



Are patent trade wars impeding innovation and development?



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ABSTRACT

When patents support anti-competitive conduct, innovation can be damaged not only by lack of market access but by the prohibitive costs of litigation. The creation of patent barriers is inconsistent with IP protection and enforcement agreed upon under the World Trade Organization and trade-related aspects of intellectual property rights ('TRIPS'). The study uses the US Apple v HTC IP legal case to investigate anti-competitive market behavior and trade barriers. The research provides a formal patent analytic methodology and the case analysis result. The research method tests whether patent conflicts and technical trade barriers are significantly encouraged by existing IP laws.

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1. Introduction

Under certain conditions, patent wars can create market trade barriers when used with cartels, patent pools that refuse licenses, and are supported by discriminatory competition laws that favor import injunctions instead of litigation. In 2010, a smartphone case *Apple v HTC* [1] filed in conjunction with a complaint to the United States International Trade Commission ('ITC') stated that the Taiwan High Tech Computer Corporation ('HTC') smartphone using the Google Android operating system was in direct violations of 10 patents owned by Apple [2]. This initial complaint was followed by over two years of litigation and additional complaints (four ITC investigations involving 45 patents, one appeal and seven district court civil suits). A settlement was reached where only one patent owned by Apple (US5,946,647) with two claims were found as an infringement by HTC and resulted in a limited injunction of imports [3]. To prevent the injunction, HTC's best option was to settle out-of-court with Apple to avoid further market entry delays to HTC's smartphone and end the high cost of continuing litigation. There has been academic discussion that Apple's patents were overly broad, should have been brought to jury litigation to eliminate

invalid patents, and that the patent settlement supported unwarranted patent claims that limited innovation [4].

For the consumer electronics industry, and smart phones specifically, patent pools and cross-licensing are commonly used to avoid the re-design of essential components which are re-used in the design of new generation phones. Smaller manufacturers creating new and innovative products rely on the licensing of fundamental and essential patents that comply with global communications standards (also called standard essential patents, SEPs). By denying small innovators access to patents accepted by the International Standards Organization, patent pools could arguably violate Section 2 of the *Sherman Act 1890* by monopolizing trade [5]. Apple, in addition to ITC complaints and district court cases, also filed an anti-trust case against HTC [6]. When patents are used as means for anti-competitive conduct and to create market barriers, innovation by smaller companies is potentially damaged by lack of market access and the prohibitive costs of litigation. The creation of aggressive patent barriers is clearly inconsistent with IP protection and enforcement agreed upon under the World Trade Organization and trade-related aspects of intellectual property rights ('TRIPS') [7]. Thus, the key research questions in this study are:

- (1) Was there anti-competitive behavior underlying the patent trade war between Apple and HTC?

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- (2) Was the US International Trade Commission (ITC) being abused by Apple to file complaints without foundation to purposely and willfully block the importation of HTC products?
- (3) Were the creations of patent pools limiting innovation for global smartphone development?
- (4) Did patent trade wars between smartphone companies limit innovation and development?

The topics covered in this research include the *Apple v HTC* smartphones case in the US, an investigation of anti-competitive market behavior, and trade barriers. The research structure of the paper includes (1) Patents as Trade Barriers, (2) Injunction, Litigation, and Royalties, (3) Smartphone Patent Wars and Final Settlement, (4) Patent Pools and Marginalization, and (5) The Impact of Patent Wars on Innovation and Development. The research will provide sufficient background to help policy makers determine if patent trade wars, breakthrough innovation patent conflicts, and technical trade barriers are sufficiently protected by existing IP laws. The results provide an objective analysis to help resolve legal arguments that patent trade wars threaten the fair trade of consumer electronic IP.

2. Patent trade wars and patent trade barriers

The ITC ruled on December 19, 2011 [3] that the ongoing dispute with Apple and HTC resulted in the infringement of two claims (claim 1 and claim 8) for only one Apple patent (US5,946,647). The remedy was a limited exclusion order where HTC phone's user interfaces with Google Android operating system (OS) was to be refurbished before being allowed into the US market. The wars waged by Apple against smartphone suppliers mostly targeted the design and manufacture of Android OS smartphones. As shown by Fig. 1, Apple used ITC investigations and the US district court cases to seek injunctions which increased the litigation costs for both companies for a period of 2 years [8]. The first research question

explores whether the tactics used by Apple created an anti-competitive trade barrier for HTC to enter the US market [9].

The history of the litigation begins with Apple suing HTC in the Delaware District Court [1] in the year 2010 for 10 patents that were believed to infringe on Apple's hardware and software patents designed for mobile communication devices. The patents were developed in part by the Apple subsidiary NeXT which created the object-oriented programming and software that defines the processes underlying many of the patents. HTC applied for a transfer of venue from Delaware to the Northern District of California pursuant to 28 USC s 1404. Apple insisted that they were trying to consolidate the case with an ongoing case against Nokia that was being prosecuted in Delaware [1]. However, the Delaware Court ruled that under 28 USC s 1659 that district court claims involving parallel ITC proceedings [10] must be stayed pending the outcome of ITC action. The strategy used by Apple to simultaneously file for district court litigation, continuous ITC complaints with different patents, arguments for changes of venue, added two years to the settlement timeline. During the period of litigation, Apple more than tripled its market share to 53% in the year 2012 [11]. When the smartphone patent wars started in 2010, HTC and Samsung held 15% of the US market which was equivalent to Apple's market share [12]. On December 19, 2011, the ITC ruled partially in favor of Apple's complaint and noted infringement of claim 1 and claim 8 for patent US 5,946,647 [3]. The ITC, however, issued a limited exclusion order with no bond that allowed HTC to refurbish the Android OS smartphones sold to consumers under warranty. The final ITC ruling was important since it was one of the few cases where the consumer and the effect of the exclusion on smartphone product access in the US market were considered [13].

2.1. Anti-competitive behavior

Reviewing the timeline of Fig. 1, the complex and intense lawsuits pursued only ended in a request to fix the HTC product under warranty without penalty. There are no official estimates of the

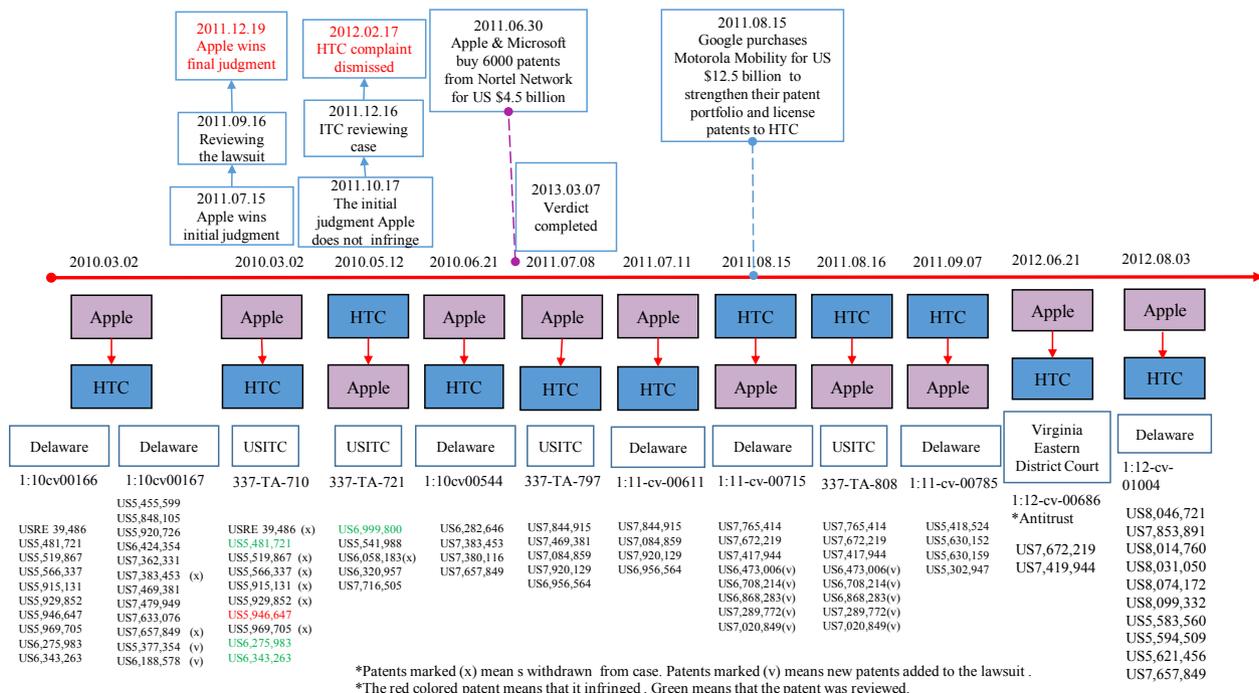


Fig. 1. The litigation timeline of US smartphone cases between Apple and HTC, modified based on [8].

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