

## AN ANALYTIC STUDY ON PERMANENT INJUNCTION IN PATENT LITIGATIONS

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

permission.<sup>3,4</sup> 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.<sup>5</sup>

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.<sup>6</sup> However, it was an exception in the patent infringement cases before the decisive *eBay* case in 2006.<sup>7</sup>

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.*<sup>8</sup> 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.<sup>9</sup> Moreover, the Federal Circuit in *Richardson v. Suzuki Motor Co.*<sup>10</sup> 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.<sup>11</sup>

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

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<sup>3</sup> 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.”

<sup>4</sup> 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).

<sup>5</sup> 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.”

<sup>6</sup> 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).

<sup>7</sup> See *infra* Section II.

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

<sup>9</sup> *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.”)

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

<sup>11</sup> *Id.* at 1246-47.

considering whether to grant a permanent injunction.<sup>12</sup> 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.<sup>13</sup> 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 competitive<sup>14</sup>, 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

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<sup>12</sup> See *infra* Section II.

<sup>13</sup> 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).

<sup>14</sup> 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.<sup>15</sup> 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.<sup>16</sup>

### **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.<sup>17</sup> 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.<sup>18</sup>

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

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

<sup>16</sup> *Id.* at 695-710.

<sup>17</sup> *Id.* at 710-715.

<sup>18</sup> *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.<sup>19</sup>

### **B. Federal Circuit's Decision—Applied the General Rule**

MercExchange appealed. The Federal Circuit cited *Richardson v. Suzuki Motor Co.*<sup>20</sup> 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.<sup>21</sup> In other words, under the general rule which was unique to patent disputes, courts would grant permanent injunctions against patent infringement without exceptional circumstances.<sup>22</sup>

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

### **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.<sup>25</sup>

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*<sup>26</sup> and *Amoco Production Co. v. Gambell*<sup>27</sup> to conclude that a patentee-plaintiff seeking for a permanent injunction must demonstrate that: (1)

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<sup>19</sup> *Id.* at 711-715.

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

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

<sup>22</sup> *Id.* at 1339.

<sup>23</sup> *Id.* at 1340.

<sup>24</sup> *MercExchange v. eBay*, 546 U.S. 1029 (U.S., 2005).

<sup>25</sup> *MercExchange v. eBay*, 547 U.S. 388, 394 (U.S., 2006).

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

<sup>27</sup> *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.<sup>28</sup>

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. §283<sup>29</sup> to rule that the Patent Law expressly states that the permanent injunctions “may” issue “in accordance with the principles of equity.”<sup>30</sup> 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.<sup>31,32</sup> 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.<sup>33</sup>

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<sup>28</sup> *Supra* note 25, at 391.

<sup>29</sup> 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”.

<sup>30</sup> *Supra* note 25, at 391-392.

<sup>31</sup> *Id.* at 393.

<sup>32</sup> 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).

<sup>33</sup> *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.<sup>34</sup> 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.<sup>35</sup>

#### **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.<sup>36</sup> 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.<sup>37</sup>

### **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.<sup>38</sup> 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

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<sup>34</sup> *Id.* at 395.

<sup>35</sup> *Id.* at 396-397.

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

<sup>37</sup> *Id.* at 568-587.

<sup>38</sup> *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.<sup>39</sup>

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.<sup>40</sup> On the other hand, EchoStar asserted that Tiva 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.<sup>41</sup>

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.<sup>42</sup>

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.<sup>43</sup> 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.<sup>44</sup> The district court further noted that the accused products were used only for entertainment rather than public health, so the

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

<sup>40</sup> *Id.* at 666-667.

<sup>41</sup> *Id.* at 668.

<sup>42</sup> *Id.* at 670.

<sup>43</sup> *Id.*

<sup>44</sup> *Id.* at 670.



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

## **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.<sup>47</sup> 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.<sup>48</sup>

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 actions<sup>49</sup> with many versions of Microsoft Word.<sup>50</sup> 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.<sup>51</sup>

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

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<sup>45</sup> *Id.*

<sup>46</sup> 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).

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

<sup>48</sup> *Id.* at 573.

<sup>49</sup> 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.

<sup>50</sup> *Supra* note 47, at 599-602.

<sup>51</sup> *Id.* at 602-603.

of Microsoft's infringing Word products.<sup>52</sup> 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.<sup>53</sup> 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.*<sup>54</sup> 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.<sup>55</sup>

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.<sup>56</sup> 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.<sup>57</sup>

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.<sup>58,59</sup>

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

<sup>53</sup> *Id.* at 861-862.

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

<sup>55</sup> *Supra* note 52, at 862.

<sup>56</sup> *Id.* at 862-863.

<sup>57</sup> *Id.* at 863.

<sup>58</sup> *Id.* at 863-864.

<sup>59</sup> 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.<sup>60</sup> 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.<sup>61</sup>

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.<sup>62</sup>

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.<sup>63</sup>

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

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

<sup>61</sup> *Id.* at \*2.

<sup>62</sup> *Id.* at \*3-8.

<sup>63</sup> *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.<sup>64</sup> 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.<sup>65</sup> 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.<sup>66</sup>

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.<sup>67</sup>

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.<sup>68</sup>

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<sup>64</sup> *Id.* at \*9.

<sup>65</sup> *Id.* at \*10.

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

<sup>67</sup> *Id.* at 595-96.

<sup>68</sup> *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.<sup>69</sup> 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.<sup>70</sup>

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 Defendants<sup>71</sup>; 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.<sup>72</sup> Qualcomm appealed.

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<sup>69</sup> *Id.*

<sup>70</sup> *Id.* at 612.

<sup>71</sup> 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).

<sup>72</sup> *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.<sup>73</sup> 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.<sup>74</sup>

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.<sup>75</sup> 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 Qualcomm<sup>76</sup>: 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 junction to enjoin Verizon from practicing the adjudicated patents.<sup>77</sup>

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

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

<sup>74</sup> *Id.* at 703.

<sup>75</sup> *Id.* at 703-04.

<sup>76</sup> *Grumbles III, Hughey & Susan Perera*, *supra* note 71, at 27.

<sup>77</sup> *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.<sup>78</sup>

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.<sup>79</sup>

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.<sup>80</sup>

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.<sup>81</sup>

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

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<sup>78</sup> *Id.* at 645-650.

<sup>79</sup> *Id.* at 650-651.

<sup>80</sup> *Id.* at 651-652.

<sup>81</sup> *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.<sup>82</sup>

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.<sup>83</sup>

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.<sup>84</sup>

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.<sup>85</sup> 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.<sup>86</sup> 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

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

<sup>83</sup> *Id.* at 601-602.

<sup>84</sup> *Id.* at 602.

<sup>85</sup> *Id.* at 603.

<sup>86</sup> *Id.* at 604.



permanent injunction in this factor.<sup>87</sup>

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.<sup>88</sup> 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.<sup>89</sup> A scholar thus stated that the "direct competition" had already become a *Market Competition requirement*.<sup>90</sup>

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

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<sup>87</sup> *Id.* at 604-605.

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

<sup>89</sup> 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).

<sup>90</sup> 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.<sup>91</sup>

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.<sup>92</sup> 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.<sup>93</sup>

#### **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).<sup>94</sup> 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.<sup>95</sup>

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.<sup>96</sup> 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.<sup>97</sup>

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

<sup>92</sup> *Id.* at \*5.

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

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

<sup>95</sup> *Id.* at 439-444.

<sup>96</sup> *Id.* at 444.

<sup>97</sup> *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.<sup>98</sup>

### **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.<sup>99</sup> 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.<sup>100</sup> 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.<sup>101</sup>

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.<sup>102</sup> 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.<sup>103</sup> The Federal Circuit further cited *Shatterproof Glass Corp. v. Libbey*

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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. case*<sup>104</sup> to note that it may be proper to award an ongoing royalty against patent infringement instead of permanent injunction under some circumstances.<sup>105</sup>

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.<sup>106</sup> 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.<sup>107</sup>

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.<sup>108</sup> 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.<sup>109</sup> 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.<sup>110</sup> 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.<sup>111</sup>

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

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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.<sup>112</sup>

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.<sup>113</sup> On the other hand, the Federal Circuit defined the "compulsory license" to be a license under congressional authority for anybody who meets certain criteria.<sup>114</sup> 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.<sup>115</sup> Otherwise, the ongoing royalty is actually a compulsory license.<sup>116</sup>

#### **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

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

<sup>113</sup> *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").

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

<sup>115</sup> *Id.* at 1316.

<sup>116</sup> *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.<sup>117</sup>

Abbott appealed. On appeal, Abbott challenged the grant of the permanent injunction as well as the other issues.<sup>118</sup> 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.<sup>119</sup>

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.<sup>120</sup> 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.<sup>121</sup> 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.<sup>122</sup>

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".<sup>123</sup>

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<sup>117</sup> *Innogenetics v. Abbott Labs*, 2007 WL 5431017, at 3 (W.D. Wis.).

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

<sup>119</sup> *Id.* at 1379.

<sup>120</sup> *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").

<sup>121</sup> *Id.*

<sup>122</sup> *Id.*

<sup>123</sup> *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.<sup>124</sup>

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.<sup>125</sup> 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.<sup>126</sup>

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.<sup>127</sup>

### **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

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

<sup>125</sup> *Id.* at \*2.

<sup>126</sup> *Id.* at \*3-5.

<sup>127</sup> *Id.* at \*5.



provide a large deterrent to future infringement.<sup>128</sup> 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.<sup>129</sup> 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.<sup>130</sup> 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.<sup>131</sup>

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.<sup>132</sup><sup>133</sup> In the prior practice, the monetary damage is the remedy for the past infringement and injunctive relief is the remedy for avoid

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<sup>128</sup> 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).

<sup>129</sup> *Id.* at 569.

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

<sup>131</sup> Seaman, *supra* note 13, at 244-245.

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

<sup>133</sup> *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.<sup>134</sup> 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.<sup>135</sup> In *Aro Mfg. Co. v. Convertible Top Replacement Co.*<sup>136</sup>, the Supreme Court mentioned that only past damages but no future damages may be recovered.<sup>137</sup>

Furthermore, in *Panduit Corp. v. Stahl Bros. Fibre Works, Inc.*,<sup>138</sup> 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.<sup>139</sup> 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.<sup>140</sup> In other words, the patent owner needs to establish a “but for ” causation, which is also known as “but for test”.<sup>141,142</sup> 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.* case<sup>143</sup> in 1974, the second Circuit affirmed the compulsory license ordered by the district court to substitute for a permanent injunction.

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<sup>134</sup> *Id.*

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

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

<sup>137</sup> *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.””).

<sup>138</sup> *Panduit Corp. v. Stahl Bros. Fibre Works, Inc.*, 575 F. 2d 1152, 1156 (6<sup>th</sup> Cir. 1978).

<sup>139</sup> Moore, Michel & Lupo, *supra* note 135, at 594.

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

<sup>141</sup> *Id.*

<sup>142</sup> 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”).

<sup>143</sup> *Foster v. American Mach. & Foundry Co.*, 492 F2d 1317 (2<sup>nd</sup> 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.<sup>144</sup>

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.<sup>145</sup> The second Circuit cited several early precedents to support their opinion. It cited *Hoe v. Boston Daily Advertiser Corp.*<sup>146</sup> firstly to note that the permanent injunction is NOT served as a weapon for the patent owners to enhance their negotiating power.<sup>147</sup> 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.*<sup>148</sup> and *American Safety Device Co. v. Kurland Chemical Co.*<sup>149</sup> to note that it is inequitable if a permanent injunction imposes irreparable hardship on the defendant but has no benefit to the patent owner.<sup>150</sup> 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.<sup>151</sup>

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.<sup>152</sup> 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.

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

<sup>145</sup> *Supra* note 143, at 1324.

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

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

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

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

<sup>150</sup> *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”).

<sup>151</sup> *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.”).

<sup>152</sup> 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.<sup>153</sup> 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.<sup>154</sup> 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

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<sup>153</sup> 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. Mercexchange* on Innovation*, 13 MICH. TELECOMM. & TECH. L. REV. 331 (2006); Damian Myers, *Reeling in the Patent Troll: Was *Ebay v. Mercexchange* 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).

<sup>154</sup> 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.<sup>155</sup> Before they file lawsuits, many NPEs send a cease & desist letter to the potential infringers as a threat,<sup>156</sup> and offer a patent license at a royalty rate only a little lower than the expense of a patent litigation.<sup>157</sup> 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.<sup>158</sup> Another scholar even said that the patent trolls threaten the integrity of the innovation scheme.<sup>159</sup>

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.<sup>160</sup>

## **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.

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

<sup>156</sup> 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).

<sup>157</sup> See Jones, *supra* note 155, at 1045.

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

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

<sup>160</sup> 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.<sup>161</sup> 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.<sup>162</sup>

### **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".<sup>163</sup> 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.<sup>164</sup> According to an empirical study, the NPEs without R&D generally do not own many patents but file many patent infringement litigations.<sup>165</sup> The primary profits of NPEs without R&D are to collect damages from the patent infringement litigations.<sup>166</sup> 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.<sup>167</sup> The scholar focused his argument on the "patent trolls", which was defined as "non-producing, non-research and

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<sup>161</sup> Tang, *supra* note 130, at 249.

<sup>162</sup> *Id.* at 250.

<sup>163</sup> 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).

<sup>164</sup> See Merges, *supra* note 159, at 1587.

<sup>165</sup> Cheng, Lan & Liu, *supra* note 163, at \*3.

<sup>166</sup> 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).

<sup>167</sup> 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”<sup>168</sup>, 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.<sup>169</sup> 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.<sup>170</sup> In calculating the lost profits as monetary damages for patent infringement, the Sixth Circuit in *Panduit Corp. v. Stahl Brothers Fibre Works, Inc.*<sup>171</sup> 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.<sup>172</sup> 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.*<sup>173</sup> established a hypothetical license approach.<sup>174</sup> 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

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<sup>168</sup> *Id.* at 997.

<sup>169</sup> *Id.* at 1005.

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

<sup>171</sup> *Supra* note 138, at 1156.

<sup>172</sup> *Id.*

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

<sup>174</sup> *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.<sup>175</sup> 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.<sup>176</sup> The NPEs with R&D, such as universities, research institutes, and think tanks, generally obtain patents from their own R&D activities.<sup>177</sup> The NPEs with R&D generally own lots of patents but do not file many patent infringement litigations.<sup>178</sup> They generally make money from the technology transfers, patent licenses and patent assignments.<sup>179,180</sup>

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,<sup>181</sup> 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.<sup>182</sup> Many

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<sup>175</sup> *Id.* at 124.

<sup>176</sup> Davis, *supra* note 166, at 437.

<sup>177</sup> *Id.*

<sup>178</sup> Cheng, Y.C., Y. H. Lan and S.J. Liu, *supra* note 163, at \*3.

<sup>179</sup> *Id.*

<sup>180</sup> Mark A. Lemley, *supra* note 153, at 611.

<sup>181</sup> Merges, *supra* note 14, at 148.

<sup>182</sup> 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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