Docket No. PTO-P-2016-0041

Notice of Roundtables and Request for Comments Related to Patent Subject Matter Eligibility.

Comments of the Software and Information Industry Association

January 18, 2016

I. Introduction

SIIA is the principal trade association of the software and information industries and represents over 800 companies that develop and market software and digital content for business, education, consumers, the Internet, and entertainment. SIIA's members range from start-up firms to some of the largest and most recognizable corporations in the world, and one of SIIA's primary missions is to protect their intellectual property and advocate a legal and regulatory environment that benefits the software and digital content industries. SIIA member companies are market leaders in many areas, including but by no means limited to:

- software publishing, graphics, and photo editing tools;
- corporate database and data processing software;
- financial trading and investing services, news, and commodities exchanges;
- internet search tools and cloud computing services;
- protection against software viruses and other malware; and
- education software and online education services.

SIIA has long been involved with the protection of intellectual property, and is well aware of the important incentives that the patent system creates for innovation. Many of our members have built large and valuable patent portfolios to protect their ground-breaking innovations, based on billions invested in R&D. At the same time, the patent system has never protected abstract ideas, laws of nature, or physical phenomena, and the judicious preservation of that line prevents the protection of amorphous subject matter that could otherwise be twisted to preempt virtually any type of profitable business.

In *Alice Corp. Pty. v. CLS Bank Int'l,* 134 S. Ct. (2014), the Supreme Court applied section 101 of the Patent Act and longstanding judicial precedent to prevent, as non-patentable subject matter, patent claims that do nothing more than implement an abstract idea "on a general-purpose digital computer."[1] Prior to the *Alice* decision, rejections by the Patent and Trademark Office under section 101 were routinely traversed by merely adding a computing device to any claim, even if the only new aspect of the claim was the computer performance of ordinary human financial, contractual, or organizational activity through the use of otherwise conventional computing technology.[2]

Alice modified this framework, building on prior decisions like *Mayo*[3] and *Bilski*,[4] and clarifying that such claims do not

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[1] *Alice,* 134 S. Ct. at 2357.

[2] *See, e.g.,* App. Ser. No. 11/763,682 by Yi Sun, directed to "Systems and Methods for Enabling Borrowing of Stock," (withdrawn from issuance post-Alice (Non-Final Rejection of Aug. 21, 2014) and subsequently abandoned (Sept. 24, 2015), but previously being allowed over a 101 rejection after the patent examiner suggested clarifying that the claim was performed by "code stored in a computer readable medium" to traverse the 101 rejection). *See also, e.g.,* Intellectual Ventures I LLC v. Symantec Corp., 838 F.3d 1307, 1313 (Fed. Cir. 2016) (finding that email filtering is an abstract idea long present in corporate mailrooms); Intellectual Ventures I LLC v. Capital One Bank (USA), 792 F.3d 1363, 1368 (Fed. Cir. 2015) (holding patent-ineligible claims to a system of tracking spending against a pre-set limit using a computer, and which only required use of generic computing functions); Perfect Web Technologies, Inc. v. InfoUSA, Inc., 587 F.3d 1324 (Fed. Cir. 2009) (pre-Alice, where the Federal Circuit relied on 35 U.S.C. 103 rather than 35 U.S.C. 101 to invalidate a claim directed to bulk e-mail distribution, but noting that the "submitted expert evidence" was "not necessary" in a manner similar to many cases decided post-Alice under 35 U.S.C. 101).

[3] Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289 (2012).

[4] Bilski v. Kappos, 561 U.S. 593 (2010).

survive under section 101. In order to find a claim ineligible under section 101, the Court instructed, requires a two-step analysis. First, the reviewing court must determine whether the claim is directed towards a patent-ineligible concept.[5] If the reviewing court can identify a patent ineligible concept in the first step, the reviewing court must examine the remainder of the claim, minus the patent ineligible concept, to see whether the remainder of the claim contains an inventive concept sufficient to bring the subject matter within patent eligible bounds.[6] In *Alice,* the Court had little trouble concluding that claims in computerized intermediated settlement did not involve patentable subject matter because the claims did no more than "simply instruct the practitioner to implement the abstract idea of intermediated settlement on a generic computer."[7] Importantly, *Alice* also gave affirmative guidance: those claims that "improved an existing technological process" would pass muster under section 101.[8] SIIA views the decision as a natural and beneficial evolution of the patent law that helpfully illuminates the bounds of patentable subject matter for computer-implemented inventions.

In the wake of *Alice*, the Federal Circuit has repeatedly analyzed a relatively straightforward question in two equivalent ways for software-related innovation: Does the claim at issue recite an improvement to a technological process?[9] Or, is the improvement necessarily rooted in

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[5] *Alice,* 134 S. Ct. at 2355.

[6] *Id.* at 2358.

[7] *Id.* at 2359. *Compare also Mayo*, 132 S. Ct. at 1297 (noting that the"prohibition against patenting abstract ideas 'cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.").

[8] *Alice*, 134 S. Ct. at 2358.

[9] Ultramercial, Inc. v. Hulu, LLC, 772 F.3d 709, 716 (Fed. Cir. 2014) (holding that "an 'attempt[] to limit the use' of an abstract idea 'to a particular technological environment' is insufficient to save a

computer technology?[10] SIIA submits these comments because the way the Federal Circuit has articulated that positive search

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claim" when the technical aspects of the claim are conventional); Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1335-39 (Fed. Cir. 2016) (holding that 'improv[ing] an existing technological process' through improvements to software conferred patent eligibility); In re Chorna, 656 Fed.Appx 1016, 1021-22 (Fed. Cir. 2016) (holding the claims patent ineligible because "buying and selling financial instruments via computers and communication networks" ... [by] selecting the best performing financial instruments within a tracking set of financial instruments" did not "impose meaningful limits that apply [a] formula to improve an existing technological process"); McRO, Inc. v. Bandai Namco Games America Inc., 837 F.3d 1299 (Fed. Cir. 2016) (holding the claims patent eligible because an "approach to automated three-dimensional computer animation" . . . "improved [the] existing technological process" . . . through incorporation of the claimed rules," which were not found in the prior art); Intellectual Ventures I LLC v. Symantec Corp., 838 F.3d 1307 (Fed. Cir. 2016) (relying on Intellectual Ventures v. Capitol One Bank, 792 F.3d at 1366–67, which stated "[a]n abstract idea does not become nonabstract by limiting the invention to a particular ... technological environment, such as the Internet"); FairWarning IP, LLC v. Latric Systems, Inc., 839 F.3d 1089 (Fed. Cir. 2016) (distinguishing from McRO because the claimed rules were not the improvement; instead, they represented "the same questions . . . that humans in analogous situations detecting fraud have asked for decades, if not centuries"); Versata Development Group, Inc. v. SAP America, Inc., 793 F.3d 1306, 1327 (Fed. Cir. 2015) (holding the claims patent ineligible because they "do not improve some existing technological process or solve some technological problem," and also holding that "the presence of a general purpose computer to facilitate operations through uninventive steps" did not cause the claim to have "a technological invention," which would otherwise be excluded from Covered Business Method (CBM) review under section 18(d) of the America Invents Act); *See also* Hostage, E. for RPX Corp (May 5, 2016) Insight into Alice and PTAB (explaining that 98% of instituted CBM petitions, which cannot be instituted for a "technological invention," have resulted in all claims being unpatentable).

[10] DDR Holdings, LLC v. Hotels.com, L.P., 773 F.3d 1245 (distinguishing the claims from software-related claims in other post-Alice cases because "the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically

for an improvement to a technological process as part of the *Alice* analysis can bring consistency and predictability to this area of law in a manner that can greatly benefit the software industry. First, *Alice*'s focus on technological improvements to technological processes has aligned the doctrine of subject matter eligibility as it applies to software patents with the purposes of the patent system to promote technical innovation. Second, that focus has reduced litigation costs and promoted greater efficiency by often introducing a threshold analysis of eligibility that does not require expert testimony or discovery.

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arising in the realm of computer networks," and noting that the solved problem did not make sense outside of a computing environment because there was "no possibility that by walking up to [a physical prior art] kiosk, the customer will be suddenly and completely transported outside the warehouse store and relocated to a separate physical venue associated with the third-party"); Versata Development Group, Inc. v. SAP America, Inc., 793 F.3d 1306, 1334 (Fed. Cir. 2015) (holding the claims patent ineligible because they "are not rooted in computer technology to solve a problem specifically arising in some aspect of computer technology" but instead recite a "commonplace business method . . . applied on a general purpose computer"); Vehicle Intelligence and Safety LLC v. Mercedes-Benz USA, LLC, 635 Fed. Appx 914, 920 (holding the claims patent ineligible because they are not "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks" because "they are broadly drafted to cover testing a vehicle operator for impairments, similar to a police officer field-testing a driver for sobriety."); Shortridge v. Foundation Construction Payroll Service, LLC, 655 Fed. Appx 848, 853 (finding the claim was not "necessarily rooted in computer technology" because it required "nothing more than the performance of an abstract business practice ... using a conventional computer"); Affinity Labs of Texas, LLC v. DIRECTV, LLC, 838 F.3d 1253, 1261-62 (finding the claims were not "necessarily rooted in computer technology" because the claims covered "the general concept of out-of-region delivery of broadcast content through the use of conventional devices, without offering any technological means of effecting that concept"); FairWarning IP, LLC v. Latric Systems, Inc., 839 F.3d 1089, 1094-98 (Fed. Cir. 2016) (finding claims that "merely implement an old practice in a new environment" are not "necessarily rooted in computer technology").

And they have done it with a simple and straightforward answer: focus on "technological solutions."[11]

The thread that ties the Federal Circuit decisions together stands in contrast to the way the PTO has initially implemented the decision. In the wake of the decision the PTO issued three general memoranda and three case-specific memoranda (totaling 42 pages of material) as well as 6 sets of detailed examples (totaling 151 pages of material) to examiners designed to guide them on applying the *Alice* framework.[12] While we appreciate and applaud this inclination towards circumspection, continuation of the existing piecemeal guidance is rendered unnecessary by the case law and likely to sow confusion among examiners and reversals in the courts.[13] The result is an inconsistent understanding and application of 35 U.S.C. 101, which sometimes renders the eligibility threshold non-existent for non-technical subject matter, and at other times renders the eligibility threshold insurmountable (without appeal) despite an agreed-upon technical point of novelty. SIIA therefore urges the PTO to issue practical, unitary guidance that focuses the examiner's inquiry on whether the claims recite a specific technological solution to a

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[11] *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1306 (Fed. Cir. 2016) (identifying as patent-eligible claims that recite "a specific, unconventional technological solution . . . to a technological problem.").

[12] *See generally* U.S. Patent and Trademark Office, Subject Matter Eligibility, https://www.uspto.gov/patent/laws-and-regulations/examination-policy/subject-matter-eligibility (containing post-Alice interim guidance, as well as updates).

[13] For reference, a challenging 30-hour law course for 2 JD credits is taught at Chicago-Kent College of Law based on a textbook, "Software Patents: A Practical Perspective" (CreateSpace Independent Publishing Platform; Version 1.1 edition (August 22, 2016)) which covers patentable subject matter in 74 pages, including a summary of the topic that is consistent with this even shorter comment by SIIA.

technological problem—an approach embraced by both the *Alice* decision and the Federal Circuit's interpretations of it.

II. Alice has benefitted the software industry

The software and technology sectors have been especially targeted by meritless patent suits that are simply cheaper to settle than fight, brought by non-practicing entities (commonly known as patent trolls).[14] The cost of NPE-based litigation has rendered owners of overbroad software patents to seek rents from our industry, creating a harmful tax on innovation. Resources that should be going to research and development too often get diverted to legal fees, and development and release of new technology is often delayed or abandoned because of the threat of baseless suits too expensive to litigate. Those patents that cover routine business tasks using a computer are used by patent trolls in an attempt to tax multiple industries without contributing any new technology to the public domain. Many of these patents remain in force, and still form the subject of lawsuits. Although the problem of this NPE-imposed tax on innovation remains, *Alice* has proven extremely beneficial in ameliorating it. We mention two issues of particular importance to the software industry.

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[14] *Cf.* Bilski v. Kappos, 561 U.S. 593, 655, 130 S. Ct. 3218, 3256, 177 L. Ed. 2d 792 (2010) (Stevens, J., concurring) ("As early as the 19th century, we explained that the patent laws are not intended to "creat[e] a class of speculative schemers who make it their business to watch the advancing wave of improvement, and gather its foam in the form of patented monopolies, which enable them to lay a heavy tax upon the industry of the country, without contributing anything to the real advancement of the arts.") (internal citation omitted). See also, e.g., Edekka LLC v. 3balls.com, Inc., No. 2:15-CV-541 JRG, 2015 WL 9225038 at *4 (E.D. Tex. Dec. 17, 2015) (awarding attorneys fees against NPE for pursuing litigation based on a patent that was "exceptionally weak on its face" pursuant to an "aggressive strategy that avoids testing its case on the merits and instead aims for early settlements falling at or below the cost of defense.").

A. Alice has ensured incentives to innovate while preventing the licensing of abstract ideas

First, the rule balances the benefits of incentives to innovate against the downside of preemption by prohibiting patents that broadly claim a result rather than a means of accomplishing that result through better software programming or advances in computer technology.[15] Otherwise, as the Federal Circuit has instructed, patent protection should not be available for claims that "inhibit innovation by prohibiting other inventors from developing their own solutions to the problem without first licensing the abstract idea."[16]

Alice's eligibility framework does permit patent claims to lie in technical innovations made in software—a result that SIIA supports. For example, improvements to the way that computer animation is programmed are well within the bounds of patentable subject matter, provided that the manner in which the invention is claimed is limited to a specific technological improvement that permits other ways of reaching similar results in the art.[17] As another example, specific improvements in database structures that cause computers to be able to index and query them faster represent patentable

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[15] *Compare, e.g,* Elec. Power Grp., LLC v. Alstom S.A., 830 F.3d 1350, 1354 (Fed. Cir. 2016) (properly rejecting claims in method of displaying information under section 101 because "the focus of the claims is not on such an improvement in computers as tools, but on certain independently abstract ideas that use computers as tools") *with* McRO, Inc. v. Bandai Namco Games Am. Inc., 837 F.3d 1299, 1316 (Fed. Cir. 2016) ("By incorporating the specific features of the rules as claim limitations, claim 1 is limited to a specific process for automatically animating characters using particular information and techniques and does not preempt approaches that use rules of a different structure or different techniques.").

[16] Elec. Power Grp., LLC v. Alstom S.A., 830 F.3d 1350, 1356 (Fed. Cir. 2016) (internal quotation and citation omitted).

[17] *See McRo*, 837 F.3d at 1314.

improvements to the relevant art.[18] The approach outlined in *Alice* as informed by the post-*Alice* case law encourages innovation in the software industry by rewarding the research and development necessary to create products while prohibiting ownership of abstract ideas that can block or tax that activity. The software industry, as reflected by the members of SIIA, is in dire need of the U.S. Patent Office to enforce this case law by efficiently allowing technical innovation without re-opening the flood gates for non-technical innovation.

B. The Post-*Alice framework* has made filing and litigation more efficient

From the perspective of our members, *Alice* has had a second important salutary effect on the patent system: it introduces a threshold analysis of eligibility that can and should be addressed early in proceedings.[19] When the patent's claims, construed in the manner most favorable to the plaintiff, assert a point of novelty in an abstract idea such as a financial practice, information-gathering, or some other generic human activity implemented through generic or conventional computer functionality, it will be struck down—and it can be struck down without expert testimony or discovery.[20] By making these basic

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[18] *E.g.,* Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1336 (Fed. Cir. 2016) (noting that claims in database structure "are directed to a specific improvement to the way computers operate, embodied in the self-referential table.").

[19] See Ultramercial, Inc. v. Hulu, LLC, 772 F.3d 709, 717 (Fed. Cir. 2014) (Mayer, J., concurring).

[20] *See, e.g.,* In re TLI Commc'ns LLC Patent Litig., 823 F.3d 607, 614-15 (Fed. Cir. 2016) (noting that patent claims directed to the idea of organizing digital photographs were outside the bounds of section 101, and affirming grant of motion to dismiss); OIP Techs., Inc. v. Amazon.com, Inc., 788 F.3d 1359, 1363 (Fed. Cir.), *cert. denied*, 136 S. Ct. 701, 193 L. Ed. 2d 522 (2015) (rejecting patent claims in the automation of offer-based price optimization through the use of a computer at the 12(b)(6) stage); FairWarning IP, LLC v. Iatric Sys., Inc., 839 F.3d 1089 (Fed. Cir. 2016) (dismissing on the pleadings

validity judgments early in the proceeding, *Alice*'s approach makes litigation more efficient, and has provided an important tool in fighting the low-quality patent cases that are the patent assertion entity's stock-in-trade.[21]

That same consideration ought to ripple through to the filing and examination process: *Alice*'s threshold analysis should allow patent owners to efficiently decide whether to pursue patent protection for a particular invention. Unitary PTO guidance focusing on a whether a claim recites a specific technological solution would minimize inconsistency and unpredictability within the PTO and achieve this goal.

III. The PTO Should emulate the Federal Circuit's focus on a claim's technological contribution in its guidance

A. Federal Circuit precedent focuses on technological improvements and technological solutions

There is room for further clarification of the legal landscape that PTO could foster, and that would benefit innovation in the software and information industries. Further agency clarification of what is considered a technical solution to a technical problem or a technical contribution would be helpful both to those that seek to protect their innovations, and those who would build on them. That focus has been central to the Federal Circuit's examination of subject-matter eligibility under section 101, and it ties both steps of the *Alice* analysis together. As it stated in *Enfish*, the Federal Circuit sees "no reason to conclude that all claims directed to improvements in

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claims directed at the abstract idea of fraud detection and audit via computer).

[21] *E.g.,* Edekka LLC v. 3balls.com, Inc., No. 2:15-CV-541 JRG, 2015 WL 9225038 at *4 (E.D. Tex. Dec. 17, 2015) (awarding attorneys fees against NPE for pursuing litigation bsed on a patent that was "exceptionally weak on its face" pursuant to an "aggressive strategy that avoids testing its case on the merits and instead aims for early settlements falling at or below the cost of defense.").

computer-related technology, including those directed to software, are abstract and necessarily analyzed at the second step of Alice, nor do we believe that Alice so directs. Therefore, we find it relevant to ask whether the claims are directed to an improvement to computer functionality versus being directed to an abstract idea, even at the first step of the Alice analysis."[22] That same concept consistently appears in numerous other cases involving application of section 101 to computer technology, and it is the *sine qua non* of subject matter analysis. For example:

- "[T]hese claims stand apart because they do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." *DDR Holdings, LLC v. Hotels.com, L.P.,* 773 F.3d 1245, 1257 (Fed. Cir. 2014). The claims of *DDR Holdings* solved a problem "in a particular, technical way." *BASCOM Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1351 (Fed. Cir. 2016) (describing *DDR Holdings*).
- "[R]ather than claiming some specific way of enabling a computer to monitor data from multiple sources across an electric power grid… [the claims] purport to monopolize every potential solution to the problem — any way of effectively monitoring multiple sources on a power grid. Whereas patenting a particular solution would incentivize further innovation in the form of alternative methods for achieving the same result, the court concluded, allowing claims like Electric Power Group's claims here would inhibit

[22] Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1335 (Fed. Cir. 2016).

> innovation by prohibiting other inventors from developing their own solutions to the problem without first licensing the abstract idea. *Elec. Power Grp., LLC v. Alstom S.A.,* 830 F.3d 1350, 1356 (Fed. Cir. 2016) (internal quotation and citation omitted).

Predictability and consistency in the courts' application of Section 101 to software-related patents has improved as the Federal Circuit has issued more decisions, and we expect this trend to continue.

B. The PTO's guidance should reflect the Federal Circuit's instructions

In contrast to the increasing clarity from the courts, the existing PTO guidance on these issues provides a potpourri of examples and considerations in a variety of art areas, but without the unifying theme that the Federal Circuit has given.[23] As a depiction of individual trees, the kind of survey contained in these documents fails to identify the forest. The result of that failure is less predictability at the PTO: different art units have dramatically different allowance rates depending on the assignment to art units—an assignment that depends on small differences in claim language.[24] We urge the PTO to use this opportunity to instruct its examiners to begin with an examination of whether a claim recites a technological solution to a technological problem (a technological contribution) rather than surveying a large number of examples for comparison.

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[23] *See, e.g.,* Examples, Abstract Ideas, *available at* https://www.uspto.gov/patents/law/exam/abstract_idea_examples.pdf, at 2; July 2015 Update: Subject Matter Eligibility, *available at* https://www.uspto.gov/sites/default/files/documents/ieg-july-2015-update.pdf at 3-5;

[24] http://www.bilskiblog.com/blog/2016/10/alicestorm-update-turbulence-and-troubles-.html

The issuance of unitary guidance on this point would clarify the examples already identified in PTO's existing body of administrative documentation. In addition, this suggested approach has the benefit of streamlining the examination process: finding that a technological contribution is present in a claim obviates the need to define an abstract idea in a claim because the technical feature can either supply the "inventive concept" of *Alice's* step two or establish that a claim is not directed to an abstract idea in step one. In making that determination as to whether a technological contribution is preset, the examiner would then look to considerations identified by the cases, such as whether the claimed invention provides a specific improvement to computer operations,[25] or whether the solution is "necessarily rooted in computer technology," [26] or whether the claim impermissibly asserts rights in "a manual task which cannot be rendered patent eligible merely by performing it with a computer." [27] Put another way, this focus on a technological solution organizes these examples and simplifies their application, but does not change the ultimate result of examination. The result will be higher quality patents, and more efficient examination and dispute resolution, which may also eliminate any need to increase patent office fees.

C. Criticisms of an approach that examines whether a claim recites a technical contribution are overstated.

To be sure, *Alice* has its critics, who initially claimed that the decision would spell doom for the software industry because it would be impossible for it to claim patent protection. And even in *Alice*'s wake, some of them express concern that defining what features of a claim are "technical" would be too

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[25] *E.g.*, *Enfish, supra; Bascom*, *supra;*

[26] *DDR*, 773 F.3d at 1255.

[27] Apple, Inc. v. Ameranth, Inc., 842 F.3d 1229, 1245 (Fed. Cir. 2016).

difficult and would undermine the incentives of the patent system.

None of these predictions have turned out to be correct. Even with the innovation tax that the software pays to non-practicing entities,[28] the software industry continues to contribute billions of dollars to the U.S. economy. Furthermore, *Enfish* and similar cases have undermined the assertion that *Alice* would spell the end of software patents. The body of case law at the Federal Circuit has grown rapidly and provided many informative examples, as one might expect from the common-law grounding of our legal system.

The rule laid down by the Federal Circuit readily lends itself to administrative codification, and would help improve the examination process.

Thank you for your consideration of our views.

Respectfully submitted,

Christopher A. Mohr

Vice President for Intellectual Property and General Counsel

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[28] *E.g.*, James Bessen, The Evidence is In: Patent Trolls do Hurt Innovation, Harvard Business Review, available at https://hbr.org/2014/07/the-evidence-is-in-patent-trolls-do-hurt-innovation (2014).