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Needs Analysis of Fintech in Financial Services toward Industry-4.0 Era in Indonesia

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ABSTRACT

This paper presents the needs analysis of fintech whose existence has changed the payment system in society. This research method is descriptive analytic to emphasize the aspect of in-depth understanding of the problems. The purpose and benefits are to examine the dynamics of the development of fintech needs in Indonesia. This study found that fintech in Indonesia has grown in various sectors, such as start-up, lending, personal finance, and retail investment. Finally, that the needs of fintech in Financial Services should be supported by regulations and internet infrastructure, to make it more developed financial transactions toward Industry-4.0.

Keywords: Fintech, Financial Services, Industry-4.0 Era in Indonesia

1. Introduction

The Industrial Revolution 4.0 has brought the convergence of the physical and cybernetic worlds, and the accompanying digital technology has created an innovation path in traditional financial services transactions to information technology-based transactions. The 4.0 industrial revolution brought about significant changes in the way people and companies deal. On the supply side, many industries see the introduction of new technologies that create completely new ways to serve existing needs and significantly disrupt the value chains of existing industries by increasing the quality, speed, or price at which value is delivered. On the demand side, with increased transparency, consumer involvement, and new consumer behavior patterns that are accessed through networks and cellular data, forcing companies to adjust the way consumers provide their services. The digital revolution changes the behavior of customers when they access financial products and services. This behavior pattern of consumer needs has increased changes in transactions based on information technology. However, this constant penetration of information technology-based applications is growing to serve almost every new segment of financial services. This collaboration between financial services and information technology raises an interesting phenomenon. This phenomenon has accelerated the rate of change at an extraordinary rate and reshaped the status quo industry, which is called Financial Technology-fintech.

Technological developments have touched almost all aspects of life, including in the financial services sector. In anticipating this era of the industry 4.0 revolution, it has given rise to the latest information technology-based innovations. Likewise, as happened in the field of finance which is usually called fintech. The dynamics of fintech needs in Indonesia have grown in various sectors such as startups, lending, personal finance, retail investment, crowdfunding, and electronic money. The Indonesian Fintech Association (AFTECH) revealed, fintech transactions in the lending and borrowing sub-sector in Indonesia in 2017 reached 202.77 trillion US dollars, increasing to 24.6% from the previous year. Seeing this high growth, it is evident that the needs of fintech companies need to be considered, because this has become part of consumer needs. It is intended that companies now must consider providing fintech solutions for their consumers. Now consumers do not have to shop to come to outlets. Everything in the transaction can be done online. In fact, in the retail and food and beverage industry, several companies are currently trying to provide promos and cashbacks that attract consumers to shop using the QR Code. Consumers only need to do a scan of the QR Code Scan to transact. Seeing the growing trend currently also the presence of industry 4.0, it is necessary for all companies to provide technology-based financial services to answer the needs of consumers fintech in dealing with electronic payment systems.

The current condition that is faced to meet the needs of fintech in Indonesia is the lack of access to various services that can be done by banks to be a new opportunity for technology-based companies that offer fintech. Besides that, this fintech requirement is very dependent on the availability of internet infrastructure. This means that not all countries have the same opportunity to build a financial technology system or even the availability of regulations regarding the presence of this fintech.
From the description above this paper will explain whether the dynamics of development regarding the needs of fintech are indeed and whether there is already regulatory support for financial services that govern them, as well as the availability of internet infrastructure in Indonesia so that the need for fintech has significantly beneficial toward Industry-4.0 Era in Indonesia.

2. Literature Review

2.1. Definition of Fintech

In general, and in a broad sense, fintech refers to the use of technology to provide financial solutions (Amer, 2015) [1]. Specifically, fintech is defined as the application of digital technology to financial intermediation problems [2]. In a broader sense, fintech is defined as an industry consisting of companies that use digital technology so that financial systems and financial service delivery are more efficient [3]. Fintech in its development made technological innovations in financial services that can produce business models of applications, processes or products with material effects related to the provision of financial services [4]. Fintech 1.0, occurred in the period 1886 -1967, innovations in the period of the financial sector and technology were first combined to expand the reach of financial services. During this period, financial infrastructure and technology were built for the first time in facilitating financial services to be carried out. Fintech 2.0, occurred in the period 1967-2008, innovation in the second period was a year of transition from the era of analog technology to digital. This period proved to be the most important financial innovation where there was an increase in the use of financial products and services combined with the use of technology that supported it. Fintech 3.0 and 3.5, occurring from 2008 until now, innovates more in the third period of development for Fintech. Based on Douglas W Awner, this period is divided into two Fintech eras, 3.0 and 3.5. The increase in the use of financial services in this field has increased very sharply due to the increased use of smartphones and is supported by innovations in financial products and services which further facilitate financial consumers to use financial products and or services.

2.2. The concept of Fintech-Bank Indonesia Regulation

Fintech is the result of a combination of financial services and information technology that ultimately changes the business model from conventional to moderate, which initially paid for being face to face and carrying a sum of cash, can now make long distance transactions by making payments that can be done in seconds only. The legal basis for implementing fintech in the payment system in Indonesia is Bank Indonesia Regulation No. 18/40 / PBI / 2016 concerning the Implementation of Payment Transaction Processing; Bank Indonesia Circular Letter No 18/22 / DKSP / regarding the Implementation of Digital Financial Services and Bank Indonesia Regulation No.18 / 17 / PBI / 2016 concerning Electronic Money.

3. Research Method

This research uses a descriptive-qualitative research design with the interpretive-exploratory paradigm. Data obtained from the results of observations, interviews, documentation then analyzed. Data analysis is done by multiplying information by assessing the relevant, looking for relationships to various sources, and finding results based on the actual data. The results of the data analysis are in the form of presentations relating to the situation discussed and explored. Presentation of the results is analyzed to answer the problems that have been formulated.
The purpose and benefits of this paper are to examine in depth the dynamics of the development of fintech needs in Indonesia. The discussion begins with a presentation related to the basic concepts of fintech and then continues with the factors driving fintech innovation. Next discussed about the development of fintech as a consumer need in financial service transactions. At the end of the discussion several notes were made about the prospects for fintech to further support the growth and development of an information technology-based financial services business that needed supporting facilities and the presence of fintech in industry 4.0. The supporting facilities needed are the availability of internet infrastructure, as

well as the fintech regulation of the Financial Services Authority (OJK) as an institution that has the authority to form fintech regulations as well as a special task force for business supervision dominated by startups.

4. Discussion

4.1. Discussion of Fintech in Financial Services

Fintech activities in financial services can be classified into 5 (five) categories, as follows (FSB, 2017a). Payment, Clearing and Settlement, this activity is related to mobile payments either by banks or nonbank financial institutions. While Digital Wallet and Digital Currencies activities, as well as Distributed Ledger Technology-DLT for payment infrastructure l5]. These models aim to improve Financial Inclusion and ensure greater consumer access to payment services and ensure smooth payment systems. This model can contribute to managing a number of transactions as well as large transfers and settlements between financial institutions. For example, for the Deposit model, namely deposits, lending and capital raising. The most common fintech innovations in this field are Crowd Funding, and online Peer to Peer lending platforms, Digital Currencies, and DLT. Next is a model related to Risk Management, fintech companies participating in the insurance sector with Insure Tech which have the potential to influence not only insurance marketing and distribution, but also underwriting, risk pricing and settlement claims. Furthermore, the model on Market support. The fintech section can provide simpler or more efficient processes, such as aggregators, big data, digital ID verification, data storage and cloud computing, or execution of orders through smart contracts. And finally, the investment management model with an e-trading platform that allows consumers to invest directly through computers in all types of asset smart contracts, and fintech innovations that offer robo-advice on financial services, including investment and portfolio management.

4.2. Discussion of Drivers of Fintech Innovation in Indonesia

Fintech in Indonesia has changed the payment system in the community. Fintech has helped startup companies reduce capital costs and high operational costs at the start of operations. The implementation and potential risk of fintech that it carries needs to be anticipated by the regulator by making regulations, due to the strong flow of technology in the payment system. Thus, there needs to be certainty that the payment traffic that has been penetrated by technology continues to run orderly and safely. The fintech regulations made will also support the pillars in the vision and mission of Bank Indonesia.

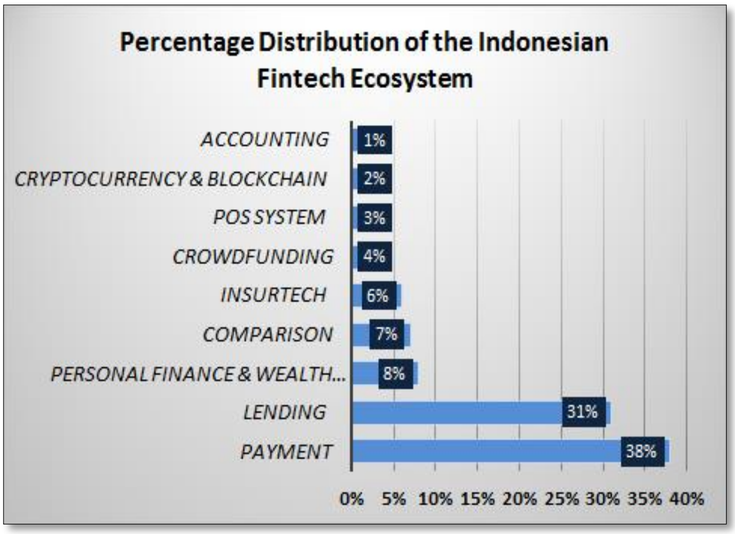
This change has led to the emergence of direct financing and intermediation which is predicted to replace indirect and costly and inefficient financial intermediaries [6]. There are two factors that drive evolution in innovation in fintech [7]. The first strength factor is demand side, which is sourced from the strength of shifting preferences that affect consumers towards innovation. Another factor is the ease of internet access and the ability to use the internet network. The use of the internet to transact in real time has encouraged high expectations, especially concerning the convenience, speed, and convenience in financial services. In addition, preference changes also occur due to the influence of demographic factors that drive demand, such as the increasing acceptability of groups that are indeed growing with digital natives and millennials. The second strength factor is that innovation in financial services is developing rapidly and in new ways and utilizing different business models. Examples of business models that use big data technology, artificial intelligence (AI), machine learning, cloud computing and biometrics.

Furthermore, the development of information and communication technology has added business model services to all aspects of life in this digital age. The business model that was developed in this financial services service is fintech. Various resolutions of fintech benefit its presence felt by many companies. Technology in financial services has been able to disrupt the traditional financial markets by developing new applications. This new fintech application can be used from payments to more complex applications for artificial intelligence (AI) and big data [8]. As stated by Affandi [9], that the development of fintech in Indonesia has been in line with the continuous development of technology. Nevertheless, the development of fintech, especially online transactions, is growing. Meanwhile, the portion of online shopping in Indonesia is relatively low, only around 2% (two percent) of total retail shopping. This indicates that the development of fintech will be more rapid in the future. However, it cannot be concluded that fintech will take retail market share, so it still needs to be examined carefully. Furthermore, according to Dorf Leitner, classifying the fintech industry into four segments according to their business model. Then, fintech is distinguished based on involvement in financing, asset management, payment, and other fintech functions.

4.3. Discussion of Implementation of Fintech in a Bank Indonesia Regulation

In Bank Indonesia Regulation No.19 / 12 / PBI / 2017 concerning Implementation of Financial Technology, the definition used by BI regarding fintech regulation to its categories and criteria has been confirmed. The Regulatory Environment for Fintech Indonesia is basically governed by two main entities namely Bank Indonesia and the Financial Services Authority. Nevertheless, Bank Indonesia is an entity whose main function is directed to monetary policy. Bank Indonesia has taken matters related to payments within the scope of its regulations, arguing that Bank Indonesia has a primary role in regulating monetary stability. Whereas OJK will function as a government oversight body to regulate the financial services sector, particularly in the fintech ecosystem. The role of OJK oversees P2P Loans, Crowdfunding, Digital Banking, Insurrect, Fintech in the Capital Market, Online Financing, Data Security, and of course protection for consumers. The implementation of fintech percentage of its distribution in the Indonesian fintech ecosystem can be seen from the following data and information. The highest percentage of distribution in Indonesia's fintech ecosystem is at 38% Payment and 31% Lending.

Figure 1. The percentage distribution in Indonesia's fintech ecosystem



Source: Fintech Indonesia Report Data Processed

4.4. Discussion of Potential Needs of Fintech in Financial Services

Young and millennial professional groups are the two highest users of Fintech financial services in Indonesia. That fact was revealed through a survey conducted by an international consulting company, Deloitte, from June to August 2016. From a survey of 70 Fintech companies in Indonesia to measure its user categories, 24 percent were young professionals, and followed by millennial groups with 12 percent. The two groups also have the same common thread, 32 percent of which are low-middle class (vulnerable to IDR 5 to IDR 15 million per month) with a fairly good level of financial skills with a percentage of 43 percent. This shows that Indonesia can become a potential market for the growth of the fintech industry. But on the other hand, that this potential has not been accompanied by regulations that are able to protect the Fintech company and its users. The survey results received by Beritagar also showed that 61 percent of respondents said that the regulations in Indonesia for Fintech companies were still unclear. While the existence of fintech aims to make people easier to access financial products, facilitate transactions and increase financial literacy. One example is credit applications and digital payments. In addition, collaboration between Fintech companies and Indonesian financial institutions is seen as contributing to Indonesia's economic growth. This is because most Fintech Indonesia companies also expect greater cooperation with other parties. As many as 38 percent of the companies surveyed emphasized that increasing best practices in society together was the biggest benefit of expanding cooperation among Fintech players in Indonesia. Around 21 percent of them believe that with this collaboration the public involvement in making decisions will be more extensive. While 25 percent of them believe that it will develop the ability to empower market data and analysis of user profiles.

4.5. Discussion of Regulatory Environment for Fintech in Indonesia

Indonesia, the largest economy in Southeast Asia, with an estimated population of more than 260 million people, most of whom are under 35 years old and with ever increasing penetration rates for cell phones and the Internet, Indonesia is a treasure trove of untapped fintech opportunities.

Fintech companies that want to expand in Southeast Asia will view Fintech Indonesia as a potential market. With that in mind, it is hoped that this will help navigate the Indonesian landscape with the latest edition, such as from the following 2018 Fintech Indonesia report

Figure 2. The 2018 Fintech Indonesia report

Fintech Indonesia Report -Overview of the Indonesian Economy

Population	261.12	Million
Banked Population	48.9%	
Active Social Media	130	Million
Internet Penetration	143.2	Million
GDP Growth	5% per annum	
Borrowed From Financial Institution	17.2%	
Mobile Subscriptions	415.7	Million
Urban	72.4%	Million
Semi-Urban	49.4%	
Rural	48.2%	
Desktop	30%	
Mobile	70%	

Sources : World Bank, the Association for Internet Service Providers Indonesia and We are Social 2018

5. Research Finding

In achieving success with the needs of fintech in financial services in the digital age, this requires a well-formed ecosystem and communication. The role of the two main entities, Bank Indonesia, as an institution relating to payments within the scope of its regulations and the Financial Services Authority, as a government oversight body, especially in the ecosystem of fintech, is needed to achieve a strong and mutually beneficial ecosystem. The 4.0 industrial revolution in financial services has been going on with the presence of several startups such as Ojek which has made evidence of the ease of transactions in financial services. The key words in the changing Industrial Revolution 4.0 are running to meet the needs of fintech for consumers today. Another thing is the dynamics of the need for fintech currently requires regulatory support and internet infrastructure, so hopefully fintech can develop to meet the needs of various financial transactions in the era of industry 4.0 in the future.

6. Conclusion

The research concluded that the presence of the needs of fintech in Indonesia has helped in accessing financial products to facilitate all financial transactions making its own benefits. Thus, the need for fintech is still needed. Therefore, this needs support with the availability of infrastructure, regulators and readiness of human resources who understand fintech. Furthermore, the development of fintech needs is very much influenced by trust factors. The trust factor in fintech is important to increase public trust and security. OJK, as one of the regulators, is expected to be able to issue official rules for fintech entrepreneurs. The fintech regulator is expected to create a more conducive business climate. This fintech regulator can synergize and collaborate so that fintech users are more developed.

7. Implication

The implication of this research is that that in the industrial era 4.0. There are three things that can encourage the application of Fintech in Indonesia, namely clearer regulation, collaboration, and especially financial literacy. BI and Ministry of Information and Communication, even OJK need to work together with all stakeholders, both from financial institutions, investors, startups, incubators, and industry associations, including academics. This is important, because fintech must be prepared starting from providing regulatory infrastructure, incentive support for startup business financing, to education, and coaching for aspiring entrepreneurs.

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