.0".

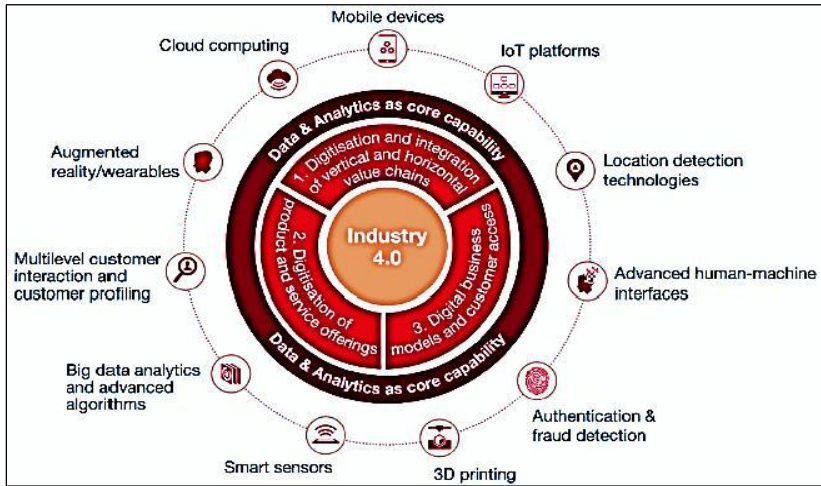


Fig 2: Industry 4.0 framework and contributing digital technologies

Source: Geissbauer, Vedsco, Schrauf (2016)

Broadly speaking, the opportunities for digital economy in Indonesia are supported by:

- 1) Natural resources
- 2) Demographic dividend
- 3) Growing middle class
- 4) Rich cultural and values

The Challenges of the Digital Economy in Indonesia

The rapid development of the world of technology, especially the digital economy has had an impact on the demand for electronic goods and internet services. These demands require funds that are not small to cover it. With the existence of these small funds, the digital economy world can only be enjoyed by certain groups, resulting in social inequality among the wider community.

In the past, to provide data information needed a long time to get to the user. Now with the development of Digital Economy, this can no longer be

used as a reason why data cannot be processed. For the upper middle class people who in fact are people who have started to be established, established in the business world, established in their careers, using e-mail facilities, personal blogs, personal websites, are examples of tools that can be used to face the challenges of fast needs data transformation.

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The model of future economic growth will depend on various technological innovations. The Managing Director of the International Monetary Fund (IMF), Christine Lagarde, said that Indonesia's digital economic potential was very large because there were 1,700 pilot businesses wandering in the country. But now the task of the government is to ensure that the digital economy must be able to sustain economic growth. This new economy must ensure that it not only encourages productivity and growth, but also becomes a useful foundation for all people. This new economic growth model should aim to encourage domestic demand, increase trade between regions, and provide opportunities for economic diversification. For this reason, it needs to be controlled through improving the quality of digital infrastructure and education systems that are suitable for the future.

The digital economy encourages people to be productive by utilizing technology and with a bonus demographic it is hoped that the younger generation will master the technological developments. Mastery of digital technology is one thing that can still be said to be minimal in Indonesia. This is what the government must anticipate and resolve ahead of the demographic bonus. The demographic bonus will be maximized if the productive age population has adequate health, education and adequate skills. If technological advancements are not accompanied by community

skills in utilizing these technologies, Indonesia is feared to only be a spectator and market share of foreign products.

The Minister of Industry, Airlangga Hartarto, said the government had mapped industries that could take advantage of the digital economy so that they could gain added value and higher competitiveness. The industry includes the chemical, automotive and textile industries. Other industries can also, but the impact is not as big as the industry. While the Minister of Finance, Sri Mulyani Indrawati, acknowledged that there was no policy that could accommodate the rapid growth of the digital economy. Nonetheless, the Ministry of Finance itself has responded to the growth of the digital economy by submitting an incentive package for startup companies through financing from venture capital with exemption as the Income Tax object. However, the more important thing is how digital economic entrepreneurs can respond to the direction of government policy.

Public trust in digital transactions also needs to be built by the government because only 7.5 percent of all internet service users use the internet network for electronic transactions. The government and banks must actively provide an understanding of the facilities that will be obtained by the community and guaranteed security so that people can easily carry out electronic transactions. The government must also focus on the handling of cyber-crime which is one of the triggers of public distrust for the security of their personal data on the internet network.

It is clear that the rapid development of the digital economy is a challenge for the government. For this reason, the authors want to emphasize that to capture business opportunities, both in the domestic and foreign markets, the government must increase the role of technical ministries in the industrial sector and the trade sector to provide guidance for SMEs to have high competitiveness by applying technology and information in its business activities. The government must also encourage the growth of creative industries that have specialties, through capital facilitation, market opening (market diversification), and incentives in the field of taxation. This tax incentive is important to provide space for new entrepreneurs to develop their businesses.

Another important and anticipated challenge for the government is internalizing ICT-based education from basic education to the top so that Indonesia's human resources are able to compete in the face of the current digital economy era. In particular, the government can provide further education facilities for prospective workers or even workers to improve ICT skills, not only through vocational education, but also through certification.

In summary, it can be summarized that the challenges of the development of digital economy in Indonesia are:

- 1) Weak acquisition and digital literacy
- 2) Government regulations and collaboration
- 3) Capital availability and middle income trap (MIT) threat
- 4) Capacity utilizing technological progress

Competing Strategies in the Digital Economic Era and Recommendations of Government Policy

There are several factors that can be done in achieving success in the digital economic era, namely individual creativity and information technology. Creativity is an individual example of how one individual to make innovations in business are constantly and continuously, in addition to the information technology act as facilitator in the management and the management of knowledge, so that the process takes place in the creation, manipulation and distribution of information to become more effective and efficient for persisting in competition in this digital economic era, every individual or company needs to understand its characteristics, because the digital economy concept is very different from the classical economy that has been known. In companies that are already running it is not uncommon to have to transform their business in order to stay optimally in carrying out its business activities, because to implement it, it's necessary to make a very different business model. Another case for new companies (start-up companies), to enter the world of business is easier because they immediately make a strategy without having to change changes.

Technological developments have brought very rapid changes and intense competition. Human mobility, distribution of goods, as well as capital and information traffic are growing faster through digitalization. The development of digitalization has created new breakthroughs in the economic field, namely in business-to-business, business-to-customer or customer-to-customer interactions. The digital economy has brought positive and negative impacts which have become a challenge for the government and society.

The government must be able to create regulations that encourage the development of a digital economy as a strategy in realizing its vision in 2020, such as policies for ease of financing for pilot businesses, tax incentives, and fostering ICT mastery for SMEs. The development of telecommunications infrastructure also needs to be increased outside of Java and Sumatra so as to minimize the imbalances that occur. The government

also needs to develop ICT education from the basic level to the top and encourage community participation to improve education and skills in the ICT field.

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