



Strengthening the Regulatory Sandbox as a Synergistic Effort for Investment Climate Growth in Artificial Intelligence Era

Tegar Raffi Putra Jumantoro, Ajeng Pramesthy Hardiani Kusuma, Syafira Meylanie Putri Triana

Faculty of Law – Jember University, Jalan Kalimantan No. 37 – Bumi Tegalboto Campus,
Jember, East Java, 68121

220710101057@mail.unej.ac.id, 1993082120220320182@mail.unej.ac.id , syafiraam99@gmail.com

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ABSTRAK

The development of Artificial Intelligence (AI) has had a significant influence on various sectors of life, especially investment, which is marked by the rapid growth of Financial Technology (FinTech). Therefore, the regulatory sandbox program was born as an answer to the high rate of FinTech as a mechanism for testing products before they are marketed. In Indonesia itself, the institutions authorized to regulate regulatory sandboxes are Otoritas Jasa Keuangan (OJK) and Bank Indonesia. By using normative juridical methods, researchers conducted an analysis of statutory regulations, namely regulations of OJK and Bank Indonesia (BI) to obtain study results by looking at the effectiveness of regulations regarding regulatory sandboxes in Indonesia. Researchers attempt to provide a juridical comparison between the two institutional regulations. The data collection method was carried out using the library study method and reviewing various library sources. The results of this research show that the use of regulatory sandboxes is very important in investing in Indonesia. Apart from catching up with other countries, the use of a regulatory sandbox also guarantees the protection of consumer rights so that it can attract interest in investing. Researchers provide recommendations in the form of improving coordination between OJK and companies as well as providing adequate resources to facilitate the optimization of regulatory sandboxes in Indonesia. Apart from that, providing regular outreach to the public is very important to increase their understanding of the regulatory sandbox. The research results note that there are still several shortcomings in the use of regulatory sandboxes, such as the lack of accuracy of test results. With this research, it is hoped that several challenges and obstacles from the previous use of regulatory sandboxes can be evaluated by the authorized institutions.

1. Introduction

The increasingly rapid pace of development of Artificial Intelligence (AI) has had very significant implications in various walks of life, especially in the investment climate. Discussing the investment climate, of course, cannot be separated from the birth of various unlimited and uninterrupted innovations that were born from the development of human thought as a result of the development of the digitalization era. Most of these latest innovations have been summarized in the OJK Regulation (POJK) 13 of 2018 which becomes the basic reference (often referred to as the Umbrella Regulation). The term Umbrella Regulation refers to regulations in the form of a legal umbrella that covers all innovation activities and regulations that support innovation in Indonesia. The majority of the international population, especially those in developing countries, are faced with the problem of a lack of easy access to financial sector services. As many as 2.7 billion people do not have access to the financial sector. A survey conducted by Bank Indonesia previously succeeded in finding the fact that only 48% of households save their money in banking services.¹ This data shows that access to financial services is still a big challenge for the majority of the world's population. This lack of inclusive access to financial services is apparently caused by various factors, for example low income, lack of financial education, and access difficulties and bureaucracy in banks.

Low income can be a major barrier for many individuals to obtain financial services, as it may be difficult for some people to meet the minimum requirements required by formal financial institutions. In addition, a lack of financial education can make individuals less likely to understand the importance and how to use financial

services effectively, so they are less likely to use these services. Access difficulties and bureaucracy at banks can also be major obstacles. Complicated financial services application processes and complicated administrative requirements can make it difficult for individuals, especially those living in remote environments, to access financial services. By having adequate knowledge regarding several factors that cause non-inclusive access to financial services, the government and related institutions can design more effective policies and programs to increase financial synergy and equal access to financial services for the entire community. Seeing various problems regarding the development of digitalization but not being balanced with readiness in terms of juridical and technological aspects, the Indonesian government, especially Otoritas Jasa Keuangan (abbreviated as OJK), has proposed an innovation, namely the existence of a regulatory sandbox. Referring to the definition, the regulatory sandbox itself is a program in the form of a trial for fintech companies over a period of 6 - 12 months. Regulatory sandbox is a testing process with the authority of OJK to provide an assessment of business mechanisms, business models, and financial frameworks or instruments.² Several fintech companies that are the targets of the regulatory sandbox program will be provided with regular assistance by government through legal administration and system operations in order to prevent possible legal violations. With this periodic assistance, it can become a forum for the government to observe and evaluate the progress of each fintech company's performance while remaining based on operational permits and service standards. Regulatory sandboxes can catch up with developments in digitalization and minimize the high risks of digital financial services. Through the regulatory sandbox as an innovation in the field of technology and structured in digital financial services,

¹ Kristin Kartini et al, "Tinjauan Yuridis Regulatory Sandbox terhadap Mekanisme Teknologi Finansial (FinTech) di Indonesia" (2020) 9:2 PATIK: Jurnal Hukum 115, online: <<http://www.kemenkeu.go.id/media/4459/keuangan-inklusif-dan-pengentasan-kemiskinan.pdf>>.

² Masda Greisyas Nababan et al, "Penguatan Regulatory Sandbox dan Scoring System dalam Penerapan Prinsip Kehati-hatian pada Peer-to-Peer Lending" (2019) 3:1 Legislatif 60.

problems that are mostly experienced by people in various countries (including Indonesia) can be increasingly resolved. The regulatory sandbox has been successful in providing efficiency, convenience in the transaction process and reaching people who do not have adequate access to conventional financial services.

Although the implementation of the regulatory sandbox program has provided many benefits and protection of consumer rights, its implementation is faced with several challenges, such as unclear analysis results as desired and the lack of accommodation facilities that encourage the implementation of the regulatory sandbox.³ Apart from that, the use of the regulatory sandbox also does not include regulations regarding the investment sector. This creates a legal vacuum considering the percentage decline in the investment climate in Indonesia (in 2020) reaching 2.4% due to the Covid-19 pandemic so that it is necessary to strengthen the regulatory sandbox to increase the interest of the Indonesian people in the investment climate.⁴ Several challenges faced by the implementation of the regulatory sandbox have led to the high potential that the regulatory sandbox instrument has created legal uncertainty, imposed additional costs of a certain amount, and is contrary to its objectives. implementation of the regulatory sandbox itself, namely providing protection for consumers, including avoiding losses. OJK as the authority in implementing the regulatory sandbox, experiences obstacles in finding all the information desired to ensure that the draft policy making refers to evidence and complies with the regulations and policies of the Otoritas Jasa Keuangan (OJK).

The lack of clarity on the model agreed to be used in the regulatory sandbox and the lack of an approach that can provide

answers to problems resulting from the development of the financial technology sector is one of the contributing factors.⁵ The regulatory sandbox model adopted by the OJK takes reference to various models that have been implemented by several other countries internationally. However, the aim of this imitation is to find the best mechanism so that it suits the needs of the Indonesian people. OJK also needs to pay attention that the success of the regulatory sandbox depends not only on the model chosen, but also on effective and transparent implementation and the ability to handle challenges that arise along with the development of fintech. The lack of clarity regarding implementation and solution solutions in response to the challenges faced by regulatory sandboxes encourages researchers to examine the regulatory sandbox mechanism in more depth through normative juridical reviews. This research also aims to provide a basic reference for authorized policy makers regarding the internalization of the investment sector in the regulatory sandbox.

Researchers in compiling this research were also based on several previous studies which discussed regulatory sandbox programs in Indonesia, such as (1) Priscilla D. Z. Saragih, et al. in 2019 in research entitled "Analysis of Regulatory Sandbox Mechanisms in the Implementation of Financial Technology in Indonesia". This research examines the division of authority between OJK and Bank Indonesia (BI) as agencies that have authority in implementing regulatory sandboxes. The results of this research show that OJK and Bank Indonesia (BI) have synergized together in determining Fintech providers so that they can test their products and business models;⁶ and (2) Na'im Fajarul Husna in 2020 in research entitled "The Urgency of Implementing the Regulatory Sandbox by OJK as an Effort to

³ Trissia Wijaya, *Membedah Kerangka Regulatory Sandbox Industri Fintech Indonesia* (2023).

⁴ Kanti Rahayu, Eddhie Praptono & Kus Rizkianto, "Ekspektasi Peningkatan Iklim Investasi Melalui Pembentukan Lembaga Pengelola Investasi" (2022) 10:2 DIKTUM: Jurnal Ilmu Hukum 147–163.

⁵ Wijaya, *supra note 3*.

⁶ Priscilla D Z S, Paramita Prananingtyas & Hendro Saptono, "Analisis Mekanisme Regulatory Sandbox dalam Penyelenggaraan Teknologi Finansial di Indonesia" (2019) 8:1 Diponegoro Law Journal 633–649.

Legal Protection for Equity Crowdfunding Investors". The results of this research examine the implementation of equity crowdfunding in Indonesia and the role of the regulatory sandbox as legal protection for it.⁷ Different from the two previous studies, this research has an update that analyzes the strengthening of the regulatory sandbox as a guarantee of legal protection for each individual who is part of it. an investment activity so that it can increase interest and growth in the investment climate in Indonesia. This research focuses on the regulatory sandbox as a legal umbrella that also regulates investment activities and of course the development of the investment world is increasingly rapid as the years go by.

2. Results and Discussion

JURIDICIAL REVIEW OF THE IMPLEMENTATION REGULATORY SANDBOX IN INDONESIA

In this era of society 5.0, technological progress has penetrated the financial sector through the emergence of massive changes in the world of digitalization, especially in the form of the financial sector, known as Financial Technology (FinTech), namely innovation using the internet and software to complete various tasks, such as payments, investment, financing and insurance.⁸ The existence of fintech makes it easier for people to carry out payment transactions and other financial services, while also having the potential to increase Indonesia's national economic growth. As an industry that is

growing rapidly in various international countries, the existence of fintech itself does not mean to override the role of general financial institutions that previously existed, but to support the role of conventional banking institutions in providing financial services. The benefits of fintech are quite massive, such as encouraging the financial sector and reaching various market segments. However, fintech innovation also has several implications such as failure in the transaction process, interference with personal data, criminal acts of fraud, customer privacy, technical problems, cyber attacks, and various other problems. Then, the regulatory sandbox plays a role in preventing these risks from occurring when fintech products have been introduced to the wider community.

The regulatory sandbox program can be likened to a business incubation program in the world of entrepreneurship, where technological innovation from a startup company in the financial sector is improved before being released or implemented to the wider community. As the holder of the development role, the existence of the regulatory sandbox is strengthened by the existence of the Financial Technology Office.⁹ This office acts as a collaborative forum for research and development, where participants can interact directly with legal, business and various other experts to finalize their ideas and products. The Fintech Office, which is tasked with assisting the performance of regulators, also acts as a source of assistance for fintech players in developing their business models. With the increasingly complex structure of fintech today, the supervisory function is carried out by the OJK and the payment system is the authority of Bank Indonesia (BI).¹⁰ Collaboration between these regulators is very important to ensure the level of compliance with regulations and the safety of

⁷ Na'im Fajarul Husna & Kukuh Tejomurti, "Urgensi Penerapan Regulatory Sandbox oleh Otoritas Jasa Keuangan Sebagai Upaya Perlindungan Hukum bagi Pemodal Equity Crowdfunding" (2020) 12:1 Jurnal de Jure 54–65, online: <[https://www.crowdfunding.nl/wpcontent/uploads/2012/05/92834651-Massolution-abridged-Crowd-Funding->](https://www.crowdfunding.nl/wpcontent/uploads/2012/05/92834651-Massolution-abridged-Crowd-Funding-).

⁸ I Putu Raditya Sudwika I Putu Raditya Sudwika Utama & Anak Agung Gede Agung Indra Prathama, "Pengawasan Bank Indonesia dan Otoritas Jasa Keuangan terkait Penerapan Financial Technology" (2022) 16:2 Yustitia 74, online: <<http://dx.doi.org/10.15294/>>.

⁹ Lastuti Abubakar & Tri Handayani, "Strengthening Financial Technology Regulation to Empowerment Financial Inclusive" (2019) 4:2 Diponegoro Law Review 274–284, online: <<https://www.bi.go.id/id/perbankan/keuanganinklusif/Indonesia/Contents/Default.aspx>>.

¹⁰ Lukmanul Hakim & Recca Ayu Hapsari, *Buku Ajar Financial Technology Law* (2022).

the financial system as a whole. The main key to minimizing negative business implications before getting involved in the fintech process is a thorough plan and the right assistance. Of course, this must be in line with regulations regarding regulatory sandboxes as a proactive effort by Bank Indonesia (BI) and OJK to distribute assistance to fintech companies. The main focus of this program is strict maintenance of guaranteed protection of consumer rights and measuring the risks posed by future business models. The following are several regulatory sandbox implementations and arrangements, both in various countries and in Indonesia. The main key to reducing business risks before getting involved as a fintech operator is careful planning and the right assistance. Therefore, this must be in line with the provisions regarding the regulatory sandbox program which have been emphasized as an active effort by Bank Indonesia (BI) and OJK in providing assistance to fintech companies. The main focus of the regulatory sandbox program is direct supervision of consumer protection, the principle of prudence, and risk management of the business model to be implemented, so that this function must be implemented optimally, consistently and comprehensively. Supervision of the implementation of consumer protection and the implementation of statutory provisions is carried out by the government, the community and non-governmental consumer protection institutions regarding products and services available on the market. The following are several implementations and regulatory sandbox settings, both in various countries and in Indonesia.

IMPLEMENTATION REGULATORY SANDBOX IN INTERNATIONAL COUNTRIES

In 2015, the UK became the first country to introduce sandbox regulations into the fintech industry. The FCA selects companies to participate in the regulatory sandbox based on five evaluation criteria: scope, original innovation, benefits to

consumers, need for the sandbox, and research background. Since 2015, 375 companies have implemented sandbox regulations, with 118 of them selected. The FCA seeks to provide five benefits to the companies involved: the opportunity to test products and services in a controlled environment, reduced time to market at potentially lower costs, assistance in identifying appropriate consumer protections, protection in developing new products and services, and improved access. better for finances. This sandbox regulation, along with other active policy support, is considered by experts to be the main driver of growth in the fintech industry.¹¹

In June 2016, Hong Kong adopted sandbox regulations for its financial sector. Financial institutions and startups working with or without fintech companies were given permission to participate. The Securities and Futures Commissions (SFC) have the authority to set accreditation conditions to reduce the risks investors may face during the trial period. They do not clearly stipulate which regulations can be relaxed or excluded, and the level of deregulation carried out is adjusted flexibly according to the company's circumstances.¹² As of the end of March 2019, only 48 technology products or services were allowed to enter the regulatory sandbox, with 32 tests try the completed pilot and then launch the product.¹³

In June 2016, The Monetary Authority of Singapore (MAS) published guidance for sandbox regulation in the financial sector. Selection of participating companies is based on fintech service innovation, ability to solve key consumer and industry problems, and

¹¹ Jayoung James Goo & Joo Yeun Heo, "The Impact of the Regulatory Sandbox on the FinTech Industry, with a Discussion on the Relation between Regulatory Sandboxes and Open Innovation" (2020) 6:2 Journal of Open Innovation: Technology, Market, and Complexity 1–18.

¹² Julapa Jagtiani & Kose John, "Fintech: The Impact on Consumers and Regulatory Responses" (2018) 100 J Econ Bus 1–6.

¹³ Linda Jones, "Guest Editorial: Poverty Reduction in the FinTech Age" (2018) 29:2 Enterprise Development and Microfinance 99–102.

provide significant benefits.¹⁴ The MAS sandbox regulations aim to transform Singapore into an industrially intelligent financial center with a focus on improving efficiency, risk management which is more effective, creates new opportunities, and improves people's standard of living through regulation.¹⁵

In 2016, the Australian Securities and Investments Commission (ASIC) introduced sandbox regulations. ASIC allows fintech companies and traditional financial institutions to participate, with limits on business fields and investment amounts to protect investors. The duration of a participant's participation in the sandbox is usually limited by rules or on a case-by-case basis.¹⁶ Countries such as the UK and Brunei provide a time limit of six months, while Australia, Thailand and Malaysia provide a time limit of twelve months, with the possibility of extension.¹⁷ Although the goals of sandbox regulatory guidance in various countries are similar, the details of their implementation vary. Some countries limit the types of companies and business sectors that can participate, which some researchers consider to be contrary to the goals and benefits of sandboxes, with the potential to reduce economies of scale and the value of innovation.

The implementing institutions for the regulatory sandbox in Indonesia are Bank Indonesia and OJK. The testing process mechanism in the regulatory sandbox refers to policies from Bank Indonesia and OJK. OJK issued Regulation Number 13/POJK.02/2018 concerning Digital Financial Innovation in the Financial Services sector as an implementation of the regulatory sandbox testing system. However, this regulation still does not

provide a detailed explanation regarding the implementation of regulatory sandbox testing by Bank Indonesia.¹⁸ Bank Indonesia regulates it in detail through Bank Indonesia Regulation Number 19/12/PBI/2017 concerning the Implementation of Financial Technology and Regulation for Members of the Board of Governors Number 19/14/PADG/2017 concerning Financial Technology Regulatory Sandbox.¹⁹

Implementation of the regulatory sandbox when referring to OJK regulations is limited to the following explanation:²⁰

1. The implementation time span for the regulatory sandbox testing system is a maximum of only 1 year and can be extended to 6 months if necessary.
2. The provisions that apply to organizers of the regulatory sandbox testing system include several things, such as further confirmation regarding digital financial innovation, disclosure of information, and cooperation between financial bodies or other bodies.
3. Analysis recorded in the regulatory sandbox can be in the form of recommendations, not recommendations, or needs to be corrected.

After researchers compared the implementation of regulatory sandboxes in several international countries, it was concluded that Indonesia adopted models from other countries. Bank Indonesia and OJK have synergized in preparing comprehensive guidelines aimed at fintech companies in following the regulatory sandbox and the mechanism is voluntary.

In general, regulatory sandbox

¹⁴ *The Pulse of Fintech Q2 2017*, by KPMG International (2017).

¹⁵ In Lee & Yong Jae Shin, "Fintech: Ecosystem, Business Models, Investment Decisions, and Challenges" (2018) 61:1 *Bus Horiz* 35–46.

¹⁶ Ross P Buckley et al, "Building FinTech Ecosystems: Regulatory Sandboxes, Innovation Hubs and Beyond" (2019) 61:1 *University of New South Wales Law Research Series* 1–38.

¹⁷ *Ibid.*

¹⁸ Dhea Khoirunisa et al, "Analisis Peran Otoritas Jasa Keuangan (Ojk) dalam Mengawasi Pelayanan Pada Perusahaan Financial Technology (Fintech) di Indonesia" (2023) 2:3 127–132, online: <<https://doi.org/10.30640/inisiatif.v2i3.1108>>.

¹⁹ Hendro Nugroho, "Perlindungan Hukum bagi Para Pihak dalam Transaksi Pinjaman Online" (2020) 7:2 *Justitia: Ilmu Hukum dan Humaniora*, online: <<http://jurnal.um.tapsel.ac.id/index.php/justitia>>.

²⁰ *Peraturan Otoritas Jasa Keuangan Republik Indonesia Nomor 13/POJK.02/2018 tentang Inovasi Keuangan Digital di Sektor Keuangan*, 2018.

implementation has three types of status as a result of the testing process. At Bank Indonesia, there are 3 types of status, namely successful, unsuccessful, and other status, while at OJK, namely recommended, needs improvement, and not recommended).²¹ However, this test does not change the existing licensing requirements; Success in the regulatory sandbox does not mean that the company can immediately operate without licensing according to the policies of the authorized institution. In its implementation in Indonesia, the implementation of the regulatory sandbox must comply with the conditions set by OJK and Bank Indonesia (as the two authorized institutions), including regarding the implementation period, requirements for financial technology providers, and test results. This is important to ensure that the testing process is carried out transparently and fairly. If a discrepancy is found between the two institutions, it could give rise to legal ambiguity which needs to be resolved through coordination between the two institutions or through revision of more appropriate regulations.

JURIDICAL COMPARISON OF REGULATORY SANDBOX MECHANISMS IN OJK AND BANK INDONESIA REGULATIONS

Every financial technology operator must refer to OJK and Bank Indonesia regulations as the two institutions that have the authority to regulate regulatory sandboxes. Payment System Service Providers must obtain permission from Bank Indonesia in accordance with Bank Indonesia Regulation Number 18/40/PBI/2016 concerning the Implementation of Payment Transaction Processing. They must be a limited liability

²¹ Rizky P P Karo Karo & Laurenzia Luna, "Pengawasan Teknologi Finansial melalui Regulatory Sandbox oleh Bank Indonesia atau Otoritas Jasa Keuangan berdasarkan Perspektif Keadilan Bermartabat" (2019) 2:2 Jurnal Ilmiah Ilmu Administrasi 116-125, online: <<http://ojs.stiami.ac.id>>.

company and meet the appropriateness requirements set out. After the enactment of OJK Regulation Number 13/POJK.02/2018 which contains the regulatory sandbox mechanism, it is a trial for business governance.

These provisions are in accordance with the requirements stated in Article 8 of OJK Regulation Number 13/POJK.02/2018, namely the existence of a new business model promoted by financial technology providers. Therefore, the main focus of the testing mechanism from OJK is the innovation brought by the financial technology provider concerned. Regarding the results of the regulatory sandbox trial system prepared by the Financial Services Authority, the terms used are different from the regulatory sandbox trial system from Bank Indonesia. According to OJK, the results of the regulatory sandbox trial system consist of 3 statuses, namely as follows:²²

1. Recommended

After completing the regulatory sandbox test, OJK provides registration recommendations that are aligned with the business activities of financial technology providers. Therefore, recommended status is included in the application elements for financial services providers to OJK. Application for registration must be made no later than 6 months after OJK issues the status, and if it is not submitted or exceeds a certain deadline, the recommended status will be revoked and considered never valid. This is different from the results of regulatory sandbox testing by Bank Indonesia, where this status is one of the requirements in the registration process because financial technology providers must first submit a licensing application to Bank Indonesia.

2. Not Recommended

Organizers are not permitted to reapply for similar digital financial innovations, so

²² Diana Fitriana, Nur Rahman & Abdul Wahid, "Analisa Peraturan Otoritas Jasa Keuangan (Pojk) Nomor 77/Pojk.01/2016 Tentang Layanan Pinjam Meminjam Uang Berbasis Teknologi Informasi (LPMUBTI) Terhadap Penggunaan Financial Technology (FinTech) Pada Industri Jasa Perbankan Di Wilayah III Cirebon" (2021) 6:1 Jurnal Kajian Hukum Islam 7.

they will be removed from the organizers' list.

3. Repair

Organizers who obtain repair status are permitted to submit improvements. If improvements are not made, the status of the financial technology provider's trial results will change to not recommended. In the regulatory sandbox testing system organized by Bank Indonesia, the repair status and repair process for financial technology providers is not regulated.

THE URGENCY OF IMPLEMENTING REGULATORY SANDBOX TO IMPROVE INVESTMENT CLIMATE IN INDONESIA

The regulatory sandbox is a testing environment with strict regulations, providing space for regulators and financial technology administrators to research the latest technology and business models without neglecting consumer protection. In such a pilot environment, innovations can be rigorously tested without compromising security or compliance with existing regulations. From a regulator's perspective, the sandbox provides an opportunity to collect empirical evidence on the effects of new business models on regulatory, economic and technical aspects. This information can then be used to design policies that are more effective and responsive to changes in the industry. On the other hand, companies also experience the benefits of the regulatory flexibility provided by the sandbox. They can test their innovations without having to face the regulatory hurdles that might normally hinder the development of new ideas. Thus, sandboxes facilitate faster and more sustainable innovation while prioritizing security and consumer protection.

The implementation of the regulatory sandbox has great urgency in improving the investment climate in Indonesia. The regulatory sandbox provides a controlled environment for financial technology (fintech) companies to test their innovations without having to face full regulations that

could be an obstacle, thereby encouraging the development of new technologies that can increase efficiency and accessibility in the financial sector, which in turn will attract investor interest. With a regulatory sandbox, fintechs can test their products and services in a controlled environment, thereby reducing the risks that may occur when the product is fully launched on the market. This can increase investor confidence because business risks become more controllable. A conducive environment for financial innovation can encourage investors' interest in investing in Indonesia. Investors tend to be more interested in investing in companies that show growth potential through innovation and testing their products within the regulatory sandbox. In the era of globalization, the adoption of regulatory sandboxes encourages Indonesia's competitiveness compared to other countries. An innovation-friendly environment and measurable regulations can be attractive to investors seeking opportunities in the fast-growing fintech market. Seeing the successful performance of the regulatory sandbox in other countries can be a driving force for its implementation in Indonesia so that it can improve the investment climate by building a comfortable climate for innovation, minimizing risks, and attracting the interest of investors and the best talent in the investment sector.

Even though it has very high benefits, implementing a regulatory sandbox also requires paying attention to several risks and challenges faced. For some parties, it is more important to have openness in licensing rather than issuing new policies or revising existing regulations. The benchmarks for leaving the regulatory sandbox after the trial period have not yet been clearly conveyed.²³ OJK Regulation Number 13 of 2018 only explains the actions that must be chosen when a company in the sandbox is deemed not to have passed the test and requires revision. However, the regulations do not yet provide specific guidance for the opt-out process. In principle, sandboxes can provide benefits for participants in carrying out trials

²³ Wijaya, *supra note* 3.

as well as for regulators to provide feedback on commercial solutions, for example technological advances that have the potential to be successful. However, regulatory sandboxes still require large investments in human resources. In the absence of adequate resources, regulators have the potential to not obtain clear information when interacting with participants, resulting in increased regulatory compliance costs. The implementation of the regulatory sandbox must pay attention to several important notes above in order to maximize its potential in improving the nuances of investment in Indonesia towards better development than before.

3. Conclusion

The presence of innovation in the form of a regulatory sandbox program can be thought of as a program that assesses technological innovations from a startup company in the financial sector to be improved before being released or implemented to the wider community so as to guarantee the quality of the product and the existence of legal certainty. Regulatory sandboxes have been adopted by several international countries and have proven successful in increasing the productivity of the investment climate. In Indonesia itself, there are two institutions that have the authority to regulate regulatory sandboxes, namely OJK and Bank Indonesia (BI) and their model still refers to regulatory sandboxes implemented in other countries.

Implementing a regulatory sandbox in Indonesia is very important considering that the development of fintech (one of which contains an investment element) is also increasing from year to year. The presence of a regulatory sandbox ensures the security of the rights of financial technology providers is increasingly guaranteed. However, on the other hand, it is important to note that the Indonesian government must be prepared to provide adequate resources so that the implementation of the regulatory sandbox can run optimally. Apart from that, there needs to be a more detailed

explanation regarding digital investment regulations in OJK and Bank Indonesia regulations as well as increasing the accuracy of results from regulatory sandbox tests.

OJK and company communication through a sandbox over a certain period of time, minimizing regulatory ambiguity and showing government support for renewable ideas. Proper coordination of regulations between institutions is also very important to maximize the potential of the regulatory sandbox and provide strong support for the OJK. Even though there are various OJK regulations, it is important to provide clear legal support to enforce them. Several parties stated that the regulatory sandbox structure is friendly to fintech, thereby fostering a balance between regulatory gaps and consumer protection. Adjusting policies between institutions will increase the regulatory usefulness of the sandbox, minimize negative implications from arising, and empower the OJK's legitimacy.

In facing the era of using AI in the fintech field, it is known that there is no approach that can overcome the various challenges in this increasingly changing industry. Executive leadership, placement of appropriate personnel, and support from institutions encourage the implementation of optimal OJK supervisory functions. In addition, the spread of providing resources for OJK's technical expertise will help OJK to keep up with the latest technological developments and create an integrated, contextual and strong regulatory sandbox climate. Therefore, clear support from authoritative leaders will promote coordination between stakeholders, while sandbox participants can effectively communicate their goals to internal divisions.

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