ISSN : 2230-9519 (Online) | ISSN : 2231-2463 (Print)

The Development of Digital Economy in Indonesia

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Abstract
The current number of internet users in Indonesia has exceeded 50% of the total population, with an average expenditure of IDR 6.5 million per annum for online shopping. The value of e-commerce has reached US$ 87.8 or 52% of the e-commerce market in Southeast Asia. On the one hand, the development of digital lifestyle and digital technology-based industries has become a necessity, but on the other hand, it will become "a serious threat" for traditional and conventional businesses as a result of changes in consumer shopping characteristics, that is, fast, practical, and inexpensive. Millennial generation is very familiar with digital technology and becomes potential target to increase market share. This research is categorized as qualitative research with positive paradigm. This research uses primary data and secondary data with the focus on Micro Small and Medium Enterprises (MSMEs) and the behavior of consumers as internet (smartphone) users. The results show that there are still some problems with regulation, collaboration, and infrastructure that need to be addressed so as not to hamper the growth of the digital economy and the stability of the financial system in Indonesia.

Keywords
Digital Economy, Digital Technology, Financial Technology, Digital Banking, Micro Small and Medium Enterprises (MSMEs)

I. Introduction
Today the world has entered the era of industry 4.0 which is based on new technology and able to change the whole chain and management in every branch of industry, including the financial industry commonly known as financial technology and digital banking. Technology-based financial services appear to be expanding rapidly in Indonesia, marked by the emergence of startup companies, such as payment systems and money transfer services, savings and loans, insurance, financial information service providers, capital market, crowdfunding, and wealth management.
The rapid changes toward financial technology and digital banking show that technology is able to play a strategic role in delivering accessible financial services. This is in line with the behavior of consumers who want services without being physically present to bank offices, insurance offices or finance companies. The availability of digital banking services and products is greatly appreciated by customers, both individuals and business actors, particularly in Micro, Small and Medium Enterprises (MSMEs).
Currently, the financial services in digital banking have been well developed, such as internet banking, mobile banking, AMS banking, ATM, e-money, phone-banking, payment gallery, branchless banking, online debit, digital outlet, virtual credit card, cash management system, EDC, mobile branch, mobile account, and smartphone-based financial applications. The large selection of digital banking products is certainly intended to motivate customers to be more loyal and be part of the modern lifestyle.
Singapore, Japan and the UK are the three international financial center countries that have been able to prove the significant impact of financial technology on economic growth and the stability of the financial system. In addition, financial technology is also able to present merchants who accept low-cost debit and credit card payments and to build banking infrastructure in an effort to encourage people's purchasing power.
The experiences in these three countries also show that banking institutions are greatly benefited because they can cut operating costs and raise low-cost funds from customers, including expanding services in time and space. The presence of the digital economy era can be a new opportunity as well as a serious threat to banking industry that turns to digital banking in order to retain existing customers and attract new customers who come from millennial generation.
It is important to note that Indonesia's future economic growth requires a strong and stable financial sector to be at 6% per annum. This means that banks, insurance, capital markets and startup companies should be spurred so that the annual credit growth is no longer at the range of 10-12%. It is intended that the capacity of the financial sector can increase fivefold from the current position, as has been achieved by Singapore and Thailand.
Nevertheless, the financial services industry is one of the most vulnerable sectors of cyber crime, which is pandemic and growing to cloud computing system-based data storage media. Moreover, the public has not been much educated about the threat of digital crime.

II. Literature Review
Financial system is basically an order in the Indonesian economy that has a role, particularly in providing financial service facilities which are institutionally divided into two major parts, namely depository financial institution and non-depository financial institution. The financial system desperately needs stability to avoid an economic crisis or monetary crisis.
Financial stability is a condition in which economic mechanisms in pricing, allocation of funds, and risk management can function well and are able to support economic growth. A stable financial system is essentially a financial system capable of allocating financial resources and absorbing shocks in preventing disruptions to real sector activities, and in addition, the financial system remains capable of performing intermediary functions, implementing payments, and spreading risk appropriately.
Stable financial system is expected to have a direct impact on the health of financial institution in an effort to carry out its function as a collector and distributor of public funds to the maximum which in turn can affect the circulation of money supply in the community, make inflation under control and boost the primary, secondary, and tertiary sectors
The amount of money in circulation is relatively capable of being controlled by Bank Indonesia through various monetary policy instruments. However, it is in contrast to the demand for money that is entirely in the hands of consumers in terms of various needs, such as food, clothing and shelter.

The demand for money, in the classical view, is reflected in the quantity theory of money, and the view of A. Marshall is the beginning of the theory of demand for money. J.M. Keynes (1936) distinguished the demand for cash money into three motives: transaction motive, precautionary motive, and speculative motive. In fact Keynes realizes that people want the amount of cash that exceeds the need for transaction because there is the assumption that cash money is the best form of wealth. The demand for money has grown in line with the presence of the ideas of William J. Baumol (1952) and James Tobin (1956) where the interest rates and the intermediary costs are very influential on cash demand for transaction purposes. The development or advancement of technology will lead to a decrease in the average cash held by the individuals. Meanwhile, James Tobin argues that the inconsistency between expenditure and income receipts forces individuals to provide payment instruments to finance their transactions, and not necessarily in cash [3].

The ideas of both J. Tobin and William J. Baumol are basically in line where the demand for money for the transaction purposes is dependent or influenced by the interest rate. However, along with the development of the era, the demand for money is influenced not only by income and interest rates, but also by many other factors, such as the prevailing system or mode of payment, the availability of credit facilities with soft interest, and others.

Industrial era 4.0 requires the use of technology in all lines. In addition, people's behavior and mindset have changed along with the socio-economic life and type of work achieved. For example, the tendency of customers to come to bank offices is to open an account and deposit cash only. After that, they prefer to use non-physical and self-service channels. The same conditions also occur in insurance, transportation, retail trade, and others.

One type of rapidly growing digital economy in Indonesia is financial technology in the form of e-business. E-business has a broader understanding than e-commerce, because it is not limited to selling and buying activities only, but also serving and collaborating with other business partners. E-commerce activities are part of e-business activities that include information systems, information technology, the Internet, and interactive relationships among consumers, partners and suppliers in an effort to support the key business processes [2,4].

Meanwhile, according to Bank Indonesia (BI), financial technology is the use of technology in the financial system that produces new products, services, technology and / or business models that can be held by each party under the category: (1) payment system; (2) market supporters; (3) investment management and risk management; (4) loans, financing, and capital provision; and (5) other financial services. The criteria for financial technology are innovative, beneficial to the community, widely used, and in accordance with the provisions stipulated by Bank Indonesia

Furthermore, digital banking is a financial service by the banking through internet-based digital technology so that customers become more loyal, can raise customer funds, and expand the financial services from the unbanked community without being limited by space and time.

People are also familiar with e-commerce that can be accessed through wireless handheld devices, such as mobile phones, handheld computers and personal digital assistance where their activities refer to online. Based on KOMINFO and BAREKSA (2016) data, the world e-commerce transactions reached 20.2% per annum. E-commerce transactions in Indonesia reached IDR 200 trillion in 2015 and is predicted to reach IDR 1.850 trillion in 2020 or 9-fold increase in 5 years which impact 12% to GDP. Online business now has reached more than IDR 144 trillion in transactions, and will grow rapidly due to the support of 4G internet network as well as positive response from the community related to digital technology.

III. Research Methodology

This research belongs to qualitative category because it investigates and understands the digital economy phenomenon of internet users, the rapid development of financial technology, and the customers' demand for payment instruments by card, including why and how they occur with the aim to make facts easy to understand and, where possible, generate new hypothesis. This research seeks to analyze the condition and problems of existing economy and observe the phenomenon of digital economy in Indonesia [1].

The next reason is that this qualitative research is not a "value-free" discipline, which means that business activity and management in the financial system are highly dependent on certain values, norms, cultures and behaviors that occur in the digital economy environment. Researchers seek to interpret deep and comprehensive analysis and understand digital technology in its application in the business world.

This study uses primary data with 100 respondents and secondary data derived from various sources whose validity can be accounted for. In addition, this study also uses symbolic interactionism and existential phenomenology model to be able to understand the emerging meaning and the essence of the influence of digital economy, especially to develop MSMEs in order to be able to compete in market. Researchers also strive to be meticulous and thorough to maintain validity and reliability in order to be truly relevant to the rapidly growing digital phenomenon in Indonesia.

IV. Finding and Discussion

Digital technology has grown rapidly around the world. However, not all countries have been paying attention to the multiple development benefits of the use of the technology. This reality has been happening for a long time, as the internet has a big role in driving economic growth, expanding job opportunities, and improving public services. The digital technology revolution should be understood as a new business opportunity because the equalization of access to digital adoption is a step to reduce the inequality of a country's development.

The use of credit cards and ATM cards for the transactional interests shows a positive growth and the people are increasingly accustomed to using both cards for various transactional interests along with the ease of transactions and the ease of obtaining payment instruments using the cards. It also happens on e-money that can be seen from the incessant co-branding run by e-money publishers and an increase in e-money balance from IDR 5 million to IDR 10 million. Card-based transactions will increase in line with the development of e-payment connected with ATM and EDC networks.

E-money has been experiencing rapid growth since it was introduced in 2008, in terms of the number of instruments in circulation, the number of transactions, the transaction value, and the number of reader machines. The government even requires road users to make payments using e-money, prepares electronic money readers for up to 20 different types of electronic money, and provides more counters for refilling electronic money so that users can get a lot of convenience.

Each bank has more than one digital financial product and claims that the product offered is superior to similar products released by competitors. Each bank seeks to offer innovative and technologically advanced digital products from biometry to artificial intelligence and improves its security systems that exceed one time password despite the large-scale investment consequences for infrastructure procurement and promotion.

Experiences in countries such as the United States and China have proven how important it is to create open innovation which can be easily understood by various cultures and the innovation processes that enable input from various sources, both internal and external environments, by building partnerships that have understanding and competence in the field financial technology. The digital banking can even be switched to competent parties with the consideration of not having competent human resources.

The application of sharing economy in the United States is worth listening to, that is, the growing lending business without going through bank institutions using a number of platforms, such as Lending Club, Prosper, SoFi, and Zopa. Uncomplicated bureaucratic approaches, including without guarantees or collateral, make this platform grow fast. Even the amount of credit has reached US$ 2.5 billion since its introduction in 2009. This shows the amount of public confidence in this platform. However, this platform can undermine the income of traditional banks when they do not innovate.

Sharing economy is inevitable as the digital industry makes the activity more efficient, considering that this sharing economy is a hybrid market that allows access to resources owned by individuals or groups to be shared with others. This market is growing well because it is facilitated by digital technology that allows information traffic to spread more quickly and widely

The current global era up to 2030 is different from that of previous years because sophisticated mobility technology is able to create new ecosystems and change the new way of life. Genes Y and genes X seem very familiar with smart phone and enjoy various applications in it. Young people seem to be passionate about how to solve problems by using digital technology. For example, virtual reality and augmented reality games can help and change the way how individuals work to become more collaborative, more productive and more motivated to reach the top career.

Today, in 2018, there have been several rapidly growing trends, such as better payment options, smart phone optimization, fast delivery of goods, the use of robot chat to answer customer inquiries, and the use of customer loyalty coupon to increase sales and visitors. Similarly, the number of smart phone users is increasing rapidly and it is expected to reach more than 100 million people in the near future.

The results of a survey of users of digital technology products, consisting of 100 respondents with the characteristics of users of financial technology, digital banking, and online, show that people need these technological products because they are cheaper, more practical, faster and more efficient. In addition, the community also has other considerations related to the benefits of digital and online technology, such as security, privacy, and lifestyle to follow the movement of the times.

The results of the survey also show that there are some respondents who object to the use of e-money or e-toll, which is only used when passing through toll road, because it can cause congestion at the entrance and exit of the toll road. The objection is also related to the occurrence of fraud when conducting online transactions, including misuse of ATM cards and credit cards when making a payment at the checkout. Modern people want fast, practical, inexpensive, and easy services to meet their various needs without physical presence to stores, banks, insurance, and capital markets. Meanwhile, online business is increasingly in demand, and it gradually shifts of offline business because the price difference is quite significant for the same goods. Similarly, the purchase of airline tickets and hotel vouchers can be done easily and quickly without having to attend the tour and travel office or airline / hotel office.

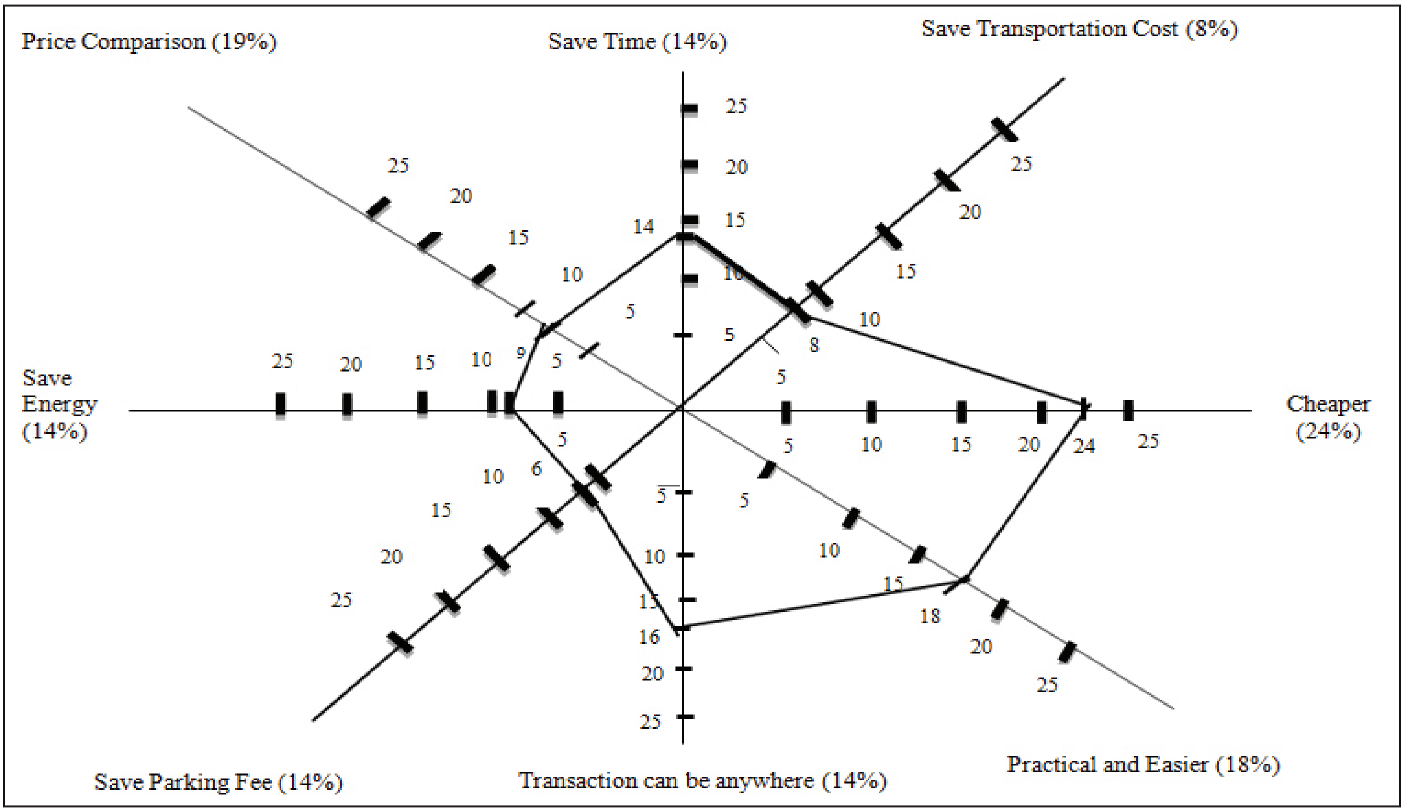

Fig. 1: Fulfilment of the the Needs of the Community Using Online (%)

Source: Researcher, 2017

Due to the rapid development of digital economy in Indonesia, it takes a silicon valley area such as in the United States, to support the development as well as the activities of technology and digital-based companies to develop startup businesses, creative industries, MSMEs, and educational institutions engaged in information technology. The existence of a digital hub is expected to support the development of technology-based industries in Indonesia.

Furthermore, it is necessary to build collaboration between the actors of conventional financial services and financial technology as an effort to raise the national financial services industry, considering that both have not been able to walk alone. The fact shows that a number of large technology-based companies that provide peer to peer lending pages are in collaboration with banks for investment resources. The existence of a national payment gateway mechanism or infrastructure that integrates multiple payment channels to facilitate electronic payment transactions is very important, and at the same time it serves to protect consumers.

The existence of the government is very important to encourage collaboration between financial services providers and banking. It is intended that financial technology services can improve equitable access, advance the financial industry more efficiently in order to sustain the capital and MSMEs' production activities, and increase economic growth of Indonesia. Government regulation should be able to accommodate the implications of the development of financial technology innovation.

Some startup businesses are now trying to get into the agricultural sector to help with capital difficulties that frequently haunt the lives of farmers, as it is run by startup Tani Fund, Crowde and Tomijoy. Despite the high risk of capital in the agricultural sector, some startup businessmen even see it as an opportunity. In this case, financial technology-based funding companies turn out to be able to distribute credit more quickly, and prove to be able to overcome the low financial inclusion outside Java.

The experiences of Tomi Fund, Crowde, and Tomijoy show that information technology can be a means of connecting between farmers and investors. Information technology-based peer to peer lending is an alternative and complementary loan facility for conventional financial services institutions.

Table 1: Technology-Based Peer to Peer Lending
May 2018 (x entity)

Island	Number of Lenders	Number of Borrowers
Java	158,449	1,675,219
Bali & Nusa Tenggara	4,552	26,836
Seluruh Maluku & Papua	1,367	9,07
Kalimantan	6,034	27,431
Sumatera	20,245	74,391
Sulawesi	8,892	37,685
Indonesia	199,539	1,850,632

Source: Financial Services Authority of Indonesia, processed

In May 2018 the number of lenders reached 199,539 entities and the number of borrowers reached 1,850,632 entities or IDR 6.16 trillion distributed through technology-based peer to peer lending services in which the majority circulated in Java, covering 6 provinces, and the minority circulated in 4 provinces located in Maluku and Papua. Table 1 shows the ease of financial transaction and inclusion in Indonesia which can improve regional economy when financial literacy remains low. However, there are still constraints on Indonesia's geographical conditions, especially in eastern Indonesia.

MSMEs in Digital Economy Era

Before the Internet, business actors did their activities traditionally, such as by opening outlets or shops, and consumers came to see the goods physically. Consumers bargained to get cheap prices, and on the contrary, the traders made a strategy to gain a lot of profit. The existence of the internet, however, has made trading patterns change, that is, through online business, and consumers simply use the gadget to transact.

Online business has a huge impact on people's mindset and behavior because the process is very fast and easy. Similarly, many young people are interested in doing online business because to start a new business does not require a large capital. MSMEs, as one of the spearheads of the Indonesian economy certainly can no longer rely on conventional ways, and must adjust to the pattern of business in the era of digital economy in order to survive in the increasingly fierce market competition.

At present there are around 4.6 million MSMEs that have successfully increased online product sales channels since three years ago, and the government is targeting that by 2020, similar businesses are able to add online sales channels to 8 million businesses.

The mentoring includes efforts to incorporate MSMEs into online store platforms and to prepare entrepreneurs to enter the international market. The online platform is actually one of the means to expand sales, as the use of online platforms can double MSME's contribution to Gross Domestic Product(GDP), including the creation of foreign exchange reserves and job creation.

Experience shows that, at first, online traders only sold goods made by local producers, but then they dared to produce new goods. So, they not only become resellers but also producers. However, the constraints faced by MSMEs today are not only a matter of availability of raw materials, but also poorly trained human resources in using digital technology to increase production capacity and market expansion.

Today's online usage has proven to be effective in spurring sales volume and market expansion which in turn it is capable of increasing non-oil exports and improving Indonesia's economic growth. For example, the marketing of batik fashion by utilizing the online facility is able to reach the market in the United States and Europe.

Related to the online platform, some MSMEs are still constrained by the ways how to access the platforms in this network. So, facilitator is needed as a business intermediary or aggregator in order that MSMEs do not need to open their own online platform. For example export aggregators, namely Bandros.co.id and brikatsuper.com, which offer export product liaison facilities using the model of business to business and retail. Another example is AliExpress, an online company under the Alibaba Group network, which is increasingly in demand by the world community where the volume of goods delivery from transactions on the platform is quite large.

In the meantime, there has been a growing investment-based financial technology industry service known as equity crowdfunding (EC). This type of investment is different from peer-to-peer lending services that have been regulated in the Regulation of the Financial Services Authority No. 77 of 2016.

ISSN : 2230-9519 (Online) | ISSN : 2231-2463 (Print)

EC is principally the capital use of a number of individuals, with investors and entrepreneurs backgrounds, to finance new business ventures by utilizing the accessibility of social media networks and crowdfunding platforms.
EC is the implementation of stock offering services by companies to sell stock directly to investors through electronic systems using the internet network. EC is almost the same as companies seeking funding in Indonesia Stock Exchange through initial public offering. So, there is opportunity for MSMEs and startups to obtain funding outside the capital market and banking.
Technology-based peer-to-peer lending service provides returns on interest, while equity crowdfunding (EC) provides refunds in the form of stock ownership.

V. Concluding Remarks

Digital technology is proven to play a strategic role in providing goods and services in a convenient, practical, cheaper, faster, time-saving and labor-intensive way. The availability of banking / non banking products and services using digital technology is highly appreciated by the community, both individuals and business actors, including MSMEs.
The digital-based economy will be one of the boosters of economic growth and per capita income of Indonesia in the midst of the sluggish global economy due to trade wars and the increase of oil price in international markets, including in realizing income equalization, increased per capita income, increased financial inclusion and financial access.
Digital banking and financial technology may have a negative effect on financial stability when data and documents are accessed by other parties through the internet network along with the increase of the amount of data distributed, and the relationship between devices in accessing the internet resulting in economic losses. Online business and peer-to-peer lending business without collateral may result in insecurity when they are not carried out carefully.

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