

LITERATURE REVIEW

IPR—General

University technology transfer office success factors: A comparative case study, York Anne S, Ahn Mark J, *International Journal of Technology Transfer and Commercialisation*, 11 (1-2) (2012) 26-50.

This study reviews the literature involving critical factors contributing to university technology transfer office success and then examines those factors within a stratified sample of four comparative case studies of peer university technology transfer offices. Two models of relative success and failure emerged, based on similarities and differences along the eight factors identified in the literature. Two additional success factors emerged during the course of the research. The ways in which technology transfer offices organized the commercialization process, along with the degree of focus on both internal and external website utility, also seemed to play a significant role in university technology transfer office success.

The critical role of timing in managing intellectual property, Lemper Timothy A, *Business Horizons*, 55 (4) (2012) 339-347.

In today's environment, timing is a critical part of business strategy. Nowhere is this truer than as regards managing intellectual property in an increasingly global marketplace. The creation and protection of intellectual property assets often depends on consistently taking the right legal action at the right time. The consequences of failing to do so can be disastrous but may only be felt at a later time or in other markets. The difficulty for business people lies in the fact that the time-sensitive aspects of intellectual property cannot be managed effectively by relying on intuition or resolving to see a lawyer when the need arises. This article provides a basic primer on the critical role of timing in identifying, creating, and protecting intellectual property assets. It discusses the most common types of intellectual property—patents, copyrights, trademarks, and trade secrets—and compares the role of timing in the creation and protection of each

asset type. Most importantly, it summarizes the key issues of timing in the creation and protection of intellectual property.

Intellectual property rights, technical progress and the volatility of economic growth, Chu Angus C, Leung Charles K Y and Tang Edward, *Journal of Macroeconomics*, 34 (3) (2012) 749-756.

In this note, the authors analyse the effects of intellectual property rights on the volatility of economic growth. The analysis is motivated by the observation that the strengthening of patent protection and the increase in R&D in the US coincide with a reduction in growth volatility beginning in the mid 1980s. To analyse this phenomenon, the authors developed an R&D-based growth model with aggregate uncertainty in the innovation process and applied the model to ask whether increasing patent strength and R&D can lead to a significant reduction in growth volatility. A small but non-negligible effect that explains no less than 10% of the observed reduction in growth volatility in the US was found.

A balancing act: IPRs and public agriculture research, Muraguri Lois, *International Journal of Technology Transfer and Commercialisation*, 11 (1-2) (2012) 88-109.

International Agriculture Research Centres (IARCs) and other public research organizations increasingly find themselves exposed to intellectual property rights due to inter alia the advent of the intellectual property system, privatization of research and increased collaboration with the private sector. There is an inherent theoretical conflict in the application of private rights for the provision of public goods given that intellectual property rights (IPRs) introduce excludability to a good. But there is a distinction between the existence and exercise of IPRs. The latter, conducted creatively, can mitigate the excludability effect brought about by the former. Examples of the creative exercise of IPRs illustrate that IP capacity is vital. IARCs and other public research organizations particularly those in developing countries must invest in IP capacity in

order to formulate creative IP policies and strategies and implement them in a manner that ensures their public goods mandate is not compromised.

The role of IT for managing intellectual property – An empirical analysis, Gassmann Oliver, Ziegler Nicole, Ruether Frauke and Bader Martin A, *World Patent Information*, 34 (3) (2012) 216-223.

The effective management of intellectual property (IP) is an increasingly complex challenge in today's global knowledge economy, especially for firms with large IP portfolios. Although information technology (IT) tools are a means to support the management of these portfolios, there is little insight in how firms actually make use of IT tools in this regard. Hence, this article analyses how and for which processes firms use IT tools to support their IP management. Based on a data set of 106 IP intensive firms worldwide, the authors found that firms use at least one of three major IT tools for IP management: search tools, administrative tools, and evaluation tools. They also found that the use of IT for IP processes is decreasing along the IP value chain: firms use IT mainly in the early IP generation phase, e.g., for absorbing technological developments. The article concludes by outlining where and how IT tools can improve the management of IP.

Abuse of dominance and licensing of intellectual property, Rey Patrick and Salant David, *International Journal of Industrial Organization*, 30 (6) (2012) 518-527.

The authors examined the impact of the licensing policies of one or more upstream owners of essential intellectual property (IP hereafter) on the variety offered by a downstream industry, as well as on consumers and social welfare. When an upstream IP monopoly increases the number of licenses, it enhances product variety, adding to consumer value, but it also intensifies downstream competition, and thus dissipates profits. As a result, the upstream IP monopoly may want to provide too many or too few licenses relative to what maximizes consumer surplus or social welfare.

With multiple IP owners, royalty stacking increases aggregate licensing fees and thus tend to limit the number of licensees, which can also reduce downstream prices for consumers. The authors characterized the conditions under which these reductions in downstream prices and variety are beneficial to consumers or society.

Imitation and innovation driven development under imperfect intellectual property rights, Lorenczik Christian and Newiak Monique, *European Economic Review*, 56 (7) (2012) 1361-1375.

Developing countries employ about two-fifth of the world's researchers, originate one quarter of world expenditures on R&D, and their inventions are subject to imitation. Nevertheless, the previous literature focuses on North-South setups in which the South is restricted to imitating northern inventions. To analyse the effects of IPR policies on developed and developing countries, the authors extended this literature to allow not only for southern innovation and imitation of northern goods, but also for imitation targeted at southern innovations. They found the effects of IPRs on R&D and welfare to be non-monotonic and dependent on innovation efficiency and an innovation threshold in the South. For sufficiently strong IPRs the South engages in original R&D and stronger IPRs promote southern innovation, welfare, and a reduction in the North-South wage gap. Below the threshold, a strengthening of IPR protection fails to promote innovation and decreases welfare. Stronger IPRs exclusively for southern firms can benefit both regions by shifting southern resources from the imitation of northern goods to original southern innovation.

The impact of socio-demographic factors as potential predictors of the attitudes of public sector personnel on intellectual property rights and their implications, Payumo Jane, Grimes Howard and Keith Jones, *International Journal of Intellectual Property Management*, 5 (3/4) (2012) 199-212.

This paper presents the results of a web-based survey done to determine the attitudes of public sector personnel in developing countries in Asia on the major implications of intellectual property rights (IPRs) to public sector institutions' access of technologies, research focus, and dissemination of knowledge and technology. Specifically, the survey involved research administrators and scientists (n=283) from public agricultural biotechnology research institutions in India, Malaysia, Philippines, Thailand, and Vietnam. Estimates of ordinal logistic regression clearly show that in general, attitudes of respondents toward the implications of IPR are affected by socio-demographic characteristics with education, position held, and country of citizenship

as significant influential factors. This econometric analysis may serve as reference for institutions developing capability training programmes, including identification of target training groups, to more actively promote the understanding of IPR and their implications to public research institutions in developing countries.

Intellectual property insurance as a management tool, Koleva Fanny, *International Journal of Intellectual Property Management*, 5 (3/4) (2012) 327-341.

The aim of the paper is to reveal the variety of forms of intellectual property (IP) insurance, which are quite often not known and respectively - underestimated, both from the potential insured, and from the insurers, although their utilization may raise the efficiency of management of those parties and improve their results. The paper discloses the IP risks, requiring insurance, together with the potential beneficiaries, analysing its necessity from the perspective of the imperfections of the IP system, as well as the beginning of this practice and its stages of development, the products, offered on the market, and the trends on it. The paper respectively reaches the conclusion that from the perspective both of its volumes and of its various products this market shows a serious growth. And although it is not mature yet, this growth, and especially the coverage for Internet related IP risks, shows that even better future is coming.

Academic engagement and commercialisation: A review of the literature on university–industry relations, Perkmann Markus, Tartari Valentina, McKelvey Maureen, Autio Erkko, Broström Anders, D’Este Pablo, Fini Riccardo, Geuna Aldo, Grimaldi Rosa, Hughes Alan, Krabel Stefan, Kitson Michael, Llerena Patrick, Lissoni Francesco, Salter Ammon and Sobrero Maurizio, <http://www.sciencedirect.com>.

A considerable body of work highlights the relevance of collaborative research, contract research, consulting and informal relationships for university–industry knowledge transfer. The authors present a systematic review of research on academic scientists’ involvement in these activities to which they refer as ‘academic engagement’. Apart from extracting findings that are generalisable across studies, they asked how academic engagement differs from commercialization, defined as intellectual property creation and academic entrepreneurship.

They identified the individual, organizational and institutional antecedents and consequences of academic engagement, and then compared these findings with the antecedents and consequences of commercialization. Apart from being more widely practiced, academic engagement is distinct from commercialization in that it is closely aligned with traditional academic research activities, and pursued by academics to access resources supporting their research agendas. They concluded by identifying future research needs, opportunities for methodological improvement and policy interventions.

Patents

Startups and patent trolls, Chien Colleen V, *Santa Clara Univ Legal Studies Research Paper No. 09-12*, <http://papers.ssrn.com>.

While patent assertion entities (‘PAEs’ or patent ‘trolls’) have received a lot of attention, little of it has focused on the distributional impacts of their demands. The impact of PAEs on startups is crucial, because startups contribute to job creation and innovation, making them potential targets and sources of patents. To assess the impact of trolls on startups, the author analysed a comprehensive database of patent litigations from 2006 to the present, conducted a non-random survey of 223 tech company startups, 79 of which had received a demand, and interviewed nearly twenty entities with relevant knowledge of startup patent issues.

It was found that although large companies tend to dominate patent headlines, most unique defendants to troll suits are small. Companies with less than \$100M annual revenue represent at least 66% of unique defendants to troll suits and at least 55% of unique defendants in troll suits make under \$10M per year. Suing small companies appears distinguish PAEs from operating companies, who sued companies with less than \$10M per year of revenue only 16% of the time, based on unique defendants. Of survey responses that had received a demand (N=79), a large percentage reported a ‘significant operational impact’: delayed hiring or achievement of another milestone, change in the product, a pivot in business strategy, shutting down a business line or the entire business, and/or lost valuation. The smaller the company, the more likely it was to report one or more significant operational impacts. To the extent patent demands

'tax' innovation, then, they appear to do so regressively, with small companies targeted more as unique defendants, and paying more in time, money and operational impact, relative to their size, than large firms. 40% of survey respondents stated that they were being targeted because of their use of another's or a widely available technology.

Yet an operational change was not the only response to a demand: 22% of responders reported that, to resolve the demand, their primary response was to "do nothing," while 35% fought the demand, and 18% settled it. Based on available information, costs were highest when fighting in court was the primary response (with average expenditures of \$857K (N=7)); settling cost an average of \$340K (n=12) and fighting out of court cost \$168K (N=18), on average.

Small companies can also benefit from a robust market in patents, both as sellers and buyers. An estimated 50% of NPE patents come from companies with less than \$40M in revenue. Patent sales can support the ongoing business, and 4% of survey responders said they had monetized their patents, and another 20% said that they had considered it. Yet while the conditions of a majority of sales is unknown, they often take place when the company is in distress or transition, as growing young companies often lack the inclination, time, or extra patents to monetize their intellectual property. When patents are sold under firesale conditions, investors, creditors, and patent focused companies share in the profits, reducing the direct returns to the inventive entity. Growing companies can also benefit from the patent marketplace as buyers, buying patents from the marketplace 'on-demand' and overcoming some of the advantages of incumbents.

What can be done to decrease the harms of patent assertion and increase the benefits of a robust patent market to small companies and startups? Focusing exclusively on the first question, the author presented new data that suggested that a number of the reforms put in place over the last year, including by the America Invents Act, are having a positive impact. Fewer defendants are being named in patent suits. The new post-grant review provisions will reduce the leverage of patent plaintiffs in some cases. However, some of these reforms are out of the reach of startups. Prior user rights benefit older companies against younger patents, but don't help new start-ups. Startup companies are cash-poor, but challenging issued

patents is expensive and time-consuming. Reforms to reduce the cost of litigation defense are laudable, and likely deter some suits from being brought in the first place, but don't reach small companies against whom litigation is threatened, but not brought. Increasing the cost of software patents would limit the number of patents but would also disadvantage startups that patent, relative to large companies and PAEs with large budgets. The distributional impacts of reforms need to be kept in mind, and the author suggested some alternative reforms for the consideration of the courts, Congress, and the market.

Patent vault as a novel means to make businesses become recession-proof via facilitated diversification, Bin Zayadi Khairullah, *International Journal of Intellectual Property Management*, 5 (3/4) (2012) 304-326.

This paper outlines a proposed new international system that the researcher coins as the 'patent vault'. It is essentially a collection of patents of fundamental diverse technologies that would normally generate profits for its owners during non-crisis times. In essence, this system enables a sharing of know-how that different companies put inside the vault. The characteristics of the patent vault proposed comprise of, among others, the following: (1) enables quick adoption of technological know-how; (2) ensures economic benefits of the owners of the 'know-how' are not compromised; (3) supports the development of resilient corporations via assisted diversification; (4) possesses a diverse portfolio, so as to enable participating companies to assess which industry it wishes to diversify into; (5) ensures a fair pricing is charged upon the technology know-how adopters.

Diversity management of patents in M&A - A case of Japanese pharmaceutical firms, Shimanuki Seiya and Saiki Tomoko, *International Journal of Intellectual Property Management*, 5 (3/4) (2012) 213-226.

The purpose of this study is to propose an analysis of pharmaceutical effect areas of patent data as output of research and development (R&D) activities and as resources of the firm in mergers and acquisitions (M&A). The authors used two M&A cases of Japanese pharmaceutical firms of the partners with different technology relatedness. It is demonstrated that M&A had a negative effect on the R&D activities of the consolidated firm of

technologically heterogeneous partners. The results also show that there are no increases in the proportion of patents with the most diversified effect areas in M&A of technologically heterogeneous partners and there is an increase in another M&A of technologically homogeneous partners. It is advisable that the partner firms cooperate to manage their patents in order to maintain patents in diversified areas rather than managing their patents more diversified as a whole, in order not to have a negative effect.

America's first patents, Risch Michael, *Florida Law Review*, 64 (5) (2012) 1279.

Courts and commentators vigorously debate early American patent history because of a spotty documentary record. To fill these gaps, scholars have examined the adoption of the Intellectual Property Clause of the Constitution, correspondence, dictionaries, and British and colonial case law. But there is one largely ignored body of information—the content of early patents themselves. While many debate what the founders thought, no one asks what early inventors thought—and those thoughts are telling.

This article is the first comprehensive examination of how early inventors and their patents should inform our current thoughts about the patent system. To better understand our early patent history, we read every available patent issued prior to the institution of the —modern examination system in 1836, totaling nearly 2,500 handwritten patents. For good measure, the author also read the first 1,200 patents issued after 1836, the last of which issued in the middle of 1839.

Part I discusses how vague and ambiguous patents are relevant to early judicial discussion of —principles. In conjunction with misplaced reliance on English law, the patents suggest a different interpretation of—principles in these cases. In short, patentable subject matter jurisprudence developed in a way that was not necessarily intended by the first Congress.

Part II discusses some noteworthy patents, including asbestos and lead paint, milk of magnesia, many business methods, and a programmable loom that predated Babbage's Analytical Engine. This might lead to reconsider how technological changes in the patent system are viewed.

Part III presents a surprising rebuttal to those who believe that the machine-or-transformation test is engrained in American inventive ethos. This test requires that, to be patentable subject matter, a claimed process must be performed by a machine or transform matter to a different state. Though the United States Court of Appeals for the Federal Circuit formally introduced this test in 2008, courts and scholars present it as a —historical limitation on patentable subject matter.

Examination of the first fifty years of patents shows that forty percent of patented processes would have failed the machine-or-transformation test, whether or not the patents were tested by the Patent Office. Many method patents did not involve a machine and did not transform matter to a different state or thing.

This article concludes with some suggestions about how we might rethink patentable subject matter in light of America's first patents.

Patent trolls on markets for technology – An empirical analysis of NPEs' patent acquisitions, Fischer Timo and Henkel Joachim, *Research Policy*, 41 (9) (2012) 1519-1533.

Patent trolls, or NPEs, appropriate profits from innovation solely by enforcing patents against infringers. They are often characterized as relying on low-quality patents, an assessment that, if correct, would imply that eradicating such patents would effectively terminate the NPE business. In this paper, the authors shed light on this issue by empirically analyzing NPEs' patent acquisitions. The authors drew on a unique dataset of 392 US patents acquired by known NPEs between 1997 and 2006, which they compared to three control groups of 784 US patents each acquired by practicing firms. They found that the probability that a traded patent is acquired by an NPE rather than a practicing entity increases in the scope of the patent, in the patent density of its technology field and, contrary to common belief, in the patent's technological quality. The findings thus support recent theoretical propositions about the NPE business model, showing that NPEs procure patents that are more likely to be infringed, harder to substitute for, and robust to legal challenges. The fact that NPE-acquired patents are of significantly higher quality than those in the control group implies that elevating minimum patent quality will not put an end to the NPE business, and suggests that this business is

sustainable in the long run. They furthermore discussed the fact that NPEs are peculiar players on markets for technology insofar as they are solely interested in the exclusion right, not in the underlying knowledge. They posit that transactions involving NPEs may only be the tip of the iceberg of 'patent-only' transactions, a conjecture with strong implications for the efficiency and the study of markets for technologies. Managerial and policy implications are discussed.

Innovating in the periphery: The impact of local and foreign inventor mobility on the value of Indian patents, Alnuaimi Tufool, Opsahl Tore and George Gerard, *Research Policy*, 41 (9) (2012) 1534-1543.

The authors examined the impact of local and foreign labour mobility in India by modeling one regional and one global network, each of which captures the inter-organizational mobility of inventors. The analysis of the regional network showed that, within India, the productivity of inventors does not improve when they move from foreign to Indian organizations. In the global network, they found that Indian organizations remain located in the periphery as a result of employing a small number of inventors from foreign organizations. However, in the instances when inventors are hired from foreign organizations, they are able to produce patents with a higher impact in comparison to inventors hired from other Indian organizations. Furthermore, when the inventors are hired from abroad, the impact of their patents is even higher in comparison. The implications of these findings for innovation and policy in the emerging economy context are discussed.

A generation of software patents, Bessen James, *Boston University Journal of Science & Technology Law*, 18 (2) (2012).

This study examines changes in the patenting behaviour of the software industry since the 1990s. It finds that most software firms still do not patent, most software patents are obtained by a few large firms in the software industry or in other industries, and the risk of litigation from software patents continues to increase dramatically. Given these findings, it is hard to conclude that software patents have provided a net social benefit in the software industry.

The elusive role of the specification in patent claim construction, Mohammad Nilfroush, *American University Intellectual Property Brief*, 4 (1) (2012) 34-53.

This comment addresses the issue of predictability in the court's use of the written description of a patent to interpret the claims. The Federal Circuit attempted to provide a clearer claim construction methodology in its en banc decision in *Phillips v AWH Corp.* Although the court clarified that the specification is the primary source for interpreting the claims, it did not provide clearer guidelines for determining the proper extent to which it should be used. The result has been that courts continue to use the specification in differing degrees, in line with the different claim construction methodologies that existed before *Phillips*. Two recent cases, *Retractable Technologies Inc v Becton, Dickinson & Co* and *Arlington Indus Inc v Bridgeport Fittings Inc* illustrate the split in the Federal Circuit's methodology. This comment analyses the use of the specification in the court's claim construction by applying the existing guidelines to identify areas where the current guidance is insufficient to allow for predictable claim constructions. This comment also analyses an older case, *Johnson Worldwide Associates Inc v Zebco Corp*, to show that the method of using the specification after *Phillips* is no clearer than it was before. This comment then recommends that the court clearly articulate and apply additional guidelines to allow lower courts and practitioners to predictably construe claims.

Copyright and Trademark

Copyrights in the stream: The battle on webcasting, Haber Eldar, *Santa Clara Computer & High Technology Law Journal*, 28 (4) (2012) 769-813.

The Internet threatens many right holders who consistently battle against technologies that enable people to use their copyrighted materials without their consent. While copyright holders have succeeded in some cases, their main battle against peer-to-peer (P2P) file-sharing has yet to be resolved. Another technology that threatens right holders' business models, especially in the film industry, is the distribution of their content freely via webcasting. Although right holders have paid little attention to webcasting as they

continue their campaign against P2P file-sharing, it poses similar threats and presents the likely possibility of a future copyright battle.

This article examines copyright and webcasting. The author analysed webcasting in comparison to past and current wars on copyright, trying to unveil major differences between the two. He argued that the current US copyright régime treats webcasting inadequately and should be reexamined, especially *vis-à-vis* end-user's actions since courts have yet to review cache copies created during Internet transmissions. It was opined that future legal solutions proposed to handle webcasting, much like past attempts in similar matters, will be futile since technology will continue to evolve at a faster rate than legislation. Finally, he argued that the best solution to the current, as well as future, legal battles to protect copyrights should be the creation of a new business model similar to that of a levy system.

Right of publicity, identity, and performance, Greene K J, *Santa Clara Computer & High Technology Law Journal*, 28 (4) (2012) 865-887.

In this essay, is sketched out the impact of right of publicity law on black cultural production. More concretely, the author considered the implications of publicity law for black artists, and what help, if any, publicity rights offer to the problem of under protection of performance rights. The right of publicity protects against unauthorized appropriation of a person's name, likeness, portrait, picture, voice and other indicia of identity or persona. This essay focuses on the issue of performance rights, or lack thereof, for artists generally and black artists in particular. Like other intellectual property rights (IPR), the right of publicity has the potential to shrink both the public domain and the marketplace of ideas, thus preventing the dissemination of informational and creative works. Standard practice when writing an article about the right of publicity is to note the intense criticism the right engenders in the academic literature. Not wishing to miss 'the fun,' this is my third article on publicity rights—after vowing publicly never to write in the area. As is common among IP scholars, the author argued elsewhere that IPRs have expanded, and targeted the right of publicity for particularly harsh treatment.

Measurement of innovation activities in the knowledge-intensive services industry: A trademark approach, Gotsch Matthias and Hipp Christiane, *The Service Industries Journal*, 32 (13) (2012) 2167-2184.

Innovation measurement in the knowledge-intensive services (KIS) industry is very complex, due to a lack of adequate innovation indicators. A rather new empirical approach involves the analysis of trademarks for the measurement. This paper aims to explore the use and relevance of trademarks for service firms. Data from the German section of the 'Community Innovation Survey' are used, and a survey with 278 participating firms is conducted. The results of the two independent empirical studies demonstrate that a trademark can be used as an innovation indicator, at least for knowledge-intensive business services (KIBS) and product innovations. The results also illustrate which firm-inside and environmental features explain the use of trademarks as an intellectual property protection measure.

Bearing down on trademark bullies, Manta Irina D, *Fordham Intellectual Property, Media & Entertainment Law Journal*, 22 (book 4) (2012) 854-871.

Trademark bullying has become a persistent problem, with large companies intimidating smaller entities with cease and desist campaigns and achieving anti-competitive results. A number of tactics exist to deal with bullying behaviour. One of them is the imposition of judicial sanctions, but the standards in that area are unclear and the defendants often do not have the financial means to engage in litigation at all. Other, extralegal measures such as shaming have shown some success, but also present numerous drawbacks and prove insufficient when used against powerful actors. This article proposes a new model that draws on the existing functions of the Patent & Trademark Office (PTO) to stem the indiscriminate sending of cease and desist letters by large trademark holders and incentivizes them to file their claims with the PTO under certain conditions. This solution seeks to guard the interests of legitimate victims of infringement while balancing their rights with the need to protect smaller entities from the threat of ruinous litigation. If the PTO could make preliminary determinations about the validity of infringement claims, trademark owners could record evidence of policing while being discouraged from making frivolous claims.