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REVIEW PAPER

Integration of Fintech and Islamic Banking in Indonesia: Opportunities and Challenges

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ABSTRACT

This paper is intended to analyze the opportunities and challenges of collaboration between the fintech industry and Islamic banking in Indonesia. This research is a descriptive qualitative study of literature review, by collecting information, identifying problems, and making evaluations. Data analysis using SWOT platform. The results of the study show there are opportunities, that the digitalization system in Indonesia is developing very quickly, so that it can be used as a means to improve services in Islamic banking. In this way, Islamic Bank services can reach remote areas, reduce costs, and increase the Islamic financial inclusion. The biggest challenge is related to regulators. The Indonesian, which is predominantly Muslim, requires definite sharia rules regarding services at several types of fintech, which until now do not have a sharia fatwa. Fintech will continue to develop, or contrary, Islamic fintech may sink and be replaced by other technological innovations.

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ABSTRAK

Tulisan ini ditujukan untuk menganalisa peluang dan tantangan kolaborasi industri fintech dan perbankan Syariah di Indonesia. Penelitian ini adalah penelitian kualitatif deskriptif dengan kajian literatur, dengan mengumpulkan informasi, mengidentifikasi masalah, dan membuat evaluasi. Data dianalisa menggunakan skema SWOT. Hasil kajian menunjukkan terdapat peluang yang besar, sistem digitalisasi di Indonesia berkembang sangat cepat, sehingga dapat dijadikan sarana peningkatan layanan di perbankan syariah. Dengan begitu layanan Bank Syariah bisa menjangkau wilayah terpencil, mampu menekan biaya lebih rendah dan mampu meningkatkan inklusi keuangan syariah. Tantangan yang paling besar adalah terkait dengan regulator. Penduduk Indonesia yang mayoritas muslim membutuhkan aturan syariah yang pasti terkait layanan-layanan pada beberapa jenis fintech yang hingga saat ini belum memiliki fatwa syariahnya. Fintech akan terus berkembang atau sebaliknya, fintech akan tenggelam dan digantikan oleh inovasi teknologi lainnya.

INTRODUCTION

The innovation phenomenon of the financial industry nowadays has globally changed the financial services behavior in some developing countries such as Indonesia.

All of these changes have triggered the emergence of a new phenomenon called Financial Technology or Fintech (Rahardjo et al., 2019). The term Financial Technology is already familiar and has even been popular for 150 years ago, namely a process of financial transactions that took place between oceans using telegraph cable media in 1866 which was referred to as the first generation of financial technology or known as Fintech 1.0. It was stated in the journal "Fintech as One of the Financing Solutions for SMEs" that Indonesian fintech players are still dominant in the payment business aspect (43%), loans (17%), and the rest are in the form of aggregators, crowd-funding, and others (Palinggi & Allolinggi, 2019).

The digital economy has emerged as the main actor in this modern economy (Ahmad et al., 2021), especially in Indonesia during the COVID-19 pandemic (Nurzianti, 2021). With technology, human activities get a lot of conveniences, including in the financial aspect (Tiyan et al., 2021). Indonesia in terms of internet usage is ranked sixth in the world with the largest number of users. As of 2018, there were 171.17 million internet users, or around 64.8% of Indonesia's total population of 264.16 million people (APJII, 2018). Whether admit it or not, the digital economy has proven its contribution to increasing Indonesia's GDP, reaching 7.3% and it is projected that in 2025 digital economic transactions can reach Rp. 1.417 trillion. Fintech is a combination of the words "Finance" and "Technology" which can also be said to be a result of the integration of technology into the financial world (Nakashima, 2018).

Although the role of fintech can increase competition in the financial market and be able to provide more efficient services or perhaps even provide an easier service system than traditional financial institutions, fintech still cannot replace the role of banks in most of their functions. more flexible in performing services (Miswan, 2019). The service system in fintech relies more on big data, not on emotional closeness like traditional banks as well (Saripudin et al., 2021). Service access is only decentralized via the internet platform so risk and maturity are non-negotiable. The activities carried out are currently very limited, so one fintech can only serve one business activity, such as financing. While banking has several services such as deposits, payments, loans, various financing, and even a pawn system (*Rahn*) provided in Islamic banking (Khudhori & Hendri, 2021).

With the advantages possessed by each of these industries, it is very possible if fintech collaborates with the Islamic banking industry. So there is no assumption that Islamic banking excels in complex types of services, but does not make it easier for customers (Trimulato, 2020). Meanwhile, fintech is said to be superior to banking because it tends to facilitate the community but only serves one aspect of service and has a high level (Rahadiyan & Sari, 2019; Saripudin et al., 2021). With the collaboration of fintech in Islamic banking, the two industries will greatly benefit, namely being able to increase efficiency and have wider access to the community. In the perspective of Islamic law, fintech in Islamic banking is allowed based on convenience as Allah said in QS. Al-

Baqarah 185 "*... Allah wants ease for you, and does not want difficulty for you...*" (Johana, 2019).

In several aspects, fintech has helped Islamic banks in speed and accuracy in processing business operation data and product marketing. And presumably, fintech in information systems has a great influence on the banking industry, where the application of information systems in the banking industry has excellent recording and transparency values (Basya & Ayu, 2020). Because the banking industry is one of the industries with the highest level of dependence on the activities of collecting, processing, analyzing, and submitting reports needed to meet the needs of its customers (Muchlis, 2018).

Thus, Islamic banking in developing countries with Muslim majority populations such as Pakistan and Indonesia has a strong influence in supporting financial system stability, so the implementation of financial technology is strongly expected to play an active role in achieving every element of society, especially people in the 3T (Foremost, Outermost areas, and Remote) whereas the presence of banking branch offices is still not accessible (Ahmad et al., 2021). It is also supported by OJK, which is currently developing a financial technology system for use in services in the financial services industry, particularly banking service applications in Indonesia (Muchlis, 2018). The purpose of this study is to review the opportunities and challenges of fintech collaboration and the Islamic banking industry in Indonesia, where Islamic banking has been committed to improving the service system for its customers.

METHODS

This is a literature study, the type of the study used is descriptive qualitative by collecting information, identifying problems, making evaluations or comparisons in actual and detailed. This study is intended to see the development of technology in the field of finance or fintech which makes Islamic banking continue to create service innovations for the sake of convenience for its customers. As Islamic banking serves the collection, processing, and distribution of financing customer funds and is committed to service quality. Furthermore, to see the opportunities and challenges of fintech collaboration with Islamic banking in Indonesia, the potential must be explored based on the strengths and weaknesses of each industry. The data were analyzed using a framework of analysis of strengths, weaknesses, opportunities, and threats (SWOT).

RESULTS AND DISCUSSION

Demand for Service Innovation in Islamic Banking

The development of service innovations in the banking industry can be in the form of an easy and fast operating system in financial transactions. And what has been realized includes digital banking which can be interpreted as a banking service system that uses electronic/digital media. This service can be performed independently by customers to obtain information, register, open accounts, communicate, do banking transactions, close accounts, and even get other information outside of banking products such as investments, financial advice and opinions, and other needs (Samsuri, 2022). It is because the service in banking refers to the study of service quality which includes the dimensions; tangibles, reliability, responsiveness, assurance, and empathy (Tiyan et al., 2021).

The value of digital payment transactions or electronic money reached Rp 47.19 trillion throughout 2018. This figure continues to increase four times compared to the transaction value in the previous year, which was Rp 12.37 trillion (Samsuri, 2022). From the survey results, there are 90% of respondents say they are users of digital wallets belonging to fintech companies. Meanwhile, users of bank-owned digital wallets (65%), telecommunication providers (39%), and digital e-commerce services (35%). This has resulted in the banking industry being one of the sectors that are required to carry out digital transformation to remain successful in intense competition to meet consumer behavior that has changed towards digital services.

The Fintech industry is gradually developed along with the development of a cashless society (Setyaningrum & Saputro, 2019). This phenomenon does not only occur in developed countries but also has become a trend in developing countries with Muslim populations such as Pakistan (Ahmad et al., 2021) and Indonesia (Ginantra et al., 2020). In this Muslim-populated country, there is Islamic banking that should adapt and collaborate with the fintech industry to increase competitiveness and service efficiency by sticking to sharia rules. So that in this study, the relationship between Islamic banks and fintech will be described as well as the opportunities and challenges of fintech on Islamic banks in developing countries.

Fintech and its Development in Indonesia

Financial technology or known as fintech and widely referred to by the public as financial technology (fintech), is a technology-based industry in financial services that facilitates services outside conventional financial institutions (Ginantra et al., 2020). According to the National Digital Research Center (NDRC), fintech is the term for service innovation in financial services through modern technology (Basya & Ayu, 2020). According to the Financial Stability Board, fintech is a financial innovation supported by technology that can produce new business models, applications, processes, or products that have a material impact on financial markets and institutions, as well as financial services (Navaretti et al., 2018). According to Bank Indonesia, fintech is the use of technology in finance that produces new services, products, and or business models and can have an impact on financial, monetary stability and/or efficiency, smoothness, security, and reliability of the payment system. Fintech is the use of financial system technology that produces new products, services, technology, and/or business models and can have an impact on monetary stability, financial system stability, efficiency, smoothness, security, and reliability of the payment system (Rahardjo et al., 2019).

Bank Indonesia explained that fintech is the result of a combination of financial services and technology systems, creating a new business model that starts from conventional to moderate. Bank Indonesia Regulation number 19/12/PBI/2017 concerning the implementation of the Financial Technology business model in the form of payment systems, market support, investment and risk management, lending, financing, and provision of capital and other financial services. The purpose of implementing financial technology is to encourage and create innovations in the financial sector by implementing consumer protection as well as risk and prudent management to maintain monetary stability, financial system stability, and an efficient, smooth, safe and reliable payment system (Ahmad et al., 2021; Narasati, 2020). The discussion of fintech has become a hot topic nowadays. And its current role has taken the right steps to facilitate all human activities in all fields including the financial sector. Innovation in the financial sector itself is not new at all but has come a long way. Namely, technology disrupts human behavior in accessing information from the internet with various electronic service features (Tiyan et al., 2021).

The number of fintech companies in Indonesia before 2006 was only 4 companies. In the following year for the 2006-2007 period increased to 16 companies. In 2011-2012, fintech activity increased and 9 new companies emerged, bringing the total fintech in circulation to 25 companies. In 2013-2014, the company grew by around 60% from the previous year, and the number of fintech companies became 40 companies. In 2015-2016, was increased dramatically to 165 companies, so fintech growth increased by around 312.5% compared to the previous year. As of October 2020, there were a total of 158 companies registered and licensed at the OJK, an increase compared to 2018, which was only 32 companies, but there is only 11 Peer-to-Peer sharia in Indonesia (OJK, 2020). Even though Indonesia is a country with the largest Muslim majority population in the world (Narayan & Phan, 2019).

Referring to the findings from Utama & Ilahiyah (2018), Islamic Peer-to-Peer Financing is an alternative for borrowers and lenders to carry out their activities based on sharia compliance in Indonesia. This system uses an investment scheme without any cost risk transfer and fixed costs for MSMEs so that the acceleration is maximum. It shows that Islamic Peer-to-Peer Financing activities are based on real economics and the risk is shared following the principles of *muamalah*.

The basic forms of fintech include; Payments (digital wallets, Peer-to-Peer Payments), Investment (equity crowdfunding, Peer to Peer Lending), Cross-process (big data analysis, predictive modeling), Infrastructure (security), Financing (crowdfunding, micro-loans, Peer to Peer Lending) and Insurance (security). Of the basic types of business, Peer to Peer Lending and Payment services are the most widely used by the Indonesian people (Johana, 2019). In Indonesia, fintech has rapidly developed although still relatively late compared to China, Hong Kong, and India. However, based on a 2017 survey, fintech in Indonesia has the potential to grow much more rapidly because the growth of digitalization in Indonesia is one of the fastest in the world, even beating China and Brazil (Sitompul, 2019).

Analysis of Fintech and Islamic Banking Collaboration

Fintech as a modern financial industry can be stated as a competitor to the banking industry (Prestama et al., 2019). Banks in their service systems use information that is difficult to innovate to erode the traditional relationship between banks and their customers. But on the other hand, banking services leave the millennial generation dissatisfied because they are considered too rigid and less flexible (especially in the disbursement of financing funds). On the other hand, the precautionary principle in Islamic banking services reduces the level of risk of default (Ulfah & Yetmi, 2020). So that, these two financial industries can generate great power when collaborated. Table 1 shows the strengths and weaknesses as well as the opportunities and challenges between Fintech and Islamic Banking in Indonesia.

Table 1. SWOT Analysis of Fintech and Islamic Banking Collaboration in Indonesia

Internal	Strength	Weakness
	Fintech: 1. Focus on financial services 2. Provide easy access to services 3. Can reach remote areas 4. The service process is simple and fast 5. Can be accessed anytime and anywhere 6. Good and guaranteed records, financial reports, and transparency 7. There is a financial setting feature for entrepreneurs 8. Does not require a lot of human resources and the number of office buildings, more efficient	**Fintech:** 1. The MUI fatwa on sharia fintech has not been fully and definitively stipulated 2. The internet network is weak in rural areas 3. Limited fintech services, not as wide as Islamic banking 4. Customer information is only through big data
	Sharia Banking: 1. The majority of Indonesian people are Moslem 2. Already have 24-hour fintech services, namely mobile banking applications, internet banking, SMS banking, and cell banking 3. The fintech application contains crowdfunding and payment features 4. There are a prayer schedule and features for paying zakat, Infaq alms in the application 5. Fintech-based services save on service operations 6. There are more types of financial services in Islamic banking; savings, hajj/umrah savings, gold savings, *mudhorobah*, *murabahah* and *rahn* financing	**Sharia Banking:** 1. Branch offices and ATM machines have not yet reached rural areas 2. Not all androids support Islamic banking fintech applications 3. Fintech application operation only in the strong internet network area 4. Fintech activities in banking are prone to break-ins, it is when customers do not save their passwords or forget passwords

	7. Islamic banking information through the fintech system is more quickly accessed by customers	
External	**Opportunity**	**Threat**
	Fintech: 1. Indonesia is the 6th largest internet user in the world 2. The government provides convenience for operational permits	**Fintech:** 1. There are more conventional fintech companies 2. The issue of sharia fintech licensing at OJK, constrained by minimum capital 3. Public literacy on sharia fintech is low 4. The negative perception of conventional fintech in rude loan collection to customers. 5. The risk of default from customers is quite high 6. The government has not provided internet in remote and outermost areas 7. Fintech is growing very rapidly; it could soon be replaced by other technological innovations.
	Sharia Banking: 1. The majority of the Indonesian population is Moslem 2. Indonesia's population is the 6th largest internet user in the world 3. Indonesians have more confidence in banking in financial services and security guarantees	**Sharia Banking:** 1. The practice of conventional banking transactions in collaboration with fintech is relatively easy 2. The level of public understanding of Islamic banking practices is low enough 3. It is vulnerable to fintech banking accounts being hacked by irresponsible people

Strength Analysis

The fintech industry is gradually developed in all corners of the world. It can be seen by the emergence of various business startups in the fintech field and the large interest in investing in the fintech field globally. Especially in Indonesia, businesses using fintech are quite attractive to business people in Indonesia. Financial technology brings new hope for convenience in various kinds of financial transactions in various sectors (Narastri, 2020).

In addition, various products offered by fintech to meet financial needs such as crowdfunding, mobile payments, and money transfer services have caused various changes in the business world. Crowdfunding financial services can be used to easily get funds from various countries, even from someone you have never met. Fintech services also facilitate transactions globally throughout the world. Fintech is more efficient because it can reduce operational costs so that it can channel financing with a faster and more precise process (Ahmad et al., 2021). The emergence of technology-based financial companies or FinTech has forced the Islamic banking industry to improve itself (Muchlis, 2018). Fintech in collaboration with Islamic banking has an important role in meeting customer needs, including:

1. Financial data and information can be accessed anytime and anywhere.
2. Gives hope to small businesses to be able to develop their business so that they can match the existing big business (Setiani et al., 2020). Various sharia transaction contracts in banking can be applied in technology.
3. Provides capital loan services with a simpler application process but still pays attention to the principles of customer fund security as well as financing services with a feasibility system (Miswan, 2019). So that the proposed loan can be liquidated in a relatively short time.
4. In addition to Islamic banking, fintech applications have been implemented in the aspects of crowdfunding, payment, and Islamic philanthropy, with fintech collaboration, financial regulatory services can be added (Miswan, 2019). This innovation aims to help business people in managing company finances. The services provided such as recording expenses, monitoring investment performance, and financial consulting were free of charge (Setiani et al., 2020).
5. Furthermore, sharia banking customers also have a wider reach, namely reaching remote areas (Ahmad et al., 2021). The same thing happens in the fintech industry.
6. The level of transparency and financial reporting is easier to explain to customers, with the help of technology (Fajar & Larasati, 2021).
7. Fintech has helped Islamic banks with speed and accuracy in processing business operation data and product marketing. The application of information systems is very influential in the banking industry, where the application of information systems in the banking industry has a tremendous impact considering that the banking industry is one of the industries with the highest level of dependence on the activities of collecting, processing, analyzing, and submitting reports (information). necessary to meet the needs of its customers (Ahmad et al., 2021).

Weakness Analysis

Financial technology starting from the financial sector in the economy which is a key sector and continues to develop according to the needs of the community. Currently, the obstacles faced by fintech when collaborating with Islamic banking, such as:

1. Regarding the transaction contracts used, until now sharia law that regulates financial technology does not yet have legal certainties such as contracts used in crowd-funding transactions, market aggregators, and risk & investment management. Some of these types of transactions do not yet have an MUI sharia fatwa (Narastri, 2020).
2. In the aspect of policymakers, within the scope of Indonesia, the development of the use of fintech services is regulated by 3 important agencies, namely the Ministry of Communication and Information, OJK, and Bank Indonesia. But still

constrained by the internet network which is still weak in the majority of remote areas.

Opportunity Analysis

Collaboration between the fintech industry and Islamic banking needs to be developed considering that there are opportunities that can be maximized to achieve Indonesia's economic growth. Those opportunities are:

1. The majority of Indonesia's population is Muslim, which means it strongly supports Islamic finance practices (Abadi et al., 2020).
2. The growth of Indonesian people using the internet and making transactions through fintech increase continuously every year (Kholifah & Andrianingsih, 2020).
3. Regarding government policies, to date, it has described the ease of operating fintech licenses (Kholifah & Andrianingsih, 2020).
4. In terms of the level of public trust in financial service providers, people have more confidence in banking services because of the security and convenience aspects.

Threat Analysis

Although there are great opportunities for collaboration between the fintech industry and Islamic banking, technology-based services also leave customers feeling restless. It is technology based on customers' accounts which can sometimes be hacked by irresponsible parties (Abadi et al., 2020). Besides technology, it is a human creation that can cause system errors. There are several challenges to fintech and Islamic banking collaboration, including:

1. There are more conventional fintech companies, so if they collaborate with conventional banks, it will affect conventional financial performance (Abadi et al., 2020).
2. The Financial Services Authority (OJK) provides an opportunity for sharia fintech users to officially register their fintech at the OJK, but on the other hand, they are hampered by licensing and the minimum capital for establishing sharia fintech (Iman, 2016). So far, there are more than 4 sharia fintech registered with the Financial Services Authority (OJK) namely ethis.co.id, ammana.id, alamsharia.id, danasyariah.id and also qazwa.id.
3. Conventional fintech cases and phenomena that occur in society nowadays have given a negative stigma. Rude collection methods even take various forms and media as well as many cases of suicide due to the inability to pay online loans via conventional fintech which is an opportunity for Islamic fintech to ensure that Islamic fintech is different from conventional ones. At the same time, the emergence of negative phenomena and stigma has publicly resulted in giving the opinion that there is no difference between Sharia Fintech and Conventional ones.

4. With the rapid development of technology entering Indonesia, sharia fintech can quickly sink and be replaced by other technological innovations in the future related to financial transactions. Sharia fintech users have to present the excellence and innovation of fintech as always. So that the presence of sharia fintech is not easily replaced by other technological developments in the future (Hiyanti et al., 2020).

Based on the threats, the regulatory aspect is the threat that most hinders the collaboration of fintech with Islamic banking. So far there have been no definite rules regarding the collaboration of the two industries legally. Furthermore, when it comes to sharia rules, there is no clear MUI fatwa regarding fintech transactions in which the majority of Indonesians are Muslim and adhere to sharia rules. If the regulator is slow in making regulatory decisions, then this will hinder the development of fintech-based Islamic banking services. Even though technology will continue to develop and develop very rapidly.

CONCLUSION

The digitalization system in Indonesia is rapidly developed, therefore the government must be able to seize this opportunity to improve the national economy through the digitalization system in Islamic banking. With the digitalization system, Islamic banking can expand its services to reach remote areas, in addition, to reducing costs and increasing Islamic financial inclusion in the wider community. Although fintech regulations have been regulated by the Ministry of Communication and Information, OJK, and Bank Indonesia, the Indonesian population, who are Moslems in the majority, requires definite sharia rules regarding services for several types of fintech, which do not have a sharia fatwa for this time being. Fintech will remain to develop, or it will possibly sink and be replaced by other technological innovations. With the certainty of fast sharia law, the fintech industry and Islamic banking can collaborate to achieve optimal services.

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