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4 July 2019

Online at <https://mpra.ub.uni-muenchen.de/94844/>  
MPRA Paper No. 94844, posted 04 Jul 2019 06:24 UTC

# Opportunities and Challenges of Sharia Technology Financials in Indonesia

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## Abstract

This article describes how the opportunities and challenges of FinTech Sharia in the face of the industrial revolution 4.0. By using a negation approach, this study concludes that FinTech Sharia which is the development of technological innovations that are in accordance with sharia provisions and becomes a solution to avoid interest transactions. The synergy between the Islamic financial sector and information technology innovation should also be a challenge as well as an opportunity for all actors in the Islamic finance industry to catch up with the conventional financial industry.

Keywords: *Financial Technology, FinTech, FinTech Sharia, Islamic Finance*

JEL Classification: A10, E40, G21, G23, G30, O14, O32

## A. Background

In the current era of technological disruption, the world of information technology is developing very rapidly in meeting human needs to obtain information and various other electronic services. Because by using technology, everything is felt more effective and efficient. By utilizing technology assistance, the community is greatly helped to get a service both information and financial services. One of the things that are really felt at the moment is the result of the development of modern technological innovations in finance, namely FinTech (Financial technology). The technological innovation aims to facilitate access, security, convenience and costs that are more economical and effective and efficient.

The study of financial technology by Robert Hauswal and Robert Marquez (2003)<sup>1</sup>, confirms that there are two dimensions of technological progress that affect competition in financial services. While better technology can result in improved information processing, it can also lead to low costs or even free access to information. In the context of credit screening, it shows better access to information by reducing interest rates and returning from screening. However, increasing the ability to process information increases interest rates and bank profits. Therefore the prediction regarding financial claims for pricing is dependent on the overall effect ascribed to technological progress. The results of this study generalize to other financial markets where information asymmetry drives profitability, such as insurance and securities markets.

The study by Achmad Basori Alwi (2018)<sup>2</sup> explained that one of the financial technology innovations was the provision of information technology-based money lending services, which of course was considered to have contributed to the development and national economy. One of

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<sup>1</sup> Hauswald, R., & Marquez, R. (2003). Information technology and financial services competition. *The Review of Financial Studies*, 16(3), 921-948. P. 921.

<sup>2</sup> Alwi, A. B. (2018). Pembiayaan Berbasis Teknologi Informasi (FinTech) yang Berdasarkan Syariah. *Al-Qanun: Jurnal Pemikiran dan Pembaharuan Hukum Islam*, 21(2), 255-271. P. 255.

them is a financing system by bringing together those who propose financing with those who provide funding online. This was facilitated through sharia-based information technology (FinTech) money lending services. The reason for launching sharia-based FinTech services is to accommodate users who expect the implementation of sharia in financial technology.

While the study conducted by Irfan Nurfalalah and Aam Slamet Rusydiana (2019)<sup>3</sup>, revealed that the level of Islamic financial literacy and inclusion in Indonesia is still relatively low, the data of the Financial Services Authority (OJK) in 2016 showed that the Islamic financial literacy rate was around 8.11% and the level of inclusion of Islamic finance is around 11.06%. The low access of the community can be overcome by combining financial services and products with the latest technology. The industrial revolution 4.0 makes it easy for people to access all information with smartphones connected to the internet. This is an opportunity for the Islamic finance industry to innovate digitally.

This paper will analyze the opportunities and challenges of Sharia FinTech. What is the concept of FinTech Sharia? What is the difference between FinTech Sharia and Conventional FinTech? And what are the opportunities and challenges of FinTech Sharia in Indonesia? By exploring the existing literature, this article will try to answer that question.

## B. Literature Review

The study of financial technology by Namchul Shin (2001)<sup>4</sup>, states that Information Technology (IT) may not automatically increase a company's profitability. This is an important tool, but it is not enough in itself, and therefore, must be combined with organizational factors such as business strategy. A company can maximize the value of its company in IT Investment by aligning it according to business strategy because IT increases economic coverage and coordination. The results of this study indicate that increased IT spending increases net income, but not such performance ratios as ROA and ROE, companies with decreased vertical integration and higher diversification.

Another study of financial technology by Solomon Tadesse (2007)<sup>5</sup>, states that the effects of the development of the financial industry on technological productivity and progress are heterogeneous industrial sectors that have different needs for financing innovation. In particular, younger industry companies are more dependent on realizing the level of external finance is faster than the technological change in a country with more advanced banking sectors.

Other research on Hanik Fitriani financial technology (2018)<sup>6</sup>, revealed that At present technology development is developing very rapidly and has entered into all sectors, including the financial sector. With the entry of technology into the financial sector, it is slowly transforming the financial industry into the digital era. The combination of Financial Technology (FinTech) and financial institutions, especially sharia financial institutions, can improve financial inclusiveness in agriculture. Financial inclusion can increase with the support of the government

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<sup>3</sup> Nurfalalah, I., & Rusydiana, A. S. (2019). Digitalisasi Keuangan Syariah Menuju Keuangan Inklusif: Kerangka Maqashid Syariah. *Eksposisi: Jurnal Ekonomi, Keuangan, Perbankan dan Akuntansi*, 11(1), 55-76. P. 55.

<sup>4</sup> Shin, N. (2001). The impact of information technology on financial performance: the importance of strategic choice. *European Journal of Information Systems*, 10(4), 227-236. P. 277.

<sup>5</sup> Tadesse, S. A. (2005). *Financial development and technology*. William Davidson Institute Working Paper Number 879, June 2007. P. 1.

<sup>6</sup> Fitriani, H. (2018). Kontribusi FinTech Dalam Meningkatkan Keuangan Inklusif Pada Pertanian (Studi Analisis Melalui Pendekatan Keuangan Syariah Dengan Situs Peer To Peer Lending Pada Pertanian Di Indonesia). *El-Barka: Journal of Islamic Economics and Business*, 1(1), 1-26. P. 1.

to improve supporting facilities and infrastructure for the use of FinTech sharia in the agricultural sector in Indonesia.

In addition, another study on financial technology by Astri Rumondang (2018)<sup>7</sup>, states that FinTech as a technology-based financial service generally opens opportunities for increased efficiency in creating new businesses, better risk management and ease of transactions and trading activities. Limited access to capital resources (especially banking) and with many SMEs that cannot obtain financial services are used by FinTech practitioners (P2P loans) as a good business opportunity for this moment. The FinTech P2P loan is considered to be able to overcome Small and Medium Enterprises (SMEs) problems and become one of the solutions and empowerment of capital strategies for SMEs in the future.

While other research on financial technology was revealed by Ridwan Muchlis (2018)<sup>8</sup>, that research to find out the development of applications created by Islamic banking in order to utilize FinTech in an effort to accelerate the financing process. This technology is expected to facilitate services to customers in terms of financing products in Islamic banks. But the development of the FinTech application has some disadvantages. One of them is the need for an internet network that supports the efficiency of financing activities in Islamic banks and also the existence of cybercrime activities that make the interest of customers to use this application to be reduced. Based on the results of the research analysis, it is recommended that from the outset prepare regulations relating to FinTech financing. So that risk can be minimized and customers increase their understanding and knowledge for the convenience and security of transactions in Islamic banking.

Previous studies have only provided a partial description of the opportunities and challenges of sharia financial technology (FinTech), so in this discussion, the author of the article will try to describe the challenges and opportunities of FinTech Sharia in Indonesia as a whole.

### C. Methodology

The study of financial technology in the development of Islamic financial institutions is carried out using a literature review. Where the literature review is the main source, related to various studies that have been supported previously, and supported by the results of studies published by various institutions in the form of journals and other scientific studies. While the methodology used in this article is to use one of the three models of economic Islamization approaches namely negation.<sup>9</sup> In the context of Islamic economics, not all conventional economic paradigms can be accepted into Islamic economics, even the most fundamental ones must be rejected and cannot be compromised with Islamic teachings, especially those related to interest (usury), *maysir*, *gharar* and *zhulm* in implementing financial technology.

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<sup>7</sup> Rumondang, A. (2018, April). The Utilization of FinTech (P2P Landing) as SME's Capital Solution in Indonesia: Perspective in Islamic Economics (Qirad). In *International Conference of Moslem Society* (Vol. 2, pp. 12-22). P. 12.

<sup>8</sup> Muchlis, R. (2018). Analisis SWOT *Financial technology* (FinTech) Pembiayaan Perbankan Syariah Di Indonesia (Studi Kasus 4 Bank Syariah Di Kota Medan). *AT-TAWASSUTH: Jurnal Ekonomi Syariah*, 1(1), 335-357. P. 335.

<sup>9</sup> Suharto, U. (2004). Paradigma Ekonomi Konvensional dalam Sosialisasi Ekonomi Islam. *dalam ISEFID Review*, 3(3). P. 4.

## **D. Discussion and Discussion**

### **1. Definition of Financial Technology (FinTech)**

FinTech comes from the term financial technology or financial technology. According to The National Digital Research Center (NDRC), in Dublin, Ireland, defines FinTech as "innovation in financial services" or "innovation in FinTech financial services" which is an innovation in the financial sector that has a touch of modern technology.<sup>10</sup>

According to the FinTech Financial Services Authority, it can be interpreted as utilizing the development of information technology to improve services in the financial industry. Other definitions are variations in business models and technological developments that have the potential to improve the financial services industry.<sup>11</sup>

Meanwhile, according to Bank Indonesia, the definition of Financial Technology (FinTech) is a combined result of financial services and technology which eventually changes the conventional business model to moderate, which initially must pay face-to-face and bring some cash, can now make long-distance transactions by making payments which can be done in just seconds.<sup>12</sup>

According to the Indonesian Council of Ulama, Sharia-Based Information Technology Based Financing Services (FinTech Sharia) is the implementation of financial services based on sharia principles that bring together or connect Financing Providers with Financing Recipients in order to carry out financing contracts through electronic systems using internet networks.<sup>13</sup>

Meanwhile, according to Rusdiyana, FinTech Sharia means technology-based business with innovative financial services or products that use sharia schemes. FinTech Sharia promotes responsible, ethical finance and provides opportunities to influence all forms of finance globally.<sup>14</sup>

### **2. Legal Basis for Implementing FinTech Sharia in Payment Systems in Indonesia**

The legal basis for organizing FinTech in the payment system in Indonesia is that

- a. Bank Indonesia Regulation No. 18/40 / PBI / 2016 concerning the Implementation of Payment Transaction Processing,
- b. Bank Indonesia Circular No. 18/22 / DKSP concerning the Implementation of Digital Financial Services,
- c. Bank Indonesia Regulation No. 18/17 / PBI / 2016 concerning Electronic Money.<sup>15</sup>

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<sup>10</sup> Bapenda Jabar. *Financial technology, Layanan Finansial Berbasis IT*. <http://bapenda.jabarprov.go.id/2016/12/26/financial-technology-layanan-finansialberbasis-it/>. Diakses pada tanggal 02 Juli 2019 Pukul 07.04 WIB.

<sup>11</sup> Napitupulu, S. K. & et al. (2017). *Kajian Perlindungan Konsumen Sektor Jasa Keuangan: Perlindungan Konsumen Pada FinTech*. Jakarta : Departemen Perlindungan Konsumen OJK. P. 8.

<sup>12</sup> Bank Indonesia. *Edukasi Perlindungan Konsumen*, <https://www.bi.go.id/id/edukasi-perlindungan-konsumen/edukasi/produk-dan-jasa-sp/fintech/Pages/default.aspx>. Diakses pada 02 Juli 2019 pada Pukul 08.14 WIB.

<sup>13</sup> Majelis Ulama Indonesia. (2018). *Fatwa Dewan Syariah Nasional Majelis Ulama Indonesia No. 117/DSN-MUI/II/2018 Tentang Layanan Pembiayaan Berbasis Teknologi Informasi Berdasarkan Prinsip Syariah*. Jakarta: DSN MUI. P. 6.

<sup>14</sup> Rusydiana, A. (2019). Bagaimana Mengembangkan Industri FinTech Syariah di Indonesia? Pendekatan Interpretive Structural Model (ISM). *Al-Muzara'ah*, 6(2), 117-128. P. 19.

<sup>15</sup> Bank Indonesia. *Edukasi Perlindungan Konsumen*. <https://www.bi.go.id/id/edukasi-perlindungan-konsumen/edukasi/produk-dan-jasa-sp/fintech/Pages/default.aspx>. Diakses pada 02 Juli 2019 pada Pukul 08.14 WIB.

- d. Financial Services Authority Regulation Number 77 / Pojk.01/2016 concerning Information Technology-Based Money Lending and Borrowing Services.<sup>16</sup>
- e. OJK Regulation No. 13 / POJK.02 / 2018 concerning Digital Financial Innovation in the Financial Services Sector.<sup>17</sup>
- f. Fatwa of the National Sharia Council of the Indonesian Council of Ulama No. 117 / DSN-MUI / II / 2018 About Information Technology-Based Financing Services Based on Sharia Principles.<sup>18</sup>

### 3. FinTech Sharia Between Opportunities and Challenges

Based on OJK data as of May 31, 2019, there are 113 FinTech lending platforms that have received list marks and are overseen by the OJK. The number increased by seven players compared to the number of FinTech in April 2019, totaling 106 FinTech. As for the number of FinTech Sharia as of May 31, there are 5 companies, namely Investree, Ammana, Danasyariah, Danakoo dan Duha Syariah.<sup>19</sup>

Sharia FinTech legal umbrella is based on the Financial Services Authority Regulation (POJK) No. 77 of 2016 concerning Information Technology Lending and Borrowing Services and Financial Services Authority Regulations (POJK) No. 13 of 2018 concerning Digital Financial Innovation in the Financial Services Sector. This rule generally regulates every type of FinTech P2P such as FinTech sharia and conventional. However, FinTech sharia also refers to the Fatwa of the National Sharia Council of the Indonesian Ulama Council (MUI DSN) Number 117/2018 concerning Information Technology-Based Financing Services Based on Sharia Principles.<sup>20</sup>

The fatwa of the MUI stated that FinTech sharia business activities should not conflict with Sharia principles, which include avoiding usury, *gharar* (unclear contract), *maysir* (ambiguity of purpose/speculation), *tadlis* (not transparent), *dharar* (danger), *zhulm* (loss one party), and haram.

There are several types of FinTech Sharia schemes, which are well known, which have Peer to Peer (P2P) platforms and crowdfunding. Sharia Crowdfunding is a Crowd Funding platform designed to comply with sharia principles. "Sharia Crowd Funding can be defined as a medium for the use of a number of funds obtained from a large number of individuals or organizations, to fund projects, business or individual loans, and other needs through web-based online platforms in accordance with sharia principles."<sup>21</sup>

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<sup>16</sup> Otoritas Jasa Keuangan. (2016). *Peraturan Otoritas Jasa Keuangan Nomor 77 /Pojk.01/2016 Tentang Layanan Pinjam Meminjam Uang Berbasis Teknologi Informasi*. Jakarta : OJK.

<sup>17</sup> Otoritas Jasa Keuangan. (2018). *Peraturan Otoritas Jasa Keuangan Republik Indonesia Nomor 13 /Pojk.02/2018 Tentang Inovasi Keuangan Digital Di Sektor Jasa Keuangan*. Jakarta : OJK.

<sup>18</sup> Majelis Ulama Indonesia. (2018). *Fatwa Dewan Syariah Nasional Majelis Ulama Indonesia No. 117/DSN-MUI/II/2018 Tentang Layanan Pembiayaan Berbasis Teknologi Informasi Berdasarkan Prinsip Syariah*. Jakarta: DSN MUI.

<sup>19</sup> Otoritas Jasa Keuangan. *Penyelenggara FinTech Terdaftar di OJK per 15 Mei 2019*. <https://www.ojk.go.id/id/berita-dan-kegiatan/publikasi/Pages/Penyelenggara-Fintech-Terdaftar-di-OJK-per-15-Mei-2019.aspx>. Diakses pada tanggal 02 Juli 2019 pada Pukul 13.21 WIB.

<sup>20</sup> Rizki, M. J. *Ada FinTech Syariah, Bagaimana Payung Hukumnya?* <https://www.hukumonline.com/berita/baca/lt5ce64abd0e1bc/ada-fintech-syariah--bagaimana-payung-hukumnya/>. Diakses pada 02 Juli 2019 pada Pukul 11.19 WIB.

<sup>21</sup> Achsien, I. H. (2017). *FinTech Syariah di Indonesia*. Materi Seminar Indonesia Shariah Economic Festival Surabaya 10-November-2017, P. 18.

The scope and definition of Sharia Crowd Funding is a basic feature that characterizes Sharia Crowd Funding:<sup>22</sup> (1) only invested in projects or financing activities that are halal; (2) do not use interest; (3) the existence of a Sharia Supervisory Board or sharia opinion. 5 Sharia Funding Crowd Models: (1) Zakat Based; (2) Based on Infaq - Sadaqah - Waqaf; Based on Qard al Hasan; (3) Syirkah Based (Mudharabah and Musyarakah), (4) Loan Based (Murabahah, Ijarah, Istishna, etc.).<sup>23</sup>

The market opportunity of FinTech Sharia at this time is<sup>24</sup>

- a. The majority of Indonesia's population are Muslim and 64% are still unbanked so they can increase the target number of prospective FinTech sharia users,
- b. The Sharia Economy continues to experience growth both globally and domestically
- c. The Islamic finance technology platform is already widely available in the Islamic economy, including FinTech sharia, supported by established technology
- d. The Government and MUI support the growth of Islamic economics (Results of the Community Economic Congress)
- e. The potential for ZIFWAF followers is very large
- f. Islamic finance regulations in Indonesia already exist and support but for FinTech sharia is still in the development stage so as to provide opportunities for the development of financial innovation

As for the market challenges of FinTech Sharia, namely<sup>25</sup>

- a. Lack of public understanding and awareness of sharia products, especially FinTech Sharia.
- b. Sharia economic growth is slow and it's market share is still small (conventional financial dominance is still large, and Islamic products are still expensive).
- c. The level of adoption (access and utilization) of Islamic finance technology is still low.
- d. Lack of quality human resources in the field of Islamic finance with social institutions that move in the field of the economic community, such as zakat and waqf institutions.
- e. There are still regulations that do not benefit sharia financial transactions (for example, buying and selling taxes).

The implementation of services carried out by FinTech Sharia must fulfill the provisions and adjust the delivery of services with sharia provisions relating to the business. Compliance with sharia principles is an obligation for financial service institutions that run their business with sharia principles. In carrying out the service activities of Sharia Financial Services Institutions, they must pay attention to the following, including:<sup>26</sup>

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<sup>22</sup>Achsien, I. H. (2017). *FinTech Syariah di Indonesia*. Materi Seminar Indonesia Shariah Economic Festival Surabaya 10-November-2017, PP. 19-21.

<sup>23</sup> Djawahir, A. U. (2018). Teknologi-Layanan Keuangan, Literasi-Inklusi Keuangan, dan Value pada FinTech Syariah di Indonesia: Perspektif SOR (Stimulus-Organism-Response) Model. In *Proceedings of Annual Conference for Muslim Scholars* (No. Series 1, pp. 439-448). PP. 443 – 444.

<sup>24</sup> Setyaningsih, E. D. (2018). Analisis SWOT Implementasi *Financial technology* Syariah pada PT Telkom Indonesia. *Syi'ar Iqtishadi: Journal of Islamic Economics, Finance and Banking*, 2(2). P. 83.

<sup>25</sup> Setyaningsih, E. D. (2018). Analisis SWOT Implementasi *Financial technology* Syariah pada PT Telkom Indonesia. *Syi'ar Iqtishadi: Journal of Islamic Economics, Finance and Banking*, 2(2). P. 83.

<sup>26</sup> Sutedi, A. (2009). *Perbankan Syariah: Tinjauan dan Beberapa Segi Hukum*. Jakarta: Ghalia. P. 145.

a. Sharia compliance guarantee (shariah compliance assurance)

For all service providers activities. This is a very important one for service users. Some provisions that can be used as a qualitative measure to assess sharia compliance for information technology-based lending service providers:

- 1) The contractor contract used for the collection and distribution of financing in accordance with sharia principles and applicable sharia rules.
- 2) Zakat funds are calculated and paid for and managed in accordance with sharia rules and principles.
- 3) All economic transactions and activities are reported fairly in accordance with applicable sharia accounting standards.
- 4) Work environment and corporate culture in accordance with sharia.
- 5) Business ventures financed are not contrary to sharia.
- 6) There is a Sharia Supervisory Board as a sharia director for all operational activities of service providers.
- 7) All and originating from legitimate and halal sources according to sharia.

b. Protection for service users

The aspect of conformity with sharia principles is a fundamental aspect and makes the difference between conventional service providers and the delivery of sharia-based services because in sharia not only profit oriented, but also oriented where not only profits are obtained but victory in the world and in the hereafter becomes one what you want to achieve in service delivery.<sup>27</sup> To achieve this, the regulations on sharia financial services are regulated regarding sharia compliance (shariah compliance) whose authority is to the Indonesian Council of Ulama which is represented through the Sharia Supervisory Board which must be established for each Sharia-based information technology-based lending service Provider.

Sharia compliance is the main principle that must be met as well as differentiating with other financial service providers (conventional) as a form of preventive legal protection for service users. The meaning of sharia compliance in Islamic banks in real terms is the application of principles Islamic engagement, sharia, and its tradition inconsistently related financial and other business transactions, and make sharia a framework for the system and finances of providers of Islamic financial services in resource allocation, management, production, capital market activities, and distribution of wealth.<sup>28</sup>

In other words, sharia compliance in information technology-based lending services is created and fulfilled a culture of compliance with Sharia principles and applicable legislation. In muamalah (sharia-based FinTech transactions) including moral ethics in every activity.<sup>29</sup>

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<sup>27</sup> Trisadini U. P. & Shomad A. (2015). *Hukum Perbankan*. Surabaya: FH-Universita Airlangga dan Lutfansah Media. P. 60.

<sup>28</sup> Sutedi, A. (2009). *Perbankan Syariah: Tinjauan dan Beberapa Segi Hukum*. Jakarta: Ghalia. P. 147.

<sup>29</sup> Alwi, A. B. (2018). Pembiayaan Berbasis Teknologi Informasi (FinTech) yang Berdasarkan Syariah. *Al-Qanun: Jurnal Pemikiran dan Pembaharuan Hukum Islam*, 21(2), 255-271. PP. 267-269.



## Discussion

The Islamic finance industry, being the object of study that is always interesting, is examined. Especially when compared to the conditions of the conventional financial industry that already existed before. For example, the results of the research conducted by Andi Fariana and Ahmad Safii (2018)<sup>30</sup>, revealed that the digital era that cannot be contained in its development has negative and positive impacts on humans in all dimensions of their lives. However, current developments should be used as opportunities and challenges to provide benefits and convenience. Similarly in the financial industry where the development of information technology penetrated and entered all financial sectors including sharia financial institutions. Islamic financial institutions that carry sharia values must also take part and take advantage of this phenomenon and collaborate with FinTech (financial technology) for the purpose of the benefit, and this is very possible to do while upholding Islamic values. For that regulation is very necessary so that collaboration will give birth to comfort, tranquility, and the most important thing is to keep emphasizing that it must avoid *ribawi* transactions, *gharar*, *maysir*, *tadlis*, *risywah* and *israf* and transactions for illicit or immoral objects. The author agrees with the study of Andi Fariana and Ahmad Safii that Islamic financial institutions must be able to take advantage of the momentum of the industrial revolution 4.0 where the synergy between the Islamic financial sector and technological advances is needed so that it can catch up with the conventional financial sector.

## E. Conclusion

Based on the results of the discussion above, it can be concluded that with the existence of FinTech sharia which is the development of technological innovations in accordance with sharia provisions and a solution to being able to avoid interest transactions. The synergy between the Islamic finance sector and information technology innovation should also be a challenge as well as an opportunity for all actors in the Islamic finance industry. However, it is necessary to pay attention to aspects related to this issue because the financial industry upholds the values of prudence regarding public trust. In addition, because the target is a sharia financial institution, the dimensions of sharia values must be the main concern. That is why regulators must move quickly to make various regulations so that they can be used as guidelines and create comfort for actors in this industry. POJK and MUI's DSN Fatwa have synergized to produce legal signs, but in the future, more diverse regulations are needed to support the rapid growth of various transactions and models in the field of financial transactions (especially FinTech Sharia) based on this information technology.

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<sup>30</sup> Syafii, A. F. A. (2018). Sinergi Fintech Dengan Perbankan Syariah Dalam Perspektif Hukum. *istinbath*, 17(2), 417-430. P. 417.

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