

# An Evaluation of Innovation and Intellectual Property Policies in Brazil

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## ABSTRACT

This paper analyzes the innovation and intellectual property (IP) policies and legal framework in Brazil and their relevance for the development of the creative economy. We adopted a qualitative method of document analysis in examining the main aspects and problems of Brazilian public policies and legal framework for the development of the creative economy, innovation, and IP. We argue that, in the light of Brazilian economic difficulties, innovation can act as a catalyzer to develop creative industries. Improvements can happen as a consequence of adequate public policies concerning innovation and IP. Although Brazil has a specific innovation law, government agencies need better synergy in developing a stronger public administration system for innovation policies, instead of relying on only one institution (Brazilian National Institute of Industrial Property, INPI), which lacks adequate resources for handling all the nation's innovation policies. Brazil needs a robust management system for IP policies to meet the demands of a globalized world. The research also shows that Brazil faces many difficulties in innovation and IP policies because these policies contain norms focused on protection, but they are not respected due to the absence of enforcement mechanisms.

**Keywords:** Creative economy, Innovation, Intellectual property, Brazil, Policies

## 1. INTRODUCTION

One of the most relevant issues in the study of the creative economy is creativity. It is difficult to study creative economy without focusing on innovation and intellectual property. Yet, there are few studies of public policies related to the creative economy in developing countries, particularly in Brazil.

Understanding the context in which creativity is growing in the Brazilian market, and how public policies can affect the development of creative economy in Brazil, can lead to a better comprehension of the creative industries in developing countries in general, and in Brazil in particular. This study thus focuses on the innovation and intellectual property (IP) policies for the creative economy in Brazil.

The sectors related to the creative economy in Brazil employ 810,000 people in more than 240,000 companies, with revenues of R\$110 billion (US\$34 billion) per year, equivalent to 2.7% of Brazilian GDP (Leitão, 2015). Despite its strength in generating income, the industry suffers from problems such as excessive informality, which creates obstacles to the development of players and the market itself. The creative economy in Brazil still lacks key initiatives such as the creation of credit lines, the assistance to enterprises, the promotion of a new education system for creative industry-related skills, the construction of legal frameworks that regulate these sectors, and the development of the necessary infrastructure for production, circulation, and consumption of creative goods and services (Leitão, 2013, pp. 46-47).

Brazil is Latin America's biggest economy, despite its current economic situation, with a high interest rate (13.75% per year), high unemployment (11.9% of the economically active population, more than 12.1 million people) and a high infla-

tion rate (7.18%) (SuaPesquisa, 2016). But some sectors are still growing, such as information services, electronic commerce, recycling, creative jewelry, and beauty services (Sobrinho, 2015; Globo, 2016), which shows that businesses in creative industries are not shrinking, unlike traditional sectors. Industrial production, for example, dropped 8.3% year on year in 2015.

When a country faces a crisis, in its search to boost economic recovery, innovation is necessary. Creative activities are essential to industrial transformation and recovery, because creative industries can create opportunities through innovation (Li, 2013). Since Brazil is recovering from a huge recession, the creative economy may be seen as a way to bring greater prosperity to the working population. However, it will need an adequate policy environment to generate better working conditions for all, especially professionals.

This paper analyzes innovation and intellectual property (IP) policies and legal framework in Brazil and evaluates the circumstances under which the creative economy can evolve. We begin this paper presenting the concepts of innovation and intellectual property. After that, the relationship between these concepts and the creative economy in Brazil is presented. Current public policies are evaluated to determine how intellectual property and innovation can stimulate the development of a sustainable creative economy.

## 2. INNOVATION AND CREATIVE INDUSTRIES

Innovation is a renewal process which may occur in any organization (Bessant, Lamming, Noke, & Philips, 2005). It can also be understood as something new and practical to be put into use (Hautamäki, 2010), or a means to develop new creative content (Benghozi & Salvador, 2013). Strictly speaking, we can understand innovation in various ways and from different definitions, but with the same foundation.

According to Thompson (1965, p. 2), innovation is the generation, acceptance, and implementation of new ideas, processes, products or services. Innovation thus implies the ability to change or to adapt. It can be defined as the effective introduction and implementation of processes and novel products in an organization or society, aimed at benefiting the respective unit of adoption and its stakeholders, as well as the individuals and society in general (West & Anderson, 1996). Another definition for innovation is that it is “primarily seen as an activity in which breakthroughs are made in the technology sector and can be protected and commercialized” (De Bont, 2015, p. 55)

Innovations can be categorized by products, services, processes or techniques, while the resources employed to drive or impel innovations can be identified with respect to technology, ideas, inventions, creativity and market. This type of analysis is interesting for developments in strategy and planning and can provide a framework capable of facilitating comparison of different innovation processes in distinct organizations in order to build knowledge (Baregheh, Rowley, & Sambrook, 2009). The innovation process is perceived as increasingly necessary to the institutions in modern times, since innovation and transformation are no longer seen as options or alternatives for companies, but as imperative for the survival of organizations (Stephen, 2014).

Innovation is strongly related to change. In an innovative environment both professionals and organizations face new challenges. Changes in the creative environment require responses from actors such as consumers, producers, and regulators. The innovation process can be understood as a means of changing a legal structure of a company or even a society, and may arise as a response to potential or actual changes in the external environment. Thus, it is possible to define innovation broadly, covering new products and services, new technologies, new organizational

structures, and new management systems (Dam- anpour, 1996).

The specific relation between innovation and creative industries is based on the idea that culture and creativity are essential for the success of innovation. First, it is fundamental to say that a great part of innovations is “culture-oriented” or contain a strong cultural component (e.g. design). A user and demand led innovation perspective represents a major departure from a more traditional technology-based one, because, in creative industries, the consumer becomes a central actor. The consumer’s experience is based not only on the technological properties of the product, but also on its physical and symbolic properties as produced by creative professionals (Hautamäki, 2010). Since the product is a bearer of cultural meanings for the consumer, constant innovation is necessary to maintain consumer interest in the products.

In order to enhance the knowledge and innovation capacity of creative industries, it is necessary to strengthen cooperation among multiple actors and remove boundaries among sectors. Innovation activity is generally better developed in tolerant places which attract creative people and are open to new ideas, such as creative cities (Florida, 2002). Innovation can flourish in places which support creativity and contain universities and research institutes that educate skilled professionals, organizations financing research and development, and capital investors and services which support companies. The generation of ideas and their commercialization can happen in places characterized by strong business cultures which value cooperative exchange and entrepreneurship. The “creative milieu” (Landry, 2000) thus contains a critical mass of entrepreneurs, intellectuals, artists, and policy-makers which interact to generate new ideas, products and services in social networks where ideas flow between people and institutions. The “creativity

culture” that brings innovation can be enhanced by art and creative sectors, which, in turn, can shape culture and influence the commercialization of the cultural output (Hautamäki, 2010).

### 3. INNOVATION, INTELLECTUAL PROPERTY AND CREATIVE INDUSTRIES

Intellectual property (IP) is defined as intangible items created for the first time, that become valuable in tangible form, as with ideas, inventions, technology, art, music, and literature. Usually, intellectual property is understood as the commercial application of an imaginative or creative thinking that seeks to resolve an issue or a technical, artistic or creative challenge. The classic forms of intellectual property are patents, copyrights, and trademarks (Idris, 2002). Intellectual property is relevant in the context of the development of Brazilian creative industries, because those industries focus substantially on creating and exploiting intellectual property products, such as music, film, and software. As innovation in creative industries is a collective process with multiple heterogeneous professionals with distinct objectives and needs, these actors need to combine different types of IP rights, which can generate conflicts. The infringement of IP in creative sectors is a challenge, since copying is easy and cheap in the digital era (Innovation Policy Platform, 2016).

Intellectual property has thus gained importance for issues such as content distribution, software copies for personal use, and piracy of materials in general. IP powerfully impacts the creative industries, since there is an inseparable relationship between intellectual property and creative inputs (Carvalho, Lopes, & Zambon, 2014, p. 172). Therefore, to be able to assess the situation properly and offer possible solutions or create rules of conduct, the relationship between intellectual property and creative economy should be recognized. Innovation and

intellectual property are also tightly linked. This relationship is of strategic importance for the occurrence of innovation, particularly technological innovation, since the ability to innovate can increase the perceived value of products (Araújo, Barbosa, Queiroga, & Alves, 2010).

IP does not necessarily refer to the product itself, but to the idea behind it, or how it is expressed, or to the distinctive way it is named and described. Jungmann (2010, p. 21) states that the right to intellectual property is not a right to the objects and their copies, but to the information or knowledge reflected in these objects and copies. Idris (2002) identifies eight different types of intellectual property, some also recognized by Hanson and Gomes (2007) in Latin America, more specifically in Brazil. They are listed below:

- (1) Literary, artistic and scientific works. They are subject to copyright laws, as in the case of books and journals.
- (2) Performances of artists, phonograms and broadcasts. They are subject to laws relating to copyright and other information relevant to them, such as concerts and shows.
- (3) Inventions in all fields of human activity. They are governed by the existing industrial property laws. Some examples refer to the creation of new vehicles, computers and telephones.
- (4) Scientific discoveries. Their relationship with laws is similar to the previous item.
- (5) Industrial drawings and projects. They are subordinated to industrial property legislation or, possibly, to specific legislation. For example, electronic appliances and furniture design.
- (6) Commercial names, brands and trademarks. This is the case of logos and names related to certain geographical regions – as with Champagne, Cognac, Roquefort and others. They are ruled by industrial property laws or other specific regulations.

- (7) Protection against unfair competition. Also included in Brazilian industrial property law, unfair competition involves both the imitation of a product and misleading claims concerning competitors aiming to disorient the perception of customers.
- (8) All other rights resulting from intellectual activity in the industrial, scientific, literary and artistic fields.

Another way to examine the issue of IP in Brazil is the approach of INPI<sup>1</sup> and SENAI<sup>2</sup>, which invokes the benefits of the IP system through the "virtuous cycle of the intellectual property system". It springs from the Paris Conference (CUP) of 1883, which defined rules for granting patents. The scheme embraces a system that contributes to the welfare of human beings and facilitate their access to various inventions and creations, as well as to the appreciation of the knowledge and culture available.

According to the "virtuous cycle of the intellectual property system", when someone creates

something innovative or improves something through creativity, the result is better quality of life for society, resulting in greater recognition and economic return to the creator. This economic return will help new innovative products to emerge, and the cycle occurs again (Jungmann, 2010).

Regarding Brazilian IP policies, this model is related to a better relationship between creators and society, something which is not well developed at present. An effective policy framework should broaden access to capital from conventional and unconventional sources, create wealth, and reduce taxation on creative endeavors, resulting in better economic return. It should also facilitate access to creative content, simplify innovation; and ensure reasonable intellectual property rights for innovation, fostering culture (Venturelli, 2000) and better quality of life.

Following this approach, the term "intellectual property" in Brazil has three subdivisions (Figure 1): copyright, industrial property, and the

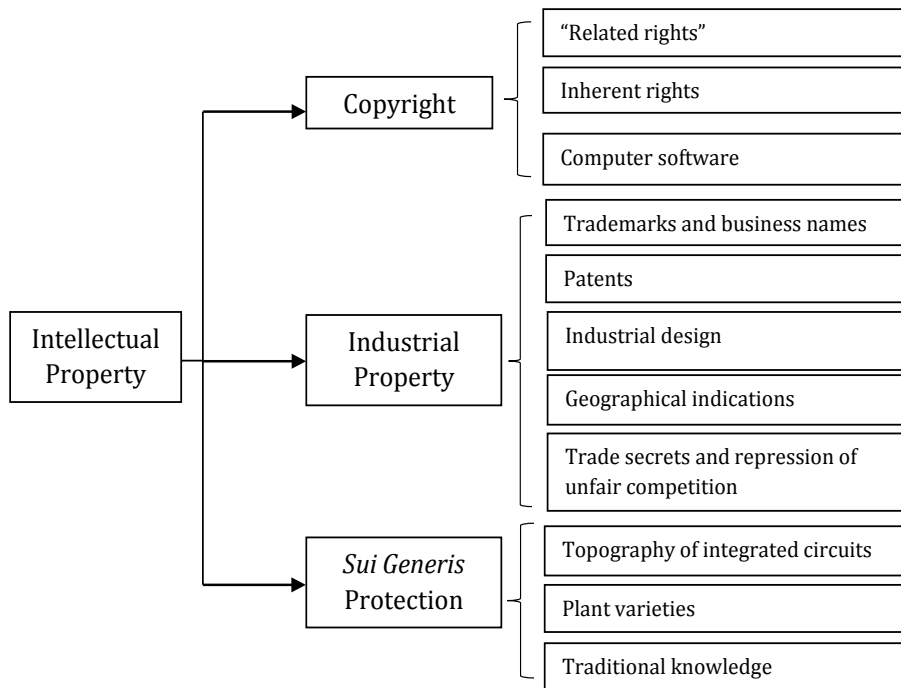


Figure 1. Modalities of intellectual property rights in Brazil  
Source: Jungmann, 2010

<sup>1</sup> INPI or *Instituto nacional da propriedade industrial* is the Brazilian National Institute of Industrial Property, a federal agency linked to the Ministry of Industry, Foreign Trade and Services. INPI is responsible for guaranteeing intellectual property rights to the industry.

<sup>2</sup> SENAI or *Serviço Nacional de Aprendizagem Industrial* is the National Industrial Apprenticeship Service, a non-profit entity created to provide professional education, technology and innovation services. It is linked to a representative trade union body of Brazilian industrial patronage.

*Sui Generis* Protection (a form of legal protection that exists outside typical legal ones to protect something that is unique or different and which required substantial investment).

Copyright includes the inherent rights to authors of literary, artistic, scientific and other scientific discoveries and “related rights”, rights that cover phonograms, interpretations/performances of artists (performers), and broadcasts, and computer software. Industrial property encompasses various items, such as patents; trademarks, names and business names, industrial designs, geographical indications, trade secrets, and repression of unfair competition. Finally, *Sui Generis* protection, arising from recent unpublished or intellectual creations, protects assets including traditional knowledge, the protection of plant varieties, and the topography of integrated circuits (Jungmann, 2010).

In Brazil, INPI is the responsible for any and all procedures for requesting, granting and negotiating industrial property in the national territory. The institute bases its actions on a legal framework, especially on the specific laws for software (Law 9609/98, which protects software made abroad, provided that the country of origin also protects the Brazilian software), plant varieties (Law 9456/97, which grants a certificate of plant protection, for 15 years, assuring the [new] plant holder the right to produce it in Brazilian territory), copyright (Law 9610/98, which states that anyone interested in economically exploiting a protected work must obtain from the author specific authorization. It also defines 70 years as the duration of the author’s rights), and industrial property (Law 9279/96, which considers IP a property, such as a vehicle or a telephone). Law 9279/96 defines the difference between inventions, defined as something created by a human being, when manipulating nature or interfering with it, to solve a specific problem, whose trademark lasts for 20 years, and utility models, which

result from improvements in existing products, whose trademark lasts for 15 years.

Although there are rules to be followed and specific laws stating what is allowed and what is forbidden, the fact that INPI is the only body responsible for copyright and industrial property issues makes it difficult for the country to reach the level of creative economy development of countries such as Australia and United Kingdom. INPI does not have enough people to work on patent and copyright applications (INPI, 2014; Mútua, 2014), which causes delays, leading to legal uncertainties and added costs to the public and private sectors (INPI, 2014).

One should not understand the intellectual property system only as a protection to the creator of something. Such a system cooperates in order to regulate, organize, disseminate, and use the information relating to innovation aimed at its application in industry and market. This potentially increases profitability, a reason to justify the protection of innovation through patents and laws on intellectual property (Jungmann, 2010).

Most countries attach great importance to a protection system for intellectual property rights. Assessing the factors responsible for the appreciation of the importance of intellectual property, Matias-Pereira (2011a) cites the following: political visibility, taking into account the importance of intellectual property to sovereign nations; and the determination that intangible assets have supplanted the ordinary estimate of material assets. According to Matias-Pereira (2011a), the intangible assets of an industry hold greater value than the total of the material components, driving rapid development of patent registration systems around the world.

Products or works of creative economy sometimes are presented in intangible, unique and unusual forms, which add value, in the perception of

consumers. In order to ensure protection to this value, products developed in the creative environment must be provided with rights of domain, which protect them from copies, plagiarism, or misappropriation (Carvalho et al., 2014).

In Brazil, the situation with INPI shows the necessity of adequate management of industrial property systems and copyright and “related rights” as vital to encourage investment in research and development. This management favors collaboration in technological scope, among different companies and between such companies and research institutions. It also provides domestic firms access to the intellectual property system, a fact that enables them to produce, acquire, and market technology and other intellectual property assets, achieving better placement and participation in the global economy. Moreover, efficient management is a catalyst for the transit of mandatory information and knowledge for the development of companies and organizations (Matias-Pereira, 2011b).

#### 4. METHODOLOGY

Taking Brazil as the geographical unit of analysis, the study used a qualitative approach of document analysis as developed by Glenn Bowen (2009), which requires that data provided by documents be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge.

The sample consists of documents produced by Brazilian government institutions, such as the Ministry of Culture and INPI, related to creative economy and intellectual property. Document analysis is adequate in this case because allows access to background information and wide coverage of data, helping to contextualize a research within its field (Bowen, 2009).

The documents researched include Brazilian laws on IP and innovation, papers written by ex-

perts in IP issues, guides and reports produced by national associations, INPI bulletins, and the INPI agenda. The period evaluated comprises the years from 1996 to 2016, although some laws were instituted between 1996 and 2005. After reading the laws, public documents released by institutions whose responsibility is to deal with inventions, trademarks and other issues related to IP were obtained. The main institution, INPI, periodically releases bulletins, in which it is possible to find news and quantitative analysis on the reality of IP in Brazil. Further, the INPI agenda was obtained to identify planned outcomes and to understand the main concerns of the institute. Since all these data are official, we can trust they are valid for the purposes of this research, to identify the legal and political framework to deal with these issues in the country and analyse the advantages and limitations of this framework. We also conducted bibliographic research to gather data about theoretical and conceptual aspects of intellectual property and innovation.

The study was conducted in the following procedure: (1) Bibliographical research, (2) Thematic analysis, (3) Data collection, (4) Data evaluation, (5) Pertinent information definition, (6) Data interpretation according to document analysis, (7) Information analysis (related to IP and innovation), (8) Discussion of findings.

The bibliographical research was done prior to the document research, analysing themes considered relevant and evaluating their content. After that, we performed the document analysis, according to Bowen (2009), i.e. entailing a first-pass document review, in which meaningful passages of text or other data were identified, separating the pertinent and non-pertinent information. In this case, pertinent information was defined as information related to IP, innovation, laws, resources, and institutions in Brazil related to intellectual property concerns. We focused on the

INPI agenda, and the Brazilian laws, executing an initial examination, reading the selected material (thorough examination), and interpreting it, in light of the Brazilian context. We then discussed the findings and identify improvements.

A qualitative method was adopted to deepen the existing knowledge in this field. All information collected was analyzed in light of the most recent understandings of the subject and in view of national context. Having obtained the relevant data concerning the topics of interest, we analyzed it, discerning what was related to IP and what refers to innovation and exploring the common aspects between them. Comments about the environment in which INPI acts were evaluated in order to determine whether improvements were needed. The main considerations are set out in the next sections, aiming to understand the dynamics of Brazilian public policies related to these themes.

## 5. CREATIVE ECONOMY, INNOVATION, AND IP IN BRAZIL

Creative economy is a concept that has been built based on creative assets which potentially generate growth and development. It encompasses economic, cultural and social aspects, also interacting with purposes in the fields of technology, tourism and intellectual property (UNCTAD, 2010). It is also considered as an alternative to a viable development, which requires innovative and multidisciplinary policy rewards.

The growing importance of knowledge, recognized in virtually all current fields of study, and the spread of modern technologies that value information proved to be effective means of dissemination of cultural activities, which had their costs decreased in the present scenario. This, according to Carvalho et al. (2014), should have favored the emergence of creative economy without any formal planning in Brazil.

Indeed, in Brazil an entrepreneurial culture is beginning to spread in cities such as Rio de Janeiro and Florianópolis, where the creative economy is developing faster than in other regions. Such regions are propitious to the emergence of creativity-based businesses thanks to the support of universities and companies that invest in creative ideas, mainly in incubators and startups. This increases the concern for adequate intellectual property mechanisms.

Incubators can act as facilitators in certain projects in the same physical location. This could help drive further development of the creative economy. The 1980s marked the emergence, in Brazil, of the first public policies in support of technology parks and business incubators. Such policies had a heterogeneous nature, being directed both at public and non-profit organizations, as well as at academic, hybrid, private, and other institutions. Incubators have a significant role in developing innovations, since most develop innovative products or services, and usually receive technical, managerial and/or financial support from a network of institutions constituted especially to create and accelerate the development of small businesses (ANPROTEC, 2005).

With the advent, in 1987, of the ANPROTEC<sup>3</sup>, there was greater representation of the interests of business incubators and technology parks, but also of other projects that could add innovation to the nation through the incubation process (Silva, 2009). According to Noronha, Santos, & Castro (2013), associations like ANPROTEC are able to articulate public policies relevant to the sector.

A specific law related to the subject is the Innovation Law (Law 10973, 2004), which deals with incentives for innovation and scientific and technological research in the production environment. This law indicates that the Union, the federal states, the municipalities, their development agencies and the public Scientific and Technological

<sup>3</sup> ANPROTEC or *Associação Nacional de Entidades Promotoras de Empreendimentos Inovadores* is the National Association of Advanced Technology Enterprises Promoting Entities. It is the association that represents the interests of incubators, technological parks and innovative ventures in Brazil. It promotes training activities, articulates public policies and generates knowledge.



Institutions (ICTs, in Portuguese) may transfer the use of properties for the installation and consolidation of environments that promote innovation directly to companies and ICTs interested, or through profitable entity or nonprofit organization whose mission is the management of technology parks, centers, and business incubators (Brazil, 2004, p. 2). There should, however, exist a counterpart, since the benefits granted must be repaid in some way to the government, which seeks the well-being of society. The Innovation Law thus favors solutions to problems that meet public interest objectives (Lewis, 2010), helping society to benefit from the promotion of innovation. In this case, the effort to stimulate innovation exists to help in the development of sustainable creative economy, generating welfare for society.

## 6. PUBLIC POLICIES FOR THE CREATIVE ECONOMY, INNOVATION, AND IP

Understanding public policies as a complex of government decisions that embody corrective or preventive actions to amend or maintain the observed reality (Ribeiro, Andrade, & Zambalde, 2005), it is possible to comprise the need for public policies focused on innovation and intellectual property, especially in the present age of frequent and accelerated technological advances.

Whereas creative economy is pertinent to various sectors, among them education, tourism, environment and entertainment, it requires an equilibrium and sectoral public policies to be consistent with each other, so that adjustments in a particular policy do not result in setbacks for the others (Reis, 2008). Thus, public policies should follow a constant harmony, in an integrated way and relying on joint actions carried out by different ministries (Santos-Duisenberg, 2008).

Public policies directed to creative economy should consider their own peculiarities, differentiating them from traditional economy. As stated

by Santos-Duisenberg (2008, p. 59), institutional mechanisms should be implemented, giving rise to technological, cultural, social and economic policies, all synchronized and supporting each other. This shows that, as the governmental entity wishes to perform some action efficiently, necessary synergy should occur among ministries (Santos-Duisenberg, 2008).

It is noteworthy that there is a clear gap related to some legal frameworks, including taxes, social security, labor and intellectual property, concerning the care of the various specific characteristics of Brazilian enterprises and creative professionals. Such legal frameworks would not be sufficient or appropriate to the demands of all sectors, and this would constitute an obstacle to their strengthening and growth (SEC, 2012). In the words of Hanson (2012), it is true that there is an actual policy for the creative industries. These policies, however, are a succession of mistakes and half solutions. Matias-Pereira (2006, p. 6) states that "Brazil still could not develop a public administration system of intellectual property management consistent with the requirements of the demands in a globalized world".

The Brazilian Secretariat of Creative Economy (SEC), in seeking cross-sectoral cooperation of various ministries to integrate actions and strengthen Brazilian creative economy, presented in its strategic planning a set of policies, guidelines and procedures. One of these refers to a "meeting with lawyers", whose objective was to "identify the main obstacles to tax, administrative, social security, labor and intellectual property rights that prevent the development and strengthening of creative industries" (SEC, 2012, p. 66). At this meeting, it would be possible to consolidate specific proposals for different areas of Brazilian creative economy.

Regarding the legal framework identified as "Intellectual Property" by SEC (2012), after the

shortcomings of the current legal framework ruling the creative sectors have been identified, the actions proposed for the adequacy of those give visibility to the study of FGV<sup>4</sup> on piracy in emerging countries. It recommends building and deploying a network that includes policy makers, and the dissemination of public policies of creative economy in universities, particularly in Law and Economics classes.

When comparing the public policies on intellectual property and innovation in Brazil with those of other countries, we can notice strong differences. The United Kingdom and Australia, which stand out for concern with the development of creative economy are good examples. Since 1994, the Australian government has discussed the renewal of its role in the national cultural development. The United Kingdom identified, in 1997, creative industries as a specific sector of the British economy, which led to the perception of the need for specific public policies that could encourage significant growth in this sector.

In Brazil, INPI has various functions of intellectual property, which relate, for example, to the granting of patents and focus on economic, legal, social and technical issues. The Institute is the only body responsible for the registration of technological innovation patents nationwide (Matias-Pereira, 2006). Another assignment of the Institute relates to inventions and creation of products related to industrial property, focused primarily on avoiding unfair competition and on safeguarding inventions, trademarks, and industrial designs, these being protected by a certificate (the certificate of addition of invention) and by industrial design and patent registration.

Brazil has implemented, in recent years, laws and policies aimed at encouraging the protection of intellectual property and innovation (Araújo et al., 2010). Among the laws passed, we can highlight the Innovation Law (Law 10973, of 2004,

mentioned above) and the so-called Law of Goods (Law 11196, of 2005, which grants tax incentives to companies that invest in research and development of technological innovation). In 2015, the provisional government measure suspended the benefits of Articles 19, 19a and 26 of the Law of Goods, which allow private enterprises and science/technology institutions, both non-profit, to exclude from their net income, when determining the actual income and the social contribution tax based on net income, the percentage spent on research and innovation. This measure is part of the economic package announced by the economic team of Brazilian Federal Government to minimize the budget deficit, estimated at R\$30.5 billion in 2016 (US\$9.4 billion) (ANPEI, 2015).

In 2007 the Action Plan for Science, Technology and Innovation was initiated. Its goal was to allow greater accuracy in jobs related to science, technology and innovation in sustainable development; in 2008 the Productive Development Program was created, which aimed to encourage the development of Brazil in various sectors, underlining innovation, competitiveness and entrepreneurship. Their results are not yet definitive, but apparently are an incentive for the development of industrial competitiveness and innovation.

## 7. DISCUSSION

Although Brazil is an emerging economy, it is possible to identify a lack of necessary requirements for the development of more robust creative industries, in part because of inefficient policies and institutional dysfunctions. The country does not have a culture focused on IP systems, probably derived from the lack of disciplines in undergraduate and postgraduate courses that deal with this theme (Pinheiro-Machado & Freitas, 2016).

In contemporary times, the creative economy is one of the most dynamic sets of productive activi-

<sup>4</sup> FGV or *Fundação Getulio Vargas* (Getulio Vargas Foundation) is a center of academic production focusing on business and counting on professors and researchers in many areas, such as Management, Economics, Social Sciences, Law, and Applied Mathematics.

ties in the world, justifying the requirement of special attention to IP, innovation and rules to govern them. Examining the documents produced by Brazilian institutions, it is clear that the intention of the Brazilian government is to promote development, but the lack of conditions to do so are visible when the political and legal framework for innovation and IP and the institutional obstacles are considered. In the public policies and rules there are specific procedures and norms intended to protect IP and innovation, but they are not respected because of the absence of enforcement mechanisms and the difficulty the legal framework has in dealing with new issues generated by the rapid development of the digital technologies. Since the INPI is the only body responsible for registering technological innovation patents nationwide, it should be more connected to certain institutions which work to improve IP and innovation policies in the country, but the lack of leadership in these institutions and ineffective channels of communication with other institutions in Brazilian government creates obstacles for a better interaction.

Another important issue is the lack of people working in INPI at present. According to the INPI priority agenda (INPI, 2014), there is a “critical situation” regarding human resources. The private sector appears to be more attractive to professionals because of the higher salaries. For example, in the last 10 years, only 62% of the jobs offered for patent examiners were occupied, and from 2009 to 2013, 35% of the patent examiners and 32% of trademark examiners resigned, or simply left their jobs at INPI. Although the total number of workers has grown from 570 in 2004 to 924 in 2016, this number is still far from meeting the institute’s needs (Pinheiro-Machado & Freitas, 2016).

The documents we examined, especially the INPI Bulletin (2016), show that there was a 43% increase in the amount of trademarks and patents required in Brazil from 2006 to 2015, but the amount created by Brazilians citizens and

corporations decreased (from 31% to 22%), while foreigners were responsible for 78% in 2015 (69% in 2006).

Currently (September 26, 2016), there are 238,526 patent applications awaiting examination in INPI, while the institute has only 193 examiners. Therefore, the average number of cases to be examined per examiner is around 1,236, which generates delays that can reach up to 11 years (Pinheiro-Machado & Freitas, 2016). This is an urgent matter demanding a solution for maintaining specialized and qualified staff.

In addition, it is important to support the use of protection systems of intellectual property, as well as the integration of policies related to it by bringing these discussions to Brazilian society in the media and in public forums. This would help generate more knowledge of the implications and consequences of institutional and legal failures on IP and innovation for the country and bring the contribution from different sectors of Brazilian organized society, including creative professionals, to build a stronger framework to deal with these issues.

Souza (2012) clarifies that intellectual property interferes positively in a sustainable creative economy and also in innovation. For this to occur, however, it is important to develop rules and standards based on a balance between access and protection by setting boundary points and free access. Such restrictions and protections, if exaggerated, would eventually limit the movement and enjoyment of cultural goods. The definition of this balance is possible not only by through government action, but also through the involvement of social groups. Thus, in Brazil there could be a stimulus to the progress of creative economy if the existing laws, especially Law 10973, and its expected counterpart, became strictly followed by all players, focusing on the development of creative economy in a sustainable way.

## 8. CONCLUSION

This research analyzed innovation and IP policies in Brazil to evaluate the circumstances under which a creative economy can evolve in the country. We found that creative economy can be a resource for more prosperity to Brazilian population, but for this to happen, suitable public policies and the use of innovation as a tool for progress must be implemented. Innovation, combined with intellectual property policies, can help the economy to develop and bring more investments to the country.

This paper presented the situation observed in Brazil and highlighted the difficulties and challenges in the IP and innovation public policies and legal framework. We performed a research focused on Brazilian laws and documents from INPI and other important institutions, analyzing the issues needing improvement and those appearing adequate. It is clear that improvements can occur as a consequence of public policies concerning innovation and IP. However, better synergy among government agencies is necessary to help develop a reliable public administration system focused on innovation policies. The country requires a vigorous management system for IP to meet its needs.

It is worth emphasizing that creativity is not limited to the creative industries, but is relevant to sustainability and sectors of the economy that seek long-lasting development. For example, one of the most common objectives of public policies related to the creative economy is the stimulation of cultural diversity, with regard to the coexistence of different cultures. Cultural diversity can boost innovation through the exchange of ideas and thoughts.

For future studies based on the topics developed herein, we recommend (1) exploring the public policies of other BRIC nations, and (2) proposing new means to explore innovation in countries

going through a serious crisis, aiming to develop their creative economy as a tool against the crisis effects.

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