

Regulatory Sandbox as an Alternative to Insert the Disruptive Innovations Developed by Startups in Brazil

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Abstract

Aim: *This study presents an analysis to be used in regulatory environment as an option for start-ups to insert their products and/ or services in the market in Brazil.* **Methods:** *This is an applied, exploratory, document a qualitative-quantitative. It was carried-out a systematic review at CAPES journals, Brazilian Digital Library of theses and dissertations (BDTD) and Electronic Scientific Online Library (CIELO) with a time period of 5 years, so as with the exploration of experience programmes of Regulatory Sandbox, particularly in the United Kingdom, besides the brief analysis regarding the legal landmark of Start-ups and Innovative Entrepreneurship MLSEI- Supplementary law Nº 182/2021. The analysis was performed in a way to evaluate the existence of good practices in regulatory environments and its adequation and inclusion in the market of disrupt innovations, looking for legal certainty for the companies, the State and consumer.* **Results:** *Findings show that there are meaningful advantages in the insertion of new technologies in regulatory environment in a pre-established time, with users' limitation and supervision assisted in a way to bring to the market those technologies with greater law certainty.*

Keywords: Disruptive Innovation; Regulatory Sandbox; Startups legal framework.

1. Introduction

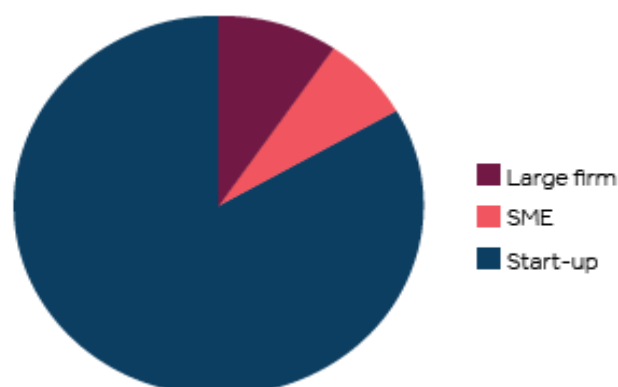
It is not possible to talk about start-ups without mentioning innovation, technology, acceleration, testing, Minimum Viable Product (MVP) and investment. There are numerous phases in which all the start-ups go through until they reach a level of maturity that is enough to pursue with their business, and for such a thing to happen they must overcome bureaucratic obstacles. The State needs to invest positively, making a favourable environment towards innovation to consequent development of business with products, services and/or solution that are at the forefront of technology. (TROTT, 2017).

Even in developed countries, where there has already been considerable attention to the creation of regulations connected to technological development, there are struggles with the legislation, prevailing rules, sometimes unfavourable to it. It is evident that the legislation process is not able to follow the same pace, required by society. As a result, the disruptive nature of their products and/or services leads to the business to go through grey areas between legality and illegality. In the face of this, the use of regulatory environment emerges an excellent option, providing advantages for both parts involved, in a sort of symbiotic relation, in which start-ups would be able to test their business concepts, products and/or services in an experimental environment, with the possibility of having flexibility in the same legislation within a given period of time; and the State, will be able to exert its role as a fiscal, supervising and orientating the businesses from a closer perspective.

What would result in an important learning, orchestrated with all the support needed so as the State will be able to execute effectively its role as a controller, using the creation and/or adequation of regulatory and legislations in an amicable manner to new technologies. Moreover, this type of approach allows a straightforward recognition of causes that could offer risks to the citizens/consumers, or to the system which the business is integrated.

The United Kingdom since the year of 2016, through the FCA- Financial Conduct Authority-became the first of many countries to provide a programme of sandbox regulatory for businesses to develop their products and/or services with financial nature (DELLOITE, 2018). Experimental environments that have been used by start-ups to the development of innovation. As it is shown in chart 1, presented by the official report provided by FCA, in its first year of program activity oriented to innovation in financial systems. (FCA, 2017).

Chart 1 - Companies which participate in sandbox, according to capacity/size



Source: Official Report from FCA, 2017

Following this perspective Brazil also presented a program of sandbox regulation for the fintech's- through the Central Bank of Brazil, of Security and Commission (CVM) and of Private Insurance Supervision (SUSEP).

There are many countries which pursuit to create a favourable environment for development of new technologies, research and innovation. Following the Innovation Law (Law n° 10.973/2014) and the Legal Framework of Science, Technology and Innovation (Law n° 13.243/2016)- regulated by Decree n° 8.293/2018-, and now the beginner Legal Framework of Start-ups and Innovative Entrepreneurship (MLSEI –Complementary Law n° 182/2021).

Furthermore, the MLSEI is a legislative instrument with important potential of contribution for improvement of the business environment of this country, especially for innovative entrepreneurship, Including the principle system for the creation of a regulatory experimental environment (regulatory sandbox) of great scope without restrictions in any area of start-ups action.

The current paper intends to present the advantages of experimental regulatory environments to the previous analysis of inclusion in the market of innovative disruption, in a way to bring legal security for both the companies, which develop new technologies-particularly start-ups, the State and the final consumer.

Material and Methods

In order to achieve the results of this research, qualitative-quantitative and exploratory techniques was chosen to carry out a systematic review about Regulatory Sandbox in Brazil, in the last 5 (five) years, of programmes of Regulatory Sandbox, specially in the United Kingdom; a brief analysis of MLSEI-Complementary Law N° 182/2021 and Law of Innovation and their alterations.

One of the stages of the systematic review of papers, dissertations and theses published in Brazil in the last 5 (five) years, was executed using CAPES Journal portal Brazilian Digital Library of theses (BDTD) and Online Scientific Electronic Library (CIELO), searching for key-words: regulatory sandbox, and it was not presented any result. Thus, the research was restricted to analyse the following documents: A journey through the FCA regulatory sandbox –the benefits, challenges, and next steps. DELOITTE. 2018, MLSEI – Complementary Law N° 182/2021, Law n° 10.973/2004, Law n° 13.243/2016 e Decree n° 9.283/2018, besides the 11 (eleven) international papers that debate about regulatory sandbox.

Discussion and Results

Since the advent of the first programme of regulatory sandbox, many countries have been using that type of approach, which is beyond the legislative barrier, it is being one of the greatest obstacles found by companies which develop innovation. The majority needs dynamic legislation which provides feedback, fundamental characteristics to an amicable regulation and innovation. (BROMBERG; GODWIN; RAMSAY; 2017). However, each place has its own reality (political, economic, social, legislative), and not

every country has understood that the use of those environments is worthy.

Even China, where there is already a legislative reality similar to sandbox, with a dynamic legislation, with possibilities of adjustment regarding innovation (HUA; HUANG; 2021)- because for regulators is given a certain level of discretion- it has also developed programmes of experimental environments. Notwithstanding, other countries such as Germany, Luxembourg, France grant a certain level of leniency for business that develop innovation to the financial market, allowing them in the same phases, to act outside the law. (ZETZSCHE; BUCKLEY; ARNER; 2017).

There are an enormous variety of benefits delighted by the companies which participate in such programmes of regulatory environment. From the most obvious as the own possibility of testing and experimenting their business concepts supervised and orientated by the regulatory system controller; until those not so clear, as the increase of credibility and reputation to consumers, that are used to recognize in these business a way of recognition received by the public administration. (DELLOITE, 2018).

In the perspective of investors, as it was verified by Jayoung James Goo e Joo-Yeun Heo (2020, p. 15), in a research about the effect of regulatory sandbox in investments venture capitals (VC) in fintechs, of course, there is a focus on start-up businesses, beginners in such programmes. According to the study, the adoption of those programmes is being important to the growth in risk investment (VC) in start-ups that develop innovation targetting the financial market. The investors understand that programmes of regulatory sandbox play an important role to settle the uncertainties of regulation.

Among all the benefits, it is highlighted the possibility of the business to be able to develop their own (products and/or services) with same legal flexibilities, even if for an established time. Period in which it could improve its business, adjusting to laws, regional and national rules. Besides this, without application of penalties in case the rules are applied. Equally, facing one of the main difficulties found by start-ups, the possibility of developing its products and/or services, without paying any amount regarding the license of the register or licenses to the realisation of the activity.

As a rule, the flexibilities are limited to the regional legislation, those in charge of regulate and supervise the administrative system. The legal regime is imposed to the state administration; these systems could not overpass the limits of their duties. Albeit, there is not any impediment of partnership formation between the systems and agencies of different administrative perspectives and competence to formulate the program. The Brazilian legislation, for instance, using the MLSEI allows expressively this kind of collaboration caption of the art. 11º e § 1º.

It was also verified that the citizens are the ones who can benefit, because they gain the right protected by the state, using limitations and protection provided by the program, they can make use directly of the products and/or innovative services, as well as the improvement of the former ones. (FENG; LIU; LI; 2021).

Nonetheless, one of main advantages brought by the program is the regulatory dimension. It is notorious that the regulation and legislative processes cannot follow the same pace demanded by the society development (FENG; LIU; LI; 2021).

Despite being one of the main benefits brought by the program is the regulatory dimension. It is clear that the rules and legislative processes cannot follow the same pace that is demanded by the society (RINGE; RUOF; 2020). Between the existence of the fact and the perception of legislative adequacy about it, there

is a time gap. In the contempt of this, the State needs to make interfere positively, creating favourable environment for innovation and consequently the development of business with product, services and/or solutions for technological leadership.

Taking into consideration the study realized to gain some benefits result of the development of innovation about a program in an experimental regulatory environment, for both the companies and investors. It is not about an exhaustive 'list'. There is a variety of direct or indirect advantages, depending on each program and specific sector. There is a certain assurance to the parts involved in the experimental regulatory environment of a business of disruptive nature.

Being inserted in a program of regulatory sandbox allows that, at the end, the companies can decide their future, until stopping the development of their services and/or products. According to United Kingdom experience, in its final phase was verified that same companies understood that there was inconstancy in the concept of their business or divergent points regarding the market: other companies were incorporated by bigger ones; while others changed their business direction (DELLOITE, 2018).

The environments of disruptive innovation development allow that any system or institution from public administration, with competence of regularization and overseeing any sector, provide regulatory environments to institutions that promote innovative entrepreneurship, enabling sometimes companies to test, their business concept, new technologies, products and innovative services. Creating a truly amicable environment to innovation. Using the regulatory sandbox program, both sides company and State, go through a sort of symbiotic relation in which start-ups will be able to test their concepts of business, products and/or services in an experimental environment, with the possibility of gaining flexibility of some legislations for a period of time; and The State, will be able to carry out its role as a fiscal, overseeing and guiding participants from a closer view.

Likewise, it will allow the regulatory institution to follow the development of new technologies, at the same pace as its appearance. What results in important learning, instrumenting them with subsidy needed by them, so as they can execute effectively its role as a regulator using the creation and/or appropriateness regarding the regulation and amicable new technologies. What's more, this type of approach can provide recognition towards causes that could offer risk for people, or to the system the business belong itself. (FENG; LIU; LI; 2021).

Taking into account this research, it is understood that the experience acquired by the program of regulatory sandbox allows to accelerate the process of new technologies development, and also the perception about their own business, as well as to prevent that new companies not applicable, extend their activities more than necessary, avoiding waste of time and financial expenses.

Therefore, an option to regulatory sandbox will be able to reduce the losses, supported by the start-ups in development of new technologies, allowing the insertion in the market only of the viable products and/or services, as well as with major facility to the State, using the institutions and authority of the public administration with competence of sectorial regulation, that can improve its mechanisms and directly make use of their innovative products and/or services.

For that reason of being a new topic and with few practical experiences in Brazil, our systematic review about Regulatory Sandbox did not bring any result in national publication, which shows what the advent of Complementary Law nº 182/2021, will bring innovative applications regarding the experimental

regulatory environment for Brazilian start-ups.

Final Considerations

This study has as objective to analyse the use of regulatory environments as an experimental field for start-ups which develop their products a/or services using the experiences of regulatory sandbox in other places from Brazil and around the world, analysing the current juridical structure about the topic in our country. Perceiving the time incompatibility between the applicability of disruptive innovations and the necessity of alterations and improvements in legislations to a successful insertion of these new technologies in the market, we understood that this uncertainty not only does it happen in Brazil but also in other countries.

The adoption of open models of innovation, support the way of how it was assimilated and incorporated by companies, it must be studied by the State intending to help in the development of updated methodologies, incorporation of new ones and disruptive market technologies.

Regulatory environments show how novelty can bring a major level of juridical security for companies, State and consumers of disruptive innovations.

After the publication of MLSE-Complementary Law N°182/2021, can amplify the field of this research considering that they must do the first practical experiences that deserve being studied and investigated in a way to consolidate the regulatory sandbox as an option for the market of disruptive innovation developed by start-ups, they could balance the advantages and disadvantages of the program.

7. References

BRASIL. Lei n° 10.973, de 2 de dezembro de 2004. Diário Oficial da União, Brasília, DF, 2 de dezembro de 2004. Disponível em: http://www.planalto.gov.br/ccivil_03/_ato2004-2006/2004/lei/110.973.htm .Acesso em: 07 maio 2021.

BRASIL. Lei n° 13.243 de 11 de janeiro de 2016, Diário Oficial da União, Brasília, DF 11 de janeiro de 2016. Disponível em: http://www.planalto.gov.br/ccivil_03/_ato2015-2018/2016/lei/113243.htm. Acesso em 07 maio 2021.

BRASIL. Decreto n° 9.283, de 7 de fevereiro de 2018. Diário Oficial da União, Brasília, DF, 7 de fevereiro de 2018. Disponível em: [L13243 \(planalto.gov.br\)](http://www.planalto.gov.br/ccivil_03/_ato2016-2018/2018/decreto/2018009283.htm) . Acesso em: 18 de julho 2021

BRASIL, Lei Complementar n° 182 de 1° de junho de 2021. Diário Oficial da União, Brasília, DF, 1° de junho de 2021. Disponível em: [Lcp 182 \(planalto.gov.br\)](http://www.planalto.gov.br/ccivil_03/_ato2019-2021/2021/lei/20210182.htm). Acesso em 18 de julho de 2021.

BROMBERG, Lev; GODWIN, Andrew; RAMSAY, Ian. Fintech sandboxes: Achieving a balance between regulation and innovation. *Journal of Banking and finance Law and Practice*, v. 28, n. 4, p. 314–336, 2017.

DELLOITE. A journey through the FCA regulatory sandbox –the benefits, challenges, and next steps. 2018.

Energy Market Authority. Framework for a Regulatory Sandbox for the Energy Sector in Singapore. n. December, p. 1–23, 2019.

ETZKOWITZ, H.; ZHOU, C. Hélice Tríplice: inovação e empreendedorismo universidade-indústria-governo. Estudos Avançados, [S. l.], v. 31, n. 90, p. 23-48, 2017. Disponível em: <https://www.revistas.usp.br/eav/article/view/137883>. Acesso em: 6 ago. 2021.

FÁYKISS, Péter; PAPP, Dániel; SAJTOS, Péter; et al. Regulatory Tools to Encourage FinTech Innovations: The Innovation Hub and Regulatory Sandbox in International Practice. Hitelintézetiszemle, v. 2017, n. 2, p. 43–67, 2018.

FINANCIAL CONDUCT AUTHORITY. **Regulatory sandbox lessons learned report**. n. October, p. 21, 2017. Disponível em: <https://www.fca.org.uk/publication/corporate/our-mission-2017.pdf>&https://www.fca.org.uk/publications/research/regulatory-sandbox-lessons-learned-report>.

FEIGELSON, Bruno; LEITE, Luisa. Sandbox Experimentalismo no Direito Exponencial. São Paulo: Revista dos Tribunais, 2020.

FENG, Yongqin; LIU, Le; LI, Wenzhao. Research on Construction of Regulatory Sandbox for Safety Supervision on Intelligent Connected Products. E3S Web of Conferences, v. 235, 2021.

GIMENEZ, Ana Maria Nunes, BONACELLI, Maria Beatriz Machado, BAMBINI Marta Delpino, O novo marco legal de ciência, tecnologia e inovação no Brasil: desafios para a universidade, Desenvolvimento em Debate, v.6, n.2, p.99-119, Rio de Janeiro, 2018.

GOO, Jayoung James; HEO, JooYeun. The impact of the regulatory sandbox on the fintech industry, with a discussion on the relation between regulatory sandboxes and open innovation. Journal of Open Innovation: Technology, Market, and Complexity, v. 6, n. 2, 2020.

HUA, Xiuping; HUANG, Yiping. Understanding China's fintech sector: development, impacts and risks. The European Journal of Finance, v. 27, n. 4–5, p. 321–333, 2021. Disponível em: <https://doi.org/10.1080/1351847X.2020.1811131>>.

MAASS, Michael; SALES, Adam; CHUNG, Benjamin; et al. A systematic analysis of the science of sandboxing. PeerJ Computer Science, v. 2016, n. 1, p. 1–36, 2016.

PACHECO, Carlos Américo; BONACELLI, Maria Beatriz Machado; FOSS, Maria Carolina, Políticas de estímulo à demanda por inovação e o Marco Legal de CT&I. In: COUTINHO, D. R.; FOSS, M. C.; MOUALLEM, P. S. B. (Orgs.). Inovação no Brasil: avanços e desafios jurídicos e institucionais. São Paulo: Blucher, 2017.

POMPERMIER, Leandro, Marco legal das startups: um passo para a frente e dois para o lado, Zero Hora, Porto Alegre, 21 de junho de 2021, Caderno DOC. Disponível em: <http://tecnopuc.pucrs.br/marco-legal-das-startups-um-passo-para-a-frente-e-dois-para-o-lado>. Acesso em: 06 de agosto de 2021.

RINGE, Wolf Georg; RUOF, Christopher. Regulating fintech in the EU: The case for a guided sandbox. *European Journal of Risk Regulation*, v. 11, n. 3, p. 604–629, 2020.

SANTANA, José Ricardo, TEIXEIRA, André Luiz da Silva, RAPINI, Márcia Siqueira, ESPERIDIÃO, Fernanda, Financiamento público à inovação no Brasil: Contribuição para uma distribuição regional mais adequada, *Revista Planejamento e Políticas Públicas (PPP)*, nº 52, Rio de Janeiro, janeiro/junho 2019. Disponível em: <http://repositorio.ipea.gov.br/handle/11058/9766>. Acesso em: 06 de agosto de 2021.

Superintendencia de Industria y Comercio. Sandbox sobre privacidad desde el diseño y por defecto en proyectos de inteligencia artificial. Colômbia, 2020.

TROTT, Paul. *Innovation Management and New Product Development*. Harlow (UK): Pearson, v. 6, 2017.

VAN DER WAAL, Esther C.; DAS, Alexandra M.; VAN DER SCHOOR, Tineke. Participatory experimentation with energy law: Digging in a ‘regulatory sandbox’ for local energy initiatives in the Netherlands. *Energies*, v. 13, n. 2, p. 1–21, 2020. Disponível em: < <https://doi.org/10.3390/en13020458> >.

ZETZSCHE, Dirk A.; BUCKLEY, Ross P.; ARNER, Douglas W.; et al. Regulating a Revolution: From Regulatory Sandboxes to Smart Regulation.²³ *Fordham Journal of Corporate and Financial Law* 31-103 (2017), *European Banking Institute Working Paper Series 2017 - No. 11*, *University of Luxembourg Law Working Paper No. 006/2017*, *University of Hong Kong Faculty of Law Research Paper No. 2017/019*, *UNSW Law Research Paper No. 17-71*, *Center for Business and Corporate Law (CBC) Working Paper Series 001/2017*, Disponível em: <<https://ssrn.com/abstract=3018534>>ou<<http://dx.doi.org/10.2139/ssrn.3018534> >.