

# LAW'S ROLE IN IMPLEMENTATION OF INNOVATION POLICIES

## PAPEL DO DIREITO NA IMPLEMENTAÇÃO DE POLÍTICAS DE INOVAÇÃO

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*Law and innovation are generally seen as opposing concepts. Innovation requires speed in iterations so that an innovative product, service, or process can be obtained before others. Law, on the other hand, is inherently slow, based on laws. It requires the participation of the Legislative Branch in its creation, the Executive Branch for its implementation/supervision, and the Judiciary for the resolution of conflicts arising from the law created. In this context, the research aims to address the interface between Law and Innovation, seeking to answer the following questions: (a) What is innovation?; (b) Should the State act, directly or indirectly, in the innovation process?; (c) What is the relationship between law and innovation policies? It was concluded that a predominantly functional, rather than structural, understanding of Law should be adopted. Using the concepts created by Coutinho (2013), it was observed that the appropriate conception would be to analyze Law as a tool and as an institutional arrangement of public policies for science, technology, and innovation, using the senses of Law as an objective and as an instrument of social participation, as complementary.*

**Keywords:** Law. Innovation. Public policies. State intervention.

O Direito e a inovação, em regra, são vistos como conceitos antagônicos. A inovação exige rapidez nas iterações para que seja possível obter um produto, serviço ou processo inovador antes de terceiros. O Direito, por sua vez, baseado em leis, é, por natureza, lento. Exige a participação do Poder Legislativo na sua criação, do Poder Executivo para sua implantação/fiscalização e, do Poder Judiciário, para a solução de conflitos que decorram da lei criada. Nesse contexto, a pesquisa pretende abordar a interface entre o Direito e a Inovação, buscando, para tanto, responder os seguintes questionamentos: (a) O que é inovação?; (b) O Estado deve atuar, direta ou indiretamente, no processo de inovação?; (c) Qual é a relação entre o direito e as políticas de inovação? Concluiu-se que deve adotar uma compreensão predominantemente funcional, e não apenas estrutural, do Direito. Utilizando os conceitos criados por Coutinho (2013), observou-se que a concepção adequada seria analisar o Direito como uma ferramenta e como um arranjo institucional de políticas públicas de ciência, tecnologia e inovação, usando os sentidos do Direito como um objetivo e como um instrumento de participação social, como complementares.

**Palavras-chave:** Direito. Inovação. Políticas públicas. Intervenção estatal.

## **SUMMARY**

**1 INTRODUCTION; 2 INNOVATION AND STATE'S ROLE IN ITS PROCESS; 3 LAW AND INNOVATION POLICIES; 4 CONCLUSION; REFERENCES.**

### **1 INTRODUCTION**

Encouragement of innovation is fundamental to the economic and social development of a country. Innovation is not limited to radical disruptions such as the introduction of new smartphones or autonomous cars, but also includes moderate advancements, such as new modes of production for a particular product, new ways of serving customers, and the (re)configuration of bureaucratic procedures to accelerate them. Thus, innovation arises from the need to solve problems that citizens, whether entrepreneurs or not, encounter.

It is in this context that the State presents itself as a fundamental actor, by stimulating innovation through direct or indirect measures. It is not a matter of the state apparatus interfering with the "natural selection" of the market, but rather promoting means for companies that want to innovate and have the conditions to do so, to have incentives and support to bring their creations to the market.

Some might consider that the presented theme is important for the studies of Economics, Administration, and Public Policies, but not for Juridical Science, after all, as some entrepreneurs claim, "laws only serve to hinder business." This is a misconception. One of the central points for the development and evolution of research on this issue concerns the Law, specifically Economic Law and its relationship with Law and Development.

In almost all sales and service provisions, there is an incidence of taxes, applying tax legislation. Almost all legal relationships with product users are characterized as consumer relationships, applying consumer legislation. About most contracts with suppliers, civil legislation applies. In relation to their employees, labor legislation applies.

It is observed, therefore, that even if not done intentionally, Law is intrinsic to the daily life of the entrepreneur and also those who want to innovate.

This study aims to answer, from a legal perspective, the following questions: (a) What is innovation? (b) Should the state act in the innovation process? (c) What is the relationship between law and innovation policies?

### **2 INNOVATION AND STATE'S ROLE IN ITS PROCESS**

Humanity does not progress without innovation. Innovation and entrepreneurship are crucial to a nation's development and, consequently, its society. They enable a conducive environment for creativity, the treading of new paths, and, sustainable development.

Through globalization, innovation is becoming increasingly part of a citizen's daily life.

Even if innovation is not apparent, it exists in everyday life. It is common to confuse the concept of innovation with the concept of technological innovation. Technological

innovation is a part of the innovation class. While all technological innovation can be considered innovation, every innovation is not technological. In this sense, it seems appropriate to introduce the concept of "innovation" that will be used in the course of this article.

For Schumpeter (1934, p. 134), innovation is the creation of a new good that adequately satisfies existing or previous needs, so that, this way, it can create the new and destroy the obsolete, introduce new products, new production methods, the opening of new markets, the conquest of new sources of supply and the adoption of new forms of organization.

Freeman (1982, pp. 21-22) defined innovation as "technical design, manufacturing, management and commercial activities involved in the marketing of a new (or improved) product or the first commercial use of a new (or improved) processor equipment." Drucker (2002, p. 5), seeking to make the relationship between innovation and entrepreneurship, describes innovation as an entrepreneur's task, no matter if it is in an existing business, the government, or a startup, to create resources that build wealth and provide potential with existing resources to create more wealth.

The Organization for Economic Cooperation and Development (OECD), covering new concepts of innovation, defines the term as the implementation of goods and entirely new services and significant improvements to existing products; implementation of new organizational methods such as changes in business practices, workplace organization or external relations of the company; implementation of new marketing methods, including changes in product design and packaging, in promoting and product placement, and in establishing methods of prices of goods and services (OECD, 2004).

From the exposed concepts, the reciprocity between innovation and entrepreneurship can be noted. Entrepreneurship can be seen as the implementation of innovative ideas and bringing them to market. Innovation without market introduction is only an invention. An invention is the creation of something new, whether it is an idea, a concept, or an abstraction, through a creative process without a defined business purpose, while innovation is the making of this idea a reality by implementing it into something concrete. For this article, the definition used by the OECD will be adopted, given its global acceptance, relevant to the topic discussed here (HILPERT, 2002).

Innovation and entrepreneurship involve risks. There is no innovation, or entrepreneurship without risk. The risk is intrinsic to the search for the "new thing," which has not been created and developed by another person/company and which has not yet been implemented and tested in the market. The inventor can either fail, given technical errors, and the structural and physical possibility of its creation, or he/she can succeed by becoming a successful entrepreneur. It is this fine line between failure and success that entrepreneurship rests (STREIT, 2003). Knowing the risks and still taking them, given their higher purpose, is essential to the success of an innovation.

Not all countries have markets that incentivize the development and recognition of innovation. In the current business structure, entrepreneurial context and conditions influence the success or failure of an innovation. While in the United States entrepreneurs have incentives to invest in R&D, capital available to be raised, the existence of other entrepreneurs that are able to network and incubators that help mitigate these risks,

increasing the chances of success, there are countries, low-growth economies, such as Brazil, where small and medium enterprises (SMEs) do not have those same opportunities. In these, the entrepreneur does not have a satisfactory "reward" (in the sense of risk-reward), so he/she would have the incentive to invest in R&D and, in the end, offer innovative products to the consumer market. This happens because in most cases the risk of innovating becomes greater than the risk of noninnovating (SCOTCHMER, 2004).

In this context of market failures, the introduction of public policies of science, technology, and innovation gains relevance, thus provoking a question: Should the state intervene through public policies in the innovation process?

The answer is positive. The state should intervene in the innovation process to fix market failures, considering that the market alone cannot make this adjustment. For them, through a meso-level analysis, in which the structural and qualitative changes can be verified by the economic system, entrepreneurship, innovation, and knowledge should be analyzed closely at the micro-level, given the dynamic nature of this sector, which provides the breakdown of the development inhibitors and allows changing the status quo, by encouraging changes (HANUSCH, PYKA, 2005).

Not only do technological innovations influence the process innovation of a nation, but there are also outside influences that must be taken into consideration, such as the economic system at the macro-level and the public sector.

In the case of public policies on science, technology, and innovation, four market failures become relevant in this discussion: (a) externalities; (b) asymmetric information; (c) structural issues; (d) public interest in the leading of innovation. They are systematic flaws that besides inhibiting innovation and entrepreneurship also reduce the overall efficiency of the aforementioned policies (HOLTZ-EAKIN, 2000).

Innovation is a dynamic process. There is no "one size fits all" formula, for a particular company, university, or state, to create innovation without any risk. The same logic applies to innovation policy. There is no ideal model since innovation activities differ from rapid-growth countries to low-growth countries (TÖDTLING, TRIPPL, 2004). This process is influenced by several factors, some obvious, as the country's schooling rates or incentives and protection provided by laws to entrepreneurs' inventions, others not so clear, as the quality of science education level in primary schools or quantities of investment funds available to the entrepreneur (OECD, 2014).

Therefore, considering the diversity and ambiguity of dynamic innovation processes, states seek to address this issue through a multifrontal performance, through investments in sector-specific funds for each type of industry as well as the development of public policies for science, technology, and innovation to authorize the participation of several key players, taking into account the complexities and peculiarities of each system. Those key issues should be considered state policies, not government policies, that are transient depending on the elected official (CRUZ, 2010).

### 3 LAW AND INNOVATION POLICIES

Is law a variable in the innovation process? Is there a relationship between law and innovation? If so, how this happens? Thus it will be observed if there is a correlation, and then if there is causality. To answer these questions, first, we will examine the meaning and function of law in this discussion, both by Law and Development Studies, especially the ideas of Trubek and Santos (2006), and through four substrates presented by Coutinho (2013), namely (i) law as a goal; (ii) law as an institutional arrangement; (iii) law as a tool; and (iv) law as a demand articulator, in a democratic sense.

At first glance, the relationship between law and innovation policies is not so clear, especially considering that the use of the retrograde approach to the concept of law is not unusual. Through predominantly structural approaches, the meaning of the law as a body of laws and regulations (normative acts), as a static legal, formal, or procedural study is used. Therefore, the activity of "lawyers" and bureaucratic procedures that all innovators need to hire or overcome are seen, generally, as operational hurdles and lost costs about to the corporate goal. By this conservative perspective, law and, hence, its institutions, such as patents, and trademark registration, among others, are "more steps" that an entrepreneur must go through in the bureaucratic labyrinth (KINGSTON, 2012), as it could be producing goods and services instead. The law, using this concept, does not promote any change, serving only as a bureaucratic step in the innovation process.<sup>1</sup>

This predominantly structural approach, although accepted by the commonsense, needs to be overcome by the consolidation of public policies that are focused on the promotion of innovation processes. Law, in relation to the processes of development in its broadest sense, since the twentieth century, is no longer seen as an obstacle, but as an instrument that makes use of domestic laws to facilitate economic growth or as a base for the markets and a way to restrict state intervention (TRUBEK, 2012). According to Trubek (2012), the very idea that a legal system of a nation can affect social and economic changes can be traced to the eighteenth century.

In this context, it is important to highlight the approach that Law and Development studies show in relation to the function of the law and its main scholars, such as Trubek and Santos (2006), Tamanaha (2011), Davis and Trebilcock (2009), Coutinho (2013), Schapiro (2010), Dam (2006), Rodrik (2008), Kennedy (2006), Carothers (2006), Hausmann and Rodrik (2003) and Castro (2014).

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1. With this in mind, we can cite an interview snippet with Minister of US Supreme Court Justice Antonin Scalia, when asked about the quality of the lawyers who appear in court, the respondent stated that "Well, you know, two chiefs ago, Chief Justice Burger, used to complain about the low quality of counsel. I used to have just the opposite reaction. I used to be disappointed that so many of the best minds in the country were being devoted to this enterprise. I mean there'd be a, you know, a defense or public defender from Podunk, you know, and this woman is really brilliant, you know. Why isn't she out inventing the automobile or, you know, doing something productive for this society? I mean lawyers, after all, don't produce anything. They enable other people to produce and to go on with their lives efficiently and in an atmosphere of freedom" (SCALIA, 2009).

In this scope, law and development demands "organized efforts to transform legal systems in developing countries to foster economic, political and social development." (TRUBEK, 2012, p. 3). According to Trubek and Santos (2006), the concept and the function of law have undergone several changes since earlier studies in Law and Development.

Nowadays, neither the state nor the markets can, working alone, find the best way for development (optimal path). So Trubek suggests that the choices are made by using a strategy in which the two actors, through public-private partnerships, can find the best sectors to invest in. This partnership must be accomplished by adopting dynamic testing procedures. Taking this into consideration, the author suggests that law cannot be an instrument for state intervention and not just be a neutral framework for the market to decide, exclusively, whatever to produce. For Trubek, law "should seek to establish partnerships between public and private sectors and institutionalize a process of mutual search for innovative solutions and optimal developmental paths." (TRUBEK, 2012, p. 6).

It is in this context that it becomes relevant to discuss the new roles of law, especially by a functional approach, analyzing its correlation with innovation. To do so, we use the approach used by Coutinho (2013), which analyzes law through four substrates, namely, (i) law as a goal; (ii) law as an institutional arrangement; (iii) law as a tool; and (iv) law as a demand articulator, in a democratic sense.

After all, has the law had any effect on innovation? The answer is yes. The Law can have a bad effect as it can have a good effect on innovation. There is no neutral position. Law can either impose obstacles to inventors, such as in the creative moment of invention or the search for investment in R&D, or it can offer incentives, facilitating business creation, accelerating the processes required to bring their products to market, such as authorization of a regulatory agency, and providing a secure legal environment, conducive to the inventors and their investors.

The difficulty itself is not to evaluate the influence of law in the innovation process, but that is how this process occurs.

It is that innovation policies, considering their dynamic object, cannot be assessed the same way that a legal rule can be evaluated. In the evaluation of a rule, we use methods that show the distance between the researcher and the object of study, which sometimes use scarce and fragile methodological resources, for example, the text of the law, without a systematic view, demonstrating a structural character (COUTINHO, 2013), so that the results are binary, either law is valid or not. In the evaluation of public policies, the approach should be functional, requiring the proximity of the researcher with its object, by assessing the practice/reality of the entities responsible to make these a reality. Therefore, public policies are evaluated, whether they are fulfilling their goals and the reasons they are being effective or not, by analyzing the whole context surrounding them.

In recent decades, law and public policy have become increasingly interconnected (DIDIE JR; FERNANDEZ, 2023). The legal norms are no longer limited to restricting and structuring the state, but they are also responsible for structuring programs and guidelines for future action of state bodies, through programmatic standards. An example is the 1988 Brazilian Constitution: in its article 21, IX, article 170, article 184, article 193, article 211,

§ 1, article 215, § 1, article 216, § 1, article 217, article 218, § 3, article 226, § 8 and article 227, §1, it is shown that objectives and results are intended by the constituent power, that is, the law, but how they are to become a reality is the role of public policy.

In this regard, it is noted that, according to Coutinho (2013), the purpose of public policies can be seen from at least two perspectives:

The first angle takes them as given, that is, as products of political choices for which the right or the lawyer have little or no interference. The aims and public policy goals would therefore be defined extralegally, in politics, being the legal framework to eminently instrumental function to accomplish them. Another view sees the law as himself, a defining source of own goals which serves as a means (Daintith 1987, 22). These two descriptions need not be seen as antagonistic or exclusive, as the law in regard to public policy can be seen as much as its constitutive element, and as with instrument, depending on the perspective and the chosen analysis criteria.

It is this connection between law and public policies that proves to be relevant to the classification presented by Coutinho (2013), which will be analyzed below.

First, the author, based on studies of Norbert Reich, cites that law can be seen as a goal of public policy. To see the law on this optical, he recognizes that legal rules can formalize goals and indicate the "arrival point" of public policies, as the Brazilian constitutional provisions, cited before, have done. The law thus would be understood "as a normative guideline (prescriptive) delimiting, although generally and without predetermining means, which should be pursued in terms of government action. It is, in that sense, a compass whose north are politically objective data, according to the limits of law." (COUTINHO, 2013, p. 19).

Thus, the law is shown in the context of public policies to present cogent traits and binding policy decisions on a program of action, turning into a "duty" of the state and no longer a "faculty."

Second, Coutinho also mentions that law can be seen as an institutional arrangement so that it would be a "component of an institutional arrangement to share responsibilities, may, for example, collaborate to avoid overlaps, gaps or rivalries and disputes in public policy." (COUTINHO, 2013, p. 19). The author, bringing the concern of Komesar (1994) on the inadequacy of purposive dimension shown on the law as a goal, suggests that states should not care only about **who decides** and the institutional objective that is decided, but also involve substantially the decision of **what is decided**, so that the legal rules would serve as "a map of public policy responsibilities and tasks" regulating procedures, structuring runs, as well as enabling the coordination between the actors involved in these policies. To Komesar (1994, p. 5), "the choice of socially relevant purpose may be required to determine the law and public policy, but it is far from enough. A 'bridge' is missing, often overlooked in the analysis, to assume that the outcome of a given right or public policy stems simply from socially relevant order of choice. This absence is the institutional choice".

Third, law, to Coutinho, can be seen as a public policy tool. In this light, it serves as "a category of analysis is to emphasize that the selection and formatting of the means to be

employed to pursue predefined goals is a legal job." For example, he cites the "induction mechanism design or reward for certain behaviors, the sanctions design, selecting the type of standard being used (more or less flexible, more or less stable, more or less generic)" which are examples of how law can be used as a tool for public policies to achieve their stated aims. In this context, the flexibility and revision of public policies would be possible, allowing experiments to be performed, respecting, of course, stability and legal certainty inherent in the legal system, enabling thus the "calibration and operational self-correcting these policies" (COUTINHO, 2013, p. 21).

Finally, law can be approached as a demand articulator, in a democratic sense. Law, for this purpose, intends to "provide (or deprive) the deliberative mechanisms policies, participation, consultation, collaboration and joint decision ensuring thereby that they are permeable to participation and not insulated in bureaucratic rings." (COUTINHO, 2013, p. 22).

In addition to allowing public scrutiny and their participation as stakeholders, ensuring the minimum requirement of democracy, also serves as a bond for the actors responsible for these policies and their oversight, so that law is "comparable to a kind of belt transmission in which agendas, gestated ideas and proposals circulating in the public sphere and jostle for space in technocratic circles." (COUTINHO, 2013, p. 22).

For this study, the law, using the meanings studied by Coutinho, is analyzed as a tool and as an institutional arrangement for public policies of science, technology, and innovation, using the senses of the law as a goal and as a social participation channel (demand articulator) as complementary. Hence the question, how do these concepts of law correlate with innovation policies?

The law, being seen as a tool, fits perfectly with the needs and peculiarities of encouraging innovation policies. First, it addresses the law as the formatting of instruments that are going to be employed in the pursuit of the predefined objectives by political spheres. In Brazil, for example, the political sector, especially the Ministry of Science, Technology and Innovation (MCTI), decides on which specific sectors the state should encourage innovation and the law enters in this context to demonstrate how the law, as a tool, can help make this strategic outcome can be achieved. A classic example of the aforementioned is the creation of mechanisms of induction or reward for certain behaviors, for example, we can cite the Good Law (Lei do Bem) which grants tax incentives to companies that conduct research and technological innovation development for public policies to achieve their stated aims.

It is important to note two features of this approach: flexibility and revisability of these policies. In the process of innovation, all dimensions of everyday life, whether historical-political, empirical or normative, whether economic or theoretical, get confused. An approach that in the period of its preparation gave the impression that it would be easy to apply and be effective can be proven difficult. In this context, it is possible, without major bureaucratic obstacles, to try new approaches, review public policy, correct it and allow self-correcting of these policies.

Law serves as an instrument to provide cogency for the proposals of policies of innovation, that is, linking policy decisions that, in Brazil, are fragile, to what was decided,

under penalty of the judiciary intervention in the administrative sphere, requiring its implementation. This formalization is crucial because it shows that the administrative level, responsible for carrying out these policies, does not have free discretion on this subject, since the law uses measures to ensure accountability on these policies, intervening in case the responsible does not comply without justification, as well as promote accountability.

However, this approach does not seem complete, considering that it leaves the role of institutions in a supporting role. So it is important to adopt the law as an institutional arrangement concept, as this approach allows for coordination and cooperation between the actors and institutions responsible for these policies, not only because they allow a link between them but also considering they admit a division of responsibilities for each institution. This meaning proves to be fundamental in the Brazilian context, given the large number of institutions responsible for science policy, technology, and innovation and little coordination between them.

Law, as highlighted by Coutinho (2013), is presented as a way to ensure an environment conducive to innovation developments. This influence occurs through (a) legal security: a guarantee that, if necessary, the entrepreneur can present a demand to an impartial judge who will decide swiftly, with a decision that will be, as far as possible, predictable in light of the current legislation and not modified at the mercy of political decisions; (b) intellectual property: the law provides safeguards to promote the activity of the inventor so that he/she has sufficient incentives to continue his/her activities. For example, it provides the possibility to deposit patents and trademarks registrations. Moreover, it is not limited to providing such means, but also provides effective jurisdictional instruments in case of violation of these rights, as in the case of injunctive relief; (c) investment security: ensures that investors know their rights and duties with the company and with the state; (d) tasks coordinator: the law, by using rules and principles of public law, provides the necessary framework for a joint coordination between entities responsible for these policies.

## 4 CONCLUSION

We conclude, by using Coutinho's (2013) typology, that the adequate concept is to see the law as a tool and as an institutional arrangement for public policies of science, technology, and innovation, using the senses of the law as a goal and as a social participation channel (demand articulator) as complementary.

With that, we saw that law affects innovation and how it happens, either through beneficial channels, such as a coordinator or articulator of demands from various entities, auxiliating with the correction and revision of public policies that are not working, or disadvantageous ways, such as imposing restrictions that affect how inova

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