Michael Betts is currently pursuing a J.D. at The University of Oklahoma College of Law. Below, Mr. Betts provides the final article of his three-part series. This article follows his second part, Standardization in Information Technology Industries: Emerging Issues under Section Two of the Sherman Antitrust Act, where he introduced possible implications of Section 2 of the Sherman Antitrust Act, and explicated the only relevant issue raised by standards competition in IT industries. That is, whether the winning firm has abused its power to maintain the monopoly. Refer to 3 Okla. J.L. & Tech. 34 (2007) for a full copy of Standardization in Information Technology Industries. Here, Mr. Betts analyzes this issue in the context of United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001).

**UNITED STATES VERSUS MICROSOFT: A CASE STUDY**

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1. Introduction

This e-Brief is a continuation of Standardization in Information Technology Industries: Emerging Issues under Section Two of the Sherman Antitrust Act. In that e-Brief, competition in Information Technology (IT) industries and the potential implications of Section 2 of the Sherman Antitrust Act (Section 2) were discussed. The author reasoned that the most relevant issue was whether the standard winning firm abused its power by maintaining a monopoly. The question now becomes: how will a court resolve this issue given the unique nature of competition in IT industries?

The purpose of this e-Brief is to shed some light on this inquiry by illustrating the D.C. Circuit’s (the Court) methodology in United States v. Microsoft Corporation. The following section lays out the factual background of the case. The next section summarizes the Court’s thoughts on whether “‘old economy’ Section 2 monopolization doctrines should apply to firms...

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2. See generally id. (manuscript at 2-8) (“Standardization may lead to ‘winner-take-all’ outcomes where the firm that establishes the industry standard emerges as market leader. And, because network effects create such high switching costs, the winning firm can easily maintain its new leadership position. This raises issues of illegal monopolization under Section 2 of the Sherman Act.”).
3. See id. (manuscript at 9).
competing in dynamic technological markets characterized by network effects.”5 The final section discusses the Court’s Section 2 monopolization analysis.

II. Background

A. Something About Microsoft

Over the past two decades, Microsoft has emerged as the clear market leader in Personal Computer (PC) operating systems.6 It achieved this by winning the race for the industry standard. That is, Microsoft successfully established the de facto7 standard in the operating system market.

Microsoft joined the race in 1975 when it developed a version of the programming language BASIC for the Altair 8800.8 However, the source of real success for the company was the DOS operating system.

IBM awarded a contract to Microsoft to provide a version of the CP/M9 operating system for the upcoming IBM PC.10 Microsoft purchased a CP/M clone called QDOS (Quick and Dirty Operating System) from Tim Paterson for $50,000.11 Because of IBM’s subsequent dominance in the PC market, QDOS became an industry standard for operating systems.12 However, it was

5 See id. at 49.
7 Standardization is the adoption of a common standard by the entire market. If standardized by way of competitive forces, the new industry standard is said to be de facto.
8 See Hoovers Online, History of Microsoft Corporation, http://premium.hoovers.com.ezproxy2.lib.ou.edu/subscribe/co/history.xhtml?ID=14120 (last visited Nov. 25, 2005) (limited access); see also Altair 8800, in WIKIPEDIA.COM, http://en.wikipedia.org/wiki/Altair_8800 (last visited Nov. 25, 2005) (“The MITS Altair 8800 was a microcomputer design from 1975, based on the Intel 8080A CPU. . . . Today the Altair is widely recognized as the spark that led to the personal computer revolution of the next few years”).
10 See supra note 8.
11 Id.
not until after Compaq successfully cloned the IBM BIOS\textsuperscript{13} that Microsoft could become the dominant player in the PC operating system market. With its early foothold in the market, Microsoft took advantage of the flood of IBM PC clones by licensing its operating system for use on those systems.\textsuperscript{14} From this, MS-DOS was born, and Microsoft became the major force in the market.\textsuperscript{15}

In 1985, Microsoft released its first retail version of Microsoft Windows as an add-on to MS-DOS.\textsuperscript{16} This move was to counter Apple’s new Macintosh which utilized its own graphic user interface operating system.\textsuperscript{17} But instead of concentrating on Windows, Microsoft continued its development of the OS/2\textsuperscript{18} for the new IBM PS/2.\textsuperscript{19}

OS/2 was short lived and the partnership with IBM was soon over.\textsuperscript{20} Microsoft then refocused its efforts on Windows. After immense success with Windows 3.1, Microsoft introduced Microsoft Windows 95.\textsuperscript{21} Microsoft continued to update Windows over the next 6 years including Windows ME, one of the most unstable systems Microsoft had ever produced.\textsuperscript{22} However, Microsoft quickly released Windows XP and merged the consumer and business lines

\textsuperscript{13} See BIOS, at WIKIPEDIA.COM, \url{http://en.wikipedia.org/wiki/BIOS} (last visited Nov. 25, 2005) (“The primary function of BIOS is to prepare the machine so other software programs stored on various media (such as hard drives, floppies, and CDs) can load, execute, and assume control of the [computer].”).

\textsuperscript{14} See supra note 12.

\textsuperscript{15} See supra note 12.

\textsuperscript{16} See supra note 8.

\textsuperscript{17} See supra note 8.

\textsuperscript{18} See OS/2, at WIKIPEDIA.COM, \url{http://en.wikipedia.org/wiki/Os2} (last visited Nov. 25, 2005) (“OS/2 is an operating system created by Microsoft and IBM and later developed by IBM exclusively. OS/2 was intended as a protected mode successor of MS-DOS and Microsoft Windows.”).

\textsuperscript{19} See IBM Personal System/2, at WIKIPEDIA.COM, \url{http://en.wikipedia.org/wiki/IBM_Personal_System/2} (last visited Nov. 25, 2005). “PS/2 was IBM's second generation of personal computers created to recapture control of the PC market by introducing an advanced proprietary architecture.” \textit{Id}. This ultimately failed.

\textsuperscript{20} See supra note 12.

\textsuperscript{21} \textit{Id}.

\textsuperscript{22} \textit{Id}.
of Windows. 23 Today, Microsoft Windows XP is the *de facto* standard and dominating operating system in the market.

**B. Taking Advantage of their Market Power**

Over the past ten years, Microsoft Corporation (Microsoft) has been entangled in a seemingly unending antitrust struggle. The saga first started in 1996 when the United States Department of Justice (DOJ) filed suit against Microsoft, charging the company with unlawfully maintaining a monopoly in the PC operating system market.24 Ultimately, the case was never tried because Microsoft entered into a consent decree with the DOJ.25 Two years later, however, the United States and a group of State plaintiffs filed complaints asserting that Microsoft “unlawfully maintained a monopoly in the PC operating system market in violation of Section 2.”26

**III. D.C. Circuit’s View on Monopolization in IT Industries**

There is significant debate amongst academics and practitioners over the extent to which Section 2 monopolization doctrine should be changed in light of the nature of competition in IT industries. As discussed in *Standardization in Information Technology Industries: Emerging Issues under Section Two of the Sherman Antitrust Act*, IT industries are characterized by strong network effects. In these markets, one product or standard tends to dominate because consumer utility derived from consumption of the good increases with the number of others consuming the

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23 *Id.*
24 *See* United States v. Microsoft Corp., 253 F.3d 34, 47 (D.C. Cir. 2001).
25 *See id.*
26 *See id.*
good. Once a product or standard achieves wide acceptance, it becomes entrenched. Accordingly, competition in such industries is for the market rather than within the market.

The Court in *United States v. Microsoft* noted, however, that the entrenchment may be temporary, because innovation may alter the field altogether. Specifically, the Court wrote, “rapid technological change leads to markets in which ‘firms compete through innovation for temporary market dominance, from which they may be displaced by the next wave of product advancements.”

Initially it seemed that the Court may consider the special nature of competition in IT industries. In the end, however, the Court decided that commentators were hopelessly divided on the matter. Moreover, the Court noted that Microsoft failed to claim that anticompetitive conduct should be assessed differently in technologically dynamic markets. Thus, the Court concluded that whether or not the operating system market could be characterized as “technologically dynamic” would not alter its mission in assessing the alleged antitrust violations under present Section 2 monopolization doctrine.

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27 *See* Betts, *supra* note 1 (manuscript at 3) (stating that, for example, as more people use the fax machine, the more valuable it becomes to all users).
28 *See id.* (manuscript at 5) (stating that the firm that establishes the industry standard emerges as market leader).
29 *See id.* (manuscript at 2) (stating that competing firms try desperately to take advantage of rapidly changing technology to become the market leader).
30 *See Microsoft*, 253 F.3d at 49.
31 *Id.* (quoting Howard A. Shelanski & J. Gregory Sidak, *Antitrust Divestiture in Network Industries*, 68 U. Chi. L. Rev. 1, 8 (2001)).
32 *See Microsoft*, 253 F.3d at 50 (“[W]e note that there is no consensus among commentators on the question of whether, and to what extent, current monopolization doctrine should be amended to account for competition in technologically dynamic markets characterized by network effects.”). One side argues that exclusionary conduct in high-tech networked industries deserves heightened antitrust scrutiny in part because may threaten to deter innovation while the other argues that the presence of network externalities may actually encourage innovation by guaranteeing more durable monopolies to innovating winners. *Id.*
33 *Id.*
34 *See id.* (“Whether or not Microsoft's characterization of the operating system market is correct does not appreciably alter our mission in assessing the alleged antitrust violations in the present case.”).
IV. Microsoft’s Illegal Monopolization

Section 2 of the Sherman Act makes it unlawful for a firm to monopolize.\textsuperscript{35} For a violation of the Act, one must possess monopoly power in the relevant market and willfully maintain that power as distinguished from “growth as a consequence of a superior product, business acumen, or historic accident.”\textsuperscript{36}

First, the Court examined the relevant product and geographic markets to determine whether Microsoft possessed monopoly power. After concluding that Microsoft possessed the necessary power, the Court then determined whether Microsoft maintained its monopoly through anticompetitive means. The following subsections flesh out the Court’s analysis.

A. Monopoly Power

The mere existence of monopoly power is not enough to violate Section 2.\textsuperscript{37} However, it is a necessary element of a monopoly charge.\textsuperscript{38} Monopoly power is defined as the ability to control prices or to exclude competition.\textsuperscript{39} Where evidence indicates that a firm has in fact profitably done either, the existence of monopoly power is clear.\textsuperscript{40} Such evidence, however, is rarely available. Accordingly, courts more typically infer monopoly power from a firm's possession of a dominant share of a relevant market that is protected by entry barriers.\textsuperscript{41} To determine market share and barriers to entry, the courts must define a relevant market. “Because the ability of consumers to turn to other suppliers restrains a firm from raising prices above the

\textsuperscript{37} See Byars v. Bluff City News Co., Inc., 609 F2d 843, 853 (6th Cir. 1979) (holding that mere possession of monopoly power is not illegal).
\textsuperscript{38} See Grinnell Corp., 384 U.S. at 570.
\textsuperscript{40} See FTC v. Ind. Fed’n of Dentists, 476 U.S. 447, 460-61 (1986) (using direct proof to show market power in Sherman Act Section 1 unreasonable restraint of trade action).
\textsuperscript{41} See United States v. Aluminum Co. of Am., 148 F2d 416, 429 (2d Cir. 1945).
competitive level,” the relevant market must include “all products reasonably interchangeable by consumers for the same purposes.”

In this case, the Court deferred to the district court when it defined the relevant market as Intel-compatible PC operating systems. The district court defined the market in this way because it found that there “are currently no products--and ... there are not likely to be any in the near future--that a significant percentage of computer users worldwide could substitute for [these operating systems] without incurring substantial costs.” While Microsoft argued that this was improper because it excluded non-Intel compatible operating systems, operating systems for non-PC devices, and "middleware" products, the Court indicated that it was bound by the district court’s findings because “[Microsoft] failed to challenge the District Court's factual findings, or to argue that those findings did not support the District Court's conclusions.” In other words, Microsoft failed to meet the clearly erroneous standard. Thus, the Court was compelled to defer to the lower court’s findings of fact.

After deciding that the district court properly defined the market, the Court assessed Microsoft’s market share within this defined market. Generally, a firm with ninety percent market share is presumed to be an economic monopolist. In this case, the lower court found

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43 E.I. du Pont de Nemours, 351 U.S. at 395.
44 See United States v. Microsoft Corp., 253 F.3d 34, 52 (D.C. Cir. 2001).
45 Id.
46 Id.
47 Under the clearly erroneous standard of review, an appellate court will not disturb the trial court’s factual findings except in cases of clear error. Sanpete Water Conservancy v. Carbon Water, 226 F.3d 1170, 1178 (10th Cir. 2000). A finding of fact is clearly erroneous if it is without factual support in the record or if the appellate court, after reviewing all the evidence, is left with a definite and firm conviction that a mistake has been made. Id.
48 See generally id. at 52-53 (stating that Microsoft failed to challenge trial courts’ findings of fact as to non-Intel compatible operating systems, operating systems for non-PC devices, and "middleware" products).
49 See United States v. Aluminum Co. of Am., 148 F2d 416, 429 (2d Cir. 1945).
that Microsoft possessed more than 95% of the relevant market.\textsuperscript{50} Because Microsoft failed to challenge this finding or to argue that such a market share is not predominant, the D.C. Circuit upheld the lower court’s conclusion of fact.\textsuperscript{51} Accordingly, Microsoft was presumed to have monopoly power in the Intel-compatible PC operating system market.\textsuperscript{52}

**B. Maintaining Monopoly Power**

As discussed above, obtaining monopoly power does not violate Section 2.\textsuperscript{53} Rather, the salient issue is whether standard winning firm abused its market power by illegally maintaining its monopoly. A firm does this by engaging in exclusionary conduct "as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident."\textsuperscript{54} To be deemed exclusionary, a monopolist's conduct must harm the competitive process.\textsuperscript{55}

In this case, Microsoft endeavored to reduce usage of competing internet browsers.\textsuperscript{56} By doing so, Microsoft could protect its operating system monopoly. The reason market share in the browser market affects market power in the operating system market is complex, and warrants further explanation.

Browser market share is important because as the number of users of a particular browser increases, the more attractive that browser becomes to software developers. That is to say, more software developers will write applications relying upon the application program interface\textsuperscript{57}

\textsuperscript{50} Microsoft, 253 F.3d at 55.

\textsuperscript{51} See id.

\textsuperscript{52} See id. at 51 ("[W]e uphold the District Court's finding of monopoly power . . . ").

\textsuperscript{53} See supra note 37.

\textsuperscript{54} See supra note 36.

\textsuperscript{55} See Microsoft Corp., 253 F.3d at 58.

\textsuperscript{56} Id. at 60.

\textsuperscript{57} See Application User Interface, at WIKIPEDIA.COM, http://en.wikipedia.org/wiki/Application_programming_interface (last visited Nov. 25, 2005) ("One of the primary purposes of an API is to provide a set of commonly-used functions—for example, to draw windows or icons on the
(API) the browser exposes, and away from the API exposed by Windows. Because applications written utilizing a particular browser's API can run on any computer with that browser, regardless of the underlying operating system, consumers can have access to desired applications simply by installing a particular browser. It may be the case that consumers would no longer feel compelled to select Windows in order to have access to those applications. Therefore, Microsoft’s efforts to reduce usage of competing internet browsers served to preserve its monopoly in the operating systems market.

To reduce competing internet browsers, Microsoft primarily placed licensing restrictions on original equipment manufacturers (OEMs). Specifically, the license provisions prohibited the OEMs from: (1) removing any desktop icons, folders, or “Start” menu entries; (2) altering the initial boot sequence; and (3) otherwise altering the appearance of the Windows desktop. The Court held that with the exception of the restriction prohibiting the initial boot sequence, all the OEM license restrictions at issue represent exclusionary conduct violative of Section 2.

V. Conclusion

The unique nature of competition in IT industries has sparked significant debate amongst academics and practitioners over the extent to which Section 2 monopolization doctrine should be changed. This e-Brief, presented an example of one court’s struggle with the issue. Despite being faced with a market exhibiting classic network effects, the Court would not alter its

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58 See Microsoft Corp., 253 F.3d at 60.
59 See id.
60 Id. at 61.
61 Id. at 61-64. The license prohibiting removal of any desktop icons, folders, or “Start” menu entries was exclusionary because it prevented many OEMs from pre-installing a rival browser and, therefore, protected Microsoft's monopoly from the competition that middleware might otherwise present. The license prohibiting alteration of the Windows desktop appearance was exclusionary because it “reduced rival browsers' usage share not by improving Windows but, rather, by preventing OEMs from taking actions that could increase rivals' share of usage.” Id.
mission in assessing the alleged antitrust violations under the present Section 2 monopolization doctrine. Instead, the Court applied traditional monopoly doctrine to find that Microsoft possessed the necessary market power, and employed this market power to protect its monopoly.