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TABLE OF CONTENTS

Editorial Note

Dr. Ya-Chi Chiang, *Graduate Institute of Intellectual Property,*

National Taipei University of Technology (Taiwan), Director of executive board of Asia Pacific Association of Technology and Society (registered in HK).

Appointed expert of domain name disputes resolution center (Taiwan)

Regular Articles

Huang-Chih Sung, *An Analytic Study On Permanent Injunction In Patent*

Litigations/ Assistant Professor of Graduate Institute of Technology,

Innovation, and Intellectual Property Management at the National

Chengchi University.

Matthew C. Bernstein and Miguel Bombach, *35 U.S.C. § 101: Post-Alice*

Landscape/ Matthew C. Bernstein is a patent litigator and the managing

partner of the San Diego office of Perkins Coie LLP. /Miguel Bombach

is an associate in Perkins Coie's San Diego office.

Commentary Articles

Ping-Hsun Chen, *Application of the Joinder Clause under the America Invents*

Act in the Context of Mobile Phone Technology/Assistant Professor,

Graduate Institute of Technology /Innovation and Intellectual Property

Management National Chengchi University.

Dr. Archna Roy 、 Omkar Joshi and Dr. Manthan Janodia/ Supplementary

Protection Certificate (SPC) for combination products: "Protection of

incremental inventions" in pharmaceutical field after Court of Justice of

European Union (CJEU) ruling in Actavis case.

EDITORIAL NOTE ON THE VOLUME 4 NUMBER 1 ISSUE OF 2015

Editorial Note

Dr. Christy, Yachi Chiang¹

Assistant Professor

Graduate Institute of Intellectual Property,
National Taipei University of Technology (Taiwan)

The editorial board is proud to announce that since the beginning of 2015, this journal has successfully passed the evaluation of world recognized academic publishing teams, and has been included in the SCOPUS and WESTLAW databases. It marks our continuous efforts in maintaining the standard and quality of academic publications, also increases the visibility of published articles. We want to express our gratitude to all authors, reviewers, editors, and advisors of this journal.

We also want to take this opportunity to express our editorial policy: We welcome submissions from legal, managerial and interdisciplinary perspectives on IP issues across the world. In order to cover IP issues, we will not limit the scope of this journal to a single jurisdiction. This policy has been once again proved by the content of this issue. Articles of this issue are from the US, India, Australia and Taiwan, examining various IP legal and managerial issues from both academic and entrepreneurial angles. Our goal is to make this journal a globally recognized IP professional periodical, and we would like to invite you to work toward this goal together.

Appendix

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Dr. Christy, Ya-chi Chiang,

¹ Director of executive board of Asia Pacific Association of Technology and Society (registered in HK). Appointed expert of domain name disputes resolution center (Taiwan).

AN ANALYTIC STUDY ON PERMANENT INJUNCTION IN PATENT LITIGATIONS

Huang-Chih Sung*

ABSTRACT

This paper conducted an analytic study to realize how the Federal Courts in the United States applied *eBay*'s opinion in the subsequent cases. The analytic study shows that a competition between the plaintiff and the defendant in the market is the most important factor for the courts to award an injunctive relief. The competitions between the plaintiff and the defendant can be divided into three categories: (1) the patent owner is a direct competitor of the defendant; (2) the patentee is an indirect competitor of the defendant; and (3) the patent holder is a research institute competing with other research institutes and universities in the technology market. The analytic study also shows that there have been the following four kinds of mechanisms to compensate a patentee who has already prevailed on the merits and been awarded damages but didn't obtain a permanent injunction relief : (1) without providing any further remedy; (2) to order the plaintiff to file a new lawsuit for the defendant's subsequent infringement after trial; (3) to award an ongoing royalty to the plaintiff; and (4) to award a compulsory license and an ongoing royalty to the plaintiff. This paper also discusses how *eBay* influences on NPEs and finds that the NPEs with R&D and the NPEs without R&D should be differently considered in permanent injunction proceedings. The NPEs without R&D should be hard to obtain a permanent injunction, but the NPEs with R&D should be possible to obtain a permanent injunction.

Keywords: patent, permanent injunction, *eBay* case, analytic study, NPE

I. Introduction

A permanent injunction is based on the exclusive right of a patent which allows a patentee to reserve the "status quo"² and to enjoin the infringer from manufacturing, offering for sale, selling, using, or importing the infringing product or using the infringing process without the patentee's prior

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² Thomas R. Lee, *Preliminary Injunctions and the Status Quo*, 58 WASH. & LEE L. REV. 109, 110 (2001).

permission.^{3,4} If someone infringes a patent right without prior consent of the patent owner, courts may grant injunctions in accordance with the principles of equity under 35 U.S.C. § 283.⁵

To determine whether to grant a permanent injunction in the non-patent infringement cases, the Supreme Court of the United States has been applying the four-factor equitable test for a very long time.⁶ However, it was an exception in the patent infringement cases before the decisive *eBay* case in 2006.⁷

Before *eBay*, the Federal Circuit did not consider the four equitable factors while determining whether to grant a permanent injunction. Shortly after its establishment in 1982, the Federal Circuit noted in *Smith Int'l Inc. v. Hughes Tool Co.*⁸ in 1983 that the patent owner should be entitled to a complete protection of his patent right once the patent at issue had been found valid and infringed.⁹ Moreover, the Federal Circuit in *Richardson v. Suzuki Motor Co.*¹⁰ further created a “general rule” which demonstrated that a permanent injunction should be granted automatically once the patent at issue had been determined to be valid and infringed.¹¹

However, the Supreme Court in the decisive *eBay* case held that a four-factor test based on the principles of equity must be applied while

³ 35 U.S.C. § 154 (a)(1): “CONTENTS.—Every patent shall contain a short title of the invention and a grant to the patentee, his heirs or assigns, of the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States, and, if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States, or importing into the United States, products made by that process, referring to the specification for the particulars thereof.”

⁴ See Michael S. Kramer, *Valuation and Assessment of Patents and Patent Portfolios Through Analytical Techniques*, 6 J. MARSHALL REV. INTELL. PROP. L. 463, 466 (2007).

⁵ 35 U.S.C. 283 Injunction: “The several courts having jurisdiction of cases under this title may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable.”

⁶ Elizabeth E. Millard, *Injunctive Relief in Patent Infringement Cases: Should Courts Apply a Rebuttable Presumption of Irreparable Harm After eBay Inc. v. MercExchange, L.L.C.?* 52 ST LOUIS U. L. J., 985, 993(2008).

⁷ See *infra* Section II.

⁸ *Smith Int'l Inc. v. Hughes Tool Co.*, 718 F. 2d 1573 (Fed. Cir. 1983).

⁹ *Id.* at 1577 (“The very nature of the patent right is the right to exclude others. Once the patentee’s patents have been held to be valid and infringed, he should be entitled to the full enjoyment and protection of his patent rights. The infringer should not be allowed to continue his infringement in the face of such a holding. A court should not be reluctant to use its equity powers once a party has so clearly established his patent rights.”)

¹⁰ *Richardson v. Suzuki Motor Co.*, 868 F. 2d 1226 (Fed. Cir. 1989).

¹¹ *Id.* at 1246-47.

considering whether to grant a permanent injunction.¹² After almost ten years, the opinion of *eBay* has been deriving many cases in which the patent infringement damages were awarded (by finding patents at issue valid and infringed) but the motions for permanent injunction were denied. As a consequence, those cases allowed the defendants who had been found patent infringement continuing to infringe the patents at issue. This is a serious problem derived from *eBay* since the patentee's right to exclude is not fully protected under this situation.

Furthermore, it's nearly impossible for the non-practicing entities (NPEs) to obtain any more permanent injunction under *eBay*'s opinion.¹³ However, a large portion of NPEs such as universities, government-funded institutes and some private sectors which conduct their own research and development (R&D) are essential engines for scientific and technical researches. Since science and technology developments are very competitive¹⁴, to totally deny the injunctive relief moved by the NPEs which conduct their own R&D may discourage the progress of science and useful arts.

Thus, the purposes of this paper are to find out the solutions to the following two questions: (1) how to compensate the patentee who has already prevailed on the merits and been awarded damages but doesn't obtain a permanent injunction relief; and (2) whether the NPEs having their own R&D and the NPEs without their own innovation should be differently considered for the permanent injunction proceedings?

Firstly, this paper briefly introduces the *eBay* case. Secondly, an analytic study is conducted to realize how the Federal Courts in the United States applied *eBay*'s opinion. The analytic study is divided into two parts: the cases in which a permanent injunction was granted and the cases in which a permanent injunction was denied. The first part of the analytic study shows that a competition between the plaintiff and the defendant in the market is the most important factor for the courts to award an injunctive relief to the plaintiff. This paper also finds that the competitions between the plaintiff and the defendant can be divided into three categories: (1) the patent owner is a direct competitor of the defendant; (2) the patentee is an indirect competitor of the defendant; and (3) the patent holder is a research institute competing with other research institutes and universities in the technology market.

The second part of the analytic study shows that there had been four kinds of mechanisms adopted by the Federal Courts to compensate a patentee who had

¹² See *infra* Section II.

¹³ Christopher B. Seaman, *Ongoing Royalties in Patent Cases after eBay: An Empirical Assessment and Proposed Framework*, 23 TEX. INTELL. PROP. L.J. 203, 213 (2015).

¹⁴ Robert P. Merges, *Property Rights Theory and The Commons: The Case of Scientific Research*, collected in SCIENTIFIC INNOVATION, PHILOSOPHY, AND PUBLIC POLICY 145, 148 (1996).

already prevailed on the merits and been awarded damages but didn't obtain a permanent injunction relief : (1) without providing any further remedy; (2) ordering the plaintiff to file a new lawsuit for the defendant's subsequent infringement after trial; (3) awarding on-going royalty to the plaintiff; and (4) awarding compulsory license and on-going royalty to the plaintiff. Lastly, this paper discusses the influence on NPEs after eBay, and finds that the NPEs having their own R&D and the NPEs without their own innovation should be differently considered in permanent injunction proceedings.

II. The Decisive *eBay* Case

eBay Inc. ("eBay") and its subsidiary Half.com operate a website on the Internet which allows users to post the goods they want to sell on the Internet, in which the goods may be sold at a pre-determined price or through an auction. MercExchange, L. L. C. ("MercExchange") is the patent owner (assignee) of three patents: U.S. Patents No. 5,845,265 ("the '265 patent"), No. 6,085,176 ("the '176 patent"), and No. 6,202,051 ("the '051 patent")(collectively, "the patents in suit"). After finding that the website of eBay and Half.com were infringing the patents in suit, MercExchange provided an offer to license the patents to eBay and Half.com, but they did not reach a licensing agreement. MercExchange sued against eBay and Half.com in the United States District Court for the Eastern District of Virginia alleging patent infringement.¹⁵ The district court found that the patents in suit were valid and infringed by eBay and Half.com, so the district court awarded damages for both direct and induced patent infringements.¹⁶

A . District Court's Decision—Applying Traditional 4-Factor Test

In addition to claim for damages, MercExchange also filed a motion for permanent injunction to enjoin eBay and Half.com from continuously operating the auction website. In adjudicating the motion for permanent injunction, the district court applied the traditional four-factor test.¹⁷ With regard to the factor of irreparable harm, the district court held that this factor should be in eBay's favor by reason that MercExchange would not suffer irreparable harm in the absence of permanent injunction because of MercExchange's lack of commercial activities in practicing the patents in suit and willing to license the patents in suit to eBay and Half.com.¹⁸

In regard to the factor of adequate remedy at law, the district court found

¹⁵ MercExchange v. eBay, 275 F. Supp. 2d 695, 695-699 (E.D.Va.,2003).

¹⁶ *Id.* at 695-710.

¹⁷ *Id.* at 710-715.

¹⁸ *Id.* at 710-712.

that any harm incurred by MercExchange would be compensated by monetary damages because of MercExchange’s willingness to license the patents in suit to eBay. For the factor of balance of hardship, the district court noted that the court would likely tend to award the enhanced damages to MercExchange for eBay’s post-verdict patent infringement, so MercExchange would be fully compensated for eBay’s any post-verdict infringement in the absence of permanent injunction. In regard to the factor of public interest, the district court held that the factor of public interest equally supported: (1) denying a permanent injunction to protect the public interest to use a patented business model which the patent owner declined to practice, and (2) granting a permanent injunction to protect the patent right of patent owner. In sum, the district court denied the motion for permanent injunction.¹⁹

B. Federal Circuit’s Decision—Applied the General Rule

MercExchange appealed. The Federal Circuit cited *Richardson v. Suzuki Motor Co.*²⁰ to apply its “general rule” that a permanent injunction should be automatically granted once one of the patents in suit was held valid and infringed.²¹ In other words, under the general rule which was unique to patent disputes, courts would grant permanent injunctions against patent infringement without exceptional circumstances.²²

Accordingly, the Federal Circuit reversed the decision of the district court.²³ eBay appealed and the Supreme Court granted certiorari to determine the appropriateness of the general rule.²⁴

C. The decision of the Supreme Court

After adjudication, the Supreme Court held that the district court had erred in its categorical denial of a permanent injunction, and the Federal Circuit had erred in its categorical grant of a permanent injunction.²⁵

First of all, the Supreme Court noted that a four-factor test based on the principles of equity must be applied while considering whether to grant a permanent injunction in patent litigations. The Supreme Court cited *Weinberger v. Romero-Barcelo*²⁶ and *Amoco Production Co. v. Gambell*²⁷ to conclude that a patentee-plaintiff seeking for a permanent injunction must demonstrate that: (1)

¹⁹ *Id.* at 711-715.

²⁰ *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1246-47 (Fed. Cir. 1989).

²¹ *MercExchange v. eBay*, 401 F. 3d 1323, 1338 (Fed. Cir. 2005).

²² *Id.* at 1339.

²³ *Id.* at 1340.

²⁴ *MercExchange v. eBay*, 546 U.S. 1029 (U.S., 2005).

²⁵ *MercExchange v. eBay*, 547 U.S. 388, 394 (U.S., 2006).

²⁶ *Weinberger v. Romero-Barcelo*, 456 U.S. 305, 311-313 (1982).

²⁷ *Amoco Production Co. v. Gambell*, 480 U.S. 531, 542 (1987).

it has incurred an irreparable harm; (2) remedies available at law such as monetary damages are not adequate to compensate for the harm; (3) a remedy in equity is warranted while considering the balance of hardships between the patentee and defendant; and (4) the public interest wouldn't be disserved by a permanent injunction.²⁸

The Supreme Court held that the Patent Law is not an exception of the principles of equity. To support this opinion, the Supreme Court cited 35 U.S.C. §283²⁹ to rule that the Patent Law expressly states that the permanent injunctions "may" issue "in accordance with the principles of equity."³⁰ Therefore, the permanent injunction only "may be issued" rather than "be automatically issued" like the general rule applied by the Federal Circuit. In other words, whether to grant a permanent injunction should base on the principles of equity rather than the general rule.

The Supreme Court also pointed out that the district court had erred in applying the four-factor test. The district court denied a permanent injunction by concluding that MercExchange would not suffer irreparable harm in the absence of permanent injunction because of MercExchange's lack of commercial activities in practicing the patents in suit and its willingness to license the patents in suit to eBay and Half.com. However, the Supreme Court held that some patent owners such as university researchers or independent inventors might like to license their patents and still be possible to satisfy the traditional four-factor test although they do not have their own products in the market.^{31,32} Therefore, the Supreme Court found no ground of categorically denying the possibilities for a non-practicing entity to obtain a permanent injunction. Accordingly, the Supreme Court vacated the judgments of the lower courts and remanded for further trial in accordance with the opinion pointed out by this judgment.

In addition, there were two concurring opinions in this case. The first concurring opinion was drafted by Justice Roberts and joined by Justice Scalia and Justice Ginsburg. The first concurring opinion agreed with the majority's conclusion that the four equity factors should be considered while determining a permanent injunction in patent litigation, and a patentee's right to exclude does not automatically entitle the patent owner to a permanent injunction.³³

²⁸ *Supra* note 25, at 391.

²⁹ 35 U.S.C. §283 provides that "[t]he several courts having jurisdiction of cases under this title may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable".

³⁰ *Supra* note 25, at 391-392.

³¹ *Id.* at 393.

³² See also Gavin D. George, *What is Hiding in The Bushes? eBay's Effect on Holdout Behavior in Patent Thickets*, 13 MICH. TELECOMM. TECH. L. REV. 557, 566 (2007).

³³ *Supra* note 25, at 394-395.

The second concurring opinion was drafted by Justice Kennedy and joined by Justice Stevens and Justice Souter. The second concurring opinion also agreed with the majority's conclusion that the four equity factors should be considered while determining a permanent injunction in patent litigation.³⁴ More importantly, the second concurring opinion emphasized that the following facts should be considered while determining whether to grant a permanent injunction: (1) the patent owner does not manufacture and sell its own patented products, but primarily licenses its patents to earn the licensing fees; (2) the subject matter of the patent at issue is only a small component of the whole accused products; and (3) the patent at issue is a business-model method patent.³⁵

D. The Second District Court's Decision

Following the decision of the Supreme Court and the affirmed verdict concluding that eBay willfully infringed the patents in suit, the district court applied the four-factor test to determine whether to grant a permanent injunction.³⁶ Since the district court disfavored in granting a permanent injunction in all of the four factors, it finally denied the motion for a permanent injunction.³⁷

III. An Analytical Study on the Decisions Granting a Permanent Injunction

This paper conducts an analytical study to learn the recent developments of permanent injunction adjudications in patent litigations after *eBay*. The analytical study is divided into two parts: the cases granting a permanent injunction and the cases denying a permanent injunction. This section firstly demonstrates the analytical study for cases which granted a permanent injunction.

For the cases which granted a permanent injunction, this paper finds that a competition between the plaintiff and the defendant in the market is the most important factor for the courts to award an injunctive relief to the plaintiff.³⁸ This paper also finds that the competitions between the plaintiff and the defendant can be divided into three categories: (1) the patent owner is a direct competitor of the defendant; (2) the patentee is an indirect competitor of the defendant; and (3) the patent holder is a research institute competing with other

³⁴ *Id.* at 395.

³⁵ *Id.* at 396-397.

³⁶ *MercExchange v. eBay*, 500 F. Supp. 2d 556, 556 (E.D. Va., 2007).

³⁷ *Id.* at 568-587.

³⁸ *Presidio Components Inc. v. Am. Tech. Ceramics Corp.*, 702 F.3d 1351, 1362 (Fed. Cir. 2012)(“Direct competition in the same market is certainly one factor suggesting strongly the potential for irreparable harm without enforcement of the right to exclude.”)

research institutes and universities in the technology market. These three categories are introduced and analyzed as follows.

A. The Patent Owner is a Direct Competitor of the Defendant

For the first category in which the patentee is a direct competitor of the defendant, three representative cases are analyzed as below.

1. Tivo Inc. v. EchoStar Communications Corp.

The plaintiff Tivo is the patent owner of U.S. Patent No. 6,233,389 (“the ‘389 patent”). Tivo sued EchoStar in the United States District Court for the Eastern District of Texas and filed a motion for permanent injunction, alleging that the digital video recorders (“DVRs”) provided by EchoStar infringed several claims of the ‘389 patent.³⁹

First, the district court considered the first two factors together. The most important issue was whether Tivo would suffer irreparable harm if a permanent injunction was not granted. Tivo argued that EchoStar was its direct competitor, so it would lose its market share and suffer irreparable injuries to its good will, reputation and brand without injunctive relief.⁴⁰ On the other hand, EchoStar asserted that Tivo would not suffer irreparable harm because Tivo did not move for a preliminary injunction. EchoStar further argued that the price erosion was little, so the monetary damages were enough to compensate Tivo’s loss.⁴¹

With regard to these two factors, the district court emphasized that EchoStar was Tivo’s direct competitors. The impact of EchoStar’s ongoing infringement was influencing Tivo’s market share and the loss of market share was the most important factor in finding Tivo’s irreparable harm. Since Tivo was a new company having only a main product, losses of market share and customer base caused by the patent infringement would result in irreparable harm. Accordingly, the district court favored Tivo in these two factors.⁴²

In regard to the factor of balance of hardships, the district court favored granting a permanent injunction by reason that EchoStar was Tivo’s direct competitors and Tivo was only a new company having single one product. Tivo would face irreparable harm if EchoStar was allowed to continue infringing the ‘389 patent.⁴³ For the factor of public interest, the district court also favor granting a permanent injunction because the public interest is to maintain a strong patent system.⁴⁴ The district court further noted that the accused products were used only for entertainment rather than public health, so the

³⁹ Tivo v. EchoStar Communications Corp., 446 F. Supp. 2d 664, 665 (E.D. Tex. 2006).

⁴⁰ *Id.* at 666-667.

⁴¹ *Id.* at 668.

⁴² *Id.* at 670.

⁴³ *Id.*

⁴⁴ *Id.* at 670.

public interest of maintaining a strong patent system was larger than the continuous use of the infringing entertainment products.⁴⁵ In conclusion, the court granted a permanent injunction.⁴⁶

2. i4i Ltd. v. Microsoft Corp.

i4i Limited Partnership and Infrastructures for Information Inc. (“i4i”) which is a software consulting company owns U.S. Patent No. 5,787,449 (hereinafter “the ‘449 patent”). i4i filed a lawsuit against Microsoft Corporation (“Microsoft”) in the United States District Court for Eastern District of Texas, alleging that the custom XML editor in some versions of Microsoft Word infringed i4i’s ‘449 patent.⁴⁷ After a seven-day trial, the jury found that the ‘449 patent was valid and some versions of Microsoft Word had infringed the ‘449 patent. As a result, the district court awarded a total of U.S.\$ 200 million in damages to i4i. Furthermore, because the jury found that Microsoft was liable for willful patent infringement, the district court awarded additional U.S.\$ 40 million as enhanced damages.⁴⁸

Moreover, i4i filed a motion for permanent injunction. The district court cited *eBay* to consider the four equity factors and then granted a permanent injunction to enjoin Microsoft from performing the some specific actions⁴⁹ with many versions of Microsoft Word.⁵⁰ It is worth noting that the permanent injunction applied only to users who purchased or licensed Microsoft Word after the date the permanent injunction became effective which was 60 days from the date of the permanent injunction order.⁵¹

Microsoft appealed. With regard to the factor of irreparable harm, the Federal Circuit affirmed the district court’s finding that i4i had been irreparably injured by Microsoft’s infringement because Microsoft and i4i had been direct competitors in the custom XML market, and i4i lost its market share as a result

⁴⁵ *Id.*

⁴⁶ See also Conrad Gosen, *Tivo, Inc. v. EchoStar Corp.: Providing Clarity to Contempt Proceedings in Patent Cases*, 27 BERKELEY TECH. L. J. 273, 283-284 (2012).

⁴⁷ i4i Ltd. Partnership v. Microsoft Corp., 670 F. Supp. 2d 568, 572-573 (E.D. Tex. 2009).

⁴⁸ *Id.* at 573.

⁴⁹ The permanent injunction joined Microsoft from (1) selling, offering to sell, and/or importing in or into the United States any Infringing and Future Word Products that have the capability of opening a .XML, .DOCX, or .DOCM file (“an XML file”) containing custom XML; (2)using any Infringing and Future Word Products to open an XML file containing custom XML; (3)instructing or encouraging anyone to use any Infringing and Future Word Products to open an XML file containing custom XML; (4)providing support or assistance to anyone that describes how to use any infringing and Future Word Products to open an XML file containing custom XML; and (5)testing, demonstrating, or marketing the ability of the Infringing and Future Word Products to open an XML file containing custom XML.

⁵⁰ *Supra* note 47, at 599-602.

⁵¹ *Id.* at 602-603.

of Microsoft's infringing Word products.⁵² The Federal Circuit cited *eBay* to hold that the district court was right to determine the irreparable harm by considering evidence of i4i's past harm.⁵³ Accordingly, the Federal Circuit favored i4i in this factor.

For the factor of "inadequate remedies at law", the Federal Circuit cited *Broadcom Corp. v. Qualcomm Inc.*⁵⁴ to rule that the difficulty in counting monetary damages is evidence for this factor that remedies at law are not adequate. In this case, the district court found that i4i had forced to change its business strategy because Microsoft's infringing products had occupied about 80% of the custom XML market. Accordingly, the Federal Circuit concluded that any monetary damages were not adequate remedies at law to cover the injuries of i4i, such as the losses of market share, custom goodwill, and brand recognition. As a result, the Federal Circuit held that it wasn't an abuse of discretion for the district court to favor i4i in this factor.⁵⁵

The Federal Circuit held that the balance of hardships favored i4i by reasons that: (1) i4i's products based on the '499 patent were its primary products; and (2) Microsoft's infringing custom XML editor had been found to be only one of thousands of features within Microsoft's Word products, used by merely a small portion of Microsoft's clients.⁵⁶ In other word, the negative impact on Microsoft by a permanent injunction would be limited.

The Federal Circuit held that the public interest factor also favored i4i because the scope of the permanent injunction was narrow, i.e., only to users who purchased or licensed Word after the date the permanent injunction became effective. The Federal Circuit concluded that the district court had not abused its discretion except as to the injunction's effective date, i.e., 60 days from the date of the order.⁵⁷

Although the Federal Circuit affirmed the permanent injunction granted by the district court, the Federal Circuit found that the district court erred in ordering Microsoft to obey the permanent injunction order within 60 days. Since the district court found that Microsoft had shown its possibility to comply with the permanent injunction in 5 months, the Federal Circuit concluded that the permanent injunction's effective date should be 5 months rather than 60 days, from the date of the permanent injunction order—August 11, 2009.^{58,59}

⁵² i4i Ltd. v. Microsoft Corp., 598 F3d 831, 861 (Fed. Cir. 2009).

⁵³ *Id.* at 861-862.

⁵⁴ *Broadcom Corp. v. Qualcomm Inc.*, 543 F. 3d 683, 703-04 (Fed. Cir. 2008).

⁵⁵ *Supra* note 52, at 862.

⁵⁶ *Id.* at 862-863.

⁵⁷ *Id.* at 863.

⁵⁸ *Id.* at 863-864.

⁵⁹ See also Ryan Klimczak, *i4i and the Presumption of Validity: Limited Concerns over the Insulation of Weak Patents*, 27 BERKELEY TECH. L. J. 299, 307-308 (2012).

3. Apple Inc. v. Samsung Electronics Co., Ltd.

Apple Inc. (“Apple”) introduced the iPhone products in 2007. Apple had applied and obtained many patents including U.S. Patent No. 5,946,647, No. 8,046,721 and No. 8,074,172 (collectively, “patents in suit”) which cover many of the innovative technologies incorporated into the iPhone products. After that, Samsung also introduced competing smartphones into the market, so undoubtedly Samsung and Apple are direct and cruel competitors in the tablet and smartphone markets. Apple filed a suit against Samsung alleging patent infringement in 2012. After trial, the jury returned a verdict finding that the patents in suit were valid and nine of Samsung’s products infringed the three patents. The jury thus awarded Apple US \$119,625,000 for Samsung’s patent infringement of the patents in suit.⁶⁰ Apple also filed a motion for permanent injunction to enjoin Samsung from making, sell, using, or importing software (not the entire products) which was capable of implementing those infringing features in its tablets and smartphones. However, the district court denied the motion, holding that Apple had not proven that it would suffer irreparable harm in the absence of a permanent injunction. Apple appealed.⁶¹

With regard to the factor of irreparable harm, Apple argued that the district court erred in holding that Apple had failed to show irreparable harm because it had failed to prove a causal nexus between the lost sales and Samsung’s patent infringement. For this factor, the Federal Circuit first referred to the “ecosystem effect”, which demonstrates that one corporation’s clients will purchase that corporation’s products repeatedly and even recommend them to other people. The Federal Circuit found that Samsung was Apple’s direct competitor in the market of tablets and smartphones and that this direct competition influenced Apple’s downstream sales (such as accessories, applications, software, and the next generation of tablets and smartphones) due to the ecosystem effect. For this reason, the Federal Circuit held that Apple had shown that it would suffer irreparable harm without permanent injunction. The Federal Circuit thus concluded that this factor favored in granting a permanent injunction.⁶²

In regard to the factor of inadequate remedy at law, the Federal Circuit noted that Apple’s lost sales of tablets and smartphones because of Samsung’s infringement were hard to quantify due to the aforementioned ecosystem effect. Therefore, the Federal Circuit held that this factor weighed in favor of granting a permanent injunction.⁶³

For the factor of balance of hardships, the Federal Circuit found that the

⁶⁰ Apple Inc. v. Samsung Electronics Co., Ltd., 2015 WL 5449721, at *1 (C.A. Fed. (Cal.), 2015)

⁶¹ *Id.* at *2.

⁶² *Id.* at *3-8.

⁶³ *Id.* at *8-9.

permanent injunction proposed by Apple only targeted some specific technology features rather than the entire products. Furthermore, Samsung admitted that it would be easy for it to design around the three patents in suit. Therefore, the Federal Circuit held that this factor weighed in favor of granting a permanent injunction.⁶⁴ In the opinion of the Federal Circuit, the factor of public interest also favored Apple because the public interest generally favors the enforcement of patent rights.⁶⁵ In conclusion, the Federal Circuit vacated and remanded for further proceedings.

B. The Patent Owner is an Indirect Competitor of the Defendant

For the second category in which the patentee is an indirect competitor of the defendant, three representative cases are analyzed as below.

1. Novozymes A/S v. Genencor Int'l, Inc.

Novozymes A/S (hereinafter “Novozymes”) is a Danish company owing the U.S. Patent No. 6,867,031 (hereinafter “the ‘031 patent”). Novozymes licensed the ‘031 patent to its wholly-owned subsidiary Novozymes of North America, Inc. (hereinafter “NZNA”), allowing NZNA to manufacture and sell the patented product (industrial enzymes) in the United States. In return for using the patented technology, NZNA needs to pay royalties at the rate of 40% of net sales to the mother company Novozymes.⁶⁶

Novozymes sued Genencor International, Inc. and Enzyme Development Corporation (collectively “the Defendants”) in the United States District Court for District of Delaware in 2005, alleging infringement of the ‘031 patent and also moved for a permanent injunction. The district court held the ‘031 patent valid and infringed, and awarded reasonable royalty damages, double damages and reasonable attorney’s fees to Novozymes.⁶⁷

The district court cited *eBay* to apply the four-factor test in adjudicating the motion for permanent injunction. In regard to the factor of irreparable harm, the district court noted that Novozymes licensed the ‘031 patent to its subsidiary not only exchanging for the 40% royalty, but also expecting that the subsidiary’s value would increase with the successful sales of the patented product. Although Novozymes did not market its own patented product, the district court found that it had suffered and would continue to suffer irreparable harm without permanent injunction. Accordingly, the district court favored Novozymes in this factor.⁶⁸

⁶⁴ *Id.* at *9.

⁶⁵ *Id.* at *10.

⁶⁶ Novozymes A/S v. Genencor Int'l, Inc., 474 Supp. 2d 592, 595-97 (D. Del. 2007).

⁶⁷ *Id.* at 595-96.

⁶⁸ *Id.* at 612.

With regard to the factor of adequacy of monetary damages, the district court held in Novozymes's favor by reason that the monetary damages were not adequate to compensate Novozymes for the patent infringement because Novozymes marketed its patented technology by licensing it to a subsidiary.⁶⁹ For the factor of balance of hardship, the district court favored Novozymes by reasons that: (1) Novozymes would suffer irreparable injuries from future patent infringement; and (2) the Defendants would not be harmed by a permanent injunction because they had already pulled the accused products from the market. In regard to the public interest, the district court noted that a permanent injunction would not harm the public interest. In conclusion, the district court granted a permanent injunction.⁷⁰

It's worth noting that Novozymes was not a direct competitor of the Defendants. The direct competitor of the Defendants was Novozymes' subsidiary and non-exclusive licensee-- NZNA. However, the district court still awarded an injunctive relief to Novozymes. This paper finds the key reasons are: (1) NZNA was a wholly-owned and fully-controlled subsidiary of Novozymes; (2) Novozymes licensed the '031 patent to NZNA in exchange for a 40% royalty; and (3) NZNA's successful market of the patented product in the U.S. would directly benefit NZNA and indirectly benefit Novozymes. For these reasons, we may view Novozymes as an indirect competitor of the Defendants⁷¹: if NZNA is directly and irreparably harmed by future patent infringement, Novozymes would be indirectly and irreparably harmed as well.

Accordingly, the importance of *Novozymes A/S v. Genencor Int'l, Inc.* is to expand the grant of permanent injunction from direct competitors to an indirect competitor who was a patentee and licensed its patents to a licensee which was a direct competitor of the Defendants in the market.

2. Broadcom Corp. v. Qualcomm Inc.

Broadcom Corporation ("Broadcom") is the patent owner of the U.S. Patents No. 6,847,686 ("the '686 patent"), No. 5,657,317 ("the '317 patent"), and No. 6,389,010 ("the '0106 patent") (collectively "the patents in suit"). Broadcom sued Qualcomm Incorporated ("Qualcomm") alleging patent infringement and moved for a permanent injunction. The district court held the patents in suit valid and infringed, and granted a permanent injunction to enjoin Qualcomm from manufacturing and selling its CDMA 2000 chips.⁷² Qualcomm appealed.

⁶⁹ *Id.*

⁷⁰ *Id.* at 612.

⁷¹ Ernst Grumbles III, Rachel C. Hughey & Susan Perera, *The Three Year Anniversary of eBay v. MercExchange: A Statistical Analysis of Permanent Injunctions*, INTELL. PROP. TODAY, at *28 (2009).

⁷² *Broadcom Corp. v. Qualcomm Inc.*, No. 05-CV-467 (C.D. Cal. 2007).

With regard to the factor of irreparable harm, Qualcomm argued that Qualcomm's CDMA 2000 chips were different to Broadcom's WCDMA chips. Since Broadcom did not sell the CDMA 2000 chips, it could not allege injuries resulting from Qualcomm's sales of CDMA 2000 chips. On the other hand, Broadcom argued that the CDMA 2000 chips were substitutes of the WCDMA chips sold by Broadcom, and Qualcomm itself had admitted that it competed indirectly with Broadcom.⁷³ After adjudication, the Federal Circuit favored Broadcom in this factor by noting that: (1) Qualcomm itself had admitted that it was Broadcom's indirect competitor; and (2) the CDMA 2000 chips were substitutes of the WCDMA chips sold by Broadcom.⁷⁴

Furthermore, the Federal Circuit noted that: (1) mere monetary damages were inadequate to Broadcom; (2) the balance of hardships favored Broadcom; and (3) the public interest is to uphold patent right and to enter a permanent injunction.⁷⁵ Accordingly, the Federal Circuit affirmed the district court's holding of issuing a permanent injunction.

Broadcom can be also deemed as an indirect competitor of Qualcomm⁷⁶: since WCDMA chips and CDMA 2000 chips are substitutes to each other, the denial of a permanent injunction would allow Qualcomm continuously selling the CDMA 2000 chips and thus decrease Broadcom's sales of the WCDMA chips. Accordingly, the importance of *Broadcom Corp. v. Qualcomm Inc.* is to expand the grant of permanent injunction from direct competitors to an indirect competitor who provides a substitute to the accused product in the market.

3. ActiveVideo Networks, Inc. v. Verizon Communications, Inc.

ActiveVideo Networks, Inc. ("ActiveVideo") filed a lawsuit against Verizon Communications, Inc., Verizon Services Corp., Verizon Virginia Inc., and Verizon South Inc. (collectively, "Verizon") in the United States District Court for the Eastern District of Virginia in which ActiveVideo alleged patent infringement on four of its patents. After trial, the jury held that the adjudicated patents were valid and infringed, and awarded damages to ActiveVideo in the amount of US \$115,000,000. ActiveVideo also moved for a permanent injunction to enjoin Verizon from practicing the adjudicated patents.⁷⁷

In regard to the factor of irreparable harm, the district court found that the defendant Verizon was a direct competitor of Cablevision which was a licensee of ActiveVideo on the adjudicated patents. If Verizon did not stop infringing, Cablevision's market share would be harmed and ActiveVideo's

⁷³ *Broadcom Corp. v. Qualcomm Inc.*, 543 F. 3d 683, 702 (Fed. Cir. 2008).

⁷⁴ *Id.* at 703.

⁷⁵ *Id.* at 703-04.

⁷⁶ Grumbles III, Hughey & Susan Perera, *supra* note 71, at 27.

⁷⁷ ActiveVideo Networks, Inc. v. Verizon Communications, Inc., 827 F. Supp. 2d 641, 644 (2011).

ability to launch its patented technologies into the market would also be injured. As a result, the district court held that Verizon was an indirect competitor of ActiveVideo, and ActiveVideo would suffer indirect harms when Cablevision suffered direct injuries from the patent infringement. Accordingly, the district court favored ActiveVideo in this factor.⁷⁸

With regard to the factor of adequacy of remedies at law, the district court first noted that this factor is generally inextricably linked with the factor of irreparable harm. The district court found that ActiveVideo's business opportunities had been significantly injured because of Verizon's patent infringement, but the court could not predict how large of the injuries would be if a permanent injunction was not granted. For this reason, the district court concluded that ActiveVideo had carried its burden to prove that no adequate remedies at law existed.⁷⁹

For the factor of the balance of hardship which weights the relative hardships of a permanent injunction on both parties, the district court found that the larger hardships lay with ActiveVideo because it was only a small company with less than 150 employees and would suffer serious hardships if a permanent injunction was not granted. On the other hand, Verizon was a large company which offered various services and was working on a non-infringing alternative during the lawsuit. Therefore, the district court held that this factor favored granting a permanent injunction.⁸⁰

In regard to the factor of public interest, the district court first noted that the public has always an interest in protecting patent rights and the public policy generally favors their enforcement. In this case, Verizon was not able to raise some other key interest which was sufficient to outweigh the public interest in enforcing the patent rights. For this reason, the district court concluded that the public interest factor favored granting a permanent injunction.⁸¹

The importance of *ActiveVideo Networks, Inc. v. Verizon Communications, Inc.* is also to expand the grant of permanent injunction from direct competitors to an indirect competitor who was a patentee and licensed its patents to a licensee which was a direct competitor of the defendant in the market.

C. The Patent Owner is a Research Institute Competing with Other Research Institutes and Universities in the Technology Market: CSIRO v. Buffalo Technology Inc.

Commonwealth Scientific and Industrial Research Organization (“CSIRO”), established in 1926, is the most important scientific research

⁷⁸ *Id.* at 645-650.

⁷⁹ *Id.* at 650-651.

⁸⁰ *Id.* at 651-652.

⁸¹ *Id.* at 652-653.

institute of the Australian Federal Government. The aims of CSIRO are to conduct strategic scientific research and to apply the research fruits to advance health, welfare, and prosperity of human beings. CSIRO conducts the scientific research at its own laboratories, and transfers the research results to the public to fund subsequent research activities by establishing start-up companies or licensing the patents to the existing companies to earn royalties.⁸²

In 1993, CSIRO filed a patent application with the United States Patent & Trademark Office, and obtained the Patent No. 5,487,069 (“the ‘069 patent”) in 1996. The original business model of CSIRO was to license the ‘069 patent to collect licensing fees and royalties. CSIRO formed a joint venture Radiata Communications Pty Ltd. (“Radiata”) with Macquarie University in 1997, and then CSIRO licensed the ‘069 patent to Radiata. In 2001, Cisco System, Inc. (“Cisco”) acquired Radiata in stock to the amount of \$295 million and began to pay royalties to CSIRO.⁸³

The defendants were Buffalo Technology Inc. (an US corporation) and Buffalo, Inc. (a Japanese company)(collectively “Buffalo”). In 2005, CSIRO filed a lawsuit against Buffalo in the United States District Court for Eastern District of Texas, alleging infringement of the ‘069 patent. The district court held that ‘069 patent was valid and infringed. CSIRO also filed a motion for permanent injunction.⁸⁴

With regard to the factor of irreparable harm, CSIRO asserted that its research and development activities and licensing programs would be irreparably harmed without permanent injunction. CSIRO further argued that other companies would be encouraged not to license but to infringe the ‘069 patent if a permanent injunction against Buffalo was not granted. On the other hand, Buffalo argued that CSIRO would not suffer irreparable injuries in the absence of permanent injunction because CSIRO did not have its own products and CSIRO was not Buffalo’s competitor.⁸⁵ In response to Buffalo’s argument, CSIRO asserted that it did compete globally with other research institutes and universities. If a permanent injunction was not granted, CSIRO would lose or delay its funding for further researches and developments and would thus suffer irreparable harm.⁸⁶ The district court cited *eBay* to note that the Supreme Court had rejected the conclusion that merely lack of commercial activities in practicing the patent at issue would be enough to establish the irreparable harm. The district court agreed with CSIRO’s arguments (competing with other research institutes and universities in the technology market) and favored a

⁸² Commonwealth Scientific and Industrial Research Organization v. Buffalo Technology Inc. and Buffalo, Inc., 492 F.Supp.2d 600, 601 (E.D. Texas, 2007).

⁸³ *Id.* at 601-602.

⁸⁴ *Id.* at 602.

⁸⁵ *Id.* at 603.

⁸⁶ *Id.* at 604.

permanent injunction in this factor.⁸⁷

The importance of *CSIRO v. Buffalo Technology Inc.* is to expand the grant of permanent injunction from direct competitors to a research institute competing with other research institutes and universities in the technology market. A scholar asserted that, when a non-practicing entity such as a university licenses its patents as a portion of a technology transfer project, the non-practicing entity as a patent owner would be possible to suffer irreparable injuries from patent infringement, including loss of client base in a technology market.⁸⁸ This paper agrees with this opinion and would like to extend this opinion to the *CSIRO* case. Based on CSIRO's argument in this case, CSIRO is competing with other research institutes and universities in the technology market; if a permanent injunction was not granted, CSIRO would lose or delay its funding so the scheduled progresses for further researches and developments would be significantly delayed. No doubt, this delay will cause CSIRO to fall behind to other competitors in the relevant technology market, and the lag in further search and development generally results in irreparable harm to CSIRO.

D. Short Conclusions for the Cases Granting a Permanent Injunction

In the post-*eBay* era, it is not easy for a patentee to obtain a permanent injunction in patent litigation. In almost cases which granted a permanent injunction, the patentee-plaintiff is generally a direct competitor of the defendant in the market of the accused product. In other words, a direct competition between the plaintiff and the defendant in the market is the most important factor for the courts to award an injunctive relief to the plaintiff.⁸⁹ A scholar thus stated that the "direct competition" had already become a *Market Competition requirement*.⁹⁰

It is worth noting that, according to the aforementioned analytical study, some decisions of the federal courts awarded a permanent injunction to the patentee-plaintiff as an indirect competitor of the defendant in the market. For example, in the *Novozymes A/S v. Genencor Int'l, Inc.* case and *ActiveVideo Networks, Inc. v. Verizon Communications, Inc.* case, the court awarded a permanent injunction to the patent owner (licensor) of the patents at issue who was not a direct competitor of the defendant in the market. Although the patent owners in those cases did not provide their own patented products, it licensed

⁸⁷ *Id.* at 604-605.

⁸⁸ Suzanne Michel, *Bargaining for RAND Royalties in the Shadow of Patent Remedies Law*, 77 ANTITRUST L. J. 889, 906 (2011).

⁸⁹ Lance Wyatt, *Rebuttable Presumption of Public Interest in Protecting the Public Health—The Necessity for Denying Injunctive Relief in Medically-related Patent Infringement Cases After eBay v. Mercexchange*, 13 CHI.-KENT J. INTELL. PROP. 298, 309-310 (2013).

⁹⁰ Benjamin H. Diessel, Note: *Trolling for Trolls: The Pitfalls of the Emerging Market Competition Requirement for Permanent Injunctions in Patent Cases Post-eBay*, 310 MICHIGAN L. REV. 305, 310 (2007).

the patents at issue to the licensees in exchange for a royalty. In case the patentees can prove that the licensees would be directly and irreparably harmed by future patent infringement, the patent owner can thus establish its indirect and irreparable harm as well.

Furthermore, the *Broadcom Corp. v. Qualcomm Inc.* case also expanded the grant of a permanent injunction from direct competitors to an indirect competitor who provided a substitute to the accused products. Since the denial of a permanent injunction would allow the defendant continuously selling the accused products and thus decrease the patentee's sales of its own products, the patent owner may indirectly prove its irreparable harm once it can prove the substitutability between the accused products and the patentee's own products.

In addition, *CSIRO v. Buffalo Technology Inc.* also expanded the grant of a permanent injunction from direct competitors to a research institute which was competing with other research institutes and universities in the technology market.

In conclusion, the “competition” seems still a need for the patent owners to obtain a permanent injunction after *eBay*. If the patent owner can not establish a direct competition, it may try to establish an indirect competition or at least a research competition in the technology market.

IV. An Analytical Study on Cases Denying a Permanent Injunction

Under the opinion of *eBay*, there must be some cases which award damages but deny a permanent injunction. Such case holds the patent at issue valid and infringed but allows the defendant to continue to infringe the patent. This is a serious problem derived from *eBay*. The courts need to create some mechanisms to solve the problem and to compensate the patentee's future damages. This paper conducts an analytical study and finds that there have been four sorts of mechanisms adopted by the courts: (1) not to award any further remedy; (2) to order plaintiff to file a new lawsuit; (3) to award an on-going royalty; and (4) to award a compulsory license and on-going royalty. They are introduced and analyzed as follows.

A. Not to Award any Further Remedy:

The first mechanism adopted by the courts is not to award any further remedy. A representative case is introduced and analyzed as follows.

Dr. Jan K. Voda, M. D. (“Voda”) is the patent owner of the U.S. Patent No. 5,445,625 (“the ‘625 patent”), U.S. Patent No. 6,083,213 (“the ‘213 patent”), and U.S. Patent No. 6,475,195 (“the ‘195 patent”) (collectively, the “patents in suit”) which are related to angioplasty guide catheter. Voda sued Cordis Corporation (“Cordis”) in the United States District Court for the

Western District of Oklahoma, seeking damages for patent infringement and moving for a permanent injunction. The district court found some specific claims of the patents in suit valid and willfully infringed, so awarded damages together with prejudgment interest and enhanced damages to Voda against Cordis's willful infringement.⁹¹

However, the district court denied Voda's motion for a permanent injunction by reason that Voda had failed to establish the irreparable harm and to prove that monetary damages were inadequate without permanent injunction.⁹² It meant that Cordis could continue to infringe the patents in suit. Although Voda appealed, the Federal Circuit affirmed the district court's denial of Voda's motion for a permanent injunction.⁹³

B. Continuing Causes of Action—To Order Plaintiff to File a new Lawsuit:

The second mechanism adopted by the courts is not to order plaintiff to file a new lawsuit to claim damages for future patent infringement. A representative case is introduced and analyzed as follows.

Z4 Technologies, Inc. ("Z4") is the patent owner of U.S. Patent Nos. 6,044,471 and 6,785,825 (collectively, "patents at issue"). Z4 sued against Microsoft Corporation ("Microsoft") and Autodesk, Inc. ("Autodesk") in the United States District Court for the Eastern District of Texas Tyler Division alleging patent infringement. The jury found that Microsoft and Autodesk infringed the patents at issue, but failed to prove their invalidity by clear and convincing evidence. Accordingly, the jury awarded a huge amount of damages against Microsoft and Autodesk (\$115 million against Microsoft and \$18 million against Autodesk).⁹⁴ Z4 also moved for a permanent injunction. The district court denied a permanent injunction by holding that all of the four factors were in Microsoft's favor.⁹⁵

Although the district court denied the permanent injunction, Judge Davis noticed that a mechanism to compensate z4's future damages post verdict was needed. The district court thus crafted a remedy by severing z4's continuing causes of action for monetary damages caused from the denial of permanent injunction and Microsoft's continuing patent infringement.⁹⁶ For this purpose, the district court ordered z4 to file a complaint for the continuing cause of action within ten days, and ordered Microsoft to file an answer accordingly.⁹⁷

⁹¹ Voda v. Cordis Corp., 2006 WL 2570614, at *1-4 (W.D. Okl, 2006).

⁹² *Id.* at *5.

⁹³ Voda v. Cordis Corp., 536 F.3d 1311, 1330 (Fed. Cir. 2007).

⁹⁴ z4 Technologies, Inc. v. Microsoft Corp., 434 F. Supp. 2d 437, 438-439 (E.D. Tex. 2006).

⁹⁵ *Id.* at 439-444.

⁹⁶ *Id.* at 444.

⁹⁷ *Id.* ("Therefore, the Court severs z4's causes of action for post-verdict infringement under

Microsoft was also ordered to file quarterly reports in the new action indicating the total sales numbers of the accused products. The district court emphasized that this was an efficient way to preserve z4's rights from future damages of Microsoft's continuing infringement and to relieve Microsoft's hardship from the issuance of permanent injunction order.⁹⁸

C. To Award an Ongoing Royalty:

The third mechanism adopted by the courts is to award an ongoing royalty to compensate the plaintiff's loss derived from the future patent infringement. A representative case is introduced and analyzed as follows.

Paice LLC ("Paice") is the patent owner of U.S. Patent No. 5,343,970 ("the '970 patent"). Paice sued Toyota Motor Corporation, Toyota Motor North America, Inc., and Toyota Motor Sales, U.S.A., Inc. (collectively, "Toyota") in the United States District Court for the Eastern District of Texas, alleging patent infringement by three of Toyota's vehicles—the Toyota Prius, Toyota Highlander SUV, and Lexus RX400h SUV (collectively, "the Accused Vehicles"). In the end of 2005, a jury decided that some claims of the '970 patent were valid and infringed by Toyota.⁹⁹ Paice also moved for a permanent injunction. The district court denied a permanent injunction by holding that all of the four factors were in Toyota's favor.¹⁰⁰ To compensate Paice for Toyota's future infringement, the district court awarded an ongoing royalty to Paice with the rate of \$25 per Accused Vehicles sold by Toyota during the remaining life of the '970 patent.¹⁰¹

Both parties appealed. Paice argued that the district court did not have the statutory authority to issue the "ongoing royalty order" which allowed Toyota to continuously manufacture and sell the Accused Vehicles.¹⁰² In regard to this argument, the Federal Circuit began with U.S.C. § 283 to mention that the most apparent restriction of U.S.C. § 283 is that a permanent injunction must be granted on the purpose of preventing the continuing violation of the patent right.¹⁰³ The Federal Circuit further cited *Shatterproof Glass Corp. v. Libbey*

cause number 6:06cv258 and orders z4 to file an appropriate complaint with ten days of the issuance of this Memorandum Opinion and Order. The Court orders Microsoft to file an answer to z4's complaint with the normal time allotted under the Federal Rules of Civil Procedure.")

98 *Id.* at 444-445.

99 Paice LLC v. Toyota Motor Corp. No. 2:04-CV-211-DF, 2006 WL 2385139, at *1 (E.D. Tex. 2006).

100 *Id.* at *4-6.

101 Paice LLC, v. Toyota Motor Corp., 504 F.3d 1293, 1313 (Fed. Cir. 2007).

102 *Id.* at 1296.

103 *Id.*, at 1314.

Owens Ford Co. case¹⁰⁴ to note that it may be proper to award an ongoing royalty against patent infringement instead of permanent injunction under some circumstances.¹⁰⁵

Moreover, the Federal Circuit ruled that whenever the district court found patent infringement but no permanent injunction should be granted, the district court should first allow the parties to negotiate a patent license for defendant's continuing use of the patented invention. Only when the licensing agreement can not be reached, the district court could step in to determine the ongoing royalty for the continuing infringing activities.¹⁰⁶ For this reason, the Federal Circuit vacated and remanded the portion of the district court's order which had determined the ongoing royalty at a rate of \$25 per Accused Vehicle, by reason that the district court had not provided reasoning to support the determination of the ongoing royalty rate.¹⁰⁷

To determine the ongoing royalty rate at the second time, the district court first noted that an adjudged infringer must fully compensate the patent owner for using the patentee's property if the adjudged infringer selects to continue the patent infringement activities.¹⁰⁸ Although the district court had denied the motion for permanent injunction, the district court still considered Paice's patent right while determining the ongoing royalty rate. The district court mentioned that the determination of the ongoing royalty rate would significantly influence on Paice's bargain power to license the '970 patent.¹⁰⁹ Although the ongoing royalty rate should be fair to both sides, the district court further emphasized that it could never be forgot that Toyota had been found patent infringement but still decided to continue the infringement behavior.¹¹⁰ Finally, the district court established an ongoing royalty rate on April 17, 2009, as a percentage of wholesale vehicle price for the remaining life of the '970 patent, of 0.48% on every sold Toyota Prius, 0.32% on every sold Toyota Highlander, and 0.26% on each sold Lexus RX400h.¹¹¹

Considering the fact that the patented device is only a small piece of the whole accused products, this paper thinks it is reasonable for the courts to deny the motion for a permanent injunction. It is an important issue to determine how to calculate the ongoing royalty. For the patent holders, the most important

104 Shatterproof Glass Corp. v. Libbey Owens Ford Co., 758 F. 2d 613, 628 (Fed. Cir. 1985).

105 *Supra* note 101, at 1314.

106 *Id.* at 1314-15.

107 *Id.* at 1315.

108 Paice LLC v. Toyota Motor Corp., 609 F. Supp. 2d 620, 630 (E.D. Tex. 2009).

109 *Id.* (" Additionally, the Court must be mindful in this case that establishing an ongoing royalty rate has a significant impact on Paice's ability to license its technology to others and effectively precludes an exclusive licensing arrangement.")

110 *Id.* ("The licensing terms must be fair to both parties, but the fact that Toyota is an adjudged infringer who choose to continue infringing simply cannot be ignored.")

111 *Id.* at 631.

value of the patent's right to exclude is to provide them a strong bargaining power for negotiating the licensing fee and royalty rate. However, the denial of permanent injunction and award of the ongoing royalty largely decrease the patentee's bargaining power for negotiating the royalty rate. For this reason, this paper thinks that the determination of the ongoing royalty shall compensate the patentee's loss of bargaining power. Therefore, the rate of the ongoing royalty should be higher than the rate of the pre-verdict reasonable royalty.¹¹²

The Federal Circuit emphasized that they used the term "ongoing royalty" in this case rather than "compulsory license". In the footnote 13 of the decision's opinion, the Federal Circuit said that the ongoing royalty is different to the compulsory license, wherein the Federal Circuit defined the ongoing royalty to be a license limited to some specific defendants without any implied license for any other vehicle manufactures to use the patented invention.¹¹³ On the other hand, the Federal Circuit defined the "compulsory license" to be a license under congressional authority for anybody who meets certain criteria.¹¹⁴ However, Judge Rader's concurring opinion pointed out that the Federal Circuit should request the district court to let the parties negotiate the license agreement first or at least get both parties' permission before setting the ongoing royalty rate.¹¹⁵ Otherwise, the ongoing royalty is actually a compulsory license.¹¹⁶

D. To Award a Compulsory License and an Ongoing Royalty

The fourth mechanism adopted by the courts is to award a compulsory license and an ongoing royalty to compensate the plaintiff's loss derived from the future patent infringement. A representative case is introduced and analyzed as follows.

1. Innogenetics v. Abbott Labs

Innogenetics, N.V., ("Innogenetics") is the patent owner of the U.S. Patent no. 5,846,704 ("the '704 patent"). Innogenetics sued Abbott Laboratories ("Abbott") in the United States District Court for the Western District of Wisconsin alleging patent infringement. The district court found that the '704 patent was valid and Abbott had willfully infringed the '704 patent, so the jury

¹¹² See also Stephen M. Ullmer, *Paice Yourselves: A Basic Framework for Ongoing Royalty Determinations in Patent Law*, 24 BERKELEY TECH. L. J. 75, 85-86 (2009).

¹¹³ *Supra* note 101, at 1313, fn 13 ("the ongoing-royalty order at issue here is limited to one particular set of defendants; there is no implied authority in the court's order for any other auto manufacturer to follow in Toyota's footsteps and use the patented invention with the court's imprimatur").

¹¹⁴ *Id.* ("The term "compulsory license" implies that *anyone* who meets certain criteria has congressional authority to use that which is licensed").

¹¹⁵ *Id.* at 1316.

¹¹⁶ *Id.* ("Instead, this court should require the district court to remand this issue to the parties, or to obtain the permission of both parties before setting the ongoing royalty rate itself....Nonetheless, calling a compulsory license an "ongoing royalty" does not make it any less a compulsory license.")

awarded \$7 million in damages. Furthermore, Innogenetics had filed a motion for permanent injunction which was granted by the district court.¹¹⁷

Abbott appealed. On appeal, Abbott challenged the grant of the permanent injunction as well as the other issues.¹¹⁸ Abbott asserted that the district court had erred in holding that Innogenetics had been irreparably injured and did not get adequate remedy by the damages of \$7 million for Abbott's patent infringement. Because the jury had counted the market entry fee of \$5.8 million and an ongoing royalty of \$1.2 million in calculating damages, Abbott argued that the plaintiff had been fully compensated for not only Abbott's past infringement but also future sales of the accused products.¹¹⁹

After adjudication, the Federal Circuit vacated the permanent injunction by finding that the district court had abused its discretion. To reach this conclusion, the Federal Circuit found that the jury in the district court had been told that a reasonable royalty could be comprised of both an up-front payment and ongoing royalty payment, so \$7 million in damages awarded by the district court already included not only the market entry fee of \$5.8 million but also an ongoing royalty payment of \$1.2 million.¹²⁰ Since the ongoing royalty had been granted by the district court, the Federal Circuit held that the patent owner had no room to assert irreparable harm by future sales.¹²¹ In other words, the Federal Circuit denied the permanent injunction because the patent owner could not collect royalties for future damages and be awarded a permanent injunction at the same time. The Federal Circuit did not consider the other three factors and vacated the permanent injunction granted by the district court directly, by reason that the irreparable harm factor greatly outweighed the other three factors in this case.¹²²

The conclusion of the Federal Circuit is reasonable. That's because the defendant has paid the royalties to compensate the future sales as long as the awarded damages cover the future damages. Because the patent owner has received the ongoing royalty, it is deemed to have a license, at least an implied license to the defendant for the future sales. In fact, the Federal Circuit thought of the ongoing royalty as compulsory license, as the Federal Circuit remanded to "the district court to delineate the terms of the compulsory license".¹²³

¹¹⁷ Innogenetics v. Abbott Labs, 2007 WL 5431017, at 3 (W.D. Wis.).

¹¹⁸ Innogenetics v. Abbott Labs, 512 F.3d 1363, 1367-69 (Fed. Cir. 2008).

¹¹⁹ *Id.* at 1379.

¹²⁰ *Id.* at 1380 ("the \$1.2 million of on-going royalty was calculated on the ground that 5 to 10 Euros per clinical test on the 190,000 tests Abbott had sold up to that point").

¹²¹ *Id.*

¹²² *Id.*

¹²³ *Id.* at 1381 ("We remand to the district court to delineate the terms of the compulsory license, such as conditioning the future sales of the infringing products on payment of the running royalty, the 5-10 Euros per genotyping assay kit. ")

2. Server Technology, Inc. v. American Power Conversion Corporation

Server Technology, Inc. (“STI”) is the patent owner of US Pat. 7,043,543 and Pat. 7,702,771 (collectively, “the adjudicated patents”). STI sued American Power Conversion Corporation (“APC”) in 2006 alleging patent infringement. The jury returned a verdict finding that the adjudicated patents were valid and two of APC’s products had infringed the adjudicated patents.¹²⁴

Furthermore, STI moved for a permanent injunction to enjoin APC from selling the two infringing products. Alternatively, STI also sought an order from the court issuing a compulsory license with an ongoing royalty rate of three times the 5% reasonable royalty rate which had been established by the jury.¹²⁵ After examining the four equity factors, the district court held that: (1) the factor of irreparable did not weigh heavily in granting a permanent injunction although STI had established irreparable harm; (2) monetary damages were adequate to compensate STI for the patent infringement of APC; (3) the feasibility of a higher royalty rate weighed against a finding that STI would suffer substantial hardships absent a permanent injunction; and (4) the public interest would be injured if a permanent injunction was granted.¹²⁶

Thereafter, the district court turned to examine STI’s alternative request for a compulsory license for the adjudicated patents at an ongoing 15% (3 times the 5% reasonable royalty rate) royalty rate. First, the district court noted that STI would continue to endure injuries from APC’s sale of the infringing products if a compulsory license was not granted. Second, the district court held that the ongoing 15% royalty rate was reasonable because there is a fundamental and inherent difference between post-verdict infringement and pre-verdict infringement, wherein the pre-verdict infringement is in the situation that the patent validity and infringement are still questionable but post-verdict infringement is in the condition that those questions have been affirmatively answered. For those reasons, the district court granted a compulsory license of the adjudicated patents with a 15% ongoing royalty rate on sales of the infringing products from the date of court’s judgment.¹²⁷

E. Short Conclusions for the Cases Denying a Permanent Injunction

For the first mechanism not to award any further remedy, a scholar found it well. Although neither a permanent injunction nor an ongoing royalty was granted, this “Without Further Remedy” approach was still considered to

¹²⁴ Server Technology, Inc. v. American Power Conversion Corporation, 2015 WL 1505654 (D.Nev.), at *1 (D. Nev. 2015).

¹²⁵ *Id.* at *2.

¹²⁶ *Id.* at *3-5.

¹²⁷ *Id.* at *5.

provide a large deterrent to future infringement.¹²⁸ The scholar asserted that the defendant who was found patent infringement in the first lawsuit would bear a high risk of a finding of willful patent infringement (which would cause attorneys fees and enhanced damages) in a subsequent lawsuit if the defendant continues to infringe the adjudicated patent.¹²⁹ This paper does not agree with this opinion. If a court had already held the patent at issue valid and infringed but denied a permanent injunction without awarding any further remedy, the court is just like to allow the defendant to continue to infringe the patent. In this case, the patent's right to exclude exists in name only.

For the second mechanism to order plaintiff to file a new lawsuit, a scholar said that this arrangement is better than a compulsory license, because this case left the possibility to recalculate the damages if the industrial conditions changed significantly.¹³⁰ This paper finds that this arrangement has its pro and con. The advantage of this arrangement is that, as the scholar said, the patentee has the chance to recalculate the damages resulting from the defendant's continuous infringement if the economical or industrial conditions significantly change in the future. However, the patentee needs to file another lawsuit to claim for damages under this arrangement, causing disadvantages to both time and money.

For the third mechanism to award an ongoing royalty, this paper finds that this arrangement has its pro and con. The advantage of this arrangement is that the patentee can be awarded the damages for the future infringement without filing another lawsuit to claim for damages. However, the disadvantage of this arrangement is that the patent owner has no chance to recalculate the damages even if the economical or industrial conditions largely change in the future. If the patentee considers that the future change is likely to enhance the damages, he can select not to seek for an ongoing royalty but to claim for future damages by bringing another lawsuit.¹³¹

It is a notable issue for the district courts to assess the future damages in a case that the patent in suit was found valid and infringed but a permanent injunction was denied.¹³²¹³³ In the prior practice, the monetary damage is the remedy for the past infringement and injunctive relief is the remedy for avoid

¹²⁸ Bernard H. Chao, *After eBay, Inc. v. MercExchange: The Changing Landscape for Patent Remedies*, 9(2) MINN J. L. SCI. & TECH. 543, 568-569 (2008).

¹²⁹ *Id.* at 569.

¹³⁰ Yixin H. Tang, *The Future of Patent Enforcement after eBay v. MercExchange*, 20 HARV. J.L. & TECH. 235, 248 (2006).

¹³¹ Seaman, *supra* note 13, at 244-245.

¹³² See *id.* at 229-245 (showing "An Empirical Assessment of Ongoing Royalties Since eBay").

¹³³ See Aaron Homer, *Whatever It Is... You Can Get it on eBay... Unless You Want an Injunction—How The Supreme Court and Patent Reform Are Shifting Licensing Negotiation From the Conference Room to the Courtroom*, 49 S. TEX. L. REV. 235, 262 (2007).

from future patent infringement.¹³⁴ It is an interesting topic to discuss whether the patent owner can claim for future damages.

35 U.S.C. §284 states that “Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.” As the statute indicates, the damages can be calculated by counting lost profits or a reasonable royalty, and the reasonable royalty is the lower limit of the damage.¹³⁵ In *Aro Mfg. Co. v. Convertible Top Replacement Co.*¹³⁶, the Supreme Court mentioned that only past damages but no future damages may be recovered.¹³⁷

Furthermore, in *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*,¹³⁸ the sixth Circuit indicated a four-factor test for proving lost profits which is known as *Panduit* test and has been subsequently adopted by the Federal Circuit.¹³⁹ The *Panduit* test requires a patent owner to establish: (1) demand for the patented product; (2) absence of acceptable non-infringing substitutes; (3) manufacturing and marketing capability to exploit the demand; and (4) the amount of the profit it would have made.¹⁴⁰ In other words, the patent owner needs to establish a “but for” causation, which is also known as “but for test”.^{141,142} This paper finds that it is doubtful whether the calculation of future damages can meet the requirements of the “but for” test.

The fourth mechanism to award a compulsory license and an ongoing royalty has become a trend. In fact, to order a compulsory license instead of granting a permanent injunction was not “invented” by the Judges in the *Innogenetics v. Abbott Labs* case. In *Foster v. American Mach. & Foundry Co.* case¹⁴³ in 1974, the second Circuit affirmed the compulsory license ordered by the district court to substitute for a permanent injunction.

¹³⁴ *Id.*

¹³⁵ KIMBERLY A. MOORE, PAUL R. MICHEL & RAPHAEL V. LUPO, PATENT LITIGATION AND STRATEGY 593 (2003).

¹³⁶ *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476 (1964).

¹³⁷ *Id.* at 507 (“But the present statutory rule is that only “damages” may be recovered. These have been defined by the Court as “compensation for the pecuniary loss he (the patentee) has suffered from the infringement, without regard to the question whether the defendant has gained or lost by his unlawful acts.””).

¹³⁸ *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*, 575 F. 2d 1152, 1156 (6th Cir. 1978).

¹³⁹ Moore, Michel & Lupo, *supra* note 135, at 594.

¹⁴⁰ *Rite-Hite Corp. v. Kelley Co.*, 56 F. 3d 1538, *cert denied*, 516 U.S. 867 (1995).

¹⁴¹ *Id.*

¹⁴² See Moore, Michel & Lupo, *supra* note 135, at 594 (“A patentee is entitled to lost profits if she can prove that “but for” the infringer’s conduct, she would have made the sales and earned a particular profit”.)

¹⁴³ *Foster v. American Mach. & Foundry Co.*, 492 F2d 1317 (2nd Cir. 1974).

In *Forster*, Julius E. Foster (“Foster”) is the patent owner of U.S. Patent No. 2,882,384 (“the ‘384 patent”). Foster sued American Mach. & Foundry Co. (“AMF”) in 1968 alleging patent infringement and filed a motion for permanent injunction. The district court found the ‘384 patent valid and infringed, but denied the motion for a permanent injunction. Instead, the district court ordered a compulsory licensing on a reasonable royalty determined by the district court.¹⁴⁴

On appeal, Foster argued that the district court had erred in denying a permanent injunction and adjudging a compulsory licensing. The second Circuit affirmed the district court’s order, mentioning that the court did not find any difficulty in agreeing with the district court that a permanent injunction would be an improper remedy in this case.¹⁴⁵ The second Circuit cited several early precedents to support their opinion. It cited *Hoe v. Boston Daily Advertiser Corp.*¹⁴⁶ firstly to note that the permanent injunction is NOT served as a weapon for the patent owners to enhance their negotiating power.¹⁴⁷ The second Circuit noted that Foster did not manufacture its own product by using the invention of the ‘384 patent. Accordingly, the Second Circuit cited *Nerney v. New York, N.H. & H.R. Co.*¹⁴⁸ and *American Safety Device Co. v. Kurland Chemical Co.*¹⁴⁹ to note that it is inequitable if a permanent injunction imposes irreparable hardship on the defendant but has no benefit to the patent owner.¹⁵⁰ In addition, the Second Circuit held that the compulsory license is beneficial to the patent owner under the condition that the patent owner cannot prove the necessity for a permanent injunction.¹⁵¹

However, a scholar said that to grant a compulsory license is not fair to the patent owner because the grant of compulsory licensee leaves no possibility of recalculating damages if the conditions significantly change later.¹⁵² This paper finds that this arrangement has its pro and con. The advantage of this arrangement is that the patentee can be awarded the damages for the future patent infringement without filing another lawsuit to claim for damages.

¹⁴⁴ *Foster v. American Mach. & Foundry Co.*, 297 F. Supp. 512 (S.D.N.Y. 1968).

¹⁴⁵ *Supra* note 143, at 1324.

¹⁴⁶ *Hoe v. Boston Daily Advertiser Corp.*, 14 F. 914 (C.C. Mass. 1883).

¹⁴⁷ *Supra* note 143, at 1326 (“It is not intended as a club to be wielded by a patentee to enhance his negotiating stance”).

¹⁴⁸ *Nerney v. New York, N.H. & H.R. Co.*, 83 F.2d 409, 410-411 (2nd Cir. 1936).

¹⁴⁹ *American Safety Device Co. v. Kurland Chemical Co.*, 68 F.2d 734 (2nd Cir. 1934).

¹⁵⁰ *Supra* note 143, at 1326 (“the court could properly conclude that to impose irreparable hardship on the infringer by injunction, without any concomitant benefit to the patentee, would be inequitable”).

¹⁵¹ *Id.* (“Here the compulsory license is a benefit to the patentee who has been unable to prevail in his quest for injunctive relief. To grant him a compulsory royalty is to give him half a loaf. In the circumstance of his utter failure to exploit the patent on his own, that seems fair.”).

¹⁵² Tang, *supra* note 130, at 248.

However, the disadvantage of this arrangement is that, as the scholar said, the patent owner has no chance to recalculate the damages even if the industrial or economical conditions largely change in the future.

V. How *eBay* Influences on Non-Practicing Entities

This section discusses how *eBay* influences on NPEs and analyzes whether the NPEs having their own R&D and the NPEs without their own innovation should be differently considered in permanent injunction proceedings.

A. Introduction to Non-Practicing Entities

In recent years, legal issues causing from patent trolls have attracted many legal scholars to publish articles to discuss and analyze them.¹⁵³ In fact, a more academic and neutral appellation of the patent trolls is Non-Practicing Entities (“NPEs”), which are defined to be patent holders who do not practice nor have any intention to practice the patented technology, but only enforce their patent rights to make money.¹⁵⁴ In other words, the NPEs own some patent rights but do not have their own products.

Because NPEs do not have their own products, they are not afraid of other’s counterclaim when they decide to file a lawsuit against a potential infringer. Accordingly, many NPEs are aggressive to file lawsuits to allege

¹⁵³ J.P. Mello, *Technology Licensing and Patent Trolls*, 12 B.U. J. SCI. & TECH. L. 388 (2006); Jason Rantanen, *Slaying the Troll: Litigation as an Effective Strategy Against Patent Threats*, 23 SANTA CLARA COMPUTER & HIGH TECH. L. J., 159-210 (2006); Mark A. Lemley, *Are Universities Patent Trolls*, 18 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 611, 611 (2008); Jeremiah S. Helm, *Why Pharmaceutical Firms Support Patent Trolls: The Disparate Impact of eBay v. Merceexchange on Innovation*, 13 MICH. TELECOMM. & TECH. L. REV. 331 (2006); Damian Myers, *Reeling in the Patent Troll: Was eBay v. Merceexchange Enough*, 14 J. INTELL. PROP. L. 333 (2006); McDonough, James F., *The Myth of the Patent Troll: An Alternative View of the Function of Patent Dealers in an Idea Economy*, 56 EMORY L. J. 189 (2006); Gerard N. Magliocca, *Blackberries and Barnyards: Patent Trolls and the Perils of Innovation*, 82 NOTRE DAME L. REV. 1809 (2007); Jeremiah Chan & Matthew Fawcett, *Footsteps of the Patent Troll*, 10 INTELL. PROP. L. BULL. 1 (2005); Marc Morgan, *Stop Looking under the Bridge for Imaginary Creatures: A Comment Examining Who Really Deserves the Title Patent Troll*, 17 FED. CIR. B.J. 165 (2008); Christopher A. Cotropia, *The Individual Inventor Motif in the Age of the Patent Troll*, 12 YALE J.L. & TECH. 52 (2009); Raymond P. Niro, *Who Is Really Undermining the Patent System - Patent Trolls or Congress*, 6 J. MARSHALL REV. INTELL. PROP. L. 185 (2007); Gregory d’Incelli, *Has eBay Spelled the End of Patent Troll Abuses - Paying the Toll: The Rise (and Fall) of the Patent Troll*, 17 U. MIAMI BUS. L. REV. 343 (2009); Olivia E. Marbutt, *Strategies for Combating Patent Trolls*, 17 J. INTELL. PROP. L. 367 (2010); David A. II Fitzgerald, *Saving Alternative Dispute Resolution in Patent Law: Countering the Effects of the Patent Troll Revolution*, 23 OHIO ST. J. ON DISP. RESOL. 345 (2008).

¹⁵⁴ See Anne Layne-Farrar & Klaus M. Schmidt, *Licensing Complementary Patents: “Patent Trolls,” Market Structure, and “Excessive” Royalties*, 25 BERKELEY TECH. L. J. 1121, 1122 (2010).

patent infringement and claim for damages without hesitation.¹⁵⁵ Before they file lawsuits, many NPEs send a cease & desist letter to the potential infringers as a threat,¹⁵⁶ and offer a patent license at a royalty rate only a little lower than the expense of a patent litigation.¹⁵⁷ Many potential infringers unwillingly and angrily accept the patent license.

This is the reason why NPEs are seriously criticized and called as “patent trolls”. A scholar stated that the patent trolls acquire patents without the intention to practice the patented invention, but only wait for the potential infringers using the patented technologies and sue them.¹⁵⁸ Another scholar even said that the patent trolls threaten the integrity of the innovation scheme.¹⁵⁹

On the other hand, some scholars found that the NPEs are positive. For example, one scholar stated that the transactions between the NPEs and the original inventors are a division of cooperative labors, in which the inventors are in charge of conducting technology developments and the NPEs are responsible to enforce the patent rights.¹⁶⁰

B. Few Permanent Injunctions Were Granted to Non-Practicing Entities after *eBay*

Although the Supreme Court found no legal ground of categorically denying the possibilities of granting permanent injunctions to the NPEs, it is a fact that few NPEs were awarded a permanent injunction after *eBay*. It is worth analyzing how the NPEs are influenced by *eBay*.

As mentioned, the analytical study of this paper finds that a direct competition between the plaintiff and the defendant in the market is the most important factor for the courts to award an injunctive relief to the plaintiff. If the plaintiff and the defendant are direct competitors in the market, the defendant's patent infringement will generally cause losses of sales, market share, profit, and/or brand name recognition of the plaintiff. Because such losses resulting from the future infringement are generally not able to be calculated or estimated in advance, such losses will generally result in irreparable harm without permanent injunction.

¹⁵⁵ See Miranda Jones, *Permanent Injunction, A Remedy by Any Other Name Is Patently Not The Same: How eBay v. Merceexchange Affects The Patent Right of Non-Practicing Entities*, 14 GEO. MASON L. REV. 1035, 1037 (2007).

¹⁵⁶ See Paul M. Schoenhard, *Who Took My IP? - Defending the Availability of Injunctive Relief for Patent Owners*, 16 TEX. INTELL. PROP. L. J. 187, 188 (2008).

¹⁵⁷ See Jones, *supra* note 155, at 1045.

¹⁵⁸ James M. Fischer, *The “Right” To Injunctive Relief For Patent Infringement*, 24 SANTA CLARA COMPUTER & HIGH TECH. L.J. 1, 2 (2007).

¹⁵⁹ Robert P. Merges, *The Trouble With Trolls: Innovation, Rent-seeking, and Patent Law Reform*, 24 BERKELEY TECH. L. J. 1583, 1614 (2009).

¹⁶⁰ See Jones, *supra* note 155, at 1036.

Because the NPEs do not commercialize the patents, it is nearly impossible for them to assert that they would suffer losses of sales, market share, profit, or brand name recognition due to the patent infringement. The only possible injury of the NPEs is the loss of licensing fee, but it is generally calculable. Because it is hard for the NPEs to establish irreparable harm, it's difficult for them to be awarded permanent injunctions as a remedy of patent infringement.¹⁶¹ That is the reason why few NPEs were awarded a permanent injunction after *eBay*.

Since the permanent injunction is the largest threat to the potential infringers, the threat to move for a permanent injunction is an essential bargaining power of the patent holders to negotiate patent licensing. Because *eBay* has significantly lessened the threat of permanent injunction, the potential infringers' incentive to license, especially from the NPEs, has been largely reduced.¹⁶²

C. NPEs Without R&D Should Be Hard to Obtain a Permanent Injunction

However, not all of the NPEs acquire patent rights from others. An academic paper divided the NPEs into two categories: "pure trolls" and "R&D-based NPEs".¹⁶³ This paper finds that this is a good viewpoint to analyze the issue of permanent injunction, and defines the "pure trolls" as "NPEs without R&D" and "R&D-based NPEs" as "NPEs with R&D". This paper is of the opinion that the NPEs with R&D and the NPEs without R&D should be treated differently.

The NPEs without R&D do not have their own research activities, and generally acquire patents from other entities.¹⁶⁴ According to an empirical study, the NPEs without R&D generally do not own many patents but file many patent infringement litigations.¹⁶⁵ The primary profits of NPEs without R&D are to collect damages from the patent infringement litigations.¹⁶⁶ A famous scholar prepared a brief of Amicus Curiae to the Supreme Court in the *eBay* case on behalf of Yahoo, suggesting that the decision of the Federal Circuit applying the general rule should be reversed.¹⁶⁷ The scholar focused his argument on the "patent trolls", which was defined as "non-producing, non-research and

¹⁶¹ Tang, *supra* note 130, at 249.

¹⁶² *Id.* at 250.

¹⁶³ Y.C. Cheng, Y.H. Lan & S.J. Liu, *Patent Market Dynamics: In View of the Business Models of Non-Practicing Entities*, presented at the 1st International Conference on Management of Intellectual Property and Strategy [MIPS2012], at *3 (2012).

¹⁶⁴ See Merges, *supra* note 159, at 1587.

¹⁶⁵ Cheng, Lan & Liu, *supra* note 163, at *3.

¹⁶⁶ Robin M. Davis, *Failed Attempts to Dwarf the Patent Trolls: Permanent Injunctions in Patent Infringement Cases Under the Proposed Patent Reform Act of 2005 and eBay v. MercExchange*, 17 CORNELL J. L. & PUB. POL'Y 431, 432 (2008).

¹⁶⁷ Robert P. Merges, *Introductory Note to Brief of Amicus Curiae in eBay v. MercExchange*, 21 BERKELEY TECH. L. J. 997, 1016 (2005).

development (R&D) performing patent holders”¹⁶⁸, like the NPEs without R&D defined in this paper. The scholar pointed out that the most essential weapon of the patent trolls is the threat of a permanent injunction, seeking and often receiving financial settlements in the amount of largely exceeding the real monetary value of the patent-in-dispute.¹⁶⁹ From this point of view, the NPEs without R&D have little contribution to the progress of science and useful art. This paper agrees with the result of judicial practice that few NPEs without R&D should be awarded a permanent injunction.

Since the NPEs without R&D are not likely possible to obtain a permanent injunction after *eBay*, they have lost the most essential bargaining power of licensing negotiation, and only the monetary damages are left to the NPEs without R&D as the patent remedies. In regard to the monetary damages, Section 284 of the U.S. Patent Act states that “Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.” In applying this section, the patentee-plaintiff needs to bear a burden of affirmatively proving its lost profits.¹⁷⁰ In calculating the lost profits as monetary damages for patent infringement, the Sixth Circuit in *Panduit Corp. v. Stahlin Brothers Fibre Works, Inc.*¹⁷¹ stated that the patentee-plaintiff needs to affirmatively prove the following four factors: (1) to demand for the patented commodity; (2) absence of acceptable non-infringing substitute products; (3) the patentee's manufacturing and marketing capability to achieve the demand; and (4) the profit amount that she or he would have made.¹⁷² Since the NPEs without R&D do not have their own products, there are no so-called marketplaces, plaintiff's productions, plaintiff's marketing capacities, or non-infringing substitutes. Accordingly, the NPEs without R&D can only assert the reasonable royalty as monetary damages.

In determining the amount of reasonable royalty, the court in *Georgia-Pacific Corp. v. United States Plywood Corp.*¹⁷³ established a hypothetical license approach.¹⁷⁴ Under this approach, the reasonable royalty generally approximates to the amount which a business license negotiation would reach. Accordingly, a scholar stated that the infringer would have an

¹⁶⁸ *Id.* at 997.

¹⁶⁹ *Id.* at 1005.

¹⁷⁰ Laura B. Pincus, *The Computation of Damages in Patent Infringement Actions*, 5 HARD. J. L. & TECH. 95, 100 (1991).

¹⁷¹ *Supra* note 138, at 1156.

¹⁷² *Id.*

¹⁷³ Georgia-Pacific Corp. v. United States Plywood Corp., 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970).

¹⁷⁴ *Supra* note 170, at 122.

incentive to infringe rather than to negotiate the patent license in advance under the hypothetical license approach, because the infringer would only need to pay the amount of damages that he or she should pay for the business license.¹⁷⁵ Accordingly, since the NPEs without R&D have lost injunctive relieves as their most powerful weapon to force patent licensing after *eBay*, they have been largely impacted by *eBay*.

D. The NPEs with R&D Should Be Possible to Obtain a Permanent Injunction

On the other hand, the NPEs with R&D are also called “patent pioneers” by another scholar.¹⁷⁶ The NPEs with R&D, such as universities, research institutes, and think tanks, generally obtain patents from their own R&D activities.¹⁷⁷ The NPEs with R&D generally own lots of patents but do not file many patent infringement litigations.¹⁷⁸ They generally make money from the technology transfers, patent licenses and patent assignments.^{179,180}

Many NPEs with R&D such as universities, government-funded institutes and some private sectors are essential engines for scientific and technical researches. Since science and technology developments are very competitive,¹⁸¹ to totally deny the injunctive relief moved by the NPEs which conduct their own R&D may discourage the progress of science and useful arts. Therefore, this paper finds that the NPEs with R&D and the NPEs without R&D should be differently considered in the permanent injunction proceedings.

This paper finds that the negative impact of *eBay* on the NPEs with R&D is finite for the following three reasons. First, CSIRO, as a NPE with R&D, obtained a permanent injunction although it is a NPE. Although CSIRO didn’t have its own product and had no direct competition with the defendant, CSIRO was competing with other research institutes and universities in the technology market. If a permanent injunction was not granted, CSIRO would lose or delay its funding so the scheduled progresses for further R&Ds would be significantly delayed, and the lag in further R&Ds frequently results in irreparable harm. This paper finds that this is a very good argument for the NPEs with R&D to establish irreparable harm in the future motions for permanent injunction.

Second, the primary profits of the NPEs with R&D come from technology transfer and patent licensing rather than patent infringement litigation.¹⁸² Many

¹⁷⁵ *Id.* at 124.

¹⁷⁶ Davis, *supra* note 166, at 437.

¹⁷⁷ *Id.*

¹⁷⁸ Cheng, Y.C., Y. H. Lan and S.J. Liu, *supra* note 163, at *3.

¹⁷⁹ *Id.*

¹⁸⁰ Mark A. Lemley, *supra* note 153, at 611.

¹⁸¹ Merges, *supra* note 14, at 148.

¹⁸² Cheng, Lan & Liu, *supra* note 163, at *3.

NPEs with R&D own strong fundamental technologies and fully integrated patent portfolio, so many companies have motivation to obtain the patent license from the NPEs with R&D. Since the original purpose of NPEs with R&D is to collect royalty and licensing fee, this paper suggests that the NPEs with R&D may claim for a compulsory license and ongoing royalty in patent litigation instead of moving for a permanent injunction.

Third, if a NPE with R&D has licensed its patents to other entity in exchange for a royalty like the *Novozymes A/S v. Genencor Int'l, Inc.* case, it may claim that the direct harm of the licensee is the indirect harm of the patent owner. If the NPE with R&D could prove that the licensee would be directly and irreparably harmed by future patent infringement, it has a high possibility to establish its indirect and irreparable harm as well.

In sum, this paper finds that the negative impact of *eBay* on the NPEs with R&D is finite and reasonable. In a patent litigation, the NPEs with R&D can assert CSIRO's argument to seek for a permanent injunction first. Even if it is not successful, the NPEs with R&D may request for a compulsory license and an ongoing royalty which may substantially meet their purposes of enforcing the patent rights.

V. Conclusion

This paper briefly introduced the *eBay* case and conducted an analytic study to realize how the Federal Courts in the United States applied *eBay*'s opinion in the subsequent cases. The analytic study is divided into two parts: the cases in which a permanent injunction was granted and the cases in which a permanent injunction was denied.

The first part of the analytic study showed that a competition between the plaintiff and the defendant in the market is the most important factor for the courts to award an injunctive relief to the plaintiff. This paper also finds that the competitions between the plaintiff and the defendant can be divided into three categories: (1) the patent owner is a direct competitor of the defendant; (2) the patentee is an indirect competitor of the defendant; and (3) the patent holder is a research institute competing with other research institutes and universities in the technology market. In other words, even the patentee is not a direct competitor of the defendant, he may still obtain a permanent injunction if he can show that he is an indirect competitor of the defendant or a research institute competing with other research institutes and universities in the technology market.

The second part of the analytic study showed that there had been four kinds of mechanisms adopted by the Federal Courts to compensate a patentee who had already prevailed on the merits and been awarded damages but didn't obtain a permanent injunction relief : (1) without providing any further remedy; (2) to order the plaintiff to file a new lawsuit for the defendant's subsequent

infringement after trial; (3) to award an on-going royalty to the plaintiff; and (4) to award a compulsory license and an ongoing royalty to the plaintiff.

In addition, this paper discusses how *eBay* influences on the NPEs and analyzes whether the NPEs with R&D and the NPEs without R&D should be differently considered in permanent injunction proceedings. Because the NPEs without R&D have little contribution to the progress of science and useful art, this paper agrees with the result of judicial practice that NPEs without R&D are nearly impossible to obtain a permanent injunction. Since the NPEs without R&D are not likely possible to obtain a permanent injunction after *eBay*, they have lost the most essential bargaining power of licensing negotiation, and only the monetary damages are left to the NPEs without R&D as the patent remedies.

This paper also finds that the negative impact of *eBay* on the NPEs with R&D is finite and reasonable. In a patent litigation, the NPEs with R&D can assert CSIRO's argument to seek for a permanent injunction first. Even if it is not successful, the NPEs with R&D may request for a compulsory license and an ongoing royalty which may substantially meet their purposes of enforcing the patent rights.

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35 U.S.C. § 101: POST-ALICE LANDSCAPE

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ABSTRACT

No case in recent history has had as profound an impact on U.S. patent litigation as the Supreme Court's June 19, 2014 decision in *Alice Corp. Pty. Ltd. v. CLS Bank Intern.*, 134 S. Ct. 2347 (2014). The *Alice* decision clarified the law on subject matter eligibility under 35 U.S.C. § 101. The case "clarified" (instead of changed) this law because the Supreme Court simply adopted its two-part test from its 2012 *Mayo* decision. See *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289, 1293-1294 (2012). Notwithstanding that the Supreme Court did not really create new law with its *Alice* decision, since that decision, both the Court of Appeals for the Federal Circuit and U.S. district courts have routinely invalidated patents under 35 U.S.C. § 101 and *Alice*. As shown below, with only one exception, whenever the Federal Circuit has addressed 35 U.S.C. § 101 since *Alice*, the Federal Circuit has invalidated the patent or patents at issue. And according to one study, the district courts are granting *Alice* motions (i.e., invalidating the patents) over 70% of the time since the *Alice* decision.²

35 U.S.C. § 101 and the Supreme Court's *Alice* Decision

An analysis into subject matter eligibility starts with 35 U.S.C. § 101 to determine whether the claims cover statutorily recognized subject matter (i.e., a process, machine, manufacture, or composition of matter). 35 U.S.C. § 101 provides:

"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101.

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² *Alice Haunted Federal Courts and USPTO in October*, by Robert R. Sachs. Published in Law 360 on November 10, 2015.

If the claim does pass the initial 35 U.S.C. § 101 hurdle, the Supreme Court stated it must then withstand the two-part *Alice/Mayo* test. The two-part test first identifies, in the claim, an exception to section 101 patentability (e.g., a law of nature, natural phenomena, or an abstract idea) and then, second, determines whether the other elements in the claims add significantly more (e.g., an inventive concept) to make them subject matter eligible. The Supreme Court in *Alice* generally explained both steps one and two.

Step One requires that the claims be “[v]iewed as a whole” (*Alice*, 134 S. Ct. at 2359; *see also* FN3) to determine “whether the claims at issue are directed to [laws of nature, natural phenomena, and abstract ideas].” *Id.* at 2355 (citing *Mayo*, 132 S. Ct. at 1297). With respect to the computer arts, the abstract idea addressed in *Alice* is the most relevant. “The abstract ideas category embodies the longstanding rule that an idea of itself is not patentable.” *Id.* at 2355 (citations omitted). The mere recitation of computer elements does not render a claim not abstract as “[t]he fact that a computer necessarily exists in the physical rather than purely conceptual realm is beside the point.” *Id.* at 2358. The *Alice* court stated the section 101 inquiry should not be allowed to be avoided “simply on the draftsman’s art” with the recitation of computer elements. *Id.* (citing *Parker v. Flook*, 98 S. Ct. 2522 (1978)).

Step Two requires a “consider[ation] [of] the [claim] elements . . . both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application. . . .” *Id.* at 2355 (citing *Mayo*, 132 S. Ct. at 1297). A claim that recites an abstract idea can be patent eligible if it contains an “‘inventive concept’ – *i.e.*, an element or combination of elements that [are] ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Id.* (citing *Mayo* at 1294). The claims “must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’ [T]ransformation into a patent-eligible application requires ‘more than simply stat[ing] the [abstract idea] while adding the words ‘apply it.’’” *Id.* at 2357 (citing *Mayo*, 132 S. Ct. at 1294). The additional features must be more than well-understood, routine and conventional. *Id.* at 2359. An abstract idea cannot be made patentable by limiting the abstract idea to a particular technological environment. *Id.* (citing *Bilski v. Kappos*, 130 S. Ct. 3218, 3218 (2010)). “[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention. Stating an abstract idea ‘while adding the words ‘apply it’’ is not enough for patent eligibility.” *Id.* at 2358 (citing *Mayo* at 1294). Indeed, the Supreme Court

has “long warned against interpreting § 101 in ways that make patent eligibility depend simply on the draftsman’s art.” *Id.* at 2360 (quotations omitted).

With respect to the actual patent at issue in the case, the claims were drawn to “a method of exchanging financial obligations between two parties using a third-party intermediary to mitigate settlement risk.” *Id.* at 2356. Representative claim 33 of U.S. Patent No. 5,970,479 provides:

A method of exchanging obligations as between parties, each party holding a credit record and a debit record with an exchange institution, the credit records and debit records for exchange of predetermined obligations, the method comprising the steps of:

(a) creating a shadow credit record and a shadow debit record for each stakeholder party to be held independently by a supervisory institution from the exchange institutions;

(b) obtaining from each exchange institution a start-of-day balance for each shadow credit record and shadow debit record;

(c) for every transaction resulting in an exchange obligation, the supervisory institution adjusting each respective party's shadow credit record or shadow debit record, allowing only these transactions that do not result in the value of the shadow debit record being less than the value of the shadow credit record at any time, each said adjustment taking place in chronological order, and

(d) at the end-of-day, the supervisory institution instructing on[e] of the exchange institutions to exchange credits or debits to the credit record and debit record of the respective parties in accordance with the adjustments of the said permitted transactions, the credits and debits being *irrevocable, time invariant obligations placed on the exchange institutions.*

Step One:

The Supreme Court found that, “[o]n their face, the claims . . . are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.” *Id.* at 2356. “Like the risk hedging in *Bilski*, the concept of intermediated settlement is a fundamental economic practice long prevalent. . . The use of a third-party intermediary . . . is also a building block of the modern of the modern economy.” *Id.* The Supreme Court found that intermediated settlement, like hedging, is an abstract idea.

Step Two:

The Supreme Court found that the claims lack an inventive concept to transform the abstract idea into something subject matter eligible. The claims “simply instruct the practitioner to implement the abstract idea of intermediated settlement on a generic computer.” *Id.* at 2359. “[T]he function performed by the computer at each step of the process is ‘[p]urely conventional.’” *Id.* at 2359 (citing *Mayo* at 1298). “The same is true with respect to the use of a computer to obtain data, adjust account balances, and issue automated instructions; all of these computer functions are ‘well-understood, routine, conventional activit[ies]’ previously known to the industry. . . [E]ach step does no more than require a generic computer to perform generic computer functions.” *Id.* at 2359 (citing *Mayo* at 1294) (alterations in original). The claims do not “purport to improve the functioning of the computer itself. . . Nor do they effect an improvement in any other technology or technical field.” *Alice* at 2359 (citing *Diamond v. Diehr*, 101 S. Ct. 1048 (1981)). “Instead, the claims at issue amount to ‘nothing significantly more’ than an instruction to apply the abstract idea of intermediated settlement using some unspecified, generic computer.” *Id.* at 2360 (citing *Mayo* at 1297). “Nearly every computer will include a communications controller and data storage unit capable of performing the basic calculation, storage, and transmission functions required by the method claims. . . As a result, none of the hardware recited by the system claims offers a meaningful limitation beyond generally linking the use of the [method] to a particular technological environment, that is, implementation via computers.” *Id.* (quotations omitted).

Post-Alice Federal Circuit Decisions

Cyberfone Sys., LLC v. CNN Interactive Group, Inc., 558 F. Appx. 988 (Fed. Cir. Feb. 26, 2014)

On July 10, 2014, one month after *Alice* was decided, the Federal Circuit in *Cyberfone* denied a rehearing request of an earlier pre-*Alice*, 35 U.S.C. § 101 decision. The pre-*Alice* decision, dated February 26, 2014, applied the two-part *Mayo* analysis and affirmed a district court’s ruling of summary judgment of invalidity under section 101. The claims in *Cyberfone* were directed to “steps [that] require obtaining data, ‘exploding’ the data, i.e., separating it into component parts, and sending those parts to different destinations.” *Cyberfone*, 558 F. Appx. at 990. Representative claim 1 of U.S. Patent No. 8,019,060, reproduced below, recites:

1. A method, comprising:

obtaining data transaction information entered on a telephone from a single transmission from said telephone; forming a plurality of different exploded data transactions for the single transmission, said plurality of different exploded data

transaction[s] indicative of a single data transaction, each of said exploded data transactions having different data that is intended for a different destination that is included as part of the exploded data transactions, and each of said exploded data transactions formed based on said data transaction information from said single transmission, so that different data from the single data transmission is separated and sent to different destinations; and sending said different exploded data transactions over a channel to said different destinations, all based on said data transaction information entered in said single transmission.

Step One:

The Federal Circuit found that the claims were directed to an abstract idea because, despite the fact that the claims cannot be performed “unaided by devices, . . . the category of patent-ineligible abstract ideas is not limited to methods that can be performed in the human mind.” *Id.* at 992. The claims recite “an abstract idea, as in Bilski[,] like protecting against risk, using categories to organize, store, and transmit information is well-established. Here, the well-known concept of categorical data storage, i.e., the idea of collecting information in classified form, then separating and transmitting that information according to its classification, is an abstract idea that is not patent-eligible.” *Id.*

Step Two:

The Federal Circuit found that the claims lacked “additional substantive limitations . . . [that] narrow, confine, or otherwise tie down the claim so that, in practical terms, it does not cover the full abstract idea itself.” *Id.* The plaintiff argued that the claim was “sufficiently limited by the machinery it requires and transformations it effects” but “[f]or ‘a machine to impose a meaningful limit . . . it must play a significant part in permitting the claimed method to be performed. . .’” *Id.* “By contrast, ‘simply implementing an abstract concept on a computer, without meaningful limitations to that concept, does not transform a patent-ineligible claim into a patent-eligible one.’” *Id.* at 992-993 (citations omitted). “The ‘telephone’ recited in claim 1 is not a specific machine, and adds nothing of significance to the claimed abstract idea.” *Id.* at 993. With respect to transformation, “the mere collection and organization of data . . . is insufficient to meet the transformation prong of the test . . . [T]he exploding step effects no meaningful transformation because it merely makes the originally-gathered information accessible to different destinations without changing the content or its classification.” *Id.* at 993 (citations omitted).

Digitech Image Technologies, LLC v. Electronics for Imaging, Inc., 758 F.3d 1344 (Fed. Cir. July 11, 2014).

The next day, on July 11, 2014, the Federal Circuit affirmed a district court's grant of summary judgment of invalidity under 35 U.S.C. § 101. The claims at issue in *Digitech* were "directed to the generation and use of an 'improved device profile' that describes spatial and color properties of a device within a digital image processing system. In general, digital image processing involves electronically capturing an image of a scene with a 'source device,' such as a digital camera, altering the image in a desired fashion, and transferring the altered image to an 'output device,' such as a color printer." *Digitech*, 758 F.3d at 1347. Device claims 1 and 26 and method claim 10 of U.S. Patent No. 6,128,415 are reproduced below:

1. A device profile for describing properties of a device in a digital image reproduction system to capture, transform or render an image, said device profile comprising:

first data for describing a device dependent transformation of color information content of the image to a device independent color space; and second data for describing a device dependent transformation of spatial information content of the image in said device independent color space.

26. A device profile for describing properties of a device in a digital image reproduction system to capture, transform or render an image, said device profile comprising data for describing a device dependent transformation of spatial information content of the image to a device independent color space, wherein through use of spatial stimuli and device response for said device, said data is represented by spatial characteristic functions.

10. A method of generating a device profile that describes properties of a device in a digital image reproduction system for capturing, transforming or rendering an image, said method comprising:

generating first data for describing a device dependent transformation of color information content of the image to a device independent color space through use of measured chromatic stimuli and device response characteristic functions;

generating second data for describing a device dependent transformation of spatial information content of the image in said device independent color space through use of spatial stimuli and device response characteristic functions; and combining said first and second data into the device profile.

With respect to device Claims 1 and 26, the Federal Circuit found that the device claims failed to recite patent eligible subject matter because they fail to recite a tangible object. *Id.* at 1348. The device claims “are not directed to any tangible embodiment of . . . information (i.e., in physical memory or other medium) or claim any tangible part of the digital processing system. The claims are instead directed to information in its non-tangible form. [T]he device profile . . . does not fall within any of the categories of eligible subject matter under section 101.” *Id.* at 1349. The claimed device profile was not an embodiment of hardware or software. Instead, “[t]he claims encompass all embodiments of the information contained in the device profile. . . . Data in its ethereal, non-physical form is simply information that does not fall under any of the categories of eligible subject matter under section 101.” *Id.* at 1349-1350. “The device profile, as claimed, is a collection of intangible color and spatial information” and not patent eligible subject matter under section 101. *Id.* at 1350.

Regard method Claim 10, and in contrast to the device claims, method claim 10 recited a category deemed patentable under section 101 (i.e., a process) but the court nonetheless found that it covered a patent ineligible abstract idea. *Id.*

Step One:

The Federal Circuit held that claim 10 was directed to an abstract idea. Claim 10 “recites a process of taking two data sets and combining them into a single data set, the device profile. The two data sets are generated by taking existing information . . . and organizing this information into a new form. . . Without additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible.” *Id.* at 1351.

Step Two:

The Federal Circuit found that there was nothing more to claim 10 to render it patent eligible. Plaintiff argued that the method is tied to an image processor. However, the Federal Circuit stated that “[t]he only mention of a ‘digital image reproduction system’ lies in the claim’s preamble, and . . . a preamble does not limit claim scope if it ‘merely states the purpose or intended use of an invention.’” *Id.* Even if the method claim is tied to an image processor, “[t]he method claimed . . . is thus ‘so abstract and sweeping’ as to cover any and all uses of a device profile . . .” *Id.*

Planet Bingo LLC, v. VKGS LLC, 576 Fed. Appx. 1005 (Fed. Cir. August 26, 2014)

A month after *Digitech*, the Federal Circuit upheld a district court's ruling of summary judgment of invalidity under section 101. The claims at issue in *Planet Bingo* generally "recite storing a player's preferred sets of bingo numbers; retrieving one such set upon demand, and playing that set; while simultaneously tracking the player's sets, tracking player payments, and verifying winning numbers." *Planet Bingo*, 576 Fed. Appx. at 1006. Representative claim 1 of U.S. Patent No. 6,398,646, is reproduced below:

1. A system for managing a game of Bingo which comprises:

(a) a computer with a central processing unit (CPU) and with a memory and with a printer connected to the CPU;

(b) an input and output terminal connected to the CPU and memory of the computer; and

(c) a program in the computer enabling:

(i) input of at least two sets of Bingo numbers which are preselected by a player to be played in at least one selected game of Bingo in a future period of time;

(ii) storage of the sets of Bingo numbers which are preselected by the player as a group in the memory of the computer;

(iii) assignment by the computer of a player identifier unique to the player for the group having the sets of Bingo numbers which are preselected by the player wherein the player identifier is assigned to the group for multiple sessions of Bingo;

(iv) retrieval of the group using the player identifier;

(v) selection from the group by the player of at least one of the sets of Bingo numbers preselected by the player and stored in the memory of the computer as the group for play in a selected game of Bingo in a specific session of Bingo wherein a number of sets of Bingo numbers selected for play in the selected game of Bingo is less than a total number of sets of Bingo numbers in the group;

(vi) addition by the computer of a control number for each set of Bingo numbers selected for play in the selected game of Bingo;

(vii) output of a receipt with the control number, the set of Bingo numbers which is preselected and selected by the player, a price

for the set of Bingo numbers which is preselected, a date of the game of Bingo and optionally a computer identification number; and

(viii) output for verification of a winning set of Bingo numbers by means of the control number which is input into the computer by a manager of the game of Bingo.

Step One:

The Federal Circuit held that the claims at issue were directed to the abstract idea of “managing a bingo game while allowing a player to repeatedly play the same sets of numbers in multiple sessions. . . .” *Id.* at 1007. “[M]anaging the game of bingo consists solely of mental steps which can be carried out by a human using pen and paper.” *Id.* (citations omitted). Although not drawn to the same subject matter as *Bilski* and *Alice*, the Federal Circuit stated that the claims are “directed to the abstract idea of solving a tampering problem and also minimizing other security risks during bingo ticket purchases . . .” *Id.* at 1008. “This is similar to the abstract ideas of ‘risk hedging’ during ‘consumer transactions,’ . . . and ‘mitigating settlement risk’ in ‘financial transactions, . . . that the Supreme Court found ineligible [in *Bilski* and *Alice*].’” *Id.*

Step Two:

The Federal Circuit also found that the claims lack an inventive concept sufficient to transform the claimed abstract idea into a patent eligible application. “Apart from managing a game of bingo, the claims at issue also require ‘a computer with a central processing unit,’ ‘a memory,’ ‘an input and output terminal,’ ‘a printer,’ in some cases ‘a video screen,’ and a ‘program . . . enabling’ the steps of managing a game of bingo.” *Id.* The Federal Circuit found that these elements are all generic. “[T]he claims recite a program that is used for the generic functions of storing, retrieving, and verifying a chosen set of bingo numbers against a winning set of bingo numbers. And, as was the case in *Alice*, ‘the function performed by the computer at each step of the process is purely conventional.’” *Id.* (citing *Alice*, 134 S. Ct. at 2359).

buySAFE, Inc. v. Google, Inc., 765 F.3d 1350 (Fed. Cir. September 3, 2014)

A week later, the Federal Circuit affirmed a district court’s judgment on the pleadings rendering a patent invalid under section 101. The technology at issue in *buySAFE* was directed towards the use of computers over a network to provide a performance guarantee for online commercial transactions. *buySAFE*, 765 F.3d at 1351. Representative claim 1 of U.S. Patent No. 7,644,019 is reproduced below. “Claim 14 [(not shown)] narrows the claim 1 method to a guaranty ‘in one form of: a surety bond; a specialized bank

guaranty; a specialized insurance policy; and a safe transaction guaranty.”” *Id.* at 1352.

1. A method, comprising:

receiving, by at least one computer application program running on a computer of a safe transaction service provider, a request from a first party for obtaining a transaction performance guaranty service with respect to an online commercial transaction following closing of the online commercial transaction;

processing, by at least one computer application program running on the safe transaction service provider computer, the request by underwriting the first party in order to provide the transaction performance guaranty service to the first party,

wherein the computer of the safe transaction service provider offers, via a computer network, the transaction performance guaranty service that binds a transaction performance guaranty to the online commercial transaction involving the first party to guarantee the performance of the first party following closing of the online commercial transaction.

Step One:

The Federal Circuit found that the claims were directed to an abstract idea. “The claims . . . do not push or even test the boundaries of the Supreme Court precedents under section 101. . . .” *Id.* at 1354. “The claims are squarely about creating a contractual relationship – a ‘transaction performance guaranty’ – that is beyond question of ancient lineage. . . . The dependent claims’ narrowing to particular types of such relationships, themselves familiar, does not change the analysis.” *Id.* at 1355.

Step Two:

The Federal Circuit found that the claims lacked an inventive concept. “The computer functionality is generic – . . . a computer receives a request for a guarantee and transmits an offer of guarantee in return. There is no further detail. That a computer receives and sends the information over a network – with no further specification – is not even arguably inventive. . . And it likewise cannot be enough that the transactions being guaranteed are themselves online transactions. At best, that narrowing is an ‘attempt to limit the use’ of the abstract guarantee idea ‘to a particular technological environment,’ which has long been held insufficient to save a claim in this context.” *Id.* (citing *Alice*, 134 S. Ct. at 2358).

Ultramercial, Inc. v. Hulu, LLC, 772 F.3d 709 (Fed. Cir. November 14, 2014)

A month later, the Federal Circuit affirmed a district court's dismissal of a complaint because the asserted patent was not subject matter eligible under section 101. The representative claim at issue in *Ultramercial* "includes eleven steps for displaying an advertisement in exchange for access to copyrighted media." *Ultramercial*, 772 F.3d at 714. This was like "using advertising as an exchange or currency." *Id.* at 715. Representative claim 1 of U.S. Patent No. 7,346,545 is reproduced below. The "other claims of the patent [(not shown)] are drawn to a similar process they suffer from the same infirmity as claim 1" and do not require separate consideration. *Id.* at 712.

1. A method for distribution of products over the Internet via a facilitator, said method comprising the steps of:

a first step of receiving, from a content provider, media products that are covered by intellectual property rights protection and are available for purchase, wherein each said media product being comprised of at least one of text data, music data, and video data;

a second step of selecting a sponsor message to be associated with the media product, said sponsor message being selected from a plurality of sponsor messages, said second step including accessing an activity log to verify that the total number of times which the sponsor message has been previously presented is less than the number of transaction cycles contracted by the sponsor of the sponsor message;

a third step of providing the media product for sale at an Internet website;

a fourth step of restricting general public access to said media product;

a fifth step of offering to a consumer access to the media product without charge to the consumer on the precondition that the consumer views the sponsor message;

a sixth step of receiving from the consumer a request to view the sponsor message, wherein the consumer submits said request in response to being offered access to the media product;

a seventh step of, in response to receiving the request from the consumer, facilitating the display of a sponsor message to the consumer;

an eighth step of, if the sponsor message is not an interactive message, allowing said consumer access to said media product after said step of facilitating the display of said sponsor message;

a ninth step of, if the sponsor message is an interactive message, presenting at least one query to the consumer and allowing said consumer access to said media product after receiving a response to said at least one query;

a tenth step of recording the transaction event to the activity log, said tenth step including updating the total number of times the sponsor message has been presented; and

an eleventh step of receiving payment from the sponsor of the sponsor message displayed.

Step One:

The Federal Circuit found that the claims were directed to an abstract idea. Representative claim 1 “recites an abstraction . . . devoid of concrete or tangible application. Although certain additional limitations, such as consulting an activity log, add a degree of particularity, the concept embodied by the majority of the limitations describes only the abstract idea of showing an advertisement before delivering free content.” *Id.* at 715. The Federal Circuit stated that “the addition of merely novel or non-routine components to the claimed idea [does not] necessarily turn[] an abstraction into something concrete. . . [A]ny novelty in implementation of the idea is a factor to be considered only in the second step of the *Alice* analysis.” *Id.*

Step Two:

The Federal Circuit found that there was nothing in the claims to transform the abstract idea into something patent eligible. “[T]he claims simply instruct the practitioner to implement the abstract idea with routine conventional activity.” *Id.* at 716. “The majority of those steps comprise the abstract concept . . . and use of the Internet does not transform an otherwise abstract idea into a patent-eligible subject matter. Instead, the claimed sequence of steps comprises only ‘conventional steps, specified at a high level of generality,’ which is insufficient to supply an ‘inventive concept.’” *Id.* “[T]he steps of consulting and updating an activity log represent[] insignificant ‘data-gathering steps,’ and thus add nothing of practical significance to the underlying abstract idea. Further, that the system is active, rather than passive, and restricts public access also represents only insignificant ‘[pre]-solution activity,’ which is also not sufficient to transform an otherwise patent-ineligible abstract idea into patent-eligible subject matter.” *Id.* “The claims’ invocation of the Internet also adds no inventive concept. . . [because], [g]iven the prevalence of the Internet,

implementation of an abstract idea on the Internet . . . is not sufficient to provide any ‘practical assurance that the process is more than a drafting effort designed to monopolize the abstract idea itself.’” *Id.* (citing *Mayo*, 132 S. Ct. at 1297).

The Federal Circuit also addressed the machine-or-transform test and stated that it can provide a useful clue in the 35 U.S.C. § 101 analysis. The claims at issue, however, “are not tied to any particular novel machine or apparatus, only a general purpose computer. . . [T]he Internet is not sufficient to save the patent under the machine prong of the machine-or-transformation test . . . It is a ubiquitous information-transmitting medium, not a novel machine. And adding a computer to otherwise conventional steps does not make an invention patent eligible. . . Any transformation from the use of computers or the transfer of content between computers is merely what computers do and does not change the analysis.” *Id.* at 716-717. The claims also fail to satisfy the transformation prong because “manipulations of ‘public or private legal obligations or relationships, business risks, or other such abstractions cannot meet the test because they are not physical objects or substances, and they are not representative of physical objects or substances.’” *Id.* at 717.

In concurrence, Judge Mayer emphasized that he believes that subject matter eligibility under section 101 is a threshold issue that needs to be addressed at the outset of litigation. *Id.* Judge Mayer stated that addressing subject matter eligibility at the outset “will conserve scarce judicial resources . . . [and the] [f]ailure to recite statutory subject matter is the sort of ‘basic deficiency,’ that can, and should, ‘be exposed at the point of minimum expenditure of time and money by the parties and the court.’” *Id.* at 718-719 (quoting *Bell Atl. Corp. v. Twombly*, 127 S. Ct. 1955). “[R]esolving subject matter eligibility at the outset provides a bulwark against vexatious infringement suits. The scourge of meritless infringement claims has continued unabated for decades due, in no small measure, to the ease of asserting such claims and the enormous sums required to defend against them.” *Id.* at 719. “Subject matter eligibility challenges provide the most efficient and effective tool for clearing the patent thicket, weeding out those patents that stifle innovation and transgress the public domain.” *Id.* at 719. Judge Mayer also stated that no presumption of eligibility applies in a section 101 inquiry (*Id.* at 717) but there has been no indication whether the Federal Circuit, as a whole, adopts Judge Mayer’s view.

DDR Holdings, LLC, v. Hotels.com, L.P., 773 F.3d 1245 (Fed. Cir. December 5, 2014)

A month after *Ultramercial*, the Federal Circuit issued its decision in *DDR Holdings*. Of all of post-*Alice* decisions, *DDR Holdings* is arguably the most interesting and important because it is the only decision that upheld the validity of the patent under 35 U.S.C. § 101. The patent claims at issue described a

“new web page that permits a website visitor, in a sense, to be in two places at the same time. On activation of a hyperlink on a host website – such as an advertisement for a third-party merchant – instead of taking the visitor to the merchant’s website, the system generates and directs the visitor to a composite web page that displays product information from the third-party merchant, but retains the host website’s ‘look and feel.’” *DDR Holdings*, 773 F.3d at 1248-1249. Representative claim 19 of U.S. Patent No. 7,818,399 is reproduced below.

19. A system useful in an outsource provider serving web pages offering commercial opportunities, the system comprising:

(a) a computer store containing data, for each of a plurality of first web pages, defining a plurality of visually perceptible elements, which visually perceptible elements correspond to the plurality of first web pages;

(i) wherein each of the first web pages belongs to one of a plurality of web page owners;

(ii) wherein each of the first web pages displays at least one active link associated with a commerce object associated with a buying opportunity of a selected one of a plurality of merchants; and

(iii) wherein the selected merchant, the outsource provider, and the owner of the first web page displaying the associated link are each third parties with respect to one other;

(b) a computer server at the outsource provider, which computer server is coupled to the computer store and programmed to:

(i) receive from the web browser of a computer user a signal indicating activation of one of the links displayed by one of the first web pages;

(ii) automatically identify as the source page the one of the first web pages on which the link has been activated;

(iii) in response to identification of the source page, automatically retrieve the stored data corresponding to the source page; and

(iv) using the data retrieved, automatically generate and transmit to the web browser a second web page that displays: (A) information associated with the commerce object associated with the link that has been activated, and (B) the plurality of visually perceptible elements visually corresponding to the source page.

The Federal Circuit stated the claims were different from others the court had found invalid “because they do not merely recite the performance of some business practices known from the pre-Internet world along with the requirement to perform it on the Internet.” *Id.* at 1257. The court said there was no old analogy to compare the claims to. *Id.* (stating that the “dissent suggests that the ‘store within a store’ concept, such as a warehouse store that contains a kiosk for selling a third-party partner’s cruise vacation packages, is the pre-Internet analog of the ‘399 patent’s asserted claims’”). “Instead, the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.” *Id.* The problem to be solved did not arise in the “‘brick and mortar’ context.” *Id.*

Step One and Two:

The Federal Circuit did not precisely define the abstract idea because, “under any . . . characterization . . . the claims satisfy *Mayo/Alice* step two.” *Id.* In other words, the Federal Circuit focused on *Alice* step 2. The court held there was an inventive concept in the claims, because they modified the “routine, conventional functioning of the Internet hyperlink protocol.” *Id.* Instead of transporting away from a website after clicking a link, the claims generate a hybrid webpage retaining the look and feel of the host website. *Id.* at 1257-1258. Put another way, the Federal Circuit held that the claims at issue improved a way of doing business on the Internet.

While the decision in *DDR Holdings* was pro-patentee, the Federal Circuit did note that “after *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible. . . . The bare fact that a computer exists in the physical rather than purely conceptual realm ‘is beside the point.’” *Id.* at 1255 (quoting *Alice*, 134 S. Ct. at 2358).

The Federal Circuit also addressed the preemption concern and stated that the claims in *DDR Holdings* “do not attempt to preempt every application of the idea of . . . making two web pages look the same. . . . Rather, they recite a specific way to automate the creation of a composite webpage . . . in order to solve a problem faced by websites on the internet.” *Id.* at 1259. “As a result, the . . . claims include ‘additional features’ that ensure that the claims are ‘more than a drafting effort design to monopolize the [abstract] idea.’” *Id.* (citing *Alice*, 134 S. Ct. at 2357).

In re BRCA1- and BRCA2- Based Hereditary Cancer Test Patent Litigation,
774 F.3d 755 (Fed. Cir. December 17, 2014)

In December, the Federal Circuit dealt with an appeal of a preliminary injunction. In *In re BRCA1*, the claims are directed to the identification of

alterations of genes by comparing BRCA sequences. *In re BRCA1*, 774 F.3d at 763. Claim 7 and 8 of U.S. Patent No. 5,753,441, revised to include the language of claim 1, are reproduced below.

Claim 7, revised to include the language of claim 1, from which it depends, provides:

A method for screening germline of a human subject for an alteration of a BRCA1 gene which comprises comparing germline sequence of a BRCA1 gene or BRCA1 RNA from a tissue sample from said subject or a sequence of BRCA1 cDNA made from mRNA from said sample with germline sequences of wild-type BRCA1 gene, wild-type BRCA1 RNA or wild-type BRCA1 cDNA, wherein a difference in the sequence of the BRCA1 gene, BRCA1 RNA or BRCA1 cDNA of the subject from wild-type indicates an alteration in the BRCA1 gene in said subject[,] wherein a germline nucleic acid sequence is compared by hybridizing a BRCA1 gene probe which specifically hybridizes to a BRCA1 allele to genomic DNA isolated from said sample and detecting the presence of a hybridization product wherein a presence of said product indicates the presence of said allele in the subject.

Claim 8, revised to include the language of claim 1, from which it depends, provides:

A method for screening germline of a human subject for an alteration of a BRCA1 gene which comprises comparing germline sequence of a BRCA1 gene or BRCA1 RNA from a tissue sample from said subject or a sequence of BRCA1 cDNA made from mRNA from said sample with germline sequences of wild-type BRCA1 gene, wild-type BRCA1 RNA or wild-type BRCA1 cDNA, wherein a difference in the sequence of the BRCA1 gene, BRCA1 RNA or BRCA1 cDNA of the subject from wild-type indicates an alteration in the BRCA1 gene in said subject[,] wherein a germline nucleic acid sequence is compared by amplifying all or part of a BRCA1 gene from said sample using a set of primers to produce amplified nucleic acids and sequencing the amplified nucleic acids.

Step One:

The Federal Circuit stated that the claims were “directed to the patent-ineligible abstract idea of comparing BRCA sequences and determining the existence of alterations. The methods, directed to identification of alterations of the gene, require merely comparing the patient’s gene with the wild-type and identifying any differences that arise... [A]llowing a patent on

the comparison step could impede a great swath of research relating to the BRCA genes, and it is antithetical to the patent laws to allow these basic building blocks of scientific research to be monopolized.” *Id.* at 763.

Step Two:

The Court stated that the claims lacked an inventive concept to make them patent eligible. “Any scientist engaged in obtaining the sequence of a gene in a patient sample would rely on these techniques.’ . . . The second paragraphs of claims 7 and 8 do nothing more than spell out what practitioners already knew – how to compare gene sequences using routine, ordinary techniques. Nothing is added by identifying the techniques to be used in making the comparison because those comparison techniques were the well-understood, routine, and conventional techniques that a scientist would have thought of when instructed to compare two gene sequences.” *Id.* at 764.

Content Extraction and Transmission LLC v. Wells Fargo Bank, 776 F.3d 1343 (Fed. Cir. December 23, 2014)

Toward the end of December, 2014, the Federal Circuit affirmed a district court’s dismissal of a complaint for asserting a patent that did not claim patent eligible subject matter under section 101. In *Content Extraction*, the “claims generally recite a method of 1) extracting data from hard copy documents using an automated digitizing unit such as a scanner, 2) recognizing specific information from the extracted data, and 3) storing that information in a memory.” *Content Extraction*, 776 F.3d at 1345. Representative claim 1 of U.S. Patent No. 5,258,855 is reproduced below.

A method of processing information from a diversity of types of hard copy documents, said method comprising the steps of:

(a) receiving output representing a diversity of types of hard copy documents from an automated digitizing unit and storing information from said diversity of types of hard copy documents into a memory, said information not fixed from one document to the next, said receiving step not preceded by scanning, via said automated digitizing unit, of a separate document containing format requirements;

(b) recognizing portions of said hard copy documents corresponding to a first data field; and

(c) storing information from said portions of said hard copy documents corresponding to said first data field into memory locations for said first data field.

Step One:

The Federal Circuit found that “the claims of the asserted patents are drawn to the abstract idea of 1) collecting data, 2) recognizing certain data within the collected data set, and 3) storing that recognized data in a memory.” *Id.* at 1347. “The concept of data collection, recognition, and storage is undisputedly well-known. Indeed, humans have always performed these functions. And banks have, for some time, reviewed checks, recognized relevant data such as the amount, account number, and identity of account holder, and stored that information in their records.” *Id.* at 1345.

Step Two:

The Federal Circuit found that the claims recited only routine activity. Plaintiff argued that the claims require a computer and a scanner but “the claims in *Alice* also required a computer that processed streams of bits, but nonetheless were found to be abstract.” *Id.* at 1347. The computer claims do not “involve more than performance of ‘well-understood, routine, and conventional activities previously known in the industry.’” *Id.* at 1347-1348. There is no inventive concept in the use of “a generic scanner and computer to perform well-understood, routine, and conventional activities commonly used in industry.” *Id.* at 1348.

The Federal Circuit also rejected the contention that claim construction is required for a section 101 analysis. The Court stated that “[a]lthough the determination of patent eligibility requires a full understanding of the basic character of the claimed subject matter, claim construction is not an inviolable prerequisite to a validity determination under § 101.” *Id.* at 1349. “Even when construed in a manner most favorable to [plaintiff], none of [plaintiff’s] claims amount to ‘significantly more’ than the abstract idea of extracting and storing data from hard copy documents using generic scanning and processing technology.” *Id.* The plaintiff also argued that the district court erred by analyzing a representative claim but the Federal Circuit stated that the “district court . . . correctly determined that addressing each claim of the asserted patents was unnecessary.” *Id.* at 1348.

Allvoice Developments US, LLC v. Microsoft Corp., 612 Fed. Appx. 1009 (Fed. Cir. May 22, 2015)

After the initial flurry of section 101 cases, the Federal Circuit remained quiet on section 101 issues until May of 2015. Then in *Allvoice* the Federal Circuit reviewed an appeal of summary judgment of invalidity under section 101. The technology at issue in *Allvoice* related to speech recognition and the recognition of words in computer related applications. Claims 60 and 64 of U.S. Patent No. 5,799,273 are reproduced below.

60. A universal speech-recognition interface that enables operative coupling of a speech-recognition engine to at least any one of a plurality of different computer-related applications, the universal speech-recognition interface comprising:

input means for receiving speech-recognition data including recognised words;

output means for outputting the recognised words into at least any one of the plurality of different computer-related applications to allow processing of the recognised words as input text; and

audio playback means for playing audio data associated with the recognised words.

64. A speech-recognition interface that enables operative coupling of a speech-recognition engine to a computer-related application, the interface comprising:

input means for receiving speech-recognition data including recognised words;

output means for outputting the recognised words into a computer-related application to allow processing of the recognised words as input text, including changing positions of the recognised words; and

means, independent of the computer-related application, for determining positions of the recognised words in the computer related application.

The Federal Circuit found that none of the claims were directed towards a category of patent eligible subject matter recognized by 35 U.S.C. § 101. The claims did “not recite a process or tangible or physical object and, thus, do not fall within any of the categories of eligible subject matter.” *Allvoice*, 612 Fed. Appx. At 1017. The claims were directed to a speech recognition interface and the Federal Circuit stated that “[s]oftware may be patent eligible, but when a claim is not directed towards a process, the subject matter must exist in tangible form. Here, the disputed claims merely claim software instructions without any hardware limitations.” *Id.* at 1018. The Court refused to import or imply any tangible medium when no such medium is claimed. *Id.*

OIP Technologies, Inc. v. Amazon.com, Inc., 788 F.3d 1359 (Fed. Cir. June 11, 2015)

A month later, the Federal Circuit, reviewed a district court's judgment of invalidity under section 101 on the pleadings. The technology at issue in *OIP Technologies* was directed towards "a price-optimization method that 'help[s] vendors automatically reach better pricing decisions through automatic estimation and measurement of actual demand to select prices.'" *OIP Technologies*, 788 F.3d at 1361. Representative claim 1 of U.S. Patent No. 7,970,713:

1. A method of pricing a product for sale, the method comprising:

testing each price of a plurality of prices by sending a first set of electronic messages over a network to devices;

wherein said electronic messages include offers of said product;

wherein said offers are to be presented to potential customers of said product to allow said potential customers to purchase said product for the prices included in said offers;

wherein the devices are programmed to communicate offer terms, including the prices contained in the messages received by the devices;

wherein the devices are programmed to receive offers for the product based on the offer terms;

wherein the devices are not configured to fulfill orders by providing the product;

wherein each price of said plurality of prices is used in the offer associated with at least one electronic message in said first set of electronic messages;

gathering, within a machine-readable medium, statistics generated during said testing about how the potential customers responded to the offers, wherein the statistics include number of sales of the product made at each of the plurality;

using a computerized system to read said statistics from said machine-readable medium and to automatically determine, based on said statistics, an estimated outcome of using each of the plurality of prices for the product;

selecting a price at which to sell said product based on the estimated outcome determined by said computerized system; and

sending a second set of electronic messages over the network, wherein the second set of electronic messages include offers, to be presented to potential customers, of said product at said selected price.

Step One:

The Federal Circuit found that the claims were directed to the abstract idea “of offer-based price optimization.” *Id.* at 1362. The claims “broadly recite[] a ‘method of pricing a product for sale,’ and the specification describes the invention as an ‘automatic pricing method and apparatus for use in electronic commerce.’ . . . This concept of ‘offer based pricing’ is similar to other ‘fundamental economic concepts’ found to be abstract ideas by the Supreme Court and this court.” *Id.* The Federal Circuit noted the fact that “the claims do not preempt all price optimization or be limited to price optimization in the e-commerce setting do not make them any less abstract.” *Id.* at 1362-1363.

Step Two:

The Federal Circuit stated that the claims lack an inventive concept because they “merely recite well-understood, routine conventional activities, either by requiring conventional computer activities or routine data-gathering steps.” *Id.* at 1363 (citations omitted). “[C]laim 1 recites “sending a first set of electronic messages over a network to devices,” the devices being “programmed to communicate,” storing test results in a “machine-readable medium,” and “using a computerized system . . . to automatically determine” an estimated outcome and setting a price. Just as in *Alice*, ‘all of these computer functions are ‘well-understood, routine, conventional activit[ies]’ previously known to the industry.’” *Id.* (quoting *Alice*, 134 S. Ct. at 2359). The addition of steps to test prices and collect data based on reactions does not add any meaningful limitations to the abstract idea. *Id.* The Federal Circuit also stated that mere optimization using a computer is insufficient to render the claims subject matter eligible as “relying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible.” *Id.* at 1363.

Judge Mayer, in concurrence, again reiterated his view previously expressed in his *Ultramercial* concurrence that subject matter eligibility should be resolved on the pleadings. Judge Mayer stated that “[f]ailure to recite statutory subject matter is the sort of ‘basic deficiency,’ that can, and should, ‘be exposed at the point of minimum expenditure of time and money by the parties and the court.’ Addressing 35 U.S.C. § 101 at the outset not only conserves scarce judicial resources and spares litigants the staggering costs associated with discovery and protracted claim construction litigation, it also works to stem the tide of vexatious suits brought by the owners of vague and overbroad business

method patents.” *Id.* at 1364 (citing *Bell Atl. Corp. v. Twombly*, 127 S.Ct. 1955 (2007)).

Ariosa Diagnostics, Inc. v. Sequenom, Inc., 788 F.3d 1371 (Fed. Cir. June 12, 2015)

On June 12, 2015, the Federal Circuit affirmed a district court’s ruling of summary judgment of invalidity based on section 101. The technology at issue in *Ariosa* is directed to “certain methods of usingcffDNA . . . [which] include amplifying thecffDNA contained in a sample of a plasma or serum from a pregnant female and detecting the paternally inheritedcffDNA . . . [and] for making a diagnosis of certain fetal characteristics based on the detection of paternally inheritedcffDNA.” *Ariosa*, 788 F.3d at 1373. Claims 1, 24, and 25 of U.S. Patent No. 6,258,540 are reproduced below. “The remaining claims [(not shown)] explain how the method of detection occurs or how it can be used.” *Id.* at 1374.

1. A method for detecting a paternally inherited nucleic acid of fetal origin performed on a maternal serum or plasma sample from a pregnant female, which method comprises amplifying a paternally inherited nucleic acid from the serum or plasma sample and detecting the presence of a paternally inherited nucleic acid of fetal origin in the sample.

24. A method for detecting a paternally inherited nucleic acid on a maternal blood sample, which method comprises: removing all or substantially all nucleated and anucleated cell populations from the blood sample, amplifying a paternally inherited nucleic acid from the remaining fluid and subjecting the amplified nucleic acid to a test for the Paternally [sic] inherited fetal nucleic acid.

25. A method for performing a prenatal diagnosis on a maternal blood sample, which method comprises obtaining a non-cellular fraction of the blood sample amplifying a paternally inherited nucleic acid from the non-cellular fraction and performing nucleic acid analysis on the amplified nucleic acid to detect paternally inherited fetal nucleic acid.

Step One:

The Federal Circuit found that the claims were directed to natural phenomenon. “It is undisputed that the existence ofcffDNA in maternal blood is a natural phenomenon.” *Id.* at 1376.

Step Two:

The Federal Circuit found that the claims lacked an inventive concept to render them patent eligible under section 101. “The method at issue . . .

amounts to a general instruction to doctors to apply routine, conventional techniques when seeking to detectcffDNA.” *Id.* The specification confirms that the “preparation and amplification of DNA sequences in plasma or serum were well-understood, routine, conventional activities performed by doctors in 1997.” *Id.*

The Court rejected the argument that the lack of complete preemption renders a claim valid under § 101. The Court stated that “questions on preemption are inherent in and resolved by the § 101 analysis. . . While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility. . . Where a patent’s claims are deemed only to disclose patent ineligible subject matter under the Mayo framework, as they are in this case, preemption concerns are fully addressed and made moot.” *Id.* at 1379

Internet Patents Corp. v. Active Network, Inc., 790 F.3d 1343 (Fed. Cir. June 23, 2015)

Shortly after *Ariosa*, the Federal Circuit affirmed a district court’s dismissal of a complaint asserting a patent that failed to claim patent eligible subject matter under section 101. The claims at issue in *Internet Patents* recited “the use of a conventional web browser Back and Forward navigational functionalities without data loss in an online application consisting of dynamically generated web pages.” *Internet Patents*, 790 F.3d at 1344. The addressed claims of U.S. Patent No. 7,707,505 are produced below.

1. A method of providing an intelligent user interface to an online application comprising the steps of:

furnishing a plurality of icons on a web page displayed to a user of a web browser, wherein each of said icons is a hyperlink to a dynamically generated online application form set, and wherein said web browser comprises Back and Forward navigation functionalities;

displaying said dynamically generated online application form set in response to the activation of said hyperlink, wherein said dynamically generated online application form set comprises a state determined by at least one user input; and

maintaining said state upon the activation of another of said icons, wherein said maintaining allows use of said Back and Forward navigation functionalities without loss of said state.

2[/10]. The method[/computer system] of claim 1[/9], wherein said displaying said dynamically generated online application form set

comprises combining information from a template file and either a database or a conditional merge file or both to form said dynamically generated online application form set.

7[15/23]. The method/computer system/computer-readable storage medium] of claim 1[9/17], wherein said web page comprises quasistatic elements distinct from said dynamically generated online application form set, wherein said displaying said dynamically generated online application form set in response to the activation of said hyperlink affects the display of said quasi-static elements.

Step One:

The Federal Circuit found “that the character of the claimed invention is an abstract idea: the idea of retaining information in the navigation of online forms.” *Id.* at 1348. “[T]he claim is directed to the idea itself—the abstract idea of avoiding loss of data.” *Id.*

Step Two:

The Federal Circuit found that the claims lacked an inventive concept to render the claims subject matter eligible under section 101. The “[p]atent specification refers to the ‘browser Back and Forward button functionality’ as ‘conventional.’ [and] as ‘well-known’ and ‘common,’ e.g., ‘Furthermore, the common convenience of the ‘Back’ and ‘Forward’ buttons (provided in all well-known Internet browsers) generally does not function properly when filling in online forms.’” *Id.* “The additional limitations of these dependent claims do not add an inventive concept, for they represent merely generic data collection steps or siting the ineligible concept in a particular technological environment.” *Id.* at 1349.

The Federal Circuit also stated that a “pragmatic analysis of § 101 is facilitated by considerations analogous to those of §§ 102 and 103 as applied to the particular case. The courts have recognized that it is not always easy to determine the boundary between abstraction and patent-eligible subject matter.” *Id.* at 1347. The “[d]etermination of what is an inventive concept favors inquiries analogous to those undertaken for determination of patentable invention, for a known idea, or one that is routine and conventional, is not inventive. . .” *Id.* at 1346. For “*Bilski* and *Alice*, the conventional idea was based on the use of computers. . . For *Mayo*, the Court held that . . . administer[ing] the drug according to . . . presence [of thiopurine] in the blood at most adds a suggestion that he should take those natural laws into account when treating the patient.” *Id.* (quotations omitted).

Intellectual Ventures I LLC v. Capital One Bank (USA), 792 F.3d 1363 (Fed. Cir. July 6, 2015)

The most recent Federal Circuit decisions dealing with subject matter eligibility were decided in July. The first, *Intellectual Ventures I*, was a review of an appeal of summary judgment. The technology at issue in *Intellectual Ventures I* “generally relates to budgeting, or, . . . utilizing user-selected preset limits on spending that are stored in a database that, when reached, communicates a notification to the user via a device.” *Intellectual Ventures I*, 792 F.3d at 1367 (internal quotations omitted). Representative Claim 5 of U.S. Patent No. 8,083,137 and representative claim 1 of U.S. Patent No. 7,603,382 are provided below.

‘137 Patent, Claim 5. A method comprising:

storing, in a database, a profile keyed to a user identity and containing one or more user-selected categories to track transactions associated with said user identity, wherein individual user-selected categories include a user pre-set limit; and causing communication, over a communication medium and to a receiving device, of transaction summary data in the database for at least one of the one or more user-selected categories, said transaction summary data containing said at least one user-selected category's user pre-set limit.

‘382 Patent, Claim 1. A system for providing web pages accessed from a web site in a manner which presents the web pages tailored to an individual user, comprising:

an interactive interface configured to provide dynamic web site navigation data to the user, the interactive interface comprising:

a display depicting portions of the web site visited by the user as a function of the web site navigation data; and

a display depicting portions of the web site visited by the user as a function of the user's personal characteristics.

Step One:

The Federal Circuit found that the claims of the ‘137 and ‘382 patent were directed to abstract ideas. With respect to the ‘137 patent, “the patent claims are directed to an abstract idea: tracking financial transactions to determine whether they exceed a pre-set spending limit (*i.e.*, budgeting).” *Id.* at 1367. “[B]udgeting undoubtedly . . . is an abstract idea. And while the claims recited budgeting using a communication medium . . . , that limitation does not render the claims any less abstract.” *Id.* at 1367.

With respect to the ‘382 patent, the Federal Circuit stated that “[t]here is no dispute that newspaper inserts had often been tailored based on information known about the customer—for example, a newspaper might advertise based on the customer’s location. Providing this minimal tailoring—*e.g.*, providing different newspaper inserts based upon the location of the individual—is an abstract idea.” *Id.* at 1369. The Federal Circuit described how the abstract idea of the ‘382 patent is a long-practiced concept. “Tailoring information based on the time of day of viewing is also an abstract, overly broad concept long-practiced in our society. There can be no doubt that television commercials for decades tailored advertisements based on the time of day during which the advertisement was viewed. For example, a television channel might choose to present a commercial for children’s toys during early morning cartoon programs but beer during an evening sporting event. An advertisement taking into account the time of day and tailoring the information presented to the user based on that information is another ‘fundamental ... practice long prevalent in our system....’” *Id.* at 1370 (citing *Alice*, 134 S. Ct. at 2356).

Step Two:

The Federal Circuit found that both the ‘137 and ‘382 patents lacked an inventive concept. Plaintiff attempted to compare the claims to *DDR Holdings* but the Federal Circuit stated that *DDR Holdings* is inapplicable because “[t]he patent claims here do not address problems unique to the Internet. . . .” *Id.*

With respect to the ‘137 patent, the Federal Circuit stated that “[t]he recited elements, *e.g.*, a database, a user profile . . . , and a communication medium, are all generic computer elements. Instructing one to ‘apply’ an abstract idea and reciting no more than generic computer elements performing generic computer tasks does not make an abstract idea patent-eligible.” *Id.* at 1368 (citing *Alice* 134 S. Ct. at 2359-2360).

With respect to the ‘382 patent, the Federal Circuit stated that “there is no inventive concept that would support patent eligibility. . . . Although the claim includes a ‘dynamic’ limitation, the specification makes clear that determining whether the user falls into one category or another (*e.g.*, whether the viewer is a ‘Generation X’er’ or an ‘older individual’) and then presenting the user a pre-created advertisement based on the category determination, satisfies the dynamic requirement.” *Id.* at 1370. “Rather, the ‘interactive interface’ simply describes a generic web server with attendant software, tasked with providing web pages to and communicating with the user’s computer.” *Id.* “Requiring the use of a ‘software’ ‘brain’ ‘tasked with tailoring information and providing it to the user’ provides no additional limitation beyond applying an

abstract idea, restricted to the Internet, on a generic computer.” *Id.* at 1371. With respect to both patents, the Federal Circuit stated that any improvement or speed efficiency in applying an abstract idea with a computer does not provide a sufficient inventive concept. *Id.* at 1367.

Versata Development Group, Inc. v. SAP America, Inc., 793 F.3d 1306 (Fed. Cir. July 9, 2015)

The most recent Federal Circuit decision, *Versata*, dealt with an appeal of a patent office’s ruling of invalidity under section 101 from a covered business method patent review. The patent at issue was directed to arranging customers into a hierarchy of customer groups and products into a hierarchy of product groups. *Versata*, 793 F.3d at 1312. Representative claim 17 of U.S. Patent No. 6,553,350 is reproduced below.

17. A method for determining a price of a product offered to a purchasing organization comprising:

arranging a hierarchy of organizational groups comprising a plurality of branches such that an organizational group below a higher organizational group in each of the branches is a subset of the higher organizational group;

arranging a hierarchy of product groups comprising a plurality of branches such that a product group below a higher product group in each of the branches is a subset of the higher product group;

storing pricing information in a data source, wherein the pricing information is associated, with (i) a pricing type, (ii) the organizational groups, and (iii) the product groups;

retrieving applicable pricing information corresponding to the product, the purchasing organization, each product group above the product group in each branch of the hierarchy of product groups in which the product is a member, and each organizational group above the purchasing organization in each branch of the hierarchy of organizational groups in which the purchasing organization is a member;

sorting the pricing information according to the pricing types, the product, the purchasing organization, the hierarchy of product groups, and the hierarchy of organizational groups; eliminating any of the pricing information that is less restrictive; and

determining the product price using the sorted pricing information.

Step One:

The Federal Circuit found that the claims were directed to an abstract idea. The claims “are directed to the abstract idea of determining a price, using organizational and product group hierarchies, in the same way that the claims in *Alice* were directed to the abstract idea of intermediated settlement, and the claims in *Bilski* were directed to the abstract idea of risk hedging.” *Id.* at 1333. “Using organizational and product group hierarchies to determine a price is an abstract idea that has no particular concrete or tangible form or application. It is a building block, a basic conceptual framework for organizing information, similar to the claims involving collecting, recognizing, and storing data in *Content Extraction* and the claims in *CyberSource*.” *Id.* at 1333-1334.

Step Two:

The Federal Circuit also found that the claim limitations were conventional. “[T]he limitations of claim 17 involve arranging a hierarchy of organizational and product groups, storing pricing information, retrieving applicable pricing information, sorting pricing information, eliminating less restrictive pricing information, and determining the price. All of these limitations are well-understood, routine, conventional activities previously known to the industry. . . The limitations are either inherent in the abstract idea of determining a price using organization and product group hierarchies—*e.g.*, arranging the hierarchies—or conventional and well-known limitations involving a computer—*e.g.*, storing pricing information.” *Id.* at 1334.

The Court rejected plaintiff’s argument that the claims satisfy the machine-or-transform test and are therefore patent eligible under section 101. “[T]he claims at issue do not transform a general purpose computer into a specific machine. The steps [the] claims (*e.g.*, arranging, storing, retrieving, sorting, eliminating, determining) are conventional, routine, and well-known. They involve the normal, basic functions of a computer. In order for the addition of a machine to impose a meaningful limit on the scope of a claim, it must play a significant part in permitting the claimed method to be performed, rather than function solely as an obvious mechanism for permitting a solution to be achieved more quickly, *i.e.*, through the utilization of a computer for performing calculations.” *Id.* at 1335 (citations omitted).

The Court noted, that unlike *DDR Holdings*, “the claims at issue are not rooted in computer technology to solve a problem specifically arising in some aspect of computer technology.” *Id.* at 1334. “Examination of the claims—as a whole and in terms of each claim’s limitations—reveals that the claims are not directed to improving computer performance and do not recite

any such benefit. The claims are directed to price determination and merely use a computer to improve the performance of that determination—not the performance of a computer.” *Id.* at 1335.

Conclusion

Absent amendment to 35 U.S.C. § 101 or the Supreme Court taking up another section 101 case, both of which appear unlikely, *Alice* challenges are here to stay. Filing a motion to dismiss, motion for judgment on the pleadings, or motion for summary judgment on *Alice* grounds must be considered by anyone accused of infringement. And plaintiffs must consider the strength of their patent with respect to *Alice* before filing suit, as this will impact whether or where to bring suit. Any analysis of 35 U.S.C. § 101 should start with *Alice*, *Mayo*, and the Federal Circuit’s section 101 decisions, with patentees analogizing to *DDR Holdings* and accused infringers analogizing to the rest of the cases. The same cases are also useful when considering whether to file a patent application, and when prosecuting patent applications. Those prosecuting patents should also look to the USPTO’s 2014 and 2015 Interim Guidance on Subject Matter Eligibility, available on the USPTO’s website. And obviously, both litigators and prosecutors should continue to monitor what is expected to be many future Federal Circuit *Alice* decision.

APPLICATION OF THE JOINDER CLAUSE UNDER THE AMERICA INVENTS ACT IN THE CONTEXT OF MOBILE PHONE TECHNOLOGY

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Non-practicing entities (NPEs), a patentee without manufacturing capability, have become a problem in the patent system.¹ They target not only big companies such as Apple, Samsung, or some other smartphone companies, but also small businesses.² Recently, there have been about eight hundred and thirty reported NPEs.³

The joinder provision under Rule 20 of the Federal Rule of Civil Procedure is a useful legal mechanism for NPEs to easily bring one law suit against different defendants.⁴ The Eastern District of Texas has a history of being more willing to permit joinder of independent defendants than other district courts.⁵ The trend began from the *MyMail, Ltd. v. America Online, Inc.*⁶ case.⁷ There,

¹ See, e.g., David O. Taylor, *Patent Misjoinder*, 88 N.Y.U. L. REV. 652, 660 (2013); Ryan Desisto, *Ermont vs. The Patent Troll: Is State Action a Bridge Too Far?*, 48 SUFFOLK U. L. REV. 109, 115-19 (2015).

² See RPX CORP., 2014 NPE LITIGATION REPORT 2, 3, 29, available at http://www.rpxcorp.com/wp-content/uploads/2014/12/Compressed-RPX_Litigation-Report-2014_FNL_031215.indd.pdf (last visited Sept. 2, 2015).

³ See <http://wpressutexas.net/cs378h/images/c0/PatentFreedom - Largest NPE Patent Holdings PatentFreedom.pdf> (last visited Sept. 2, 2015).

⁴ See Taylor, *supra* note 1, at 656.

⁵ See H.R. Rep. No. 112-98, pt.1, at 55 n. 61 (“Section 299 legislatively abrogates the construction of Rule 20(a) adopted in *MyMail, Ltd. v. America Online, Inc.*, 223 F.R.D. 455 (E.D. Tex. 2004); *Sprint Communications Co. v. Theglobe.com, Inc.*, 233 F.R.D. 615 (D. Kan. 2006); *Adrain v. Genetec Inc.*, 2009 WL 3063414 (E.D. Tex. September 22, 2009); *Better Educ. Inc. v. Einstruction Corp.*, 2010 WL 918307 (E.D. Tex. March 10, 2010); *Mannatech, Inc. v. Country Life, LLC*, 2010 WL 2944574 (N.D. Tex. July 26, 2010); *Alford Safety Services, Inc. v. Hot-Hed, Inc.*, 2010 WL 3418233 (E.D. La. August 24, 2010); and *Eolas Technologies, Inc. v. Adobe Systems, Inc.*, 2010 WL 3835762 (E.D. Tex. September 28, 2010.”).

⁶ *MyMail, Ltd. v. America Online, Inc.*, 223 F.R.D. 455 (E.D. Tex. 2004).

⁷ See Taylor, *supra* note 1, at 678-79 (“On one end of the spectrum lie decisions that allowed practically unlimited joinder of accused infringers. The leading opinion on this end of the spectrum is *MyMail, Ltd. v. America Online, Inc.*, authored by Judge Leonard Davis of the Eastern District of Texas.”).

the Eastern District of Texas held that “severance could be appropriate if the defendants’ methods or products were dramatically different.”⁸ This “dramatically different” standard later became a proposition that joinder of different defendants is proper only because they infringe the same patent.

In 2011, Congress passed the America Invents Act (also known as “AIA”).⁹ One of the objectives is to deter NPEs’ activities. Section 19 of the AIA created 35 U.S.C. § 299 and added one specific requirement to joinder in the context of patent infringement.¹⁰ Under Rule 20(a)(2)(A), “[p]ersons … may be joined in one action as defendants if: (A) any right to relief is asserted against them jointly, severally, or in the alternative with respect to or arising out of the same transaction, occurrence, or series of transactions or occurrences[.]” This requirement is known as the transaction-or-occurrence requirement. Now, the transaction-or-occurrence requirement must relate to patent infringement of “the same accused product or process.”¹¹ The new law also requires that joinder cannot be based only on the infringement of the same patent.¹² The new law only applies to cases filed on or after September 16, 2011.¹³

35 U.S.C. § 299 has never been interpreted by the Federal Circuit. However, in 2012, the Federal Circuit in *In re EMC*¹⁴ has interpreted Rule 20, and the EMC decision is now part of precedents for district courts to apply § 299. In *EMC*, the Federal Circuit held that “the mere fact that infringement of the same claims of the same patent is alleged does not support joinder, even though the claims would raise common questions of claim construction and patent invalidity.”¹⁵ This statement completely abrogates the minority view of the Eastern District of Texas with respect to Rule 20.¹⁶

EMC transformed the transaction-or-occurrence requirement into a two-part

⁸ *MyMail*, 223 F.R.D. at 457 (emphasis added).

⁹ See Tracie L. Bryant, Note, *The America Invents Act: Slaying Trolls, Limiting Joinder*, 25 HARV. J.L. & TECH. 673, 694 (2012).

¹⁰ See Sona Karakashian, *A Software Patent War: The Effects of Patent Trolls on Startup Companies, Innovation, and Entrepreneurship*, 11 HASTINGS BUS. L.J. 119, 123-24 (2015).

¹¹ See 35 U.S.C. § 299(a)(1) (“With respect to any civil action arising under any Act of Congress relating to patents, other than an action or trial in which an act of infringement under section 271 (e)(2) has been pled, parties that are accused infringers may be joined in one action as defendants or counterclaim defendants, or have their actions consolidated for trial, only if—(1) any right to relief is asserted against the parties jointly, severally, or in the alternative with respect to or arising out of the same transaction, occurrence, or series of transactions or occurrences relating to the making, using, importing into the United States, offering for sale, or selling of the same accused product or process[.]”).

¹² See 35 U.S.C. § 299(b).

¹³ See AIA § 19(e).

¹⁴ *In re EMC Corp.*, 677 F.3d 1351 (Fed. Cir. 2012).

¹⁵ *Id.* at 1357.

¹⁶ See Dianne Brown Elderkin & Domingo Manuel LLagostera, *Case Management Issues in Patent Infringement Litigation*, 13 SEDONA CONF. J. 77, 86 (2012).

test. The first step is the sameness test which asks whether “the accused products or processes are the same in respects relevant to the patent.”¹⁷ The Federal Circuit in *EMC* particularly mentioned in footnote 4 that the sameness test under *EMC* is not binding to its future interpretation of the phrase “the same accused product or process” in § 299.¹⁸ The second step under *EMC* requires a patentee to show “shared, overlapping facts that give rise to each cause of action, and not just distinct, albeit coincidentally identical, facts.”¹⁹ Alternatively, a patentee must prove that “there is an actual link between the facts underlying each claim of infringement.”²⁰ The Federal Circuit has provided six *EMC* factors for district courts to determine whether an actual link exists: (1) “whether the alleged acts of infringement occurred during the same time period,” (2) “the existence of some relationship among the defendants,” (3) “the use of identically sourced components,” (4) “licensing or technology agreements between the defendants,” (5) “overlap of the products’ or processes’ development and manufacture,” and (6) “whether the case involves a claim for lost profits.”²¹

The applications of the AIA’s joinder clause by different district courts in the context of mobile phone technology indicate the existence of conflicting approaches among them. When a plaintiff alleges the use of the same hardware component alone to support joinder, the Eastern District of Texas has found joinder. But, in the same situation, the Central District of California has found misjoinder.

These two approaches may co-exist if we focus on the third *EMC* factor: “The use of identically sourced components.” In *EMC*, the Federal Circuit mentioned only one example of “no actual link”: “Independently developed products using differently sourced parts are not part of the same transaction, even if they are otherwise coincidentally identical.”²² This example indicates that “an actual link” may be based on “independently developed products using the same sourced parts.”

In *NFC Tech., LLC v. HTC Am.*,²³ the plaintiff alleged that the defendants use the same chips in their smartphone products. The Eastern District of Texas permitted joinder of HTC and LG. The court found that “the accused products in this suit all make use of a particular NFC chip, the NXP PN 544, which, in combination with devices supplied by LG and HTC, allegedly infringes NFCT’s

¹⁷ *EMC*, 677 F.3d at 1359.

¹⁸ See *id.* at 1360 n.4 (“[O]ur approach to the new provision is not dictated by this case.”).

¹⁹ *Id.* at 1359.

²⁰ *Id.*

²¹ *Id.* at 1359-60.

²² *Id.* at 1359.

²³ *NFC Tech., LLC v. HTC Am.*, No. 2:13-CV-01058-JRG, 2014 WL 3834959 (E.D. Tex. Aug. 1, 2014).

patents.”²⁴

In *Golden Bridge Tech., Inc. v. Apple, Inc.*,²⁵ the plaintiff merely alleged that the defendants use the same Intel or Qualcomm baseband processors in their mobile devices. The Central District of California severed Motorola and Apple from other defendants. The court specifically stated, “Although their products bear some similarity, there is no evidence that their products are identical or that they collaborated in any manner to infringe the ‘793 Patent. Further, the fact that they may use an identical baseband processor—a fact disputed by Defendants—by itself does not establish that joinder is proper. In reviewing the ‘793 Patent claims, the Court is skeptical that a baseband processor alone can infringe; other components are required to form the claimed system.”²⁶

In what aspect, the *NFC* case and *Golden* case can be harmonized? We may focus on whether “the use of identically sourced components” creates “an actual link between the facts underlying each claim of infringement.” Although the Central District of California in *Golden* criticized the allegation of the use of the same baseband processors, the court actually questioned whether the baseband processor alone can infringe the patent. The approach is not different from the Eastern District of Texas because the Eastern District of Texas also considered whether the chip is combined with other components in the accused products to infringe the patent.

Now let’s move on to the software issues. When software is alleged as “an actual link” between the claims against different defendants, the Eastern District of Texas has permitted joinder or has been willing to allow discovery related to joinder issues. But, the Southern District of Florida and Northern District of Texas have rejected joinder. The reconciliation is not easy because the sameness test is applied differently.

In *Motorola Mobility, Inc. v. Apple Inc.*,²⁷ the plaintiff alleged specific accused software applications (such as Maps and Play Store) as some form of an actual link because these software applications are “present in the same form on both HTC’s and Motorola’s accused devices.” The Southern District of Florida severed HTC from Motorola because their smartphones ran “on at least somewhat modified Android software.”

In *Summit 6 LLC v. HTC Corp.*,²⁸ the Northern District of Texas severed

²⁴ *Id.* at *2.

²⁵ *Golden Bridge Tech., Inc. v. Apple, Inc.*, No. 2:12-cv-4014, 2012 WL 3999854 (C.D. Cal. Sept. 11, 2012).

²⁶ *Id.* at *3.

²⁷ *Motorola Mobility, Inc. v. Apple Inc.*, Nos. 1:10-CV-23580-RNS, 1:12-CV-20271-RNS, 2012 WL 3113932 (S.D. Fla. Jul 31, 2012).

²⁸ *Summit 6 LLC v. HTC Corp.*, No. 7:14-cv-0014-O, 2014 WL 4449821 (N.D. Tex. Sept. 10, 2014).

Apple from other mobile phone companies because iphones are different from android smartphones.

In *Contentguard Holdings, Inc. v. Google, Inc.*,²⁹ the Eastern District of Texas took a different approach. The plaintiff alleged three software applications as infringing software in different mobile devices. Although not finding any supporting allegations for joinder, the court allowed discovery regarding the joinder issue. The question was “how the accused software-hardware combination corresponds to claims of the asserted patents.”³⁰ From the perspective of the Eastern District of Texas, if the alleged infringement is “predominantly software-based,”³¹ then “an actual link” can be found. If the hardware component “play[s] the dominant role in determining how the three software applications are used specifically on each Defendant’s device,”³² then joinder may be found improper.

So, the Eastern District of Texas does not exclude that software can become “an actual link” between the claims against mobile device manufacturers. Only when the hardware component is a key element of infringement claims, misjoinder may be found.

The Eastern District of Texas maybe has overemphasized the third *EMC* factor “the use of identically sourced parts” and has transformed the third *EMC* factor into a dispositive factor in the context of mobile phone technology. But, in *Smartflash LLC v. Apple, Inc.*,³³ the Eastern District of Texas permitted joinder of Apple and some app developers because Apple offered “its Store Kit framework to [the] app developers to help them implement in-app payment functionality.”³⁴ The reasoning reflects the fourth *EMC* factor “licensing or technology agreements between the defendants.”

On the other hand, the Southern District of Florida has applied the *EMC* factors too narrowly. In the *Motorola* case, the Southern District of Florida did not consider the Open Handset Alliance as “the existence of some relationship among the defendants” or “overlap of the products’ or processes’ development and manufacture.” The Open Handset Alliance is a group of companies, and they work together to develop or promote Android applications. Google is the owner of Android and license Android to mobile device developers. Google also requires participants not to develop other operational systems for mobile devices. From the perspective of the Southern District of Florida, the business features of the Open Handset Alliance do not meet any *EMC* factors.

²⁹ Contentguard Holdings, Inc. v. Google, Inc., Nos. 2:14-cv-00061-JRG, 2:13-cv-01112-JRG, 2014 WL 1477670 (E.D. Tex. Apr. 15, 2014).

³⁰ *Id.* at *5.

³¹ *Id.*

³² *Id.*

³³ Smartflash LLC v. Apple, Inc., No. 6:13-cv-447, 2014 WL 4421657 (E.D. Tex. Sept. 8, 2014).

³⁴ *Id.* at *3.

After reviewing some cases, there are conflicts among district courts. The Eastern District of Texas remains another minority view. The Federal Circuit has to revisit its *EMC* decision to provide clear guidance of the application of Section 299.

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SUPPLEMENTARY PROTECTION CERTIFICATE (SPC) FOR COMBINATION PRODUCTS: “PROTECTION OF INCREMENTAL INVENTIONS” IN PHARMACEUTICAL FIELD AFTER COURT OF JUSTICE OF EUROPEAN UNION (CJEU) RULING IN ACTAVIS CASE.

Name of relevant case:

Actavis Group PTC EHF, Actavis UK Ltd V Boehringer Ingelheim Pharma GmbH & Co. Kg, (C-577/13)

Single Sentence Summary:

In Actavis case, CJEU held that multiple Supplementary Protection Certificates (SPCs) are not possible relying on single basic patent wherein Article 3 (a) and (c) provisions are not met. But this ruling posed difficulties to Innovators as to how to protect the incremental inventions or add-on inventions.

Legal Context:

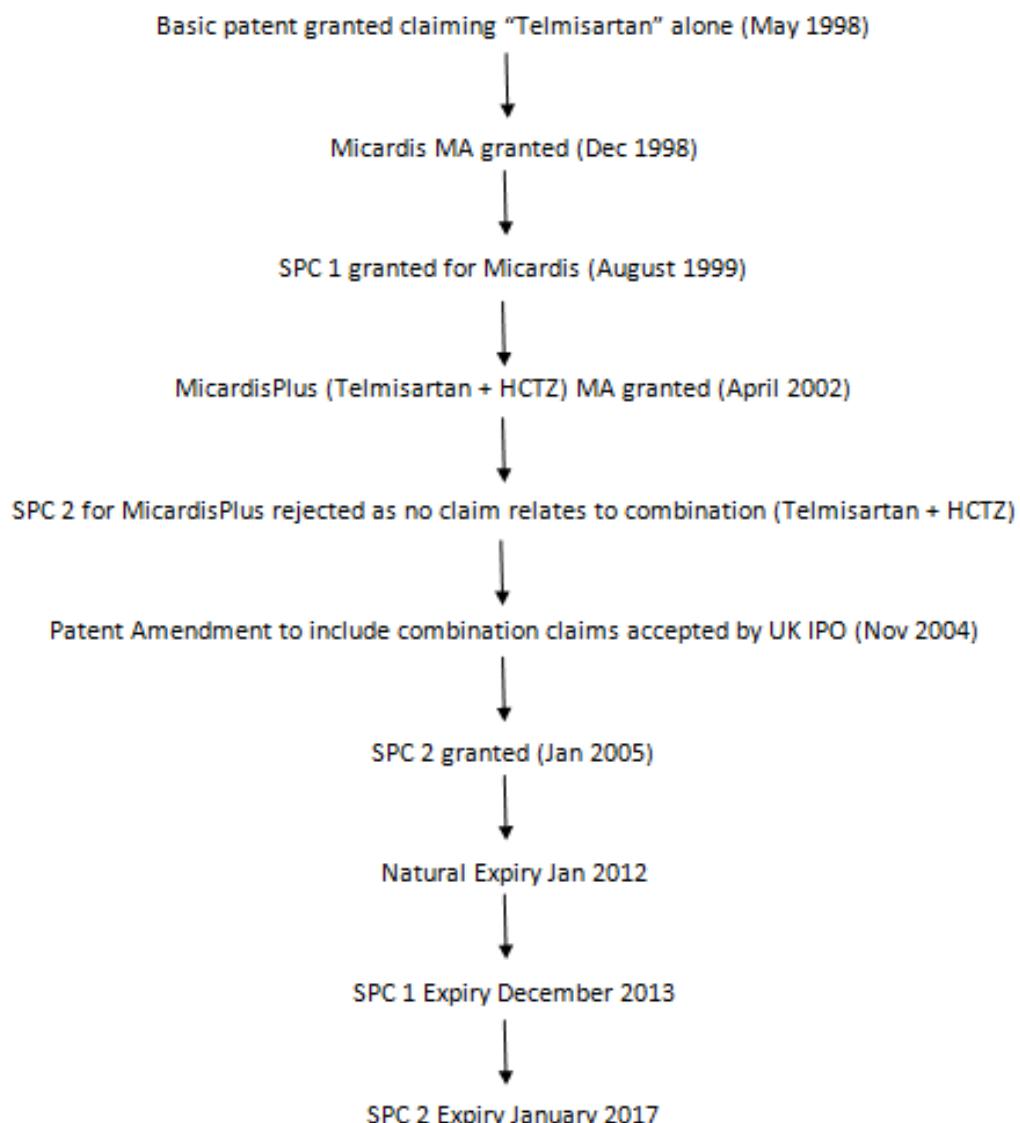
The Actavis case focused on the meaning of Article 3 (a) and (c) of Regulation (EC) No 469/2009 of European Parliament and of the Council of 6 May 2009 concerning the SPC for medicinal products.

Facts:

The case involved basic patent claiming “Telmisartan” as an active ingredient. The claims of patent are directed to Telmisartan alone and salt form thereof. Boehringer was granted two marketing authorizations (MAs) for Telmisartan (Miacardis[®]) and Telmisartan in combination with hydrochlorthiazide (HCTZ) (MicardisPlus[®]). Two separate SPCs were granted for the same patent in respect of both the authorization by national office.

Actavis challenged the SPC granted for combination product MicardisPlus in High Court of Justice (England and Wales), Chancery Division (Patent Court). The High Court decided to refer four questions to CJEU for preliminary ruling.

Table 1: Chronology of Telmisartan and Telmisartan/Hydrochlorthiazide



SPCs

*MA – Marketing Authorization

The CJEU only answered the question relating to Article 3(a) and (c) of Regulation (EC) No 469/2009 as follows:

“Article 3(a) and (c) must be interpreted as meaning that, where a basic patent includes a claim to a product comprising an active ingredient which constitutes the sole subject-matter of the invention, for which the holder of that

patent has already obtained a supplementary protection certificate, as well as a subsequent claim to a product comprising a combination of that active ingredient and another substance, that provision precludes the holder from obtaining a second supplementary protection certificate for that combination.”

Analysis:

The Actavis case poses important questions to Innovator Pharmaceutical Industry and one of it is:

“How to protect the combination products (A+B) which are researched after the SPC granted to the single active ingredient (A) to basic patent which has claims for both A as well as A+B ?”

These rulings before Actavis case also had similar scenarios where CJEU decided to invalidate SPC for combination products for almost similar reason.

This case also raises question on “How patent amendment may be used after grant to include the inventions which are not initially covered by claims of basic patent?” Since CJEU decided not to answer these questions, the authors have attempted to analyze the situation and give some recommendations.

“Basic patent in force” –

In Actavis case, the basic patent which was originally granted did not contain claim directed to combination product of Telmisartan and HCTZ. It was in April 2002, which was almost four years from the grant of basic patent, when Boehringer received the MA for combination product. SPC application for this incremental invention was made then.

United Kingdom Intellectual Property Office (UK IPO) objected the application on the basis that patent fails to claim as such combination product. Hence, Boehringer suspended the SPC application and applied to UK IPO to amend its basic patent to include new claim for combination of Telmisartan and HCTZ combination.

UK IPO granted amendment in basic patent. After insertion of new claim for combination, Boehringer requested UK IPO to recommence the grant of SPC application for combination on the basis of amended patent. Finally, SPC application was granted for combination on the basis of amendment.

Actavis raised precisely that question about whether such amended patent can be qualified as “basic patent in force” pursuant to Article 3(a) of Regulation No 469/2009/EC.

This indeed is vital question for Innovator pharmaceutical companies who always make attempts to extend the product life cycle by researching add-on inventions or incremental inventions which are better in performance compared to previous products. If such incremental inventions would be denied from protection, then it will discourage them from research. In Telmisartan case,

Boehringer failed to include combination claim for Telmisartan and HCTZ in original patent and hence, they lost monopoly over combination product.

The authors recommend that patent should be drafted with care to include the claims which will cover all possible products which may be researched in future as incremental inventions.

“Patent amendment after grant of SPC” –

In Actavis case, another issue was the grant of SPC application for amended patent which was initially suspended by UK IPO on the basis that the patent fails to claim the combination product.

SPC regulation (169/2009) does not provide any clear indication about power of competent industrial property office to allow suspension of SPC application in order to allow amendment to basic patent. Further, the regulation is not clear about recommencement of SPC application on the basis of amended patent.

The authors believe that this question requires interpretation of SPC regulation by CJEU to confer the role of competent industrial property offices like UK IPO in allowing suspension of SPC application for patent amendments to the granted patents. In addition, CJEU should clear the air revolving around revival of suspended SPC application based in amended patent.

Innovator companies need answers from CJEU in future about this question because an issue arises frequently.

“Six Months deadline to file SPC application from date of valid MA” –

In Actavis, another issue was the timeline to file SPC application. Article 7(1) of SPC regulation (No 469/2009) requires that the application should be made within six months of the date on which valid MA to place that product on the market as a medicinal product has been granted. In Actavis case, although original application for combination SPC was made within six months from the date of MA for combination product, the SPC application was objected by UK IPO. Finally, SPC application was suspended until patent amendment decision was pending with UK IPO.

After amended patent was granted, SPC application was revived. By that time, the six months window to file SPC application was expired, and till the application was granted.

The authors believe that CJEU should have answered whether such practice by competent Industrial property office, in this case, UK IPO is acceptable as per SPC regulation.

Had CJEU answered this question, it would have clarified the Article 3 provision in better way for both Generics & Innovators.

Practical Significance:

Although, Actavis case clarified Article 3 (a) and (c) of Regulation (EC) 469/2009, authors believe that CJEU should have answered the Questions relating to patent amendments after grant of patent to cover incremental inventions like in this case. Further, the questions relating to grant of SPC for amended patent would have been helpful for innovator companies to formulate effective strategy to protect such type of inventions.

The caselaw around combination products continues to be evolving. Authors are optimistic that more questions will be referred to CJEU about issues involving patent amendments and SPC for combination products. The more clarity by CJEU will help Innovator companies to craft their strategies well in advance right from the drafting basic patent which effectively will cover all possible combination products.

Disclaimer -

The views expressed in this article are the personal views of the author and are not intended to reflect the views of Lupin Limited and/or Manipal University.

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TABLE OF CONTENTS

<u>Author, Title</u>	<u>Page</u>
Huang-Chih Sung, An Analytic Study On Permanent Injunction In Patent Litigations/ Assistant Professor of Graduate Institute of Technology, Innovation, and Intellectual Property Management at the National Chengchi University.	2

Matthew C. Bernstein and Miguel Bombach, 35 U.S.C. § 101: Post-Alice Landscape/Matthew C. Bernstein is a patent litigator and the managing partner of the San Diego office of Perkins Coie LLP. /Miguel Bombach is an associate in Perkins Coie's San Diego office.	38
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------

Commentary Articles

Ping-Hsun Chen, Application of the Joinder Clause under the America Invents Act in the Context of Mobile Phone Technology/ Assistant Professor, Graduate Institute of Technology /Innovation and Intellectual Property Management National Chengchi University.	67
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------

Dr. Archna Roy 、 Omkar Joshi and Dr. Manthan Janodia, Supplementary Protection Certificate (SPC) for combination products: "Protection of incremental inventions" in pharmaceutical field after Court of Justice of European Union (CJEU) ruling in Actavis case.	73
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------

