

## FinTech and MSMEs Continuity: Applied in Indonesia

Dio Caisar Darma<sup>1</sup>, M. Amin Kadafi<sup>2</sup> and Dirga Lestari<sup>3</sup>

<sup>1</sup>*Sekolah Tinggi Ilmu Ekonomi Samarinda, 75242, Indonesia*

<sup>2</sup>*Fakultas Ekonomi dan Bisnis, Universitas Mulawarman, 75117, Indonesia*

<sup>3</sup>*Fakultas Ekonomi dan Bisnis, Universitas Mulawarman, 75117, Indonesia*

<sup>1</sup>*diocaisar@stiesam.ac.id, <sup>2</sup>dirga.lestari.as@feb.unmul.ac.id,*

<sup>3</sup>*muhammad.amin.kadafi@feb.unmul.ac.id*

### Abstract

*Many financial institutions, especially banks and cooperatives, have received programs from the government to help MSMEs in Indonesia to facilitate access to capital and total assets (despite a recession). We are interested in discussing the role of FinTech to facilitate service to MSMEs, so that they can exist. The use of descriptive qualitative based study models. Secondary data obtained utilizing literature studies (Government Agencies, Banking, and some previous research relevant to the study problem). In the current situation, business activities related to finance and technology are needed by MSMEs. The development of FinTech is very rapid in Indonesia, especially those based on P2P lending and Crowdfunding. The main role of this model in the sustainability of MSMEs is in the form of increased efficiency from operational aspects and the ease of its members. Fintech can also be used as a market place in the type of production MSMEs or buying and selling MSMEs. There is a positive integration of FinTech in supporting MSME capital lending in Indonesia. Fintech provides many financial solutions, especially for the scale of MSMEs that want to develop. The development of FinTech is intended to be more inclusive.*

**Keywords:** *FinTech, MSMEs, continuity, entrepreneurship, Indonesia*

### 1. Introduction

With the current technology, it can make it easier for people to utilize the resources to be achieved. Utilization of technology to manage resources can be run efficiently and effectively, so that its role is increasingly beneficial to the community. One development of technology that is of interest is the use of the internet. The progress of the internet is increasing rapidly, giving birth to various innovations, such as financial technology to meet needs. With technology, making financial services more affordable. The application of technology from financial services has helped people's activities in the transaction.

The phenomenon of innovation from the financial services industry in the digital era is changing the landscape of this sector globally. All these changes led to the emergence of a new phenomenon called Financial Technology (FinTech). Some of the start up engaged in financial services, have tried to provide financial services to the public. As further information, innovations have emerged in the field (from existing financial institutions). The role of both of them can encourage Indonesia's economic growth inclusively.

FinTech has turned into a bigger field than the Internet of Thing (IoT) and will change exponentially in the future with quantum computing. Until now, new asset classes and technologies are being created and will change current business practices. IoT also makes great interest, because various businesses and industries related to technology are interrelated, even people who are not connected to this new industry and only see it (Schulte & Liu, 2018; Nakashima, 2018).

Globally, FinTech can show rapid development in various sectors, ranging from payment startups, lending, personal finance, retail investment, crowdfunding, remittances, financial research, and others. FinTech players in Indonesia are still dominant in the payment business of 43%, loans reaching 17%, and the rest are in the form of aggregators and crowdfunding (Rizal *et al.*, 2018).

Some problems related to entrepreneurs in conducting their business activities often become obstacles, including the capital, distribution of goods, licensing, bookkeeping is still manual, marketing, products, prices, human resources, and promotion. Some things are reinforced from a number of previous studies that presented the activities of Micro, Small and Medium Enterprises (MSMEs) considered being the most enduring business of economic recession in Indonesia. On one hand, MSMEs have major problems, such as financial (credit assistance) for business capital. Their business is a small-scale activity because it often deals with bureaucracy and banking administration. This problem must be anticipated in the form of programs to MSMEs to make it easier for them to get loan assistance online. In this way, entrepreneurs can minimize financial constraints, especially credit loans from banks (Ardiansyah, 2019; Winarto, 2020; Rahardjo *et al.*, 2019).

However, the realization of business loans and debtors has continued to increase since 2007 (Henley, 2017). In 2016, it was recorded that the interest rate on business loans was 9% per year. Afterwards, the target in 2017 will be IDR 100 trillion, but the realization of the distribution of business loans will reach IDR 94.4 trillion. For SMEs who will apply for the loan through a bank, are obliged to fulfil one important component, namely collateral. Lack of collateral will make it difficult for them to get capital (Rahardjo *et al.*, 2019).

Broadly speaking, the main phenomenon of the existence of Indonesian MSMEs is capital. The problem of capital loans in the future will be overcome by a technology-based financing model and this helps MSMEs in their business activities. The wide range of service features of the FinTech application will have an impact on the development of MSMEs. Therefore, this study aims to discuss the role of FinTech in the sustainability of MSMEs in Indonesia.

## 2. Related literature

FinTech is a new business model that really helps MSMEs and not the services provided by banks. FinTech provides services in the form of financial transactions, without having to have an account like in general. FinTech is still regulated by Bank Indonesia, even though it is not a financial institution like other banks. This aims to protect consumers or the public. Bank Indonesia has arranged the companies operating the model to be obliged to register their companies with Bank Indonesia or the Financial Services Authority (Rahma, 2018).

Afifah (2018) explained that the progress of FinTech led to creative disruption for the people of Indonesia, especially those who were not ready to accept changes in economic activity. On the other hand, FinTech provides new opportunities for business people to increase their economic activities because it is more efficient and effective. FinTech is an innovation step from the financial sector that is integrated with technology to produce facilities without intermediaries, changing the company's method of providing services and products. Furthermore, it can also provide privacy, regulation, challenge, law, and provide inclusive growth (Dhar & Stein, 2017).

In the Republic of Indonesia Presidential Regulation No. 82 of 2016 contains steps on inclusive financial strategies. The strategy is a condition that every community has access to a variety of quality, smooth, timely and safe financial

services. In addition, affordable costs can be obtained according to your needs and abilities. In Indonesia, the community groups that are specialized in gaining financial access are low-income earners. The intended groups are migrant workers, women, people with disabilities, neglected children, elderly residents of disadvantaged areas, students, youth and SMEs. Financial inclusion is a condition wherein the number of people who have banking access. Society tends to own immovable property to be used and can be cashed every day (Winarto, 2020).

Financial inclusion is considered a step to reduce obstacles in the form of assets and non-assets in utilizing service facilities (financial services). Financial inclusion in this section is the situation of individuals or people who use financial services and groups who are not yet aware of the benefits of using financial access networks through this scheme (low-cost expenditure).

MSMEs have a very strategic role in Indonesia's economic development. The role of MSME has supported the distribution of economic growth and employment performance. The economic crisis that occurred in the 1997 - 1998 era apparently did not prove to have an effect, because MSMEs could survive and continue to exist. Data from BPS-Statistics of Indonesia (2015) shows that the frequency of MSMEs has not declined and there has been a surge (after the economic crisis). Despite the economic turmoil, in 2012, MSMEs could absorb 85 million to 107 million workers. The number of entrepreneurs in Indonesia in the same period was 56,539,560 units. Of these, MSMEs amounted to 56,534,592 units (99.99%) and the remaining around 4,968 units (0.01%) were large-scale businesses. This fact is a picture of MSMEs as a very potential market for the financial services industry, especially banks in terms of channelling financing. So far, around 60% - 70% of MSMEs do not have access to finance to banks.

There is a way to develop the economy with the role of MSMEs, is by means of capital loans and relatively small interest rate policies. The role of banks as lending institutions is vital. Empirically, in recent periods, the number of MSME credit volumes in Indonesia has appreciated. However, the increase in the volume of MSME credit in Indonesia is not accompanied by a level of productivity, because it is more due to the factor of loans for consumption and only a small portion only uses it for production inputs (Mishkin, 2009; Muliadi *et al.*, 2020).

At present, the e-money system has expanded access and simplified the network, because it is increasingly doing transactions. Social influence can influence them to use electronic money. The more people use it, the more new users follow the trend. MSME owners also believe that the organizational and technical infrastructure of e-money service providers are here to help them use e-money technology and not have to worry about the application. Gunawan *et al.* (2019) have proven that a FinTech concept such as e-money is easy to use, because it has been applied to MSMEs in Yogyakarta, Indonesia. In addition, the results of studies on a national scale, digital payment services have a positive impact on business partners, especially MSMEs. The impact of FinTech is that the majority are in the food and beverage accommodation sector (Pranata, 2019).

### 3. Method

This study model approach is based on descriptive qualitative, because we researchers want to explore phenomena that cannot be quantified that are descriptive (Satori, 2011). Therefore, a qualitative descriptive analysis is considered to be a study approach that is carried out to describe the process or event that is in effect at the moment to be the object

of research. Then, the data or information is analyzed, so that a solution is obtained (Whitney, 1960).

Secondary data is used to meet the needs of the analysis, namely in the form of documents obtained based on official Indonesian government publications. The intended data source is updated data from Bank Indonesia and BPS-Statistics of Indonesia. Data can be analyzed directly and presented in graphical form to obtain the extent of the development of FinTech's role in the sustainability of MSMEs in Indonesia.

#### 4. Discussions

The potential of MSMEs in Indonesia is inseparable from banking support in lending. Every year credit to MSMEs has experienced growth and is generally higher than total bank credit. MSME Credit is intended as a stimulant to MSME debtors that meet the provisions contained in the Law of the Republic of Indonesia Number 20 of 2008. Based on these rules, MSMEs are productive businesses that meet business criteria with certain restrictions, net worth, and annual sales results (Bank Indonesia, 2019a).

Saiman (2014) describes the determination of MSMEs, broken down by the provisions of (1) Net assets of no more than IDR 50,000,000 (excluding land and buildings for business premises or maximum annual sales results of IDR 300,000,000); (2) Classification of small-scale businesses is with maximum assets of IDR 50,000,000 - IDR 500,000,000 and is not included in the land and building where the business is run or at least has a maximum annual sales value of IDR 300,000,000 - IDR 500,000,000; and (3) Criteria for medium-sized businesses with criteria of having assets of more than IDR 500,000,000 - IDR 10 billion or not including land, the building of business premises and having annual sales results of more than IDR 2.5 billion - IDR 50 billion.

**Table 1: The Role of Small Businesses in Asian Economy**

Economy	SME Share of Employment (%)	SME Contribution to GDP (%)	Data Year
China, People's Republic of	64.7	60.0	2011, 2013
Hong Kong, China	47.0	-	2012
India	40.0	37.5	2015, 2013
Indonesia	97.0	60.3	2009, 2013
Japan	69.7	43.7	2012
Korea, Republic of	87.7	47.6	2012
Malaysia	65.0	35.9	2014
Philippines	63.7	35.7	2013, 2009
Singapore	68.0	45.0	2012
Taipei, China	78.0	30.0	2011
Thailand	80.3	39.6	2014
Viet Nam	46.8	40.0	2012, 2011

Source: Shinozaki (2012), APEC Policy Support Unit (2013), Yoshino & Wignaraja (2015), Creehan (2019)

Note: Gross Domestic Product (GDP), Small and Medium-Sized Enterprises (SMEs).

In this globalization era, everyone has been competing to run and seize business opportunities. For this reason, a good business financial arrangement is needed to support its sustainability, especially MSMEs. The development of small and medium scale businesses in the Asian region in recent years has increased significantly. When looking at each country, Indonesia as a country with the highest number of MSMEs with the highest contribution to GDP in 2009 and 2013 reached 60.3%, so that it can absorb 97% of the workforce. In contrast, India, which accounts for 37.5% of total GDP, originates from this economic activity and only affects the labour ratio at 40% (Table 1).

The involvement of MSMEs with exports is very important for the economy. This is associated with an increase in exports compared to their competitiveness, due to a decrease in trade barriers and massive competition in the domestic market. The main indicator of competitiveness in question is the ability to export visas (an appropriate part of another country). The position of the MSME sector improves, as they are more exposed to global market trends, quality and, standards. The second reason is that the active participation of MSMEs in export activities can be more open to global quality standards and market trends from novice businessmen with the help they can be more rational. Another reason why SMEs have helped in export expansion because it will encourage positive externalities. Ultimately, it will improve wage structures, management practices, and sustainable working conditions (Rajput *et al.*, 2012).

**Table 2: The contribution of small businesses to exports in several Asian**

Country	SME Share of Exports (%)	Data Year
China, People's Republic of	41.5	2011
India	42.4	2013
Indonesia	15.7	2013
Korea, Republic of	18.8	2012
Thailand	26.3	2014

Source: Shinozaki (2012), Creehan (2019)

Note: Small and Medium-Sized Enterprises (SMEs).

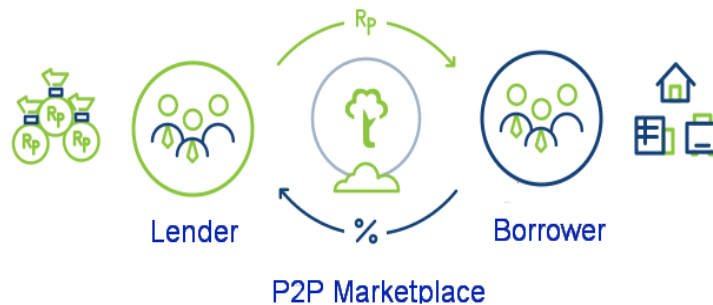
Table 2 presents the contribution of the MSME sector to the intensity of exports in several Asian countries at least giving positive results. For example, India has an MSME ratio for exports reaching 42.4% in 2013. Out of the five regions, Indonesia ranks down with exports from MSME reaching only 15.7% in 2013.

Provisions issued by Bank Indonesia that require banks to allocate credit or financing to MSMEs starting from 2015 - 2018 with values of 5%, 10%, 15%, and 20%, respectively. Bank Indonesia Regulation Number 19 of 2017 explains FinTech is the use of financial system technology that produces new products, services, technology and business models so that it has an impact on monetary stability, financial system stability, efficiency, smoothness, security, and reliability of payment systems. FinTech is a combination of financial services and technology because it changes the business model from conventional to moderate.

Sustainability will be FinTech, able to replace the role of formal financial institutions such as banks. In the payment system, FinTech has a role in providing the market for businesses to be a tool for payment, settlement/clearing, and clearing, and to assist

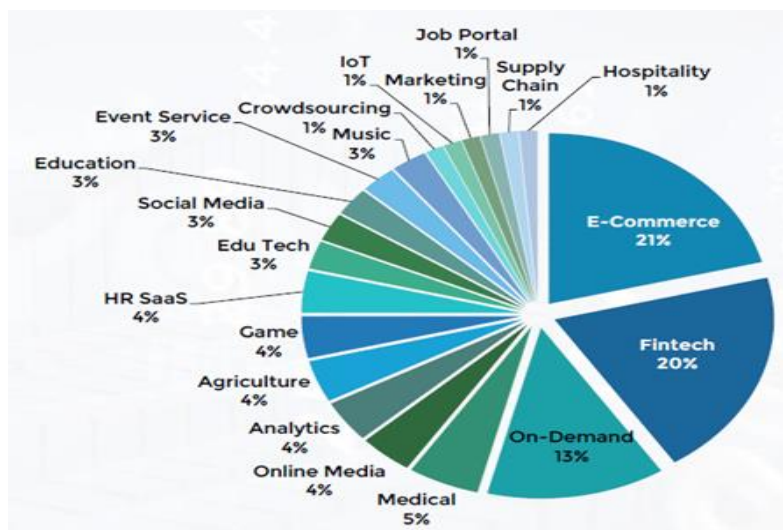
investment implementation. FinTech's policy in Indonesia is also accommodated by the Republic of Indonesia Financial Services Authority Regulation Number 77 of 2016 concerning Information Technology-Based Lending and Borrowing Services and Regulation Number 31 of 2016 concerning Pawnshop Businesses. Both of these regulations indicate that the Indonesian government has tried to respond to the development of FinTech which is starting to develop. The regulation is important, with the hope of creating legal certainty and a sense of security for users (investors).

Fintech has grown rapidly in Indonesia. P2P lending is a platform that offers capital loans or financing online. Aside from being an online-based fund provider, P2P lending also must analyze business risks (Prawirasasra, 2018). The large amount of funding needed in Indonesia makes this platform a dominant development compared to other types of platforms. Some FinTechs with P2P lending platforms are also in demand in Indonesia. There are at least eight types of FinTech stars in Indonesia, namely: asset management, crowdfunding, e-money, insurance, P2P lending, payment gateway, and remittance (Rosse, 2018).



**Fig. 2: P2P lending work structure**  
 Source: Investree (2020)

Schemes in invoice financing can easily be the simplest, fastest, and most effective funding solution for access to additional capital. By promising invoices on P2P lending, what was previously a non-productive asset can provide additional value (as a key) for accessing sources of working capital. Furthermore, capital borrowers will not only facilitate and speed up the payment process on a given invoice, but they will also help companies develop business continuity (see Figure 2).



**Fig. 2: FinTech in Indonesia, 2016**  
 Source: DailySocial (2018)

The growth of the FinTech sector is due to the investor interest to finance the development and growth of the FinTech startup business (domestic and overseas markets). According to FinTech's report from DailySocial (2020), around IDR 486.3 billion flowed to FinTech's start-up investment in 2016. This amount is equivalent to 20% of the total investment in all start-up categories or ranks second largest after e-commerce. Figure 2 also explains if seen from the total value of FinTech transactions in the same period, it was estimated that in 2015 the figure had reached the US\$ 15.02 billion or grew 24.6% (year-on-year).

Broadly speaking, the community is considered to have good literacy skills. However, the existence of national funding for MSME needs is an opportunity for FinTech players. The role of technology has made financial services effective and efficient. The ease that is expected by the user, sometimes for MSMEs it is difficult to access loans to banks. The role of this model can be a solution for the development of MSME businesses in the future. The fundamental challenge of Indonesian society is financial services. Based on a survey by the Indonesian Financial Services Authority (2018), 67.8% of the people use financial products and the remaining 32.2% are not yet related (Bank Indonesia, 2019b).

The potential user base is increasing because, for example, 85% of Germans are willing to share their physical goods online. Therefore, offering opportunities to generate future income can be guaranteed. The possibility to reduce individual consumption by sharing will open new opportunities for sustainable entrepreneurship. The growth of the current division model is rarely applied in three dimensions. These activities are expected to be strong in the future, for example with all types of mobility (popular transportation), household appliances (kitchen utensils or work tools), and sports (Landset *et al.*, 2015).

Empirically, Estellés-Arolas & González-Ladrón-de-Guevara (2012) see Crowdsourcing as part of the business of the future, especially regarding the sharing economy. Crowdsourcing is a dimension of crowd creation specifically, representing a young field of academic research. The business model concentrates on basic elements, such as Crowdsourcing in general, reaching broad commodities. However, so far there is no consensus difference regarding definitions, dimensions and characteristics. Overall, a conceptual study needs to be proven empirically. The initiators of Crowdsourcing have so far received little attention from scientific activities. Connections to business people for both, Crowdsourcing and creating unexpected broad mobility. A website or blog that contains a discussion of entrepreneurs about business conditions until now has not been proven valid by scientific scientists, except Crowdfunding (Mollick, 2014). The next step requires examining the characteristics of entrepreneurs applying the crowdsourcing dimension. Crowdsourcing and network connectivity, imply a business risk such as increased transparency and potential loss of quality at any time (Landset *et al.*, 2015).

From another aspect, the Crowdfunding or social-based entrepreneurship campaign has led to planned results, Kraus *et al.* (2016) proposed a typology of the model campaign to consider going forward with three types. Communicator is considered as a type to generate social networks and strong fans. Based on online marketing and public relations. This helps the project to evaluate. The second is networkers, who are reviewed based on funders starting to build virality through their personal and community networks. The project gradually drew more attention, as the founders tried to arrange for the offering activities to what the audience wanted through blogs and updates. Next is the type of independent runner, because an attractive product is a supporter of virality with an active support community. Successful media launches, responses/perceptions, and bringing additional customers to the project alongside potential customers.

Block *et al.* (2017) inform that the last few periods of the business financial market have changed drastically. Many novice business people have entered the competition.

Scientific studies in entrepreneurial financing, it seems biased towards certain businesses and financing instruments such as Crowdfunding have ignored others.

A case study in China illustrates P2P lending with the ability to assess the entrepreneurial level of online P2P lending platforms through an important management tool for the platform itself and other organizations. This explains whether the platform's entrepreneurship orientation status is approved or not. Although several information measures have been developed, there is still scope to go one step further and find a formula that will be applied (Chen *et al.*, 2013).

When it comes to channelling capital in China, surely we can observe a special situation, where the financial markets are dominated by large state-owned banks. Lack of supply from companies and private households on loans led to the development of a shadow banking system. In this connection, the P2P lending platform began to mushroom in China. The number of platforms in operation has peaked, to the end of 2015 to be 3,477 units. Meanwhile, some failures occur due to various reasons (for example fraud), so some platforms fail. As a result, Chinese policies impose stricter rules on lenders for this scheme since 2016 (Stern *et al.*, 2017).

In contrast to P2P lending case studies from the United States. Data shows that P2P lending loans are at least a viable financing alternative for small businesses, especially given the post-recession credit market. That although financial regulations have limited potential impact, for example, capital distribution schemes, they are only available to investors from certain countries. This brief report also discusses the form of P2P lending offers to the industry and compares them with traditional small business financing options, or discuss the implications for the future (Bruton *et al.*, 2015).

As support, P2P lending contributes significantly to entrepreneurial activities. Although the sales platform allows entrepreneurs to manage business patterns virtually easily, it is an area that has not been studied. To overcome this gap, Chandna & Salimath (2018) uses cross-disciplinary theories from marketing, strategic management, and business planning to identify drivers for new values. Thus, it can make an original contribution by developing and empirically testing the components of a business model that is relevant to the P2P lending platform. The results highlight information processing capabilities, product portfolio complexity, innovative practices, and network membership as important indicators for company performance and satisfaction.

## 5. Conclusions

Fintech is a mediating improvement in people's economy through increased financial transactions. In the era of the industrial revolution 4.0, where technology is increasing rapidly and the general public should be able to use this technology as a trend (Suharyati & Sofyan, 2018). FinTech always innovates, such as developing flexible products and better ways to overcome the problems faced by MSMEs. Among those problems is the difficulty in getting access. FinTech also makes financial services more affordable and accessible, enhances customer experience, accelerates usage and engagement, builds digital platforms (including identity verification) to make it easier, collaborative customer due diligence, data sharing, and payment schemes that can accelerate several financial services.

The innovative use of technology in financial finance poses challenges for traditional business models. Davis *et al.* (2017) assess the main problems they face are how to balance the desire to drive new business, giving rise to competition and providing better customer service. The benefits of this sector also protect systems and consumers from high-risk behaviour and potential disruptions. Opportunities for Indonesia are enormous, given the unequal financial availability and the level of financial inclusion is still low.



Limitations of this study with the descriptive-qualitative analysis model, so empirical studies are not based on a positive economic approach. Solving the problem of the sustainability of MSMEs through the role of FinTech is indeed not all can be overcome with statistical projections alone. However, there is also a uniqueness because it can be made a recommendation for the Indonesian government. After all, we look at it from a normative economic perspective, so that future researchers can also give more critical and solutive input.

## Acknowledgments

N/A.

## Conflict of Interest

The authors declare no conflict of interest.

## References

- [1] Afifah, N. (2018). Implementasi Financial Technology dalam Pengembangan UMKM di Indonesia. *Essay Booklet "The Transformative Power of Fintech"*. Yogyakarta: HIMMA-UGM.
- [2] Ardiansyah, T. (2019). Model Financial dan Teknologi (Fintech) Membantu Permasalahan Modal Wirausaha UMKM di Indonesia. *Majalah Ilmiah Bijak*, 16(2), 158-166. <https://doi.org/10.31334/bijak.v16i2.518.g329>
- [3] APEC Policy Support Unit. (2013). SMEs in the APEC Region. *APEC Policy Support Unit Policy Brief No. 8, December*. <http://publications.apec.org/Publications/2013/12/SMEs-in-the-APEC-Region>
- [4] Bank Indonesia. (2019a). *Data Kredit Usaha Mikro, Kecil dan Menengah. Statistik Kredit UMKM*. Jakarta: BI. <https://www.bi.go.id/id/umkm/kredit/data/Default.aspx>
- [5] Bank Indonesia. (2019b). *Financial Technology*. <https://www.bi.go.id/id/edukasi-perlindungan-konsumen/edukasi/produk-dan-jasa-sp/fintech/Pages/default.aspx>.
- [6] Block, J. H., Colombo, M. G., Cumming, D. J., & Vismara, S. (2018). New players in entrepreneurial finance and why they are there. *Small Business Economics*, 50, 239-250. <https://doi.org/10.1007/s11187-016-9826-6>
- [7] Bruton, G., Khavul, S., Siegel, D., & Wright, M. (2014). New Financial Alternatives in Seeding Entrepreneurship: Microfinance, Crowdfunding, and Peer-to-Peer Innovations. *Entrepreneurship Theory and Practice*, 39(1), 9-26. doi:10.1111/etap.12143
- [8] BPS-Statistics of Indonesia. (2015). *Business Profile of MSMEs*. Jakarta: Statistical Yearbook of Indonesia 2015.
- [9] Chandna, V., & Salimath, M. S. (2018). Peer-to-peer selling in online platforms: A salient business model for virtual entrepreneurship. *Journal of Business Research*, 84, 162-174. <https://doi.org/10.1016/j.jbusres.2017.11.019>
- [10] Creehan, S. (2019). How Digital Innovation Can Increase Small Business Access to Finance in Asia. *Fintech for Asian SMEs, Chapter 1*, 1-17. Asian Development Bank Institute, Tokyo. <https://www.adb.org/sites/default/files/publication/502781/adbi-fintech-smes.pdf>
- [11] Chen, X., Yang, L., Wang, P., & Yue, W. (2013). An Effective Interval-Valued Intuitionistic Fuzzy Entropy to Evaluate Entrepreneurship Orientation of Online P2P Lending Platforms. *Advances in Mathematical Physics*, 201(1), 1-8. <https://doi.org/10.1155/2013/467215>
- [12] DailySocial. (2018). *FinTech in Indonesia, 2016*. Jakarta: Financial Services Authority of Indonesia. <https://dailysocial.id/post/fintech-report-2018>
- [13] Davis, K., Maddock, R., & Foo, M. (2017). Catching up with Indonesia's fintech industry. *Law and Financial Markets Review*, 11(1), 33-40. <https://doi.org/10.1080/17521440.2017.1336398>
- [14] Dhar, V., & Stein, R. M. (2017). Fintech platforms and strategy. *Communications of the ACM*, 60(10), 32-35. <https://doi.org/10.1145/3132726>
- [15] Estellés-Arolas, E., & González-Ladrón-de-Guevara, F. (2012). Towards an integrated crowdsourcing definition. *Journal of Information Science*, 38(2), 189-200. <https://doi.org/10.1177/0165551512437638>
- [16] Financial Services Authority of Indonesia. (2018). Penyelenggara FinTech yang Terdaftar di OJK per Agustus 2018. Berita dan Kegiatan/Publikasi. Jakarta: Financial Services Authority of Indonesia. <https://www.ojk.go.id/id/berita-dan-kegiatan/publikasi/Pages/Penyelenggara-Fintech-Terdaftar-di-OJK-per-Agustus-2018.aspx>

- [17] Henley, W. (2017). *Fintech Jadi Solusi Pengembangan UMKM*. <https://www.jpnn.com/news/fintech-jadi-solusi-pengembangan-umkm>
- [18] Investree. (2020). *What makes invoice financing an attractive proposition?*. Jakarta: PT Investree Radhika Jaya. <https://investree.id/en/syariah/how-it-works>
- [19] Kraus, S., Richter, C., Brem, A., Chang, M. L., & Cheng, C. F. (2016). Strategies for reward-based crowdfunding. *Journal of Innovation & Knowledge*, 1(1), 13-23. <https://doi.org/10.1016/j.jik.2016.01.010>
- [20] Landset, S., Khoshgoftaar, T. M., Richter, A. N., & Hasanin, T. (2015). A survey of open source tools for machine learning with big data in the Hadoop ecosystem. *Journal of Big Data*, 2(24), 1-36. <https://doi.org/10.1186/s40537-015-0032-1>
- [21] Mishkin, F. S (2009). Globalization, Macroeconomic Performance, and Monetary Policy. *Journal of Money, Credit and Banking*, 41(1), 187-196. <https://doi.org/10.1111/j.1538-4616.2008.00204.x>
- [22] Mollick, E. (2014). The dynamics of crowdfunding: An exploratory study. *Journal of Business Venturing*, 29(1), 1-16. <https://doi.org/10.1016/j.jbusvent.2013.06.005>
- [23] Muliadi, M., Darma, D. C., & Kasuma, J. (2020). MSMEs as Mediation in the Effects of Investment Credit, Interest Rates, and Labor on Economic Growth: Evidence from Indonesia. *International Journal of Finance & Banking Studies*, 9(2), 1-12. <https://doi.org/10.20525/ijfbs.v9i2.702>
- [24] Nakasihima, T. (2018). Creating kredit by making use of mobility with FinTech and IoT. *IATSS Research*, 42(2), 61-66. <http://dx.doi.org/10.1016/j.iatssr.2018.06.001>
- [25] Pranata, N. (2019). The Role of Digital Payments Fintech in Accelerating the Development of MSMEs in Indonesia. *Fintech for Asian SMEs, Chapter 8*, 145-166. Asian Development Bank Institute, Tokyo. <https://www.adb.org/sites/default/files/publication/502781/adbi-fintech-smes.pdf>
- [26] Prawirasasra, K. P. (2018). Financial Technology in Indonesia: Disruptive or Collaborative. *Report on Economics and Finance*, 4(2), 83-90. <https://doi.org/10.12988/ref.2018.818>
- [27] Rahardjo, B., Ikhwan, K., & Siharis, A. K. (2019). Pengaruh Financial Technology (FinTech) Terhadap Perkembangan UMKM di Kota Magelang. *Prosiding Seminar Nasional dan Call For Papers "Fintech dan E-Commerce untuk Mendorong Pertumbuhan UMKM dan Industri Kreatif"*. Magelang, Oktober 15, 2019, pp 347-356.
- [28] Rahma, T. I. (2018). Persepsi Masyarakat Kota Medan Terhadap Penggunaan Financial Technology (FINTECH). *At-Tawassuth*, 3(1), 642-661. <http://dx.doi.org/10.30821/ajei.v3i1.1704>
- [29] Rajput, N., Rajput, A., Batra, G., & Oberoi, S. (2012). Relationship of exports, Forex and MSMEs in India: an econometric study. *Problems and Perspectives in Management*, 10(3), 23-34.
- [30] Rizal, M., Maulina, E., & Kostini, N. (2018). FinTech as one of The Financing Solutions For SMEs. *AdBispreneur: Jurnal Pemikiran dan Penelitian Administrasi Bisnis dan Kewirausahaan*, 3(2), 89-100. <https://doi.org/10.24198/adbispreneur.v3i2.17836>
- [31] Saiman, L. (2014). *Kewirausahaan teori praktik dan kasus-kasus (Edisi 2)*. Jakarta: Salemba Empat.
- [32] Satori, A. K. (2011). *Metode Penelitian Kualitatif*. Bandung: Alfabeta.
- [33] Schulte, P., & Liu, G. (2018). FinTech is Merging with IoT and AI to Challenge Banks: How Entrenched Interest Can Prepare. *The Journal of Alternative Investments*, 20(3), 41-57. <https://doi.org/10.3905/jai.2018.20.3.041>
- [34] Shinozaki, S. (2012). A New Regime of SME Finance in Emerging Asia: Empowering Growth-Oriented SMEs to Build Resilient National Economies. *ADB Working Paper Series on Regional Economic Integration*. <https://www.adb.org/sites/default/files/publication/30110/new-regime-sme-finance-asia.pdf>
- [35] Shinta, R. (2018). *Apa Itu Fintech dan Jenis-Jenis Startup Fintech?*. <https://www.duniafintech.com/pengertian-dan-jenis-startup-fintech-di-indonesia/>
- [36] Stern, C., Makinen, M., & Qian, Z. (2017). FinTechs in China – with a special focus on peer to peer lending. *Journal of Chinese Economic and Foreign Trade Studies*, 10(3), 215-228. <https://doi.org/10.1108/JCEFTS-06-2017-0015>
- [37] Suharyati, S., & Sofyan, P. (2018). Edukasi FinTech bagi Masyarakat Desa Bojong Sempu Bogor. *Jurnal Bakti Masyarakat Indonesia*, 1(2), 1-9. <https://doi.org/10.24912/jbmi.v1i2.2880>
- [38] Whitney, F. L. (1960). *The Elements of Resert, Asian Eds*. Osaka: Overseas Book Company.
- [39] Winarto, W. W. (2020). Peran Fintech dalam Usaha Mikro Kecil dan Menengah (UMKM). *Jurnal Ekonomi & Ekonomi Syariah*, 3(1), 61-73. <https://doi.org/10.36778/jesya.v3i1.132>
- [40] Yoshino, N., & Wignaraja, G. (2015). SMEs Internationalization and Finance in Asia. *Presentation at IMF-JICA Conference*. February 18, 2015, Tokyo. <https://www.imf.org/external/np/seminars/eng/2015/jica2015/pdf/1-B1.pdf>