CORNELL HR REVIEW

"FOR A MESS OF POTTAGE": INCETIVIZING CREATIVE EMPLOYEES TOWARD IMPROVED COMPETITIVENSS

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I. Introduction

Managing employees' talent, promoting innovation, and improving productivity are critical challenges for organizations. Creative employees and the innovative products they develop can make a tremendous contribution to an organization's success and competitive position.[1] While employed inventors play an extremely important role in the production of an organization's technological innovations, they are often either unrewarded or insufficiently rewarded for their achievements.[2] The analysis and recommendations in this study present the argument that, contrary to common workplace practice, employers should consider a more employee-centric approach to intellectual property ("IP") rights and other benefits. This will foster innovation within the workplace and encourage the development of successful IP products. In particular, employers should reconsider the current rigid practice of requiring employees to transfer all future product IP rights to the firm without significant compensation as well as the overall tendency to avoid attributing IP products to employed inventors. The need for such reform will prove critical in the digital era, especially in times of economic slowdown.

II. The Common IP Practice Within Workplaces

The U.S. Constitution takes a stance on innovation and inventor rights, stating that Congress shall have the power "to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."[3] Hence, U.S. inventors should own intellectual property rights to any inventions they develop. However, pursuant to invention occurring within the confines of a workplace, the U.S. Supreme Court adopted a different stance based in contract law, causing universal enforcement of employee-employer agreements regarding IP rights.[4] In such agreements employees typically waive all rights and benefits to future products that they might develop and transfer these rights to the employer. Even in cases where employment agreements are silent on IP rights, if the employee is "Employed to Invent" (ETI) the employer receives "automatic" rights without any requirement to notify or compensate that employee. Generally, an employee's use of the employer's resources entitles the employer to a free, nonexclusive and unrestricted license ("Shop Right") to use the innovation.[5]

Not surprisingly, the prevailing practice is to obtain a signature on an employment contract as early as possible, usually as a prerequisite to employment, requiring the employee to waive all rights to future IP products developed under the same contract.[6]

As a result, most IP rights in the U.S. are continually and automatically allocated to employers. But is this near-uniform practice the best way to serve the underlying objective of improving innovation in the workplace?[7] Reconsidering current practices could achieve a better balance between the conflicting interests of employers and creative individuals.[8]

A paradigm shift toward focusing on employees as potential inventors may reveal mutual benefits to management and employees. By increasing employee engagement in the innovative process the firms' investments can be counterbalanced by increased employee productivity to in turn result in economic advantages. Such a shift might also reduce the incidence of intellectual property "smuggling" out of firms that fail to inspire loyalty due to inadequate compensation.

III. Law and Economics

A. Prevailing Practice: Inhibiting Employee IP Rights and Benefits

The law and economic approach to innovation within workplaces addresses mainly one question: whom should we reward in order to spur the quantity and quality of innovative products? At first glance the prevailing norm, which prefers an assignment of all IP rights to employers without special consideration, seems like the most efficient practice. Catherine Fisk describes the shift in the American legal perception of such rights from the relatively pro-employee 1830 legal standard to 1930, by which time the current pro-employer rules had come to dominate.[9] The main cause of this change, she argues, is the growth of corporate power and the decline of the romantic image of a sole “hero” inventor as firms came to favor research and development teams.[10]

At face value several economic factors seem to justify allotment of IP rights and benefits to employers, focused mainly on the need to encourage investment in IP development.[11] The employer bears economic risks during the innovation process by cross-subsiding different research and development teams with the knowledge that only a few will prove successful. Furthermore, employers usually hold more efficient powers of enforcement should a dispute regarding the product arise.

The mere fact that the firm is a single entity, as opposed to a number of contributing employees, provides another economically driven pro-employer justification. The preference of a single entity over a group with respect to property rights emerges from the well-known theory named “the tragedy of the anti-commons.” In his noted article thus titled, Michael Heller claims that assigning property rights to a large number of owners causes inefficient commercial utilization of a resource.[12] The implication of this argument is that as a single entity with a uniform interest, established infrastructure, and access to resources, an employer is better positioned than an individual inventor to make efficient commercial use of an IP resource.[13]

B. A New Approach: Encouraging Employee Inventor

A broader look at the workplace provides a far more complex view. Multiple ownership requires cooperation among stakeholders. Although inefficiencies caused by having multiple decision makers exist, they can be addressed by solutions like the principle of

majority rule, appointment of a single representative to a leadership role, or membership in a representative organization.[14]

Furthermore, conferring all IP rights to employers does not necessarily incentivize firms to further intellectual property innovation. In fact, studies reveal that alternate commercial practices, such as being the first to introduce a unique product into the market, play a greater role than the patent system in influencing corporate decisions on investments in research and development within the IP field. These studies show that firms prefer to guard inventions as a trade secret rather than register them as a patent.[15] It is quite possible that granting benefits to employed inventors in appropriate cases would not detract from an employers' overall commercial activities, which mostly rely on alternative mechanisms for gaining commercial advantage. In fact, such benefits could present employers with better yield.[16]

While the constitutional intent behind intellectual property protection is to promote progress, firms often have other interests besides developing works for the benefit of society, evidenced by practices like pooling patents and blocking competition. In many cases, firms avoid developing efficient patents by focusing on less developed products or by using patents as "swords" against competitors seeking to develop a competing product.[17] Thus, transferring all interest in employees' work to employers can exact an unexpected price on society.

Moreover, the innovative process requires an investment of tremendous resources beyond capital such as work, talent, effort, and time. The employed inventor as a rational actor will not make such an investment without expecting an appropriate return, especially during the early uncertain phase before the developmental process has even begun.[18] Proof that employed inventors granted a significant share of the income resulting from their inventions raise their IP activity dramatically already exist.[19] Once the incentive of these employees is diminished, the employer can no longer enjoy the fruits of their work.

Alternatively, incentivizing employees' innovation with special consideration, credit and/or IP property rights when appropriate would lead to "enlarging the pie" by encouraging creation of high quality products which benefit both parties. Therefore, a deeper inquiry into pervasive workplace practices concludes that an economic approach does not unequivocally support the common practice of restricting employee IP rights, given the impact of an employed inventors' incentive on a firm's economic prosperity.[20]

An additional factor to consider is the change in the economic environment pertaining to IP industries. In today's "startup" era, investors welcome opportunities to invest in ideas at the "seed" stage. However, the threat of a claim by a former employer, even when unjustified, could nip a potentially innovative project in the bud. Rather than providing support needed by entrepreneurs, common practices and legal norms place many obstacles in their way. These precedents may make it more attractive for inventors to develop products within businesses they establish themselves in order to protect their connection to the product. Therefore, firms would better leverage employee-inventors who are not risk averse by cooperating with them in new ventures, such as giving them

benefits for transferring rights to employers or offering funding for developing inventions, in exchange for property rights in new mutual entities.

C. When Do Employers Really Need Innovative Employees?

An employed inventor's value is critical to a business from an idea's inception until after the product has appeared in the "real world."[21] Namely, inventors play an important role in commercializing and distributing a final product. It is important to encourage an inventor to cooperate with his employer and third parties seeking to purchase rights in the product, as she holds knowledge required to implement the innovation. Employed inventors should also be encouraged to share creative thoughts with others to spark additional creativity.[22] Absent appropriate incentives, however, employees will refrain from disclosing such thoughts, since candor could lead to losing rights.

Firms also expect employee-inventors to break new ground creating significant inventions. However, creative employees need incentive to innovate in a manner that adds value to the organization.[23] The usual employee waiver of all rights without significant consideration seems to undermine the most important factor of the creative process. This hampers the development of fresh, substantive and varied intellectual products and may harm the employers' economic performance, and even the well being of society at large.

IV. The Important Role of Granting Attribution Rights to Employed Inventors

Who should have the right to be named on an invention or patent developed by employed inventors within the workplace: the employer, the employee-inventor or a third party? The main justification for attribution rights stems from acknowledgment of the person behind the innovation. [24] The significant role of personhood in the creative process supports the concept that inventions should be named after their inventors, including employed inventors. [25]

Crediting patents for new inventions to employees may motivate employed inventors to create, reveal ideas, and transfer rights to employers, since the perceived prestige and the economic value of having ones name on a patent would be encouraging.[26] Moreover, attribution to employees promotes organizational business interests for several reasons. Attribution is a means of assigning internal responsibility for a project's future development, with implications for remedial measures against potential unauthorized use of inside information during the development process. Attribution is an important way to brand products, since the registered inventor's name can serve as a mark of quality for products developed by acknowledged scientists. Attribution is also a way to humanize a firm's IP products, connecting them to humans and not just a corporate name. Designation provides a source of information about employees in relevant fields and may motivate other employees to invent as well.[27] Thus, employer attribution of patents to their inventors on the one hand benefits corporate interests, and on the other hand requires neither massive investment nor high risks.

Despite this conclusion favoring employee attribution, recent legal reforms facilitate applications for patents developed by employees to be submitted in the name of a firm. An entity may file an application on behalf of an employee-inventor who assigned, or is contractually obligated to assign, the invention's IP rights to the entity without seeking the inventor's approval for the application. Formerly, patent submissions had to include an employee-inventor's oath and were filed under employee-inventors' names, even when the employer was entitled to the economic rights. [28] Although current legal and practical norms allow firms to avoid attributing inventions to their employee- inventors, attributing inventions to employed inventors may prove to be more beneficial for both themselves and their employer.

V. Suggested Reform of IP practices for Employers

A. General

By providing employed inventors with IP rights and special benefits, human resources managers can spur an improvement in the quality and quantity of inventions and innovative products for the firm's benefit.[29] Reform should be flexible to allow for adaptation to different situations (for example, transferring rights to the employer when justified), in the interest of commercialization. Moreover, an organization will benefit from safeguarding employees' interests by ensuring employed-inventors' rights to receive suitable compensation once their ownership rights are negated. Reform does not require firms to pay "out of pocket" before employees have performed and innovated. By accepting these concepts, at least in part, norm-setting human resource and management personnel could lead the way toward a more prosperous and innovative era.

B. Consideration

The balance of interests between arguments supporting centralization of property rights in the hands of employers, as opposed to the need to motivate employees to create and invent, lies in the field of **consideration**. Human resource leaders can help management adopt a new compensation paradigm with respect to IP product rights. When rights are being transferred from employee to employer, the employee should be entitled to receive appropriate compensation in addition to salary. Such consideration increases employee motivation to create and invent while also encouraging, in appropriate circumstances, the transfer of rights and consolidation thereof in the employer's possession. Several countries, such as Germany and Scandinavian nations, have had this practice as their legal norm for many years.[30] Other countries, including Japan and Great Britain, have recently amended their patent laws to include a section regarding fair compensation for employees to encourage innovative activity. Germany, which is considered to be one of the leading countries in the realm of industrial IP innovation, has enacted comprehensive laws requiring that employees who have created or invented a product be given suitable compensation depending on the value of the product and other conditions.

This principle of compensation reflects synergy among the various types of theoretical justifications. Such future compensation should be based on a percentage of royalties yielded by the product commercially, minus expenses. Suitable compensation should be proportionate to the added value that the employee generates through his work.

Alternatively, compensation can be a predetermined percentage. None of these options would adversely affect the employer's ability to centralize property rights in his possession. In order to encourage high-quality, innovative development and a variety of intellectual products, the incentives must be significant and have a connection to the product. Such benefits will be much more effective than token rewards, such as a thousand dollars, a weekend vacation, or a nice certificate, to motivate key innovative employees towards important behavioral objectives.

C. Attribution Rights: Crediting Employed Inventors

Considering the complexity and uniqueness of relations within a workplace, employees should be entitled to a particularly strong attribution right in inventions and patents they develop in workplaces. While the classical approach justifying attribution rights of creators is based on theories about the relationship between intellectual property rights in a product and its inventor's personhood, this study presents a less common position that identifies economic advantages to an employer in granting the right of attribution to its employee inventors. The employer's attribution of inventions and patents to their actual inventors is important with relatively low cost to employers, as the employer must neither waive IP rights nor invest funding to maintain the right. [31] Therefore, I recommend ensuring attribution rights to employed inventors.

VI. Conclusion

The common practice of granting all respective IP rights and benefits exclusively and universally to the employer without significant reward to employed inventors may not be the most efficient practice to foster innovation and prosperity. While historically instituted as a way to manage new inventions, it seems to lead to lower levels of new corporate product development.[32] This common practice may not only cause an insufficient level of innovation in workplaces, but may also result in lost IP products as ambitious and creative employees find ways to escape from their employer-firms.

Lacking substantial incentives, employees will not innovate, create, or develop IP products beyond the minimum required to safeguard their salaries. As a result, innovative productivity is ultimately discouraged.[33] A more balanced approach may lead to a more competitive position for the firm without significant cost. Incentivizing intellectual property production is achieved by offering appropriate compensation and credit to employed inventors. In terms of fostering higher levels of innovation among talented and creative employees, organizations can utilize better tools to win in competitive markets. Recognizing the critical role of innovative employees in future business performance and providing them with forward-thinking incentives to match their value is a vital step toward improving innovation within the workplace. א

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• This expression is taken from the biblical story of Esau selling his birthright to Jacob because of immediate hunger, only to later regret the irreversible and significant consequences for generations, Genesis 25.

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[1] Innovation and productivity are key factors to a firm's overall performance. Era Dabla-Norris, Erasmus K. Kersting, and Geneviève Verdier, *Firm Productivity, Innovation, and Financial Development*, 79 SOUTHERN ECON. J. 422 (2012), *available at:* http://dx.doi.org/10.4284/0038-4038-2011.201. Overall, human capital is recognized as an essential factor for competitiveness. *See generally* Archana Sharma and Gurdeep Singh Narang, *Achieving Competitive Advantage through HR Practices*, NAT'L. CONF. ON EMERGING CHALLENGES FOR SUSTAINABLE BUSINESS 752 (2012), *available at*: http://domsiitr.info/allpaper/Achieving%20Competitive%20advantage%20through%20HR%20Practices_Archana%20Sharma_HRM021.pdf.

[2] More than 90% of the patents submitted to the U.S. patent office during 2012 came from corporations. U.S. PATENT AND TRADEMARK OFFICE, REPORT (2012), *PART A1- TABLE A1-1B, BREAKOUT BY OWNERSHIP CATEGORY,*), *available at*: HTTP://WWW.USPTO.GOV/WEB/OFFICES/AC/IDO/OEIP/TAF/TOPO_12.HTM#PARTA1_1 (USPO 2012 REPORT). Most (80%-90%) of the western world's intellectual property (IP) products are developed by employees. William. P. Hovell, *Patent Ownership: An Employer's Right to His Employee's Invention*, 58 NOTRE DAME L. REV. 863, 863 (1983). Henrik. D. Parker, *Reform for Rights of Employed Inventors*, 57 S. CAL. L. REV. 603, 627 (1984). *See* comarative studies about reuminaration to employed inventor, *infra* note 30. (A comparison of national laws regarding employees' inventions and inventors' compensation in Europe).

[3] U.S. CONST, art. I, §8, cl. 8.

[4] *United States* v. *Dubilier Condenser Corp*. 289 U.S. 178 (1933). For more recent decisions enforcing agreements assigning all the rights in future IP products to the employers *see*: *Sirf Technology, Inc*. v. *International Trade Com'n*, 601 F.3d 1319 (2010); *DDB Technologies, L.L.C.* v. *MLB Advanced Media, L.P*., 517 F.3d 1284 (2008). For a more radical approach, *see*: *Teets* v. *Chromalloy Gas Turbine Corp.*, 83 F.3d 403 (1996) (An implied-in-fact contract to assign patent rights to employer existed within employer-employee relationship).

[5] *Dubilier*, 289 U.S. 178, *supra* note 4; *Solomons v. U.S.*, 137 U.S. 342, 347 (1890).

[6] Catherine L. Fisk, *Removing the "Fuel of Interests" from the "Fire of Genius": Law and the Employee-Inventor, 1830-1930*, 62 U. CHI. L. REV. 1127 (1998).

[7] Steven Shavell, FOUNDATIONS OF ECONOMIC ANALYSIS OF LAW 1-5 (2004). Richard A. Posner, ECONOMIC ANALYSIS OF LAW 37-45, 44 (6th ed., 2003). Justin Hughes, *The Personality Interest of Artists and Inventors in Intellectual Property*, 16 CARDOZO ARTS & ENT. L. J. 81 (1998).

[8] Other countries allocate IP rights to employees. For example, *see*: The German Service Invention Act, (Gesetz uber Arbeitnehmererfindungen), 1957 (modified in 2009) or France, Code de la Propriété Intellectuelle, 1992.

[9] Fisk, *Removing*, supra note 6, at 1127, 1141-1142. Patent laws U.S Code, 35 U.S.C. § 201 (2005).

[10] *Ibid*. *See also* Robert Merges, *One Hundred Years of Solicitude: Intellectual Property Law, 1900-2000* (Pt. 3: Patents), 88 CAL. L. REV. 2187, 2215-2233 (2000).

[11] Robert P. Merges, *The Law and Economics of Employee Inventions*, 13 HARV. L. J. & TECH. 1, 2 (1999)

[12] Excessive division of ownership leads to market inefficiency. Michael A. Heller, *The Tragedy of the Anticommons: Property in the Transition from Marx to Market*s, 111 HARV. L. REV. 621 (1997-1998). *See also*, Michael A. Heller and Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCIENCE 698 (1998); Michael A. Heller, *The Boundaries of Private Property*, 108 YALE L.J. 1163 (1998-1999).

[13] An inventor seeking to commercialize a creation requires marketing, manufacturing and distribution capabilities, and a host of other necessities, not the least of which is capital. For example, *see* Jack Lander, *Should You License or Produce Your Invention?*, Forbes Magazine (Oct, 24, 2005), *available at* http://www.forbes.com/2006/10/24/invention-patent-royalties-ent-law-cx_jl_1024nolo.html. WIPO also offers a wealth of resources regarding the practicalities of commercializing IP. *See generally*

http://www.wipo.int/sme/en/commercializing.jsp.

[14] Ashley Kelly, *Bargaining Power On Broadway: Why Congress Should Pass The Playwrights Licensing Antitrust Initiative Act In The Era Of Hollywood On Broadway*, 16 J.L. & POL'Y 881, 889, 898, 899, (2007-2008). The benefits of organizations, which represents workers in the entertainment sector.

[15] Factors that provide a commercial advantage for commercialization of ideas, without the use of patent protection, include the first reseller effect and the use of trade secret. Julie S. Turner, *The Nonmanufacturing Patent Owner: Toward a Theory of Efficient Infringement*, 86 CAL. L. REV. 179, 186-189, 194-196 (1998); Frederic M. Scherer, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 444-446 (2nd ed., 1980), discusses the advantages of being the first to break into the market and the use of trade secrets as substitute mechanisms for the patent system. Firms have reported that patent protection was the last factor in their decision as to whether to invest in research and development.

[16] Even in cases of granting property rights to employed inventors, it is possible the total gain of new and better innovative products that employees would transfer to the firms for reasonable consideration would overcome any loss. So, even though employers might lose some rights to products, they would enjoy an influx of new innovative products in the market.

[17] Merges, *One Hundred*, *supra* note 10, at 2219–22. Turner, *The Nonmanufacturing Patent Owner*, *supra* note 15, at 179, 186-187, 194-196. Charles Duhigg and Steve Lohr, "*The Patent, Used As A Sword,"* N.Y. TIMES (last visited Nov. 7th, 2012), *available at* http://www.nytimes.com/2012/10/08/technology/patent-wars-among-tech-giants-can-stifle-competition.html?pagewanted=all.

[18] Posner, *supra* note 7, at 38. Further, in formulating a policy for appropriate allocation of rights, we assume that each party has an incentive to incur the necessary expenses under conditions of at least partial uncertainty regarding future outcomes. Jeanne Fromer, *A Psychology of Intellectual Property*, 104 NW. U. L. REV., 1441, 1508 (2010). The importance of motivation as a factor in intellectual property development within firms is discussed by Robert Gibbons, *Incentives in Organizations*, 12 J. ECON. PERSPECT. 115 (1998).

[19] American universities changed their IP policies, following Bayh-Dole Act (1980), granting employed inventors a significant share (30%-50%) of the income from their inventions, raising their IP activity dramatically. "The number of U.S. patents granted in a year rose from about 300 in 1980 to almost 2000 in 1995. A survey of university licensing activities documents 5396 licenses granted by universities between 1991 and 1995. More than 250 new companies were formed directly through university licenses in 1996—and a total of more than 1900 companies since the inception of the Bayh-Dole Act in 1980. Hundreds of products are already on the market that were developed under licenses—ranging from new vaccines to computer security systems, electronic music chips, chemotherapeutic agents, and low-pollution industrial burners." Lita Nelsen, *The Rise of Intellectual Property in the American University*, 6 SCIENCE 1460 (1998).

[20] During 2012 52.2% of the patents were granted to foreign entities and ONLY 47.8% were of U.S. origin (granted as distributed by USPTO), The leading countries of origin of these patents are Japan (20%) and Germany (5.5%) both of which legislatively assure much consideration to employed inventors. *See* 2012 USPTO Report, supra note 2, PART A1- Table A1-2a.

[21] Jay Dratler, *Incentive for People: The Forgotten Purpose of the Patent System*, 16 HARV. J. ON LEGIS. 129, 130-132, 168-173 (1979).

[22] *Id*. Catherine L. Fisk, WORKING KNOWLEDGE: EMPLOYEE INNOVATION AND THE RISE OF CORPORATE INTELLECTUAL PROPERTY 1800-1930, 178-183 (2009).

[23] Dratler, *supra* note 21. Ann Bartaw, *Inventors of the World I Unite! A Call for Collective Action by Employee-Inventors*, 37 SANTA CLARA L. REV. 673, 674 (1996-1997).

[24] Margaret J. Radin, REINTERPRETING PROPERTY 35-71(1993); Margaret J. Radin, *Property and Personhood*, 34 STAN. LAW REV. 957 (1982) (personal assets, in which one's personhood is embedded, should be protected vigorously, therefore may never be waived or transferred to thir parties).

[25] Steven Cherensky, *A Penny for Their Thoughts: Employee-Inventors, Preinvention Assignment Agreements, Property and Personhood*, 81 CAL. L. REV. 595, 648-649 (1993). Hughes, *supra* note 7.

[26] Henry Hansmann and Marina Santilli, *Authors' and Artists' Moral Rights: A Comparative Legal and Economic Analysis*, 26 J. LEGAL STUD. 95, 95-97 (1997).

[27] Catherine L. Fisk, *Credit Where It's Due: The Law and Norms of Attribution*, 95 GEO. L. J. 49, 61-62 (2006). Xiyin Tang, *The Artist as Brand: Toward a Trademark Conception of Moral Rights*, YALE L. J.

218 (2012). Discussing the right of attribution for creators of copyrighted works as part of artists' moral rights. I think this is also relevant to inventors. Slomit Yanisky-Ravid INTELLECTUAL PROPERTY AT THE WORKPLACE (Nevo, 2013) (Hebrew).

[28] American Invention Act (2011), section 4 amends section 115 of title 35 of the U.S. Code.

[29] Dratler, *supra* note 21**.**

[30] Section 6 of the German Service Invention Act. *See* Sanna Wolk, *Remuneration for Employee Inventors – is there a Common European Ground?*, 42 INT. REV. OF IP AND COMP. L. 272-298 (2011), *available at* http://www.juridicum.su.se/user/sawo/Publikationer/Wolk_CIPA_2011.pdf
(A comparison of national laws regarding employees' inventions and inventors' compensation in Germany, France, Spain, Sweden and the UK). *See*, USPO 2012 REPORT, *supra* note 2, for the leading position of Germany in filing patents in the U.S.

[31] American Invention Act (2011), section 4 amends section 115 of title 35, U.S. Code, facilitating the firm's efforts to submit an application to the patent office without the employee-inventor's oath or declaration or name.

[32] Parker, *supra* note 2.**Error! Bookmark not defined.**

[33] Richard A. Epstein, *Behavioral Economics: Human Errors and Market Corrections*, 73 U. CHI. L. REV. 111, 112-115 (2006); Cynthia L. Estlund, *How Wrong Are Employees About Their Rights and Why Does it Matter?*, 6 -11, 15-19, 30-34 N.Y.U.L. REV. 106 (2002).