NOVA IPSI Booklet 2024

INNOVATION

INTELLECTUAL PROPERTY AND SUSTAINABLE INNOVATION

CEDIS

CENTRO DE I&D SOBRE DIREITO E SOCIEDADE

The Booklet was graphically designed by Onda Grafe and printed in 2024 by Onda Grafe.

We would like to thank CEDIS (R&D Centre on Law and Society) and NOVA School of Law for their support and cooperation.

Design and Printing:

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Who we are

Launched in September 2022, NOVA IPSI is the Knowledge Centre on Intellectual Property and Sustainable Innovation at the NOVA School of Law in Lisbon. Currently, we are a group of 16 legal researchers, coming from different countries and backgrounds, with a common passion for IP law and sustainability.

In a world seeking to improve itself, we gathered to study and research the legal meanings, evolution, and impacts of IP across societies. We are particularly interested in regulatory aspects of innovation and creativity, access to information and education, virtuous industrial practices and incentive mechanisms to respond to the diverse needs in our communities.

Our current research work focuses on:

- **IP and Sustainable Production rules**
- **IP and Sustainable Uses rules**
- **IP and Sustainable Justice principles**

Feel encouraged to contact us for any further information about our activities:

- **NOVA IPSI Talks:** update sessions on researchers' work
- **NOVA IPSI Course:** annual specialized course on IP & Sustainability, open to everyone, online
- **NOVA IPSI Publications:** scientific publications and expert legal opinions
- **NOVA IPSI Events:** academic events meeting, sharing, and discussing with academics, stakeholders, anyone interested to think along and learn with us

Introduction

by Giulia Priora and Aline Arenque

After last year's Booklet which focused on the notion of Balance, in this second activity year of our Centre we tried to better understand the notion of **Innovation** in the IP & Sustainability debate.

Besides being part of our Centre's name, **Innovation** is a word that studs our daily vocabulary, even outside the academic realm. We noticed that the multifaceted nature of this concept also makes it possible to be solidly approached from all IP branches. Moreover, in the past decade, technological advancements have not only accelerated but also expanded, demonstrating that tech-driven **innovation** is an ever-growing field for academic research. We got also convinced by the usefulness of looking into the notion of **Innovation**, making some order and learning from it, as we witness ever more scattered, inflated, sometimes science-fictional uses of this word in the legal scholarship. Otherwise said, we got intrigued by the idea of debunking the myth that **innovation** is something "tech bro".

We have selected the articles you will find reviewed in this Booklet focusing on theoretical conceptualization of what **Innovation** is and means as well as on its concrete and real-life applications. We aimed at showing the diverse research interests we are cultivating at NOVA IPSI and the lens of "**innovation**" allowed us to find a common ground that valorised this diversity. The result is this Booklet, which compiles together various perspectives from various IP branches and life scenarios, from 3D printing to music distribution channels, from history to empirical studies up to AI. Some reviews turned out to be reflections on how **innovation** changed something inside IP law, others, instead, on how IP law needs **innovation** within itself as a legal discipline.

Drawing conclusions from such a choral effort (involving long-hours work sessions and lots of shared file versions!) is not easy. However, what we, personally, take away from this year's experience is that while IP often acts as a driving force for **Innovation**, **Innovation** itself should be seen as a trigger for reassessing and adjusting the legal structures related to IP. It has become increasingly evident that, to maintain relevance and effectiveness, IP law must evolve in response to the diverse and dynamic ways **innovation** is transforming various industries and societal norms in a sustainable way. Additionally, this year's booklet has reminded us of the importance of the human element and how technological advancements are reshaping our daily lives.

INNOVATION
and IP theory

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Aline Arenque on

"Intellectual Property and Innovation"

by Rosemarie H Ziedonis in Shane (ed) Handbook on Technology and Innovation Management (Wiley 2008)

In the chapter "Intellectual Property and **Innovation**," Rosemarie Ziedonis navigates through the intricate landscape of IP rights and their impact on **innovation**. Through an extensive analysis of nearly 600 articles across 19 scientific journals, Ziedonis dissects various dimensions of IP, shedding light on their multifaceted roles and challenges in contemporary **innovation** ecosystems.

The main observation made by Ziedonis in the chapter pertains to the increasing volume of literature on IP - a trend she attributes to factors such as enhanced accessibility to patent data, the growing economic relevance of intangible assets in businesses like startups broadly intended, and evolving IP legislation. In particular, Ziedonis underscores that scholars portray patents not as mere legal instruments but as indispensable data to delineate the trajectory of **innovation**. However, amidst the proliferation of this scholarly discourse, Ziedonis argues that there are distortions inherent to patent data, especially due to the fact that patent data are not uniform and may differ from industry sector to industry sector, budgetary constraints and, not to forget, unpatented inventions, since there are many reasons not to patent **innovation**s.

Another recurring motif in the analysed literature revolves around the dual nature of IP as both a strategic economic asset and a regulatory tool. For example, the author delineates how entities leverage IP not only for securing their legal rights over their **innovation**s but also as a pivotal component of their business strategies and technology management practices, especially in startups. In addition, Ziedonis highlights that several articles try to tackle how IP frameworks serve as policy mechanisms to incentivize **innovation**. Yet, the chapter poses a question that remains lingering: does the enforcement of IP rights truly influence **innovation**, or does it inadvertently repress creativity and hinder the diffusion of knowledge?

The empirical research provided by Ziedonis constitutes the cornerstone of the article, mapping scientific production in the IP field, particularly in patent, and posing a relevant question. However, the absence of a sound answer may leave some readers yearning for conclusions. Nevertheless, one could contend that the absence of a clear-cut solution in itself demonstrates the complexity surrounding the interplay between IP and **innovation**, incentivising scholars towards further research.

Further research specifically over the enigmatic nexus between IP and **innovation** is needed in the sense that, as Ziedonis stresses throughout her analysis, the articles found have their own methodological constraints and limited research scope.

Hande Özkayagan Prändl on

"The treatment of intellectual property rights in open innovation models: new business models for the energy transition"

by Catherine Banet in Rognstad/Ørstavik (eds) Intellectual Property and Sustainable Markets (Edward Elgar 2021)

In this chapter, Catherine Banet, Professor in Law at the University of Oslo, brings the readers' attention to models of open **innovation** (OI) applied specifically in the energy sector and examines the role of IP law in supporting such models. The selection of the energy sector as the focal point of the chapter is meaningful: the sector is currently in critical need of new technologies and forms of **innovation** to ensure a transition to clear, renewable and sustainable sources of energy.

Banet starts by examining the existing definitions of OI in literature, describing them as **innovation** models incorporating internal and external knowledge under a certain architecture. She differentiates OI models from closed ones, where the latter is based on bilateral collaboration usually with only a selected number of external partners, whereas the former favours collaboration with different external actors for **innovation**. The author later walks the readers through different OI models identified in literature, categorising OI as either in a structured or less structured form.

Banet later shifts the discussion to the realm of energy transition and its intersection with IP law. She first shares her observations on the energy sector and its long tradition of relying on collaboration for research and development with external partners through a wide array of legal instruments, such as memorandum of understandings, licensing and consortium agreements. However, these means for collaboration appear to be limited between a certain number of parties, and IP rights are mostly considered as tools of defence. Despite these traditional practices, Banet also detects a shift towards more structured and formalised OI models in the energy sector. Pursuantly, different OI models, such as incubators, patent pools, standard setting organisations and OI platforms, have become especially attractive to energy companies, and have already been endorsed by some, as well as by public authorities. The author refutes the common misconception with OIs that knowledge in such models are shared for free and without any IP rights attached to them. Rather, the preference of OI models, according to Banet, lies in the formalised, structured and strategic approach to IP rights treatment in such models. She characterises successful OI models as those operating within a clear legal framework, which aims to strike a right balance between exclusivity granted to IP rights holders through IP protection and openness granted to third parties, who wish to use the co-created knowledge. This, in return, enhances trust between parties and incentivizes collaboration and **innovation**.

With this viewpoint, the author detects three levels on which the formal, structured

and strategic legal treatment of and response to IP rights issues lead to the success of OI models: terms of use of the background IP brought into the OI process, the inventorship and ownership of the new knowledge co-created, and the exploitation of the co-owned IP. As the nature of OI models, consisting of a variety of collaborating parties, aggravates the challenges attached to the treatment of IP rights, Banet questions the appropriate legal response to address these challenges, exploring two possible avenues to this end: either harmonisation by law (legislation-based regime) or contractual arrangements (contract-based regime).

For the legislation-based regime as a possible response, Banet first clarifies what the harmonisation by law should pertain to. She identifies that the issue at hand does not concern the harmonisation of the IP rights themselves but rather their treatment in OI models. She not only recognizes the lack of regulation in international law instruments of co-ownership of or shared rights in IP rights. She also emphasises the issues arising from varying approaches across different national laws to ownership allocation as well as licensing and transfer of IP rights. This, according to Banet, presents further challenges on IP rights treatment in cases of cross-border collaboration. She also highlights the shortcomings of IP law in regulating all aspects of OI models due to their dynamic nature and exposure to new types of collaborations, especially as observed in the energy sector, which might deem general rules inadequate at addressing the specific needs of parties.

In response to this, Banet finds contractual arrangements in OI models to be supportive and beneficial in addressing the drawbacks of legislation-based regimes, which may lack flexibility and specificity. She asserts that contracts can provide more tailored solutions and respond to the needs of the parties in an OI model. Yet, despite their advantages, the author warns of the downsides attached to contract-based regimes, such as significant transaction costs in their negotiating, potential imbalances in their terms against the weaker parties and the lack of transparency and consistency on IP rights treatment across different agreements. Therefore, she suggests the standardisation of contracts in OI models, while also referring to the propositions in literature on attaching a more active role to IP institutions, such as the European Patent Office and the World Intellectual Property Office, to address these shortcomings.

By and large, this chapter importantly emphasises the growing importance of revisiting **innovation** strategies in the energy sector, and predicts the increase in the adoption of OI models of collaboration for **innovation** as a critical component of the new business models for energy transition. Banet rightfully reminds that collaboration for **innovation** and openness requires legal structure and organisation. Though the author's standpoint on potential solutions to the issues she detects in legislation-based regimes for IP rights treatment in OI models is not entirely clear, Banet presents the readers with useful detections on the aspects of IP rights treatment, which require a systematic approach in OI models. The thorough list she provides on current OI models and practices used in the energy sector can inspire the treatment of IP rights and reshaping of business models in other sectors, especially those that are critical for the realisation of different Sustainable Development Goals. Thus, her reiteration in the end of the role of a clear and balanced treatment of IP rights in attracting a diverse group of collaborators and investors, creating trust between parties, and encouraging further **innovation** is an important message that should be welcomed by all.

Amanda Costa Novaes on

"SDG 9: innovation, intellectual property and gender equity"

by Myra Tawfik and Marcia Valiante in Amani/Ncube/Rimmer (eds) The Elgar Companion to Intellectual Property and the Sustainable Development Goals (Edward Elgar 2024)

In their article, Professor in law Myra Tawfik and Professor Emeriti in Law Marcia Valiante from University of Windsor, evaluate whether the creation and protection of IP are essential for achieving Sustainable Development Goal (SDG) 9 of the United Nations. The authors emphasise that **innovation**, in the context of the SDGs, must be understood as inclusive and gender-equal to truly align with the broader objectives of sustainable development.

The authors start by examining the language of SDG 9, highlighting that IP is not explicitly mentioned. To them, this omission allows for creative solutions and new open collaborative models of **innovation**. The idea of IP in this context is influenced towards a balance between the incentive to innovate and public interest considerations, such as the sharing of knowledge. Thus, a maximalist approach to IP, which seeks to expand rights as broadly as possible, does not align well with the ultimate goals and intentions of SDG 9.

Using Canada as background, Tawfik and Valiante delve into the implications of gender equity within the framework of IP and **innovation**. They emphasise that the inclusion of women inventors and entrepreneurs is crucial for achieving the SDGs. The authors present studies showing that businesses led by women are generally more committed to green entrepreneurship and sustainability. This commitment highlights the intersection of gender equity with broader sustainability goals.

The authors also point out that IP indicators, such as the number of patent applications, are often used as measures of development and **innovation**. This is the approach followed by Canadian policies which align with the goals of SDG 9.

Despite these efforts, Tawfik and Valiante find no concrete evidence that Canada policies are sufficient to promote a balanced and inclusive IP system. They observe a conceptual divergence in these initiatives regarding the fundamental nature of IP, with many businesses treating their IP portfolios as assets and tradable commodities. The authors argue that achieving balance in IP involves more than merely setting limitations and exceptions; it requires practical measures that are linked to inclusion and gender equity.

Tawfik and Valiante highlight an overemphasis on successful patent applications in Science, Technology, Engineering, and Math fields as an indicator of **innovation**. This focus leads to biassed assumptions about who inventors are, typically excluding women, who are underrepresented in these disciplines.

The authors note that women consistently have fewer patent applications and higher rejection rates. There is also an exclusion in the indicators of other forms of IP that predominate in areas where women excel. The authors observe that the Canadian conventional solution to this problem has been to increase the participation of

women in the abovementioned scientific fields. However, more recent qualitative studies have identified other key barriers that women face, such as a lack of IP literacy, the absence of mentors and peer networks, and difficulties in obtaining financing funds for their ventures. Therefore, the authors highlight the critical intersection of IP, **innovation**, and gender inequality, revealing how current policies are inadequate in addressing the gender gap in this field.

Summarising, Tawfik and Valiante compellingly argue that supporting women as innovators and entrepreneurs is essential for achieving SDGs. They advocate for all nations and international organisations to develop and implement gender-specific IP policies to promote **innovation**. Additionally, they call for the establishment of appropriate indicators to effectively measure women's access to and success in businesses. These measures are crucial for promoting sustainable development and ensuring that the benefits of **innovation** are widely shared.

Aline Arenque on

"Defining and measuring innovation in all sectors of the economy"

by Fred Gault in Research Policy (2018) 47(3)

The article "Defining and measuring **innovation** in all sectors of the economy" is an extension of Gault's research through the field of **innovation** broadly intended. As the title anticipates, the author aims to achieve a general definition for **innovation** that can be applied throughout economic sectors to measure and understand how they can influence each other when it comes to innovative activities.

Gault starts the discussion by stating that, according to the OECD guidance document Oslo Manual, the current definition of **innovation** is the following: the implementation of a new or significantly improved process (which can be a service, a product, or a process in itself). The implementation (or, as the Oslo Manual calls it, "introduction") in the market is a mandatory requirement in order for this **innovation** to be considered as such. Gault argues, however, that this definition is currently aligned only with the non-financial and financial corporate sectors of the economy, but not with government and household sectors. Furthermore, the author argues that the definition of **innovation** should be applied within a system, or framework, which will delineate how actors of a certain sector can engage in activities, respecting a set of rules in their interactions. Among others, the author mentions IP as an example of a framework.

In light of the gap between the general definition and its applicability to all sectors of the economy, Gault advocates for a change in the definition of **innovation**. Instead of "introduction to the market", the definition should contain the expression "made available to user", which would allow it to be applicable to all the economic sectors and include all kinds of **innovation**.

Gault justifies the need for a change in order to create an international standard that would allow a consistent approach towards data collection. The main idea of the creation of this framework would not be a theory to justify or explain **innovation**, but to explain the innovative phenomenon, to find and to predict patterns, especially when it comes to policy development.

By doing this, policy makers would rely on **innovation** data in order to develop new policies. The use of the framework would produce evidence to analyse if a policy was successfully implemented, achieved its objectives but not only. It would also allow to measure the outcomes, accountability, and opportunity for policy learning.

It is quite interesting the selection of words made by the author for the general definition of **innovation**. If, on the one hand, he aimed to fit the definition of

innovation into all economic sectors, on the other, words such as "user" are often related to the digital economy, which is known for their innovative and disruptive nature, demonstrating the contemporary relevance of Gault's definition. Moreover, the "make available" expression can be also related to IP, more precisely to copyright law, as the making available to the public (in Gault's term, the users) is one of the exclusive rights copyright owners have by law.

Continuing in the field of IP, it is impossible to not draw a parallel with another review of this booklet. In "Intellectual Property and **Innovation**", Rosemarie Ziedonis grapples with the research question as to whether the enforcement of IP rights truly influences **innovation**. In her analysis, the use of a definition such as the one proposed by Gault could effectively provide Ziedonis with a benchmark for her empirical research.

INNOVATION and Geographical Indications

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Diana Pryshchepova on

"Geographical indications and innovation: What is the connection?"

by Anke Moerland in Drexl/Kamperman Sanders (eds) The Innovation Society and Intellectual Property (Edward Elgar 2019)

Anke Moerland in this article provides a comprehensive analysis of the connection between geographical indications (GIs) and **innovation**. By examining their economic, social, and regulatory dimensions, Moerland illustrates that GIs are not merely mechanisms for safeguarding regional products but also powerful drivers of **innovation**.

In fact, as Moerland reminds us, by ensuring that products maintain a high standard and distinctive characteristics tied to their geographical origins, GIs encourage producers to continuously improve their methods and processes. This drive for quality and differentiation spurs economic growth, rural development, and enhances the market value of GI products. The strongest impact GIs can have is for marketing new or improved, in any case innovative, origin-labelled products. This, Moerland explains, happens because the creation of a specialised market for a product will enable its producers to enter and possibly disrupt market dynamics.

Moerland helps us understand how, through GIs, it is also possible to see a great incentive for developing new products and improving already existing ones. The rural development rationale indicates that if a group of producers know that the GI label can lead to a premium price, they will have the motivation to investigate if a product has not been commercialised and may benefit from this.

However, the article also highlights potential problems of GIs, first among which the problem of management. The role of the State in managing and enforcing GIs was, at times, a complicated topic as their protection differs significantly across legal systems. Moerland highlights how, in countries like Vietnam and India, public authorities are at the forefront, while in others, like in the EU, collective associations of producers and processors are usually the ones that act as applicants and managing bodies. Confronted with this duality, Moerland affirms that the State should have a limited role in managing incentives related to GI protection. Producers should be responsible for improving GI-protected products and the State must merely ensure independent and impartial oversight to confirm that any improvements benefit all producers and genuinely enhance the product. In Moerland's opinion, for products not yet under GI protection or still in development, the State can play a more significant role, facilitating and supporting more proactively the registration process for new GIs.

On a different note, Moerland discusses a paradoxical question that has caught my interest about the nature of the product improvement. Usually, when improvements take place, they are caused by human intervention and not so often by natural circumstances. This creates a risk that the improved product rests less on its locational qualities, which arguably is the essence of affording GI protection to the product. Therefore, it is challenging to envision how the GI systems can incentivize **innovation** and improvements that might eventually disqualify the product from GI protection due to a weakened connection with the territory. Although Moerland admits that this argument holds some truth, she does not support this strict interpretation of locational qualities. She defends that changes in how humans work the land, among other resources, to obtain final marketable products are as much a part of the original territory as the characteristics of the soil and climate.

By and large, Moerland successfully demonstrates in this article that GIs work as a strong catalyst for **innovation**. She puts emphasis on the significant role of GIs in marketing, encouraging the introduction of new or improved products and fostering an environment conducive to **innovation**. Nevertheless, for these improvements to have practical results they have to be well-managed. That is why Moerland advocates for a balanced approach where the State facilitates the registration process and ensures impartial oversight, while producers lead the enhancement of GI-protected products.

INNOVATION
and Utility Models

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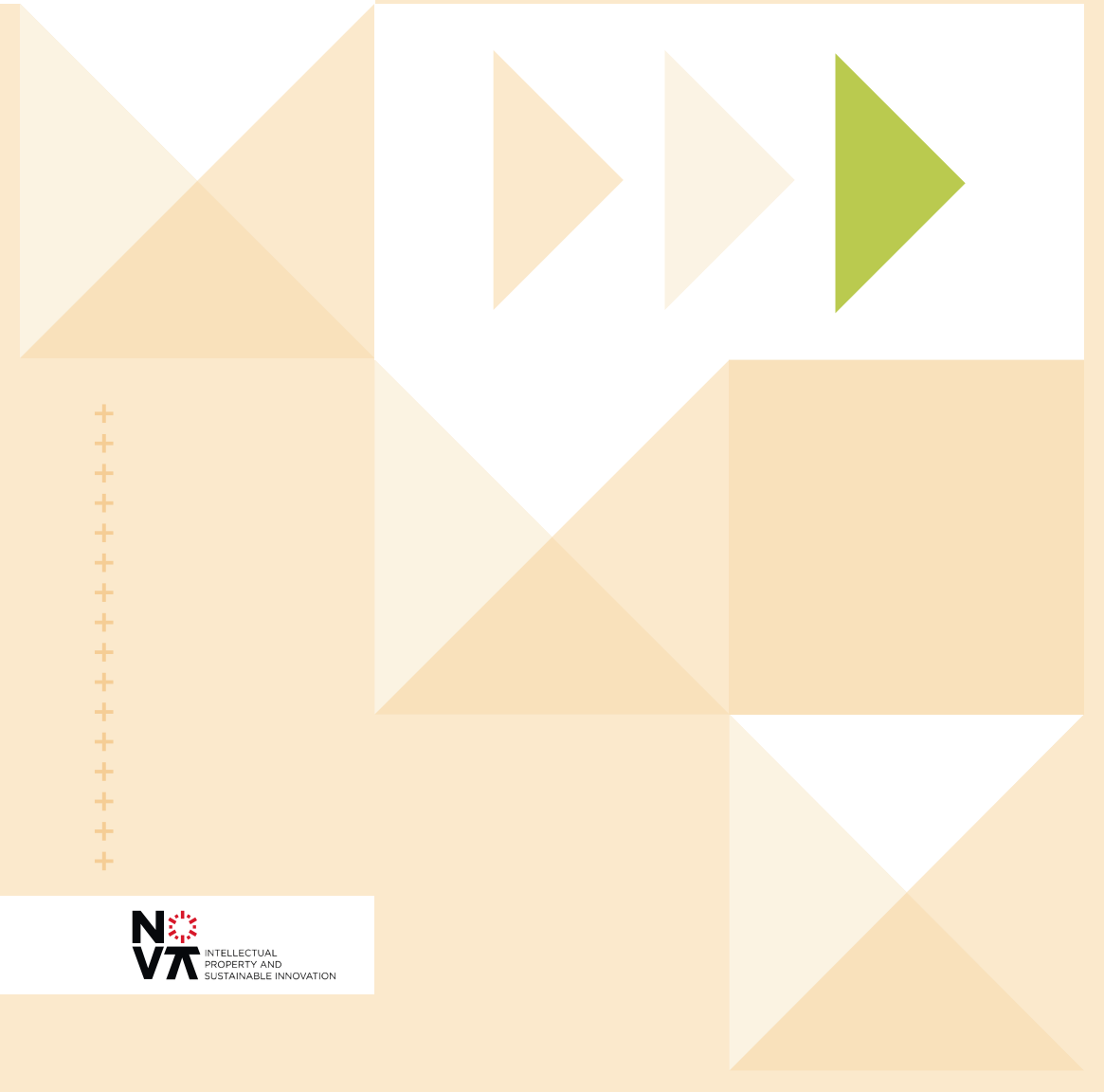

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Francisco Lobão Alonso on

"Utility Models: Do They Really Serve National Innovation Strategies?"

by Uma Suthersanen in Drexl/Kamperman Sanders (eds) The Innovation Society and Intellectual Property (Edward Elgar 2019)Intellectual Property (Edward Elgar 2019)

Uma Suthersanen's article brings forward a study on utility models, a sui generis IP right, and their suitability to be part of national **innovation** strategies. To understand whether utility models are tools that can effectively be implemented to incentivise **innovation** at a national level, the author goes through the legal characteristics of utility models, their underlying justifications, and some empirical data from national experiences, aiming to ascertain how effective these legal tools can be in promoting **innovation**.

Suthersanen reminds us that this sui generis right, known by different names and commonly referred to as utility models, is not the object of extensive international legislative approximation nor standardisation. Consequently, the subject matter, acquisition procedures and the scope of protection of these rights feature significant discrepancies across countries. Nevertheless, the author also highlights some cross-jurisdictional common characteristics, such as the need for registration to acquire utility model protection, the oftentimes lack of substantial examination process, and the centrality of the novelty requirement.

Within this frame, Suthersanen engages with the rationales that underlie the existence of this IP right, addressing primarily its raison d'être in overcoming the shortcomings of the patent system, mainly its high costs and long and thorough examination procedures. According to Suthersanen, this argument is not the most convincing to justify distorting the principles underlying patent law. The demanding patent criteria serve as the counterweight of granting a monopoly over an invention precisely due to its innovative contribution. Granting patent-like protection and forgetting this balance can have negative consequences, as highlighted by the author. Suthersanen stresses, in particular, that the lack of substantive examination leads, among others, to uncertainty for third parties, since the invention granted utility model protection no longer enjoys a presumption that it meets the thresholds to acquire a monopoly. In the same vein, Suthersanen warns against the consequence of inventions that would, under patent criteria, be part of the public domain, being fetched back in a private domain, due to the lower thresholds for protection of this sui generis right.

However, Suthersanen acknowledges that this second-tier legal protection could be beneficial for small and medium-sized enterprises, helping them recoup their investments. Not only, the author also

recognizes that the sui generis protection of utility models can be an important route to consider when designing an **innovation** ecosystem, depending on the characteristics of the national markets that seek to implement it.

The final justification advanced by Suthersanen relates to the utility models right being particularly appropriate for businesses in developing countries. The lower threshold for acquisition of such monopoly allows for the ownership of more inventions, particularly of incremental **innovation**s, which can be very present in developing countries since they usually lack a fully-fledged advanced infrastructure that supports novelty and **innovation** as strictly as the patent system demands it. Additionally, allowing for a recoup of investments, even though on a smaller scale, utility models can be a step towards graduating towards patentability.

Suthersanen's collection and analysis of empirical data specifically aims to understand if **innovation** ecosystems benefit from the existence of utility models protection. According to her, the interplay between patents and utility models proved key in Japan and China, where they were strategically implemented and seem to have positively impacted the national economies. Different results were achieved in Australia, where, after initial registrations, utility models were found not to be fulfilling their rationale, thus changes were introduced in the legal framework, which also did not manage to make the system live up to its expectations. By way of these case studies, Suthersanen demonstrates that, notwithstanding the continued attempt for successful implementation of this regime across the world, deficits persisted and that there is not an evident causality between **innovation** and the granting of protection through utility models.

Suthersanen highlights an IP tool that is not bound by an extensive international framework, and for that reason can be tailored to specific national markets and objectives. Harmonisation or transplantation attempts are likely to empty the possible usefulness of the system, precisely due to their success depending on national **innovation** market characteristics. The comparative empirical analysis precisely underlines and reinforces this.

INNOVATION
and Design

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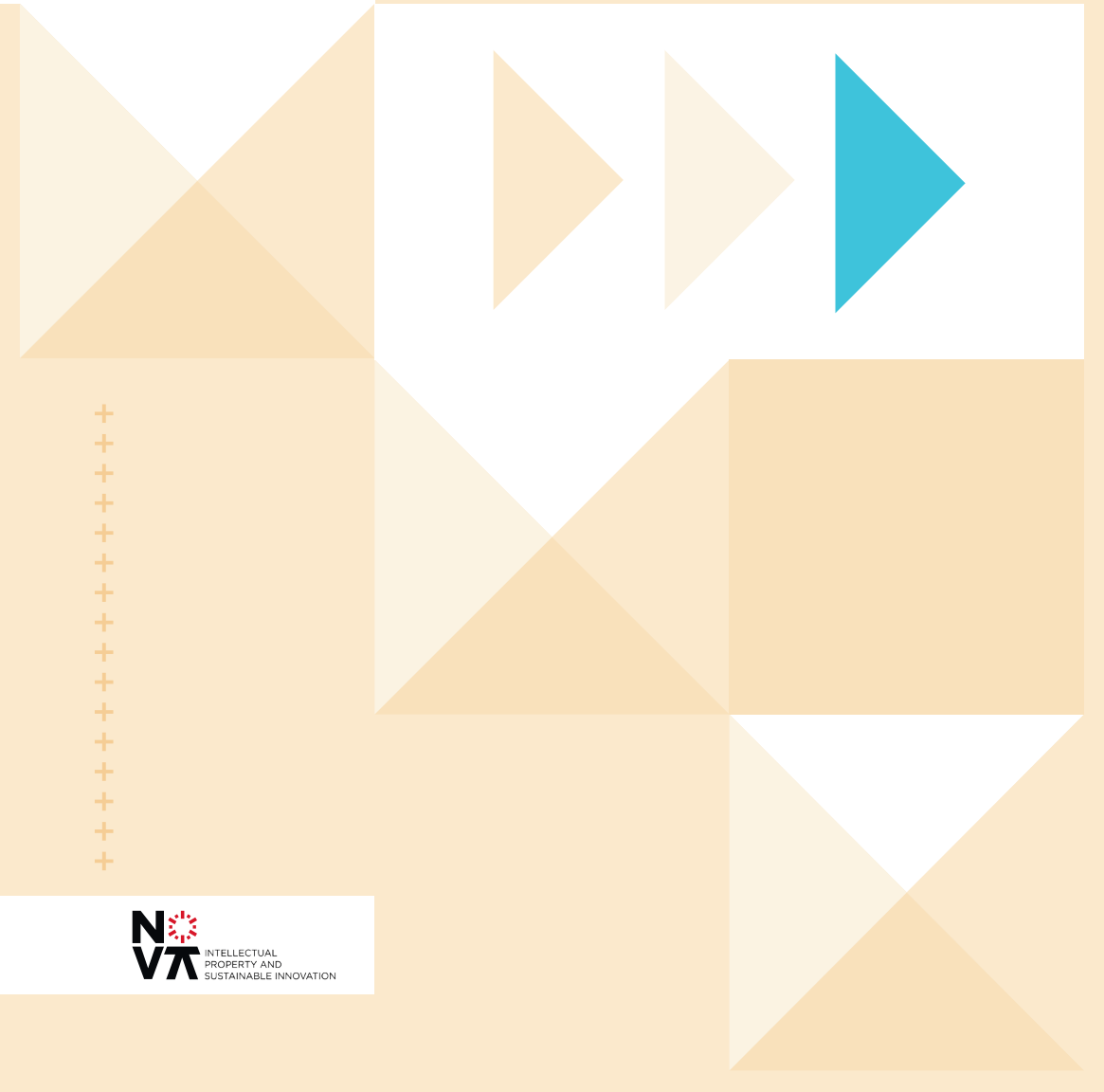

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Margarida Mingote on

"The Piracy Paradox: Innovation and Intellectual Property in Fashion Design"

by Karl Raustiala and Christopher Springman in Virginia Law Review (2006) 92

In this article, Karl Raustiala and Christopher Springman delve into the IP legal framework applied to the fashion industry. The focus lies in particular on beneficial outcomes that this industry faces in the consequence of a low level of IP protection in the US jurisdiction.

The authors start by pointing out the utilitarian "standard justification for IP rights", mentioning the necessity for protection of works produced in the several creative and innovative industries. This pattern, however, does not apply to the fashion industry, given that the low IP protection on fashion designs under the US law does not prevent copying to take place at a rather accelerated pace. For what one might think, the direct consequence of this would be the stifling of **innovation** for the lack of design protection granted, since the designers would stop having an incentive to create, innovate and invest in the industry. However, despite the rampant copying behaviours, the fashion industry keeps growing and expanding for, at least, six decades, in what Springman and Raustiala call the piracy paradox.

The authors also underscore that among what they call the "three core forms of IP Law" - patents, trademarks and copyright - very little inputs can be taken to be used as a tool for IP protection in the fashion industry when it comes to design law. In Raustiala and Springman's understanding, copyright protection is limited to non-functional design elements or when the expressive component is separable from its useful function. By its turn, trademarks are mostly used to prevent counterfeits by protecting the unique symbols, names, or logos of a brand. However, trademarks do not prevent the copying of the fashion design itself. As a result, even if the trademark is not directly infringed, similar or identical fashion designs can still be replicated by others. Lastly, patents also protect designs through the design patent figure, but there are two downsides: novelty and price. A design must be truly new in order to be eligible for protection under the design patent figure, and the application process is rather expensive and long and the rapid pace which characterises the fashion industry's production would not be matched to this panorama.

Nonetheless, Raustiala and Springman argue that this lack of protection is not particularly negative for the **innovation** in the industry but rather beneficial, since it opens the door for designs to gain popularity through copies. They explain this by illustrating the so-called "induces

obsolescence" phenomenon and the impact that trends have on specific market sectors.

The authors discuss some other reasons for which the benefits of copying might occur besides the "low IP-regime" and raise an interesting discussion around IP negative spaces in fashion, claiming that such cases occur when **innovation** is replaced by the presence of IP rights and leaving the door open for consideration of other legal scholars on "the variety of creative endeavours in IP law's absence". One of the examples presented is the copyright level of protection in the music industry, which is very high, in comparison to the one in fashion, which is very low, , bringing us once again the utilitarian argument which seems more suitable to the first rather than to the second. The reason for such analysis is that the three core IP branches above mentioned provide very little or even no protection at all to negative spaces in fashion, contrary to what happens in the music industry or other industries that rely on a very high level of IP protection in order to function.

In short, what was perceived as a negative consequence for the lack of IP protection in the legal framework is not understood so negatively by the authors, who see mostly positive impacts when it comes to **innovation** in the fashion industry, which keeps growing and expanding rapidly contrary to what is expected under the utilitarian argument perspective.

INNOVATION
and Trademarks

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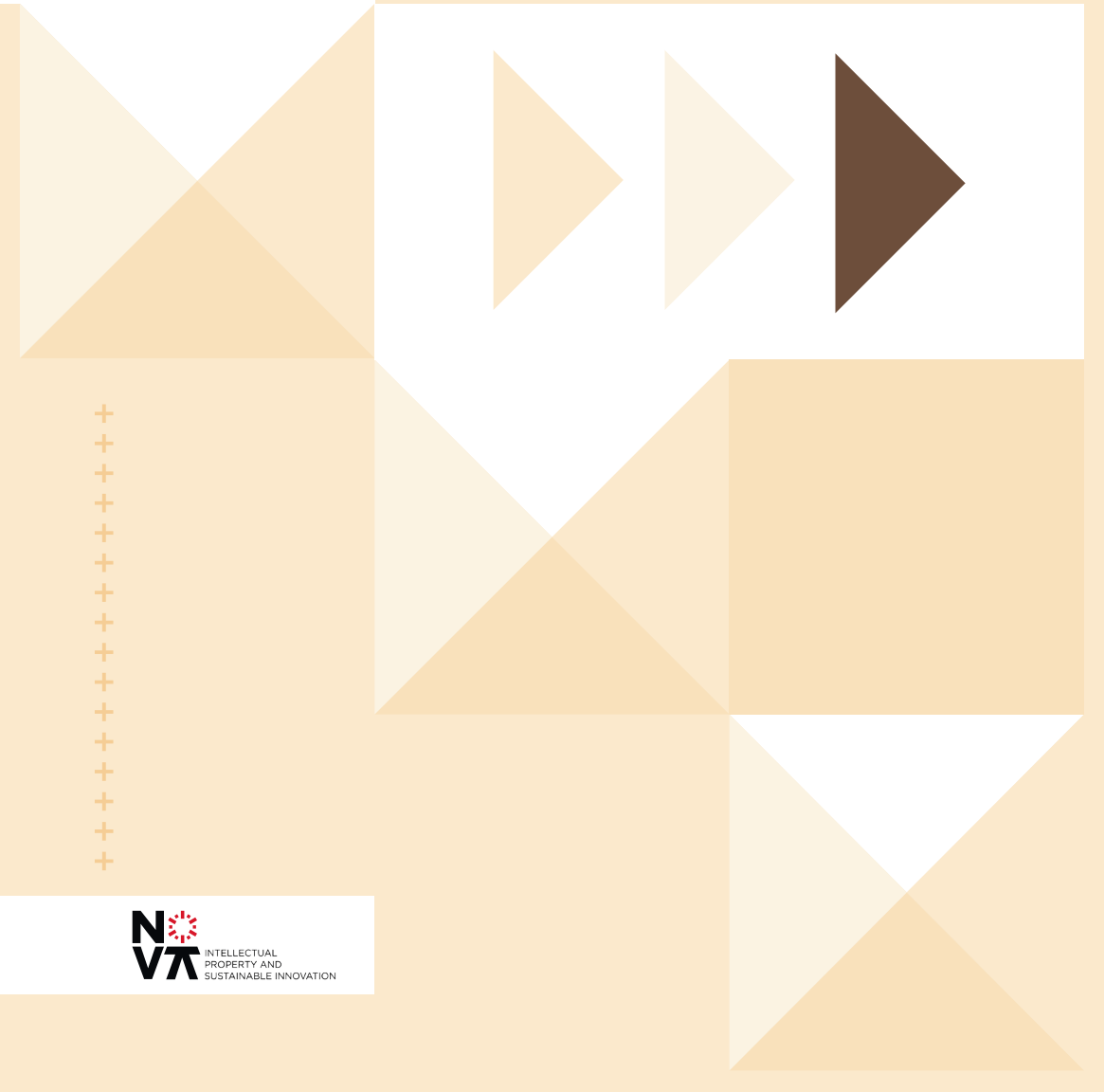

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Raquel Castro Cunha on

"Free-riding on the repute of trade marks - Does protection generate innovation?"

by Ansgar Ohly in Drexl/Kamperman Sanders (eds) The Innovation Society and Intellectual Property (Edward Elgar 2024)

In this chapter, Ansgar Ohly, IP scholar from Germany, analyses the impact of current trademark law on promoting and hindering **innovation**, with a particular focus on the effects of the expansion of trademark protection and grounds of infringement.

Promoting **innovation** has been identified as the primary purpose of IP law throughout international agreements and EU law. Ohly points out that, while the link to **innovation** is clear in patent and copyright law, it is less evident in trademark law. He explains that trademarks are different from other IP branches, not only because their creation might not be a creative process, as many trademarks derive from names, but also due to the lack of necessity to grant incentives to create new ones. In other words, there is no risk of underinvestment, unlike other IP fields.

Nonetheless, as Ohly points out, trademarks play an essential role in the market, by establishing a channel of communication between businesses and potential customers either serving as a signal of product origin or by transmitting information about the quality and prestige of the brand itself. In turn, trademark law protects consumers against confusion regarding origin and quality in the market, which could disincentive investments.

Ohly dives into the evolution of trademark law, highlighting that trademarks have become independent objects of property, with protection extending beyond the risk of market confusion to also include dilution. While Ohly agrees that the functions of trademarks are mainly of communication of the product origin, investment and advertising, he points out that the separation between them is not clear. This, in his view, challenges the legal foundation of the extended protection of well-known trademarks against dilution and misappropriation.

Following the concern above, Ohly defends that current trademark law causes obstacles to **innovation**. He discusses the importance of referential use for consumers' decision-making, considering it particularly important when it comes to innovative products, as a way of better understanding new technologies. He then argues that current legislation has the potential to hamper new business models on the internet, through the example of trademark use in keyword advertisement, essential to search engines. Ohly retraces the CJEU case law on this, recalling the problems trademark law generates regarding the

liability of platforms and Internet users for potential infringements.

This chapter raises quintessential questions in IP law: How much is too much protection? Are stricter rules better for **innovation**? When applying these questions to trademark law, there is an additional problem of its unique functions and configuration as an asset in the market that might be going against **innovation** goals. Throughout the chapter, Ohly repeatedly emphasises the need for stronger arguments and evidence to support legislative decisions, such as the expansion of trademark protection. He also sheds light on the need for clarity in the application of current rules pushing into the daring idea that **innovation** does not require stricter IP measures, but the opposite.

Francisco Lobão Alonso on

"Trade Marks and Innovation?"

by Dev S Gangjee in Dinwoodie/Janis (eds) Research Handbook on Trademark Law Reform (Edward Elgar, 2021)

In this chapter, Dev Ganjee questions the relationship between trademark law and **innovation** from two different perspectives. Firstly, by analysing the intrinsic logic of trademark law, and whether its functions directly contribute to incentivising **innovation**. Secondly, by considering whether it is possible to find **innovation** patterns in trademark law extrinsically to it, derived from how market players approach trademark registration.

Ganjee uses pharmaceuticals as a prime example of when trademarks can have an effect on **innovation**, mainly through extending control over a product, when the patent-attributed protection for such product has lapsed. Instead of becoming public domain, right holders create alternative IP barriers to continue to have exclusive rights over their pharmaceutical products. Undermining the lapse of patent protection through subverting trademark law is undesirable and both law and case law have established barriers intended to prevent overlaps with negative social, competitive and innovative impacts. These barriers prevent trademarks from subverting the term of protection intended for what is innovative, better characterising the relationship between trademarks and **innovation** as negative, rather than a positive one, in the sense of incentivising **innovation**. This display of trademarks' underlying rationale that differentiates it from other IP branches further distances trademarks from **innovation** in the patent or copyright sense. However recent empirical research and jurisprudence have prompted some questioning of this understanding. The second perspective of the analysis focuses on the arguments prompting this rethinking of trademarks' relationship with **innovation**.

The author seeks to examine to what extent trademarks could be understood as rewarding **innovation** and what information regarding **innovation** can we learn from the trademark registry. Ganjee starts by fleshing out the feedback cycle discourse, according to which the communication performed by trademarks is susceptible to specifically communicate **innovation**. This complementary nature of trademarks and branding in successfully marketing innovative products or services has already been recognised and, according to the author, should not justify arguments for reforming the trademark system but, instead, should prompt studies to understand the significance of the complementarity role in different sectors and in what instances can this complementarity trump the underlying logic of different IP branches.

Apart from this complementary role, trademark-related data, particularly filing patterns, may also provide insights. Ganjee lists three reasons that sustain how the registrations can convey meaningful

information: (i) the widespread use of trademarks in market sectors that are not patent-intensive, and for that reason do not allow an **innovation** mapping through the patent register, (ii) their ability to show territorial patterns and, (iii) that trademarks have a more accessible and accurate database. However, there are some obstacles in obtaining meaningful information from the databases and a more nuanced analysis of the motivations for registration is needed. The nuance, as stated by the author, stems from an understanding that trademark registration is not always motivated by **innovation** purposes and that a new sign does not necessarily feature any form of underlying **innovation**.

By constructing the feedback cycle as a route to **innovation** and that the appropriability granted through trademark law does not relate to **innovation** in the patent sense, the author does not conclude, however, that **innovation** in a trademark-specific meaning cannot find a home in trademark studies. The focus should be on its complementary rather than driving relation to **innovation**. A close and nuanced approach can reveal important patterns. Lastly, the **innovation** and trademark debate should not forget the consequences that over-enforcement, or an overly large scope of protection, can have on **innovation**.

Pedro Soares on

"The 'trade-mark-law-and-innovation' trap: why it would be wise to conceptualise innovation outside the realms of dilution protection"

by Luminita Olteanu in Journal of Intellectual Property Law & Practice (2002) 17(8)

Luminita Olteanu, Assistant Professor in Law at University of Warwick, delves into the problem of trademark dilution under the guise of **innovation** as a means to justify the existence and application of dilution norms within the European Union Trade Mark Regulation (EUTM Regulation) (Regulation (EU) 2017/1001, 14 June 2017 on the European Union trade mark). The author goes about this analysis by identifying the justification of trademark dilution, how it has been applied and on which grounds, and carefully analysing the varying concepts of **innovation** applied to the realm of trademark law.

While the justification for trademark law in general has remained mostly unchallenged – in the sense that trademarks are needed and beneficial for consumers, so that they can easily identify suppliers in the market – there is also an economic argument to be made, related to the reduction of search costs that ultimately benefits consumers. This theory can facilitate our understanding and justify current dilution norms: the mechanism by which the law allows the protection of well-known trademarks on the basis of avoiding free-riding, blurring and tarnishment of the existing mark. This is because it follows logically to the economic argument that a trademark with high value associated with it has additional incentives to maintain product quality and constantly innovate, by investing in the trademark/brand (the author points to the concept of trademark capital as a measure of a mark's worth).

Olteanu, however, challenges the idea that **innovation** is something that entities who own 'valuable' trademarks can do more easily. She also refutes the argument that these 'more valuable' trademarks are more worthy of the protection afforded by dilution norms. The article astutely points out that not all **innovation** is good, in the sense that it does not always translate into added benefits for consumers. Additionally, the ways and contexts in which the word **innovation** is used point to the need to more accurately define what constitutes desirable **innovation**, something that is not fully coherent with the purposes of trademark law..

In order to exemplify her point regarding the so-called 'dark side of innovative branding', Olteanu mentions trademark-related activities which have been detrimental to consumer autonomy and social welfare. One relevant case is that of digital marketing, where a brand innovates by using technology in a manipulative way, which is, according to the overly broad definitions, nonetheless 'innovative'.

Moreover, and beside the inaccurate and rushed use of the word **innovation**, even if we take into account the 'good' **innovation** (that is, practices that improve the quality of products or services for the betterment of consumers), empirical data presented by Olteanu not only clarifies the lack of causality between additional trademark protection and innovative practices, but also proves the opposite can be true, due to stifled competition and barriers to market entry.

Given the examples provided, the author argues that the value of a trademark (not to be confused with the value of a brand, as interestingly pointed out in Olteanu's criticism of the CJEU's interpretation of dilution norms), should not to be strictly associated with the promotion of **innovation**, as (i) the consequences of said **innovation** may not be desirable, (ii) protecting brands on the basis that they can innovate does not consider the actual **innovation** nor the consequent undermining of innovative efforts from others, and (iii) the way in which dilution norms are currently constructed does not seem to frame protection of **innovation** and investment as a valid teleological justification.

Olteanu also points out that dilution norms (namely Article 8(5) of the EUTM Regulation) are thought out in order to exceptionally protect an entity which has demonstrated significance in the market and also an elevated market share. In that sense, abiding by the general principle that the protection through dilution norms is exceptional, justifying their existence and application on the basis of **innovation** seems contrary to the very purpose of trademark law, as it reverses the logics of exceptionality and conflicts with the rules that ensure the market is still competitive and, for the most part, free to enter.

Olteanu's perspective on the "trademark law and **innovation** trap" is successful in providing nuance and addressing the evident need for a second thought regarding the justification of trademark dilution. In some instances, however, the author's analysis may be hindered by the lack of explanation regarding the relevance of what is being dissected. For example, when the author talks about the WIPO global **innovation** index it is not entirely clear how to assess trademark dilution. Nonetheless, the article is a valuable contribution to the ever-growing concern of how to foster truly innovative practices through appropriate interpretation and application of trademark law, on the basis of empirical evidence.

Raquel Castro Cunha on

"Finding Your Identity and Partner in a Trademark? Consumption, Innovation and the Law"

by Jessica C Lai and Janine L Williams in International Review of Intellectual Property and Competition Law (2022) 53

In this article, Jessica Lai and Janine Williams explore the interplay between trademarks, consumer identity, and **innovation**, challenging the traditional presumption that trademarks merely identify the origin of products.

The authors start by analysing the primary role of trademarks as a badge of origin, linking it to the economic value of a brand. Lai and Williams remind us that, by guaranteeing that products are reconducted to the company producing them, trademarks are associated with a certain standard of quality, which becomes part of the companies' value in the market, namely their equity. Moreover, trademarks are presented by Lai and Williams as a way to reduce informational asymmetry in what concerns the so-called credence qualities of the products. Certain trademarks, such as green marks, indicate characteristics of the products and services provided by brands, methods of production, and other attributes that are not easily distinguishable by the consumer.

The authors further expand on the idea of goodwill and its importance in the market. They explain that consumers attribute a symbolic value to trademarks, one that surpasses the real value of the product itself. An example that supports this statement is the purchasing of counterfeit products by aware customers, who do not prioritise the quality of the original goods, instead their decisions are motivated by what owning a certain brand represents. In light of the above, Lai and Williams state that consumers can buy trademarked products and brands to build, maintain and signal attributes that reflect their own identity, relationship to a certain social group, and ideal self-image. Thus, according to the authors, the branding strategy of companies, together with consumer behavioural patterns, and the social context surrounding them, create an emotional attachment between consumers and a trademark, similar to a business partnership.

According to the authors, trademarks are an essential part of **innovation** because they influence how investors decide on innovative products and services. Indeed, Lai and Williams link the relationship between consumers and trademarks to how brands decide to invest in **innovation**. To maintain a successful relationship

with consumers, brands must invest in innovative and/or improved products while retaining the brand identity associated with their trademarks. Therefore, companies often adopt a house-of-brands strategy, maintaining different trademarks for products that do not align with the narrative traditionally conveyed.

Two points raised in this article are particularly interesting. The first one is the emphasis put on the importance of an interdisciplinary approach, recognizing that trademark law alone is not enough to promote sustainable **innovation**. The authors claim there must be coordination with consumer protection laws and specific regulations governing marketing strategies. The second interesting aspect addressed by the article is the protection of well-known marks beyond their role as distinctive signs of origin. The authors consider this problematic as it ignores the crucial role consumers play in shaping the reputation of marks. Lai and Williams believe protecting the message behind a trademark distracts from their function as a badge of origin and it excessively limits the free use of signals by the public. Moreover, the authors argue that concerns should be raised about the incentives businesses have to create trademarks that convey a meaning unrelated to their products, that may merely appear to serve **innovation**. This situation could be used as a ground to have trademark registration invalidated or refused.

The article can be seen as a valid analysis of the communication ability of trademarks. The complexity of today's markets and the resulting branding strategies developed by companies have increased the value of trademarks and expanded their role. As defended in the article, this is highly linked to the consumers' perceptions of a brand, making it possible to talk about a real "relationship" between consumers and trademarks.

In my opinion, Lai and Williams provided a sharp insight into how trademarks influence investments in **innovation**. This should be the basis of our analysis regarding how to incentivise or disincentive the registration of trademarks with misleading meanings, and how to further promote sustainable **innovation** through the interaction of IP, consumer law and fair competition.

INNOVATION and Patents

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INTELLECTUAL PROPERTY AND SUSTAINABLE INNOVATION

Julia Schutz Veiga on

"Measuring knowledge spillovers: What patents, licenses and publications reveal about innovation diffusion"

by Andrew J Nelson in Research Policy (2009) 38

Andrew Nelson has conducted a highly interesting study using a dataset of patents and related licences to analyse the diffusion of **innovation**. Nelson focuses on how these complementary indicators can be applied to understand **innovation** within organisations and over time. As well as tracking the **innovation** diffusion from these two angles – organisational and temporal – his article also explores the limitations, omissions and biases of each indicator. Nelson brings also a specific focus on a type of DNA technology, which has been widely patented and licensed, in order to make it easier to understand what he means by knowledge spillover.

Nelson justifies the need for his research on the basis of the exponential growth of literature in economics, management and public policy on knowledge diffusion and spillovers. This literature raises questions about the effectiveness and validity of traditional ways to measure **innovation**, in particular patent citations. Nelson's extensive analysis shows how patent citations can under-represent or over-represent **innovation**. For example, follow-on **innovation**s often do not fully disclose the prior art. Taking this into account, Nelson suggests to introduce new indicators to measure **innovation**, such as patent licences and scientific publications.

While forming and relying on this new set of data, Nelson reaches several important findings. Among them, he demonstrates how direct patent citations are the most restrictive type of measurement of **innovation**, capturing the data from very few organisations In the specific case of DNA technologies, as shown by Nelson, both direct and two-step types of patent citations capture data related to many organisations that have actually not commercially developed any technological **innovation**. With regard to licences, Nelson reveals that they are more reliable for evaluating launched products, although they are limited to firms and business entities. This limitation reflects the strategy established by the owners of DNA technologies, but, especially in the case of other types of technological **innovation**, problematically excludes activities carried out by non-profit organisations. Lastly, regarding scientific publications as a viable channel to assess **innovation**, Nelson explains how these, despite being dominated by universities and other public entities, are particularly prone

to intellectual influences and variations from different expertise and hard to use as a holistic parameter of assessment.

In light of the systematic biases unearthed by Nelson across the various modalities of measurement analysed, he concludes that no single measure can adequately assess the **innovation** diffusion. Patents, licences and scientific publications offer different perspectives on this phenomenon, varying, among others, in terms of time and organisational demographics. The author emphasises the importance of using a combination of various indicators and interpreting the results with caution, highlighting the complexity of measuring knowledge spillovers in the current technological scene.

Marta Beleza Costa on

"Sustainability transitions in manufacturing: The role of intellectual property"

by Elisabeth Eppinger et al in Current Opinion in Environment Sustainability (2021) 49

In their article, Elisabeth Eppinger, Pratheeba Vimalnath, Akrriti Jain, and Anjula Gurtoo explore the role of IP rights in promoting sustainable manufacturing, with a focus on patents. Stemming from the premise that IP rights are essential ingredients for **innovation** and, at the same time, often criticised as one of its main obstacles, the authors take an optimistic approach and show the beneficial potential of IP rights in valuing the willingness to collaborate, share, and licence, which has a main role in developing sustainable products. The authors start by acknowledging that established actors (incumbents) play an active role in sustainable technological development. They also note that IP rights systems are often perceived as legal tools that incumbents exploit for their own benefit, while creating entry barriers for other market actors. Eppinger et al, on this point, suggest that further research is needed to find ways that allow incentivizing the sharing of innovative sustainable technologies and collaborations.

The authors also underline the importance of IP rights transfers within and across countries and industries. Real case scenarios from different industries are presented as examples, serving as a starting point to justify the adjustment of the current IP rights systems to better incentivize, from an early-stage, licensing of sustainable technologies to competitors. The authors advocate for business standards that require firms to licence socially beneficial technologies to all interested parties, in particular, competitors, to rapidly advance sector-wide sustainability transitions, like in the safety technologies industry. However, to avoid slowing down **innovation**, mechanisms like non-voluntary sustainability licences or financial incentives, as tax reductions, are also suggested.

The second part of the analysis pivots on the role of IP in cross-industry **innovation** for sustainable manufacturing, focusing on two stages thereof, namely the development and the diffusion of **innovation**. The authors stress on the importance of the adaptation of technology to diverse purposes, multi-disciplinary expertise, and complementary assets from various industries to achieve real sustainable technological development. The author demonstrates the quintessential role of this cross-industry dimension by bringing the case of the European textile and clothing manufacturing sectors as examples.

The article zooms in into the role of patent applications in sharing at least knowledge about innovative technologies. One of the most interesting contributions of this article lies, indeed, in the suggestion of implementing the translation of patent

applications into more keylanguages, the inclusion of expired patents in databases, and the introduction of a filter function in patent databases, which would increase the searchability of sustainable technologies.
The core argument raised in this article is that IP rights issues related to sustainable manufacturing are not sufficiently nor adequately addressed in the current state of research, as it overlooks a holistic view of the supply chain supporting the sustainable manufacturing processes. Thus, the authors call for additional research efforts aimed at supporting sustainable manufacturing and circular economy also from the perspective of how IP rights are generated, shared, and enforced across various industrial contexts. Moreover, they advocate for research specifically concerning policy alternatives to IP rights, assessing their adequacy and interrelations with other regulations such as environmental laws.

All in all, the authors make a valuable contribution to the understanding of the role of IP rights in driving sustainable **innovation** in the manufacturing sector. It turns clear from their analysis that a key to move this sector towards sustainability quintessentially lies in the processes of collaborative knowledge production and sharing. The way they envision IP rights and the work that remains to be done on them is of a potentially effective regulatory tool, which, however, needs to be finetuned going, in their words, "beyond single country studies [so to] cover multinational value chains."

Vitória Nassar on

"Intellectual Property and Public Health"

by Rebecca S Eisenberg in Dreyfuss/Pila (eds), The Oxford Handbook of Intellectual Property Law (OUP 2017) by Rebecca S Eisenberg in Dreyfuss/Pila (eds), The Oxford Handbook of Intellectual Property Law (OUP 2017)

Navigating the mismatch between public health and IP, Eisenberg closely studies the tension between societal benefits and individual rights in health **innovation**. Public health and IP may not seem like the best pairing, since public health is inherently linked with a communal benefit, while IP rights are individual legal entitlements. These two realms intersect when individual **innovation** promises to advance public health objectives and when these same goals require the broad use of inventors' works.

Eisenberg first introduces the importance of health **innovation**s from a public perspective. She highlights how governments have strong incentives to safeguard and enhance the well-being of their population, thus leading them to encourage research through diverse methods, among which granting patents to stimulate the **innovation** and commercialization of new health-related technologies broadly intended. However, this elevates prices, potentially deterring some from accessing and using patented inventions.

In order to better analyse this mismatch between public health and private incentives, Eisenberg considers four categories of **innovation**. The first one is vaccines, on which Eisenberg explains that the market demand might not offer sufficient incentives for their development. The second category is anti-infectives, which present a very concerning characteristic, namely the emergence and dissemination of resistant viruses and diseases, which creates significant external costs. This implies two distinct types of public policy reaction: encouraging additional research or advocating for prudent use. The third category of medical **innovation**s presented by Eisenberg is the one of neglected diseases, which involves an imbalance between social values and profits. That is because some diseases, regarded as top **innovation** priorities by policymakers, have fallen lower on the investment agendas of private pharmaceutical firms due to the lack of profitability in developing new treatments. Lastly, Eisenberg draws a category of non-excludable **innovation**s, which involves **innovation**s that cannot easily be made subject to exclusive rights.

The article provides a quality overview of the complex dynamics among IP rights and social welfare. It effectively highlights the divergent priorities and strategies of public health advocates and IP actors. Eisenberg's analysis evokes, among others, broad-spectrum doctrinal studies on IP and human rights, such as the scientific production of Laurence Helfer and Graeme Austin, who reach similar conclusions on

the double-sworded role of IP in medical **innovation** ecosystems. What Eisenberg's chapter could further benefit from is a more critical examination of the power dynamics inherent in IP systems and the implications of privileged individuals' profit over societal well-being. Alternatively, a more robust exploration of alternative models for incentivizing health **innovation** beyond traditional IP mechanisms could enrich the analysis and offer a more holistic perspective on addressing global health challenges.

Marta Beleza Costa on

"Intellectual Property Rights and Open Innovation in 3D Printing: A Different Form of Exclusivity"

by Nari Lee in Drexl/Kamperman Sanders (eds), The Innovation Society and Intellectual Property (Edward Elgar 2019)

IP rights traditionally place the use of the protected subject matter under the need for authorization, thus relying on the idea of a closed **innovation** system. For this reason, one may say that IP is not compatible with open **innovation**. However, Nari Lee, Professor in Law at Hanken University, challenges this understanding, by analysing if, in the context of emerging technologies, like 3D printing, an "open and inclusive rights regime" is a better alternative to the closed one.

From Lee's definition of open **innovation**, it is possible to understand that it is related to a purposive and systematic in-and-outflow of ideas, knowledge, and technology, from and to external actors. Consequently, open **innovation** is a diverse and inclusive system, involving various sources of collaboration and interactions during the stages of acquisition, integration, and commercialization of external **innovation**, as well as throughout interaction with external collaborators. However, according to Lee, we can observe different degrees of openness within companies and other organisations. She highlights that each organisation has its own singularities when it comes to how IP is managed. In this light, the author presents the idea that open **innovation** is a 'private ordering regime' that uses IP to alter the exclusivity granted by these rights. This alteration is needed because, Lee reminds us, IP rights as such represent a regime that excludes from **innovation**, but allows and empowers right holders to manage it as they wish. This allows Lee to conclude that there is a further impulse to intervene on IP management for open **innovation**.

The dichotomy between closed and open models of **innovation** used in the development of 3D printing serves, in this context, as a stage for the author's analysis. 3D printing relies on additive manufacturing, joining materials to make objects from 3D model data using layers. Lee highlights the vast opportunities for objects that can be produced, from food to human body parts, on a small or big scale, and explores the IP claims over the protection of 3D printed objects. In her view, 3D printing can significantly challenge the applicability of IP rules, for example, with regards to the protection of the 3D printed objects as well as the computer-aided design (CAD) files used to produce them. Specifically on CAD files and the possibility of IP infringement using them, Lee states that difficulties in protecting such files and the heterogeneous interests of 3D printing platforms pose challenges in crafting uniform policy recommendations and regulatory proposals. Lee concludes

that these uncertainties do not necessarily indicate a regulatory gap, at least from an IP perspective. Instead, she advocates for applying existing rules focusing on the potential harms that can be generated, in particular focusing on the misappropriation and misuse of valuable files and design information among market competitors. She also argues that such legal interpretations should focus on business actors, not on private end-user production of 3D products.

All in all, Lee warns against the fact that, before introducing new regulation, it is crucial to understand the behaviour of emerging technologies to avoid hindering their potential. This means that it is essential to allow room for experimentation through private ordering mechanisms that can effectively achieve and sustain open **innovation**. This approach should not be viewed as a counterpoint to the closed **innovation** system or as incompatible with the IP systems. Instead, it should be seen as a complementary alternative that supports the ultimate goal of IP, namely promoting **innovation** and creation, while allowing new technologies to "disrupt the incumbent order of things".

INNOVATION
and Copyrights

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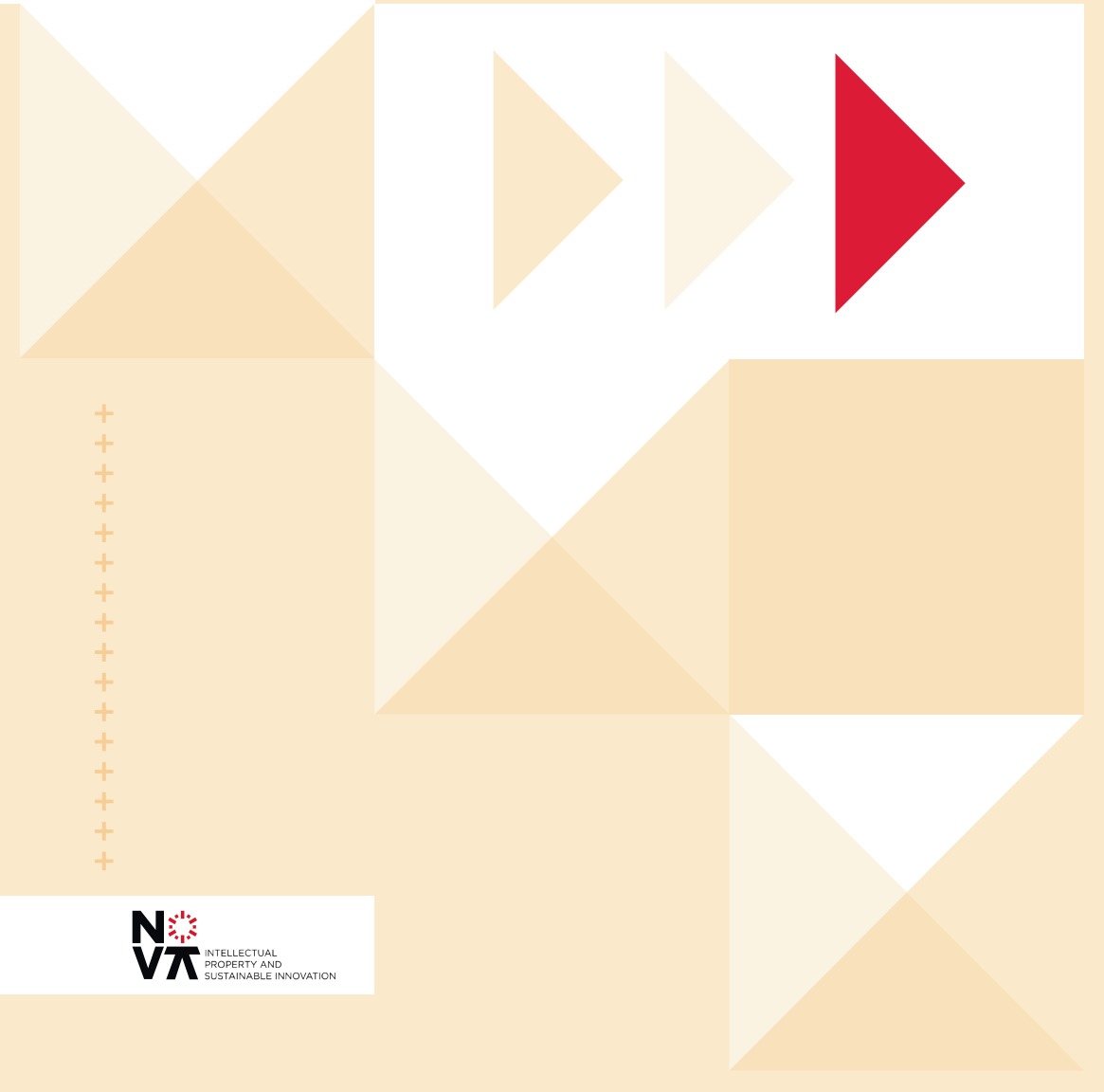

INTELLECTUAL
PROPERTY AND
SUSTAINABLE INNOVATION

Eduardo Santos on

"Fair Use as Innovation Policy"

by Fred von Lohmann in Berkeley Technology Law Journal (2008) 23(2)

With Silicon Valley as its symbol, the technological **innovation** capacity of the US enjoys worldwide recognition. What might be not so well known is the role that fair use plays in the US technological **innovation** policies, more precisely in copyright related markets. According to the US lawyer Fred von Lohmann, however, fair use is no less than an "unsung hero in the tale of America's **innovation** economy".

The author bases his analysis on consumer changes in the US, regarding access to copyrighted works enabled by the emergence of products such as the audio cassette recorder, the videocassette recorder (VCR), the MP3 music player, and others, over the last few decades. These products created new ways for end users to enjoy copyrighted works, which required those users to be allowed to make private copies of copyrighted works they already owned.

However, at the time, it was far from certain that the fair use doctrine would find such new private copies lawful. Traditionally, the fair use doctrine in the US had developed around cases of new, transformative uses. These new consumer-made copies, instead, represented private, non-transformative, personal-use copies. In numbers, however, these new uses were already much more common than the traditional fair use cases. If they were considered fair use, this would mean an important paradigm shift for fair use.

The flexible nature of fair use allowed innovating companies to take risks and introduce in the market these **innovation**s, even before the courts stepped in. These new products were spread all around the US households and were perceived as legitimate by the consumers, even before there was legal certainty about their lawfulness. The US law allowed the necessary space for these **innovation**s to find their place, and eventually change the market as it was known. New markets were created, new remuneration models were developed, and new value was created for the consumers. When the courts stepped in, afterwards, they were able to make the fair use assessment from a more consolidated perspective of these new technologies, their advantages and disadvantages, including the economic impact on right holder's markets and the benefit for the end user. They were able to better grasp the new value that these technologies brought not only to consumers but also to right holders - although often in ways that were very different from existing business practices.

Of course, not all **innovation** necessarily results in a benefit for the right holders – some can be quite detrimental. But this ex-post approach allows innovating companies to demonstrate how new **innovation**s can indeed bring value to existing works. Eventually, it allowed right holders to find new models for remuneration, at a time they were struggling with traditional models. For example, VCR opened the way for home rental market, MP3 players opened the way for music stores like iTunes, and, eventually, streaming. This happened despite initial strong protests from risk-averse right holders who would prefer to maintain the traditional business models they were familiar with. However, the pre-announced doom of the music industry

never happened. In fact, years later, streaming would become the main source of revenue for the music industry.

Von Lohmann then uses the economical perspective provided by Clayton M. Christensen's work on **innovation**, in which he observed that, for several reasons, true, disruptive, **innovation** comes mostly from new market entrants, not from dominant market players. As such, he argues, a main goal of an **innovation** policy should be to defend new market entrants. New companies need to be able to disrupt; protection of incumbents, on the contrary, prevents the most impactful **innovation**s from taking place. As von Lohmann argues, a feature of fair use is to play an **innovation** policy role, allowing "breathing room" for **innovation** to take place. This "**innovation** first, regulate later" approach favours the US technological competitiveness globally.
The technological **innovation**s studied by von Lohmann would not have been possible without fair use, which means they would not have been possible in the European Union. **Innovation** is fast-paced, and law does not change so fast - specially with pressure groups defending established business models. Only after becoming widely accepted in the US these products arrived in the EU, and the EU lawmakers found a way to accommodate them.

The US copyright system developed its own way to find the proper balance between the interests of the right holders and the US's **innovation** objectives. Fair use allows the US to both reap the economic benefits of **innovation** and continue leading copyright related markets, permitting the creation of value to the consumers while also finding new revenue streams for right holders in an ever-changing technological reality.

In contrast, Europe, even in the context of technological **innovation** policies, opts to give full precedence to right holders interests. Any other interest, being **innovation**, public interest goals or other, is conceptualised in EU law as an "exception". Unlike fair use, the regime of EU copyright exceptions is rigid and works ex-ante, giving no space for **innovation** to spur: only the strict uses already provided in the law are allowed; the change in the law must precede the **innovation** – which is an impossibility. And while it is true that the exceptions regime provides more legal certainty, in innovative markets this simply translates to the certainty of legal impediment to **innovation** – at least to what Christensen considers the most impactful **innovation**: the one brought by new market entrants, which can disrupt existing business models. Instead, by giving full precedence to righholders' positions, the EU favours – in Christensen's economy terms – the protectionism of incumbents.

In short, the lack of EU **innovation** policies for copyright related markets becomes an economic disadvantage and a competitive handicap, compared to the US. On copyrighted related markets, the EU still holds a conservative, anti-**innovation** policy, where the rigid and strict copyright exceptions regime offers zero space for innovating. In this light, the struggle of EU's tech **innovation** and competitiveness, in comparison with the US, is a rather natural outcome of the adopted policies.

Teresa Brito e Faro on

"Cultural Imperative in Copyright Law"

by Martin Senftleben in The Copyright/Trademark Interface – How the Expansion of Trademark Protection is Stifling Cultural Creativity (Wolters Kluver, 2020)

Martin Senftleben claims that the issues arising from the overlap of copyright and trademark law lie in the clash between the underlying principles of these two branches of IP law. In the chapter "Cultural Imperative in Copyright Law" of his book, Senftleben identifies the core goals of copyright (which should, in his view, be preserved when overlaps with trademark law arise). Senftleben sets forth that cultural follow-on **innovation** is an imperative of copyright law and manifests itself in two inalienable goals: 'intergenerational equity' and the 'preservation of a rich public domain'.

The author finds it essential to (i) ensure intergenerational equity, allowing subsequent creators to learn, be inspired and ground their creative endeavours in the works of their predecessors and (ii) preserve and cultivate the public domain, as it constitutes a repository of raw material for new creative productions. In the beginning of the chapter, he expands on how copyright law facilitates these objectives by imposing limited terms of protection and leaving mere ideas (through the idea/expression dichotomy) and transformative uses outside of the creators' scope of exclusivity. In this regard, Stenftleben uses Article 10(1) of the Berne Convention and US and EU case law to demonstrate how the freedom to use works for transformative purposes is universally recognized. The fair use doctrine in the US and the criticism and parody exceptions of EU law are highlighted as examples..

The second section of this chapter reflects on how these elements of the cultural imperative are present in both the utilitarian and the natural legal traditions of copyright law. The author begins by touching on the basic premises of these doctrines: the traditionally Anglo-American utilitarian approach, which justifies the existence of copyright in the improvement of the welfare of society; and the natural approach, which presupposes the existence of a 'world of abundance', where an author has a natural, inherent right to enjoy the fruit of his labour. Stenftleben underlines that, from a utilitarian perspective, both intergenerational equity and the recognition of the public domain are indispensable to preserve an area of freedom that makes cultural expressions available to inspire the creation of new works and cultural follow-on **innovation**, while, from a natural law perspective, the public domain and the recognition of intergenerational equity are preconditions for the existence of a 'world of abundance' where copyright can be acquired through the act of creation.

The final section of the chapter unfolds the sociological and aesthetic theories that demonstrate how intergenerational equity and the public domain are of enormous societal importance, besides being crucial for the well functioning of copyright. On one hand, the preservation of intergenerational equity ensures that copyright law supports the creative efforts of commercially-driven

authors, without leaving aside the work of creators with an independent l'art pour l'art orientation, who should be able to depart from pre-existing works to construct their new, innovative, and disruptive productions. On the other hand, the recognition of the public domain guarantees a communication process in the literary and artistic domain that is open to all, and not controlled by some. This open dialogue stimulates the free creation of new works, capable of exposing society's shortcomings and triggering relevant changes.

Senftleben's approach transcends the legal traditions of copyright law by focusing on what they have in common: the need to preserve the cultural **innovation** cycle. By establishing the core inalienable conditions for the maintenance of a balanced cultural domain, the author also sets the boundaries that - in his view - should not, under any circumstance, be stepped or circumvented by the enforcement of other IP rights.

Amanda Costa Novaes and Marisa Frade on

"Copyright and Innovation: The Untold Story"

by Michael A Carrier in Wisconsin Law Review (2012) 4

US legal scholar Michael Carrier in 2012 introduced the concept of the so-called copyright **innovation** problem. In a nutshell, he argues that, while **innovation** is crucial for economic growth, it is often overshadowed by concerns about copyright infringements that stem from judicial decisions, private enforcement, and public discourse. Carrier proves the existence of these concerns by providing numerous quotes from U.S. administration officials and artists who compare copyright infringement to theft.

Carrier then proposes to shed light on the real effects of copyright on **innovation** by analysing the behaviour of record labels when confronted with the digital music revolution. To do so, he carries out empirical research performing interviews with 31 leaders in the digital music space. His case study is centred on the Napster case, one of the most notorious litigation sagas in the history of US copyright law, having ended up before a US Federal Appeal Court in 2001. The interviews conducted by Carrier show how this decision slowed the pace of technology development, both for developers, due to the potential legal violations stemming from **innovation**, and for investors, due to the risk of direct liability. Nevertheless, Napster as a new business model broke the concept of album format and proved that a market for digital music distribution, including singles, existed.

The author claims that, according to the results of his empirical research efforts, there are high chances that, if Napster had won the case, it would have forced peer-to-peer (p2p) platforms and record labels to negotiate, and the market could have soared in profits. Carrier explains that social awareness of the consequences of piracy was not achieved, and that the ruling pushed the further developments of p2p technologies towards more decentralised formats, in order to avoid liability for, among others, copyright infringement.

Interviewees showed consistent and mostly complementary opinions. On the one hand, innovators interviewed by Carrier said that labels lost the opportunity for actual cooperation with 2p2 services towards profitable business, and agreed that, if Napster and record labels had reached an agreement, digital music distribution would be a field of greater **innovation** nowadays. Ultimately, what interviewees consistently voiced is that the case promoted litigation for music infringement instead of safeguarding and boosting the music industry. However, innovators also considered that the ruling paved the way for fee-based platformized music distribution, such as iTunes, benefiting consumers and promoting competition. It also promoted the business of the iPod – even though its initial success is attributed to Napster, which enabled users to store illegally downloaded music.

Based on his interviews, Carrier also explores why record labels were slow in adopting digital music distribution business models. He identifies several key factors. Large corporations, representing 90% of record sales, resisted digital distribution

since it threatened their business. Legal uncertainties over music copyrights, involving both the recording (owned by record labels) and the composition (owned by music publishers), contributed to this hesitation. Additionally, the size, lack of coordination, and internal politics of record companies stifled **innovation** and changes in the industry.

Carrier considers this as a classic example of the innovator's dilemma, where established companies resist disruptive changes that could undermine their existing business models. In contrast, small startups, with less to lose, are more willing to embrace **innovation** and its related risks. Interviews revealed that label leaders focused excessively on short-term goals, such as employee bonuses and litigation fees from startups. The dominant role played by lawyers, who lacked entrepreneurial drive, and the refusal to heed technology executives further hampered **innovation**. Additionally, the tendency of the industry to treat record stores, rather than end-users, as their primary customers contributed to their resistance to digital transformation. Consequently and rather backward-lookingly, the internet was seen as a problem that needed to be eradicated for the survival of their already-known business model.

Concluding his article Carrier outlines the losses resulting from the chosen path by the music industry. In the case of Napster, digital music businesses remained fraught with litigation risks, leading to significant market losses and diminished profitability for record labels. In the attempt to learn from this lesson, Carrier affirms that, rather than preserving the "magic of music", copyright law was used to wage a war against technology and **innovation**. His insightful analysis, supported by empirical data collected, importantly demonstrates how copyright can have a detrimental effect on **innovation**. However, the author could have stretched his analysis to demonstrate more consequences of this resistance of right holders, such as the ex post adaptation of the copyright legal system to the innovative technologies. Following the author's perspective, resistance to **innovation** results not only from the already established market powers, but also due to lack of flexibility of the copyright legal system to accommodate new technologies.

Marisa Frade on

"The Recorded Music Industry and the Emergence of Online Music Distribution: Innovation in the Absence of Copyright (Reform)"

by Seth Ericsson in George Washington Law Review (2011) 79(6)

Seth Ericsson questions how copyright protection responded to technology **innovation** in the music industry. His article r challenges the role of copyright and its scope of protection, by analysing how the Recorded Music Industry (RMI) reacted to the emergence of online music distribution models and how the absence of copyright reform impacted negatively the access to copyright protected works.

The author starts by examining how downloading and streaming services were perceived as threatening to the RMI. The initial fear that Peer-to-Peer (P2P) features of decentralisation and wide dissemination would render useless the traditional distribution channels was mitigated by the cooperation of Internet Service Providers (ISPs) as watchmen of copyright infringements, as well as to a general user shift to RMIy friendly markets: central downloading. Despite initial resistance of the RMI, central downloading business models were suitable to both industry players and tech giants, and it was also successful among users. Time has proven to be true the statement of the article that, once the copyright issues have been settled, attention should turn to the business model of the platforms and its related issues of competition, interoperability and platform neutrality.

Ericsson also highlights how the interactive streaming business model was observed with suspicion - with RMI initially showing reluctance in licensing to these services, which were at least partially ad-supported and perceived by right holders as music for free. The analysis unveils, however, that this innovative service has filled a void in the download market: the possibility of easy access to a vast repertoire, against the payment of a reasonable fee, expanding the consumption of music under legal terms and introducing competition to the online music distribution market, yet dominated by central downloading, demonstrating how the established power of a previous **innovation** player can prevent a new one from emerging - hindering access to culture and damaging the social perception of copyright.

By exploring the potential of cooperation between RMI and ISPs, the article shows how different players look at solutions to tackle P2P technology - with music companies showing preference for voluntary licensing with ISPs in Europe, and those being in a privileged and competitive

position to provide the service of making available an extensive catalogue of music. However, Ericsson questions whether, being these service providers in such a competitive position, there's still room for **innovation** in online music distribution. In other words, if these service providers would be only an additional option for music consumption or if they would be privileged gatekeepers dominating the market. Nevertheless, ISPs and RMI agreements on privately policing infringements have side effects - while they provide for eventual minimization of network congestion caused by P2P, it may threaten platform neutrality. Moreover, having ISPs as new players in the market would improve the perception of copyright depending on the user experience and effective access to music content.

Looking into the economic effects of the online music distribution industry, the author identifies that a technology revolution not followed by an effective policy leads to uncertainty surrounding the scope of copyright and unwanted delays and constraints in access to music. Download market proliferation was an incentive for competition and **innovation**, as well as for the development of the streaming market, showing that **innovation** can boost competition within a market, as well as outside of it.

Under the legal perspective, the article unveils how **innovation** in the online music distribution does not seem to be triggered by the copyright rights holders, which often lack incentive and expertise. However, the potential of diversification in online music distribution is perceived as a payoff promise to right holders, and, at the same time, as a benefit for their own negotiation power. However, it remains to be seen if ISPs gatekeeping position will result in additional potential constraints in the music market.
Ericsson explains that when industry resists adapting to **innovation** that originates from external sources, social perception of copyright deteriorates - calling for a restructuring of its scope or enforcement. He claims that online music distribution policy shall be fuelled in accordance with its own features - allowing wide dissemination of works and easy access to them - suggesting that players in the market should recognize the benefits of mass licence and should consider non-exclusive licensing or voluntary collective licensing practices, otherwise governments might resource to compulsory licensing schemes.

The article does not explain how non-exclusive licensing or voluntary collective licensing practices can be pursued, but it suggests compulsory licensing schemes are a last resort legal solution for the cases where copyright does not work effectively in the market without government intervention. In this scenario, Ericsson could have gone the extra mile to question the effectiveness of copyright and even copyright justifications in the online music distribution environment, possibly approaching different legal solutions based on right holders individual management of their rights.

Since online music distribution **innovation** restraint is impossible and undesirable, the author claims for policies that prevent the extent of copyright when exclusive and abusive licensing practices take place, and that, on the contrary, make **innovation** an integral part of promoting access to copyright protected works.

INNOVATION and Traditional Knowlegde

NOVA IPSI | BOOKLET 2024

Giovana Marques on

"Do we need exit rules for traditional knowledge? Lessons from Solomon Linda and the Mbube The Lion Sleeps Tonight case"

by Dalindyebo Shabalala in Queen Mary Journal of Intellectual Property (2023) 12(4)

This article offers us a fresh new perspective on **innovation** and innovative takes within the IP legal paradigm. Shabalala's analysis explores the misappropriation of traditional knowledge (TK) and traditional cultural expressions (TCEs) by presenting the counterintuitive case of such appropriation being promoted by insiders from the community, not by outsiders. Shabalala brings the example of the traditional song "Mbube", adapted into "The Lion Sleeps Tonight", focusing on the figure of Solomon Linda, an artist from the Zulu community in South Africa. Linda recorded the song commercially, potentially infringing his own community's collective rights over elements considered to be TCEs.

Drawing considerations from this case, Shabalala suggests that legislation tackling TK and TCEs should include exit rules for communities members, giving clear guidance on how they can or cannot use and share local knowledge or expressions when interacting with the external world. Shabalala demonstrates the consequences of the failure of current legal systems to recognize and protect collective expressions, potentially allowing individuals within these communities to "appropriate" themselves of individual exclusive rights over communal creations. This argument is strongly supported by, among others, Aman Gebru in "Communal Authorship", who argues that current IP systems, designed from an individualistic perspective, inadequately protect TCEs and TKs.

While reading Shabalala's analysis, we might question whether the appropriation of a collectively created work by someone within the group could possibly generate any harm to the community. This is particularly relevant since, as the author notes, the individual is not only a potential infringer but also a potential right holder. Shabalala takes into account the possibility that Linda's intention was to bring visibility to his people's musical style, however convincingly concludes that this appropriation has been an issue of injustice to his community.

Shabalala makes a compelling point reminding us that IP rights are characterised by two sides: rights and duties. In this case, a community member has the duty and responsibility to protect, give proper credit to and share with their communities the rights and benefits of the exploitation of a TK or TCE, those cannot be captured by a single individual, even when an insider.

This draws attention to the need to honour the community's collective creative efforts, which aligns with the implications of IP rights as not just protective but also as an ethical framework to support fair recognition and benefits for creators.

Shabalala's article represents an occasion to learn that the protection of TCEs and TKs by most IP systems often fails to be effective and to think about alternatives to the current protection of these expressions. The article effectively brings the reader to open the horizons on the future of IP law in an extraordinary innovative way.

Reading the article, for instance, inspired me to think that, to achieve better protection for TK and TCE, it might make sense to draw inspiration from the EU regulatory take on Geographical Indications, as an already existing form of IP protection that is inherently communal, benefiting not just an individual but groups of producers, thereby ensuring that economic benefits flow back to entire communities. By innovating and creating a new branch of IP, inspired by geographical indications and copyrights legislation, a more equitable system for the protection of TK and TCEs could be achieved. Crafting and implementing a regulatory model of this kind would lead legal systems to fully embrace a long overdue innovative approach that respects cultural diversity and communal ownership, and which could bring IP rights more in line with the principles of justice and equity they are meant to uphold.

AI INNOVATION and IP

NOVA IPSI | BOOKLET 2024

INTELLECTUAL PROPERTY AND SUSTAINABLE INNOVATION

Amanda Costa Novaes on

"Copyright, text and data mining and the innovation dimension of generative AI"

by Kalpana Tyagi in Journal of Intellectual Property Law and Practice (2024) 19(7)

Kalpana Tyagi, Assistant Professor in Law at Maastricht University, writes about **innovation** from the perspective of generative artificial intelligence (GenAI).
She begins her analysis by comparing this technology with earlier ones, noting that GenAI introduces unprecedented copyright challenges. Unlike other digital technologies that are mere tools in the hands of users for creating and searching for contents, GenAI has the unique capability to generate high-quality original works from a minimum creative effort by the user, mostly limited in simple prompts.

Tyagi delves into the technical features of GenAI. She discusses the use of data in training these models and explains that, while the outputs of GenAI may reflect some aspects of their inputs, they are nonetheless always different in style and expression. This differentiation is crucial in understanding the potential copyright issues GenAI generates. Among those, Tyagi decides to focus on the problem of possible copyright violations in inserting information in GenAI. The author raises significant concerns about how these technologies are trained by way of the practice of so-called text and data mining (TDM). In fact, the functioning of GenAI relies on vast datasets, which include a considerable amount of copyright-protected works. The use of such contents without compensating the rights holders introduces copyright concerns and might weaken the incentives behind human creativity.

Tyagi emphasises the need for a balanced TDM regulatory framework. Such a framework should facilitate **innovation** while maintaining incentives for individual authors to create. She refers to the EU Copyright in the Digital Single Market Directive (CDSMD), which is central to this discussion.

Tyagi argues that the EU approach remains too restrictive to effectively promote **innovation** in the field. Her primary concern lies with Article 3 CDSMD, due to, she argues, its excessive specificity in setting who and why TDM can be done, excluding private commercial actors from it. Tyagi also illustrates how the EU choice of allowing, in Article 4 CDSMD, copyright holders to exercise a contractual opt-out provision in Art. 4 introduces uncertainties for these same private actors, resulting in higher costs for them. These costs are further aggravated by the need to negotiate individual licences for lawful access to works. What Tyagi seems to suggest overall is that more attention needs to be paid to the fact that these private players, however, have increasingly become the driving force behind GenAI and, more broadly, disruptive digital **innovations**.

To better illustrate her point, Tyagi compares the EU restrictive framework with more liberal approaches adopted by other legal systems, such as those in the US, Canada, Singapore, and Japan. Tyagi notes that, in the US, despite TDM being generally permissible under the fair use doctrine, this understanding is currently being challenged by several ongoing lawsuits, which could potentially overturn the existing interpretation. Moreover, she outlines that Japan has implemented a dedicated TDM limitation for any purpose within its legislation, offering a more straightforward and liberal approach.

Tyagi argues that the EU could benefit from adopting a similar, more industry-friendly approach to stimulate **innovation**. She endorses the idea of introducing a levy system, which could be managed through collective rights organisations and would serve as a streamlined mechanism for compensating rights holders for the use of their works as GenAI input. She endorses other scholars on the topic, such as Martin Senftleben who defends a levy system as a solution for author remuneration in the AI context. Tyagi firmly believes that such a system could sustain the EU attractiveness for tech companies and, ultimately, foster a more innovative environment.

By and large, the article offers a thorough and well-researched analysis of the intricate relationship between **innovation**, creativity, generative AI, copyright, and TDM. Although the discussion can be overly technical at times, which may affect its accessibility, it effectively critiques the restrictive nature of the current EU framework. The article advocates for a more liberal approach and suggests cutting-edge solutions to foster **innovation** while protecting the rights of content creators in the rapidly evolving digital landscape.

Catarina Rodrigues Rocha on

"Should we ban generative AI, Incentivise it or Make it a Medium for Inclusive Creativity"

by Giancarlo Frosio in Bonadio/Sganga (eds) A research agenda for EU copyright law (Edward Elgar forthcoming)

Giancarlo Frosio's book chapter addresses how policymakers should handle AI-generated artistic outputs, providing an interesting historical overview of the clash between copyrights and creative **innovation**. He examines the possibility of expanding copyright protection to AI-generated contents and highlights reasons not to do so. Frosio's analysis reveals a preference for a balanced regulatory approach over an outright prohibition to protect AI outputs. While academia is exploring the possibility of introducing a levy model to balance the impact of AI on human creativity, it is essential to consider all possible consequences of such a policy option.

In the realm of copyright law, justification theories present a theoretical conundrum. As AI is devoid of legal personality, AI-generated works are prone to exclusion from copyright protection under natural rights theories. However, welfare and cultural theories align more closely with a utilitarian interpretation of copyright protection, aiming to optimise market outcomes and incentivize the production of such contents. Conscious of this theoretical divergence, Frosio elaborates a thorough critique against the introduction of incentives for AI-generated creativity in the form of strengthened copyright or new sui generis rights regimes. His main argument lies in the fact that copyright protection would be unsustainable to manage, considering the potentially infinite content generated by AI, especially in light of the so-called infinite monkey theorem.

Drawing from his book "Reconciling Copyright with Cumulative Creativity: The Third Paradigm", Frosio compares the generation process of AI art to the inherent cumulative and collaborative nature of human creativity. The concept of "absolute originality" required for copyright protection is challenged by the process of ever more technological creativity - a point on which I fully agree. I believe granting legal protection for AI-generated artistic contents can undermine the essence of originality. The more we protect contents under copyright law that lack traces of the author's own personality, the greater the need to intervene and rethink the concepts of authorship and originality in the legal systems.

However, Frosio also considers the disruptive economic impact of AI on the creative markets. He develops an inclusive alternative approach designed to compensate human authors. This model would amount to a levy system, justified by the use of copyright-protected contents

for AI algorithm training. However, some criticisms can be raised about this proposal. First among them, we see that some legal systems, among which the EU, seem to be willing to allow, ex lege, the use of protected works for AI training purposes, leaving it up to right holders to reserve such exclusivity and prohibit such use.

Contrarily, Frosio's suggestion would make the need for compensation always the rule. As Martin Senftleben suggests in "Generative AI and Author Remuneration", a levy model should serve as a complement to the so-called text and data mining exception and incentivize rightsholders to refrain from opting out. In other words, creators should retain the rights over the exploitation of their works and, if they wish to do so, receive a fixed compensation from AI developers. The difference in Frosio's chapter is his proposal to limit such levy compensation system only to some specific types of works, with the aim of supporting only those sectors of the creative industries most impacted by AI.

In my view, this represents the main problem of the levy system suggested by Frosio, as it may have unintended consequences. Among them, it might inadvertently lead to an unwanted and exponential increase of mainstream works being used as AI input, thus not resulting into diverse AI outputs and potentially discouraging creativity in various emerging artistic fields. Even worse, this could result in cultural homogenization and deep imbalances. This concern finds ground also in the insights presented in Senftleben's works, often referring to the risk of an absence of financial incentives that could hamper the creation of autonomous art and various art forms that lie beyond the reach of the levy model. Similarly, from the AI developer's perspective, the diminished diversity of copyrighted works could impact the quality of the AI training set, leading to inefficiencies and missed opportunities in follow-on technological **innovation**.

Overall, Frosio puts forward the proposal for a levy model, agreeing with emerging scholarship and wishing for it to function as an inclusive regulatory mechanism benefiting individuals and the creative community as a whole. A point of concern remains on the need for safeguarding pluralism and representativeness of all creators and industry sectors, acknowledging though that such an option can majorly facilitate the flourishing of innovative algorithmic creativity.

Marta Diniz on

"Artificial Intelligence and Innovation: The end of patent law as we know it"

by Tim W Dornis in Yale Journal of Law and Technology (2020) 23

The article here under review is fully centred on the idea of **innovation**. Throughout the article, the author points out the need for changes, building a critique against current patent policies and patent legal doctrines. Dornis also warns against some of the possible risks associated with the increased use of AI to craft new inventions, giving some suggestions on how the law should change to incentivize responsible AI **innovation**.

Dornis engages with the topic of the patentability of so-called AI inventiveness and makes an important distinction: Despite the growing doctrinal interest in the question of patentability of AI systems as such, the author is interested, rather, in questions regarding patent protection of the inventions stemming out of AI applications.

Dornis highlights two main challenges that current patent laws struggle with. The first is represented by the so-called inventions without an inventor, meaning those inventions without significant human-made contribution. Dornis explains that it could be the human who operated the AI system to be considered the inventor, even if he/she just pressed the power button. However, in Dornis' opinion, this would be a distortion of the patent legal system, as the inventive activity, deeply connected with the requirement of inventive step, cannot be imputed to the human actor, thus leaving the AI-produced invention into the public domain. The second challenge faced by patent laws in the AI era, according to Dornis, is the changes AI can provoke to the assessment of the thresholds for patentability, in particular on what is considered to be a person skilled in the art. Dornis explains that, when considering the capacity of AI technology and access to a wider range of information, the skills of the person who uses it inevitably increase. What is expected of a person skilled in the art that uses AI is, consequently, something more than it used to be.

Dornis highlights the importance of AI and its impact on **innovation** and development in society, thus not excluding a form of protection of AI-assisted inventions, in the form of an ad hoc sui generis regime of legal protection, to make sure it is incentivized and properly rewarded. However, he does so aware of the potential risks and misuses of such legal protection not only from an IP perspective but also, importantly, from a competition law point of view. From Dornis' perspective, coordinated changes in the regulation of the data economy should be made in parallel, not only regarding patents, reaching systematic clarity and effectiveness of the law.

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