Paradise is a Walled Garden? Trust, Antitrust, and User Dynamism

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ABSTRACT:

In the worlds of technology and cyberlaw, the term "walled garden" has become an epithet to epitomize a proprietary, controlled – and likely sterile – platform, community, or standard. This dystopian view of closed, proprietary communities is presented most clearly by Zittrain (2008), who casts the choice facing society as between sterile but safe examples of "information appliances" such as the iPhone and "networks of control" such as Facebook – and on the other hand, vulnerable but malleable personal computers (PCs) and a "generative" Internet, that is, information technology that fosters greater creativity among users.

But can a "walled garden" in fact be a kind of creative paradise? If so, what sort of policy steps would foster such a result? The platforms in question, that is networks, devices and online communities, often find themselves at the intersection of network effects, standard-setting and user-generated content and innovation. Commentators suggest a variety of approaches, including antitrust intervention, direct government regulation, or taking no action based on the perceived strength of market solutions.

This Article makes several claims. First, that we cannot yet appreciate the potential importance of user-created content and innovation. This Article is the first to apply the EVLN (exit-voice-loyalty-neglect) model introduced by Albert Hirschmann (and since extended and broadened) to understand the economic considerations of user choices. Second, the error-cost framework developed in antitrust over the past several decades can help inform policy choices aimed at promoting user dynamism within walled gardens. Perhaps counterintuitively, this Article explains how the error costs argue for action rather than passivity. In fact, the Federal Trade Commission's recent patent-ambush standard setting cases implicate concerns that are analogous to those surrounding user dynamism in walled gardens. Finally, while neither antitrust nor regulation may offer a perfect solution, this Article proposes consumer protection-style enforcement of hosts' *ex ante* commitments to users in order to foster trust and thereby stimulate user creation and innovation.

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paradise (pæ'rădəis), *sb.* . . . used in Gr. (first by Xenophon) for a (Persian) walled park, orchard, or pleasure ground; by the LXX [the Septuagint, the 1st to 3rd century B.C. Greek translation of Hebrew scripture] for the garden of Eden; and in the New Testament and Christian writers for the abode of the blessed, which is the earliest sense recorded in Eng. . . .

–Oxford English Dictionary entry for "paradise"[2]

I. Introduction

In the worlds of technology and cyberlaw, the term "walled garden" has become an epithet to epitomize a proprietary (and likely sterile) community.[3] Often, this metaphor is set off against the possibility of an open community with a vibrant, creative life.[4]

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[2]THE COMPACT EDITION OF THE OXFORD ENGLISH DICTIONARY 440 (Oxford Univ. Press 1988).

[3]The dystopian view of closed, proprietary communities is presented perhaps most clearly by Jonathan Zittrain, who casts the choice facing society as one between sterile but safe "information appliances," with his examples of the iPhone and the Xbox, and "networks of control" such as Facebook on the one hand, and vulnerable but malleable personal computers (PCs) and a "generative" Internet on the other – information technology that fosters greater creativity among users. JONATHAN ZITTRAIN, THE FUTURE OF THE INTERNET-- AND HOW TO STOP IT 1-3 (Yale Univ. Press 2008). Though he differs by having a broader range of concern beyond the Internet and telecommunication networks, and by having lighter prescriptions for regulation, his views share important common themes with those who advocate for net neutrality or FCC mandatory-interconnection regulation of the Internet. *E.g.*, Mark A. Lemley & Lawrence Lessig, *The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era*, 45 UCLA LAW REVIEW 3 (2001), *available at* http://ssrn.com/abstract=247737 (arguing that current Internet design principles should be preserved because they enable creativity); BARBARA VAN SCHEWICK, INTERNET ARCHITECTURE AND INNOVATION 392 (MIT Press 2010) (calling for "those protecting the public interest" to influence the choice of network architecture because of its effects on social welfare); Kevin D. Werbach, *Off the Hook*, 95 CORNELL L. REV. 535, 596-96 (2010) (proposing a theory of FCC Internet jurisdiction to mandate an "open" Internet). *See also* Brett M. Frischmann, *An Economic Theory of Infrastructure and Commons Management*, 89 MINN. L. REV. 917, 918-20 (2005) (proposing intervention in markets based on the variable use of certain kinds of economic infrastructure in downstream products).

[4]*Id.*

Is this choice really so stark? Can a walled garden in fact be a kind of creative paradise? When most frequently deployed, the walled garden metaphor tends to emphasize the walls more than the garden. But from mass user-generated content and innovation – what this article terms "user dynamism" – on the Internet to successful iPhone and Google Android Apps produced by comparatively small developers, we have been fortunate to see both open online communities and controlled networks spawn significant follow-on dynamism. Such developments are comparatively recent in economic history, and we cannot yet know how valuable such user dynamism may turn out to be.[5] In fact, the examples we have seen so far may be simply the leading edge of larger possibilities for this phenomenon.[6] "Interventionist" analyses suggest that the openness of networks, platforms, and the like is critical, and potentially must be mandated through regulation, if necessary.[7]

The view that networks, standards and similar "platforms"[8] require state-compelled openness is not universal, however.[9] Detractors make different points relating

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[5]For examples of innovation by users, *see generally* ERIC VON HIPPEL, DEMOCRATIZING INNOVATION 20-27 (MIT Press 2005) (describing innovation, especially by lead users); YOCHAI BENKLER, THE WEALTH OF NETWORKS: HOW SOCIAL PRODUCTION TRANSFORMS MARKETS AND FREEDOM (Yale Univ. Press 2006) (describing information production and innovation, especially by non-market actors).

[6]*See* VON HIPPEL, *supra* note 5; BENKLER, *supra* note 5.

[7]*See infra* Section IV.A.

[8]*See* Michael Madison, Brett Frischmann and Katherine Strandburg, *Constructing Commons in the Cultural Environment,* 95 CORNELL L. REV. 657, 691-92 (2010) (explaining the similarities between open-source software, standard-setting organizations, intentional creation of scientific commons and other explicit acts aimed at constructing an open environment to pool and use information resources).

[9]*E.g.,*, Daniel F. Spulber & Christopher S. Yoo, *The Hidden Side of* Trinko, 107 COLUM. L. REV. 1822, 1843-48 (2006) (describing the essential facilities doctrine's potential negatives when applied to telecommunications and Internet contexts).

to the same claim: mandated neutral access could come at some real cost to network providers with uncertain benefits. These *laissez-faire* commentators argue that intervention to foster net neutrality-like openness thus may be flawed as a matter of economic theory,[10] may in practice be difficult to apply without causing unforeseen harm to innovation,[11] and finally, may not matter to consumer welfare.[12]

This Article makes several claims. First, the potential magnitude of user dynamism's contribution to platform value is not yet fully appreciated. This Article is the first to apply the EVLN (exit-voice-loyalty-neglect) model to understand the economic value of user choices among exit, loyalty and good will and how those choices impact the user dynamism that is increasingly the source of platform value. Second, the error-cost framework developed in antitrust over the past several decades can help inform policy choices aimed at promoting user dynamism within such walled gardens. Because of the yet-unknown potential of user dynamism, the error costs argue for action rather than passivity. In fact, the Federal Trade Commission's recent patent-ambush standard setting cases implicate concerns that are analogous to those surrounding user dynamism

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[10]*See id.* at 1845 ("Compelled access also dampens the incentives of the essential facilities defendant to invest in improvements in its facilities, since price regulation will limit the returns it can earn on such investments and force it to share successful investments with its competitors.").

[11]*See* Geoffrey A. Manne & Joshua D. Wright, *Google and the Limits of Antitrust: The Case Against the Antitrust Case Against Google*, 34 HARV. J.L. & PUB. POL'Y 15, 69 (of draft) (2011), *available at* http://ssrn.com/abstract=1577556 (arguing that "anti-market bias in favor of monopoly explanations for innovative conduct" plus "increased stakes" of "intervention against innovative business practices" makes essential facilities-related intervention "problematic from a consumer welfare perspective").

[12]Jonathan Barnett, *The Host's Dilemma: Strategic Forfeiture in Platform Markets for Informational Goods,* __ HARV. L. REV. __ (forthcoming 2011), *available at* http://ssrn.com/abstract=1687351 (arguing that "[a]ccess policies, as implemented through some mix of closed and open organizational components, are simply part of the consumption bundle" and "there is no assurance that open structures even promote consumer welfare").

in walled gardens. Finally, while neither antitrust nor regulation may offer a perfect solution, this Article sets forth some guidelines for thinking about the steps that should be taken. In doing so, this Article explains how these considerations fit with debates about network neutrality and network access, which themselves have been significantly informed by antitrust law, drawing particular inspiration from the essential facilities doctrine in monopolization law[13] and the interconnection regime for telecommunications that the FCC implemented after the *United States v. AT&T* antitrust case.[14]

The rise of user-generated innovation and content (that is, increased *dynamic and efficiency*[15] due to user activity) alters the way in which error costs and static-versus-dynamic efficiency is usually perceived in traditional antitrust. Lessons from antitrust thought concerning error costs (false negatives and false positives) and dynamic versus static efficiencies can be important to thinking through access requirements. Whether one refers to it as dynamic efficiency, technological progress, or an increase in total

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[13]*E.g.,*, Brett M. Frischmann & Spencer Weber Waller, *Revitalizing Essential Facilities*, 75 ANTITRUST L.J. 1, 2-3 (2008) (discussing current challenges to the essential facilities doctrine and proposing its reinvigoration in open access debates).

[14]United States v. Am. Tel. & Tel. Co., 552 F. Supp. 131, 223-25 (D.D.C. 1982) (consent decree mandating break-up); *see also* Tim Wu, *Wireless Carterfone*, 1 INT'L J. COMM. 389 (2007), *available at* http://ssrn.com/abstract=962027 (arguing that the 1968 FCC *Carterfone* requiring AT&T to allow interconnection of devices to the telephone network is analogous in rationale to regulating network operators to promote competition at higher layers using the Internet); Spulber & Yoo, *supra* note 9, at 1884, 1889 (discussing network access using a framework of concepts such as "single monopoly" and "double marginalization" that are canonical economic arguments in antitrust law concerning the tying or bundling of separate products).

[15]This is a standard economic concept tracking short-run efficiency concerns about deadweight loss versus longer-term concerns about efficient investment decisions and stimulation of technological progress. *E.g.,,* STEVEN ANDERMAN, THE INTERFACE BETWEEN INTELLECTUAL PROPERTY RIGHTS AND COMPETITION POLICY (Cambridge U. Press, 2007) pp.507-08 (contrasting the static efficiency concern that price be equal to the marginal cost of production to avoid deadweight loss with dynamic efficiency concern about proper incentives for investment, understood broadly to apply not only to physical assets, but also R&D and improvements in production).

factor productivity, the gain is simple: the ability to make more with less. Since not only producers, but also, users, now drive dynamic efficiency, refraining from intervention for fear of imposing costs on innovative producers may have the unintended consequence of leaving innovative users unprotected. The possibility of snuffing out user dynamism in its infancy provides a compelling reason to doubt arguments against regulatory intervention.

Both the interventionist and the laissez faire approach to networks often neglect the degree to which user trust may be a prerequisite to convincing users to invest time and effort in generating content and innovation. Users value the products of their own user dynamism as well as the opportunity to benefit from other users' activity. Network effects supercharge the impact of user dynamism by increasing its value to the community of network users. Simply put, if users believe that after adopting a network, they will be exploited without redress, that will both reduce incentives to adopt a network, and affect their conduct within it. Such concerns are real ones that are not accounted for in traditional economic models, but that are usefully understood through the EVLN model's application.[16]

In contrast, protecting reliance and investment interests from holdup and opportunism are problems that "black-letter" law has long dealt with. This Article proceeds in six further parts. In Section II, the Article briefly describes user dynamism within networks, platforms and the like, and provides examples of *ex post* changes in policy by network/platform proprietors that undercut user expectations. Section III applies an EVLN model to explain the importance of the community aspects of platforms

[16]*See generally* ALBERT HIRSCHMANN, EXIT, VOICE, AND LOYALTY: RESPONSES TO DECLINE IN FIRMS, ORGANIZATIONS, AND STATES (Harv. Univ. Press 1970), and the discussion in Section III, *infra*.

to fostering user dynamism. Section IV describes the interventionist and *laissez faire* approaches to networks and platforms, as well as the way the error-cost framework's implications diverge from traditional expectations in the face of user dynamism. Section V describes the FTC's experience with standard setting and exploitations. Finally, drawing on these guidelines, Section VI sets forth a series of simple considerations as touchstones for protecting user dynamism, and is followed by a brief conclusion. While such prescriptions cannot substitute for ideal policy were all information about the importance and nature of user dynamism currently available, these simple principles can help keep walled gardens a bit more prelapsarian in terms of the trust users can place in them.

II. Walled Gardens, Open Platforms and User Dynamism

The term "walled garden" has been deployed repeatedly to refer to restrictions on user access or abilities are in some way limited. The "walls" need not be absolute. Instead, they can be restrictions on exit or entry, or "partial" restrictions on certain categories of activity. The broader conception of restraints to include partial restrictions echoes definitions used in antitrust.[17] The "garden" in question is generally some kind of platform enabling user activity – a network or device that allows users to connect with each other. That connection may be via direct ways such as communication.

[17]Restraints such as group boycotts and exclusionary conduct need not require absolute bars in order to be actionable under the antitrust laws, but can involve concerted refusal to compete on a particular quality or term of a product. *E.g.,, Ross* v. *Bank of America,* 524 F.3d 217, 223 (2d Cir. 2008) (concluding that "alleged collusion to impose a mandatory term in cardholder agreements" was actionable group boycott under the Sherman Act); *FTC* v. *Ind. Fed'n of Dentists*, 476 U.S. 447, 459 (1986) ("A refusal to compete with respect to the package of services offered to customers, no less than a refusal to compete with respect to the price term of an agreement, impairs the ability of the market to advance social welfare by ensuring the provision of desired goods and services to consumers at a price approximating the marginal cost of providing them").

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Alternatively, it may be through indirect ways, such as shared complimentary innovation or content generation, which we can call collectively "user dynamism." The focus of this Article is on platforms that promote user dynamism, which fundamentally represents the same kind of dynamic increase in productive capacity that intellectual property and antitrust law seek to promote.[18]

"Walled garden" versus "open platform" forms a useful rhetorical dichotomy for modeling differences in approach. However, between these poles may lie a spectrum rather than a stark discontinuity. For example, in his insightful book, Jonathan Zittrain contrasts the freedom to innovate of the 1980s era Apple II computer with the sterile, appliancized iPhone.[19] But in light of the subsequent development of the AppStore and the flourishing of independent developers' products there, these platforms seem more similar that at first look.[20]

Platforms vary in the degree to which the added value to users stems from investment by the platform host versus the activity of the users themselves. In the traditional model of platforms, the value is assumed to derive largely from network effects driven by host investment that lowers transaction costs.[21] This may well be a

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[18]Herbert Hovenkamp and Christina Bohannan have made this point about the alignment of rationales of antitrust and intellectual property, despite the existence of some tensions. Christina Bohannan & Herbert J. Hovenkamp, *IP and Antitrust: Reformation and Harm*, 51 B.C. L. REV. 905, 914 (2010).

[19] ZITTRAIN, *supra* note 3, at 1-3.

[20]James Grimmelmann & Paul Ohm, *Dr. Generative or: How I Learned to Stop Worrying and Love the iPhone*, 69 MD. L. REV. 910, 920-24 (reviewing ZITTRAIN, *supra* note 3).

[21]*E.g.,*David S. Evans, *The Antitrust Economics of Multi-Sided Platform Markets*, 20 YALE J. REG. 325, 332-333 (2003) (working through analysis of "[t]wo-sided platforms that create value" where "two distinct groups of customers" and the two-sided platform helps members of these two

fairly accurate way to model investment in telecommunications networks or cable television.

Increasingly, however, Internet-based platforms in which user activity provides a greater share of the value have become more prominent. On these platforms, users provide content and innovation. While some have characterized the motivations of these users as altruism, it might be more accurate to say that their motivations also mix reciprocity, reputation and community-mindedness.[22]

However, user dynamism is to some extent an investment subject to opportunism, depending on the platform. There are, of course, many examples of user dynamism in the area of software development, particularly harnassing the Internet's lowering of transaction costs and communications barriers, including the "R" statistical software package[23] and Linux.[24] Three specific examples of online platforms built with heavy user involvement illustrate how user investment can be appropriated, with potentially negative impacts on future user dynamism, or, alternatively, how certain types of commitment strategies can convince users to continue to invest in dynamic activity.

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groups to come together and capture the externalities between them that they otherwise cannot "because of transaction costs").

[22] *See* BENKLER, *supra* note 5, at 96-97, (providing examples of motivations including such as dinner invitations, blood donations and amateur athleticism to make the point that individuals have varying motivations, including monetary ones, as well as nonmonetary ones from altruism to reciprocity).

[23] *See* VON HIPPEL, pp.129-130 (describing user innovation concerning both Stata and R).

[24] *See* BENKLER, *supra* note 5, p..60 (describing development of Linux, the "flagship" of open source software).

CDDB/Gracenote and Appropriation

One of the earliest examples of mass content creation by users is the Compact Disc Database (CDDB). Through Internet-based sharing and users' goodwill and time investment in creating content, CDDB succeeded in "what would have otherwise cost millions of dollars in human labor – compiling a list of tracks on virtually every commercial compact disc known to humankind."[25] The CDDB database has become the authoritative source for the track (song) lists that load automatically from a CD inserted into your computer.[26] Similar user content creation resulted in the Internet Movie Database (IMDB), whose music directory originally stemmed from user contributions.[27]

As a result, CDDB has become an archetype of valuable user content generation. It also is an example of appropriation and propertization of user investment. Gracenote's propertization and licensing of the database made it possible for computer-based audio players to recognize the tracks and display information about CDs automatically; it also led to controversy and a lawsuit concerning "whether databases formed through submissions by individual members of the public can be considered the property of the company that collects and formats that data."[28] Early announcements on the CDDB site had stated that access to the CDDB service would "remain 100% free to software

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[25]John Tehranian, *All Rights Reserved? Reassessing Copyright And Patent Enforcement In The Digital Age*, 72 U CIN. L. REV. 45, 77 (2003); *see also* Dan Hunter, *Amateur-to-Amateur,* 46 WM & MARY L. REV. 951, 1002 (2004); William Hubbard, *Communicating Entitlements: Property and the Internet*, 22 YALE L. & POL'Y REV. 401, 432 n.191 (2003).

[26]Hunter, *supra* note 25, at 1002-03.

[27]*Id.*

[28]*See* Tehranian, *supra* note 25, at 77. *See also* Robert Lemos, *Companies fight over CD listings, leaving the public behind*, CNET NEWS.COM, May 24, 2001,http://news.com.com/2009-1023-258109.html?legacy=cnet&tag=tp_ pr .

developers and consumers"[29]; this policy was changed with exclusionary license terms that some users and developers felt they could not accept.[30]

Users might be upset by such appropriation of their work and undercutting of their reliance in the same manner that intellectual property creators or industry players relying on a common standard might be in a similar situation. *Ex post* propertization could have a significant negative impact on users' investment in content creation and innovation, including chilling effects on future projects. We cannot know whether we would see more and better user investments in the hypothetical world where user dynamism enjoyed some protection from appropriation in such a manner. This is particularly important given how novel user dynamism through mass collaboration still remains.

Firefox, Symbian and "Strategic Forfeiture"

Is misappropriating the fruits of user dynamism really a problem worth worrying about? Jonathan Barnett, in an article in the Harvard Law Review, argues that it is not.[31]

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[29]*See CDDB, World's Largest Online CD Music Database, Debuts New Web Site*, GRACENOTE, Apr. 27, 1999, *available at* http://www.gracenote.com/company_info/press/1999/1999042700/.

[30]*See Why Freedb?*, a*vailable at* http://web.archive.org/web/20041013091839/www.freedb.org/modules.php?name=Sections&sop=viewarticle&artid=2 (explaining that CDDB had required a license term that required that software using CDDB do so exclusively and not use other databases); *see also* Lemos, , *supra* note 28.

[31]*See* Barnett, *supra* note 12, at 6 (stating that "the choice of organizational form [between open and closed networks] would appear to be a matter of social indifference that provides no basis for government intervention").

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In particular, he contends that "open" networks and "closed" networks are not provably different enough to require policy intervention.[32]

Specifically, Barnett points out that platform hosts engage in strategic forfeiture – that is, abandonment of intellectual property rights or other control – of important parts of their network or intellectual property as a way of making precommitments to users. Under this view, these commitments suffice to reassure users who would on these forfeited networks or intellectual property. According to Barnett, this forfeiture makes it possible for users to invest without fear of opportunism.

Does strategic forfeiture alone actually provide such reassurance? Two of Barnett's chief examples of this strategy, Netscape's voluntary forfeiture of its Communicator source code that users developed into Firefox and Nokia's forfeiture of the mobile phone operating system Symbian, do not seem entirely convincing on this point.[33] Both were arguably of intellectual property that was entering a terminal stage of decline as proprietary technology. By the time Netscape decided make this forfeiture in 1998,[34] Microsoft's bundling practices, later judged illegal under the Sherman Act, had effectively frozen Netscape's web-browsing products off of the then- (and still now) dominant Windows-based PCs. Similarly, the forfeiture of the Symbian mobile phone operating system by Nokia represents a mixed story. While Nokia did make Symbian available under an open source license without charge in 2010, Symbian was already

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[32] *Id.*

[33] *Id.* at 1, 37, 46-47 (describing Symbian and Navigator/Firefox).

[34] ERIC RAYMOND, THE CATHEDRAL AND THE BAZAAR: MUSINGS ON LINUX AND OPEN SOURCE BY AN ACCIDENTAL REVOLUTIONARY (O'Reilly 2001), at 61-62 (describing Netscape's announcement that it would give away the source code for its Communicator software suite, including the web browser Navigator which evolved through user development into Firefox).

being overtaken by iOS (Apple's iPhone operating system) and Google's Android,[35] and by early 2011, Nokia had already announced that it was abandoning Symbian for its own products.[36] While examples like Firefox and Symbian show that platform hosts do abandon valuable properties, doing so as these properties enter a stage of decline or even obsolescence is not a precommitment strategy, since *ex ante* the platform host is not expecting a robust future development of the platform. Instead, these forfeitures resemble leaving unwanted but usable furniture at the curbside for others to repurpose.[37]

In neither the Firefox nor the Symbian examples did voluntary forfeiture create the dynamic that Barnett proposes: an open platform that attracts use and thereby generates profit on a linked proprietary network or standard. It is not clear yet that voluntary forfeiture alone by a for-profit entity can induce strong forces of user dynamism. However, in connection with other commitments, Barnett's theory may provide valuable insight, as the next example suggests.

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[35]*See* Andrew Parker, *Google's Android Overtake's Nokia's Symbian,* FINANCIAL TIMES, Jan 31, 2011 (reporting that data showed Android overtook Symbian during 2010, the same year that Nokia made Symbian available under an open source license without charge), *available at* http://www.ft.com/cms/s/0/17433c60-2d31-11e0-9b0f-00144feab49a.html#axzz1EBMyqNeC (last visited Feb. 16, 2011).

[36]*See* Thomas Ricker, *RIP: Symbian*, Feb. 11, 2011, *available at* http://www.engadget.com/2011/02/11/rip-symbian/ (describing Nokia's representation to investors that it was transitioning to all-Windows 7 based mobile phones, abandoning the use of Symbian).

[37]It might be argued that firms competing in several markets might forfeit a "losing" technology to open source as a competitive response to injure the winner in that particular market segment, making it tougher for the winner to leverage that particular success into adjoining markets. That is not Barnett's argument. *See* Barnett, *supra* note 12. Whether that is procompetitive generally is beyond the scope of this article.

Wikipedia

The possibility that user dynamism will be appropriated has been a recurring concern within the Wikipedia community. Wikipedia has responded with arguably a form of strategic forfeiture with its affiliated "Wikia" platform. But more importantly, it has responded with a governance structure and a portability policy that give dynamic users assurances that their investment will not be appropriated.

Wikipedia has become the canonical example of successful mass collaboration.[38] Cyberlaw theorists have pointed to network effects and lower transaction costs as factors that provide for increased production online.[39] For decades, economic and legal commentators have appreciated the salient features of network effects, such as demand-side economies of scale, the tendency to foster complimentary investments that may generate lock-in, and the resulting first mover advantages.[40] However, the account that emerges out of cyberlaw emphasizes not only complimentary investment or increased value from participation, but an increased scope for the demand side to create content and

[38]Zittrain, *supra* note 3, at 142-145 (describing Wikipedia as managing collaboration through a combination of brute force through massive voluntarism, a "communitarian" ethos, action through "consensus" and a "light regulatory touch"); CLAY SHIRKY, HERE COMES EVERYBODY: THE POWER OF ORGANIZING WITHOUT ORGANIZATIONS(Penguin Press 2008) [hereinafter EVERYBODY] at 134 (positing that Wikipedia succeeds because humans' ability to make "economically irrational but socially useful calculations" can be tapped to generate both individual motivation and mass collaboration and because individuals have an inherent desire to exercise their "unused mental capacities" for the "pleasure ofchanging something in the world"); Benkler, *supra* note 5, at 96 (basing Wikipedia's success on its users' "dedication . . . to objective writing" and the "self-conscious use of open discourse, usually aimed at consensus").

[39]*E.g.,*, Benkler, *supra* note 5.

[40]*E.g.*, Joseph Kattan, *Market Power in the Presence of an Installed Base*, 62 ANTITRUST L J. 1, 5-6, 11 (1993) (explaining how high switching costs increase the ability of the manufacturer to create lock-in by imposing supracompetitive prices for complementary goods); Mark Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CAL. L. REV. 479, 484, 535 (1998) (arguing that network effects are demand-side and discussing first mover advantages in the network effect context).

generate innovation.[41] In short, the user becomes involved in both the supply and the demand sides, in both production and consumption. And with user dynamism, the user generates not just more units of supply but technological and qualitative improvement. This is true of Wikipedia also, as user contribution encompasses not only the generation of content in the form of encyclopedia entries, but also user innovation ranging from software improvements to governance institutions.

Wikipedia has an affiliated Wikia platform for pop-culture and other entries deemed not notable for the online encyclopedia itself.[42] Unlike Wikipedia, Wikia is for-profit,[43] despite sharing a parent entity and many key contributing individuals.[44] The connections between the two wiki-constellations have drawn some criticism. For example, per Wikipedia's own guidelines, articles on topics that are deemed not notable enough to remain on Wikipedia – such as somewhat obscure pop-cultural topics or ethnic cuisine recipes – are "transwikied" to the sister site Wikia, with a link then placed on Wikipedia directing the user to Wikia.[45] Because Wikipedia – and its members – have

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[41] *See* BENKLER, *supra* note 5, at 39-41 (discussing innovation and information production from nonmarket sources).

[42] *E.g.,*, http://www.wikia.com/Wikia (last visited Feb. 14, 2011).

[43] *See* Jon Bernstein, *Wikipedia's Benevolent Dictator,* THE NEW STATESMAN, Feb. 3, 2011, *available at* http://www.newstatesman.com/digital/2011/01/jimmy-wales-wikipedia-site (last visited Feb. 12, 2011) (noting that Wales runs a "for-profit company called Wikia that hosts 3,000 wikis, predominantly about popular culture").

[44] *E.g.,*, *The Tight-Knit Web of Wikimedia and Wikia*, THE WIKIPEDIA REVIEW, *available at* http://wikipediareview.com/blog/20070821/the-tight-knit-web-of-wikimedia-and-wikia/ (last visited Feb. 14, 2011).

[45] *E.g.,*, *50 Ways that Connect Wikipedia/Wikia,* THE WIKIPEDIA REVIEW, *available at* http://wikipediareview.com/lofiversion/index.php?t15648.html (last visited Feb. 13, 2011) (stating that *Wikipedia* operates a practice of "transwiking" of content created by volunteers from Wikipedia to *Wikia Inc.* "for-profit" sites); *E.g.,*, *Wikipedia: Village Pump (Policy), available at*

opposed selling ads,[46] its connection to for-profit, advertising-laden Wikia represents a way potentially to profit while maintaining Wikipedia as a strategically forfeited "free" site.[47]

Strategic forfeiture may well allow Wikipedia's affiliated entities and individuals to profit from links to the online encyclopedia. But what reassures Wikipedia's dynamic users despite concerns about Wikia is Wikipedia's governance and portability policy. That reassurance helps keep contributions flowing. In other published work, David Hoffman and Salil Mehra have explained how Wikipedians have built a dispute resolution system aimed less at resolving disputes than articulating norms of behavior and weeding out problem users (while "weeding in" those users who show signs that they can contribute productively).[48] The Wikipedia community has also created a series of governing and advisory bodies drawn from its contributors.[49] While there have been concerns about the selection process for these groups, they nonetheless represent a

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http://en.wikipedia.org/w/index.php?title=Wikipedia:Village_pump_%28policy%29&diff=prev&oldid=175064490 (last visited Feb. 13, 2011) (user stating that "I believe that the integrity of Wikipedia is at stake by linking to Wikia articles and the morals of a free encyclopedia which accepts donations linking to a for-profit site run by the very same person are extremely questionable" and that "I do not think that Wikipedias purpose is to generate money for the Wikia corporation" even if "it is common practice").

[46] *See* Berstein, *supra* note 43 (describing Wikipedia volunteers walking away "in protest" "[w]hen the idea of a model funded by advertising was floated in 2002").

[47] *See The Tight-Knit Web of Wikipedia/Wikia, supra* note 44.

[48] *See* David Hoffman & Salil Mehra, *Wikitruth Through Wikiorder?* 59 Emory L. J. 151, 203-04 (2009).

[49] *See* Andrea Forte and Amy Bruckman, *Scaling Consensus: Increasing Decentralization in Wikipedia Governance,* in PROCEEDINGS OF THE PROCEEDINGS OF THE 41ST ANNUAL HAWAII INTERNATIONAL CONFERENCE ON SYSTEM SCIENCES (2008); Ivan Beschastnikh, Travis Kriplean, David McDonald, *Wikipedian Self-Governance in Action: Motivating the Policy Lens*, PROCEEDINGS OF THE 2008 AAAI INTERNATIONAL CONFERENCE ON WEBLOGS AND SOCIAL MEDIA (2008).

commitment to a degree of user representation in decisionmaking.[50] Finally, Wikipedia's use of first the GNU Free Documentation License, and then the Creative Commons Attribution Share Alike License gives exiting users at least the theoretical ability to copy and redistribute the online encyclopedia's content royalty-free, subject to commitments to follow proper attribution and to pursue noncommercial use.[51] The effect of these governance and portability commitments is that, *ex ante*, they give users comfort that they will not be summarily stripped of their investments in content creation and other innovation.

Thus, Wikipedia combines elements of controlled forfeiture with governance and portability commitments. Controlled forfeiture allows for profit-making that can flow to the individuals and entity that controls both Wikipedia and Wikia to satisfy what Barnett calls the "solvency constraint" – that is, the ability to stay financially afloat. But governance and portability commitments are at least as important. The governance commitments allow quality-sensitive users to voice their opinions in a meaningful way about the direction of the community, while the portability commitment allows not just for exit, but an exit that potentially allows dynamic users to avoid or lessen the appropriation of their investment. These commitments can help keep these gardens paradisiacal even when they are walled.

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[50] *Id.*

[51] *See* Jon M. Garon, *Wiki Authorship, Social Media, and the Curatorial Audience,* 1 HARV. J. SP. & ENTER. L. 95, 118-19 (2010) (describing the difference between the two licenses and the effect on Wikipedia); Jyh-An Lee, *The Greenpeace of Cultural Environmentalism,* 16 WIDENER L. REV. 1, 33 (2010) (describing Wikipedia's switch between the two licenses and the reasons behind it).

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III. Online Communities, Exit and Markets

Online platforms are frequently analyzed as though they were typical 20th century natural monopolies. The most salient features of these entities are significant up-front investments and network effects. For example, a telephone system requires extremely large fixed cost investments and becomes more valuable to each user the more that other users join the system. Under this view, because such systems require major up-front investments, requiring interconnection or nondiscrimination[52] against those outside the network at the margin creates a disincentive to making the fixed cost investment in the first place.[53]

But platforms characterized by user dynamism implicate three considerations beyond those that surrounded the mid-20th century Bell System. First, users engaged in dynamic use resemble members of an organization as much or more than they resemble the classic economic consumer; as such, the economics of membership model dynamic users' incentives more closely.[54] Second, economic theories of community and membership suggest that the ability of users with the highest level of dynamism and quality sensitivity to get responses by voicing their concerns (rather than by exiting the platform) should inform policy responses such as enforcing nondiscrimination or interconnection. Finally, because user dynamism requires users to rely on the platform

[52] *See infra* section IV.A.2.

[53] *See* Spulber and Yoo, *supra* note 9 at 1843. *See also* Barnett, *supra* note 12 at 6 (of draft) (arguing that current knowledge can prove open systems lead to a more efficient outcome than proprietary systems and so choice of "open and closed structures" should be a matter of "social indifference").

[54] This argument relies significantly on Albert Hirschmann's seminal analysis. *See* ALBERT HIRSCHMANN, EXIT, VOICE, AND LOYALTY: RESPONSES TO DECLINE IN FIRMS, ORGANIZATIONS, AND STATES (Harv. Univ. Press 1970).

host's commitments in investing its time and energy, the possibilities of holdup and cheap exclusion may justify a policy response.[55]

A. User dynamism, quality, and exit's weakness

In the traditional analysis of network consumers, the consumer's role is firmly and solely on the demand side. Those analyses that try to account for the productivity of some parties to a network often resort to assuming that users can be neatly culled into separate groups of consumers and producers. Such accounts describe networks as involving producer-users on the one hand and consumer-users on the other,[56] or describe network operators as operating in a two-sided market in between consumers and producers.[57] These accounts fit well with network archetypes as described in landmark cases such as *Carterphone* (Bell System)[58] or *Microsoft* (Windows),[59] and perhaps they may continue to accurately describe platforms where the host's investment in reducing transaction costs between users greatly outweighs the value that the users themselves

[55]This is analogous to the concerns in Frischmann, *supra* note 55 and the FTC standard-setting cases, *see infra* section V.

[56]*See, e,g.*, Barnett, *supra* note 12 (producer-users).

[57]*E.g.,*David S. Evans, *The Antitrust Economics of Multi-Sided Platform Markets*, 20 YALE J. REG. 325, 332-333 (2003) (working through analysis of "[t]wo-sided platforms that create value" where "two distinct groups of customers" and the two-sided platform helps members of these two groups to come together and capture the externalities between them that they otherwise cannot "because of transaction costs").

[58]*In the Matter of Use of the Carterfone Device in Message Toll Telephone Service*, 13 F.C.C.2d 420 (1968). *See* Wu, *Wireless Carterphone,* 1 Int'l J. of Comm. 389, (2007) (describing 1960s and 1970s era FCC rules on attaching devices to the telephone network stemming from the *Carterphone* case and arguing for an analogous application to wireless telephony).

[59]253 F.3d 34 (D.C. Cir. 2001).

create. Such models also typically make the increasingly untenable assumption that new products and services originate *only* with traditional producers and manufacturers.[60]

Increasingly, however, the platforms we interact with resemble communities rather than two-sided versions of perfectly competitive markets. Users cannot always be hived off into one group that innovates and another that merely consumes. The value of reducing transaction costs is not as convincing in the case of online platforms, created on an Internet whose transaction costs already approach zero. User dynamism within something approaching a community accounts for a larger share of value on these platforms. This observation has become commonplace, perhaps even trite, in popular business books.[61] These platforms – like Facebook and Wikipedia – are characterized by reciprocity, membership and contribution, rather than the mere consumption of a natural-monopoly produced widget and increasingly rely on user generated content and innovation for their added value to other users. While not all users produce such dynamic improvement, enough do that the economics of communities may better map users' interactions with such platforms. In particular, the Exit-Voice-Loyalty model (now further developed and known as the "exit-voice-loyalty-neglect", or EVLN model), originated by the social scientist Albert Hirschmann, may be particularly helpful. This paradigm has been applied profitably to understand other contexts, including involving human interaction combining economic production and consumption with broader

[60] *See* VON HIPPEL, *supra* note 5 at 110.

[61] *E.g.*, CLAY SHIRKY, HERE COMES EVERYBODY: THE POWER OF ORGANIZING WITHOUT ORGANIZATIONS(Penguin Press 2008) [hereinafter EVERYBODY] ; RACHEL BOTSMAN & ROO ROGERS, WHAT'S MINE IS YOURS: HOW COLLABORATIVE CONSUMPTION IS CHANGING THE WAY WE LIVE (Collins 2010); LISA GANSKY, MESH: WHY THE FUTURE OF BUSINESS IS SHARING (Portfolio 2010); CLAY SHIRKY, COGNITIVE SURPLUS: CREATIVITY AND GENEROSITY IN A CONNECTED AGE (Penguin 2010) [hereinafter COGNITIVE SURPLUS].

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feelings of community, workplace relations[62] and citizens' responses to dissatisfaction with public services.[63] An application of this model helps to illuminate important aspects of quality sensitivity and user response that are not as usefully analyzed under a more classical economic framework.[64]

Figure 1. Responses to community deterioration in the EVLN model.[65]

	Destructive	**Constructive**
Passive	Neglect	Loyalty
Active	Exit	Voice

[62]D. Farrell, et al., *The Impact of Job Satisfaction, Investment Size, and Quality of Alternatives on Exit, Voice, Loyalty, and Neglect Responses to Job Dissatisfaction: A Cross-Lagged Panel Study*, *in* BEST PAPER PROCEEDINGS OF THE ACADEMY OF MANAGEMENT 211-215 (L. R. Jauch & J. L. Wall eds., 1990), ; J. Lee & F.M. Jablin, F.M., *A Cross-Cultural Investigation of Exit, Voice, Loyalty and Neglect as Responses to Dissatisfying Job Condition*, 29 J. BUS. COMMC'N 203-228 (1992); M.J. Withey & W.H. Cooper, *Predicting Exit, Voice, Loyalty, and Neglect*, 34 ADMIN. SCI. Q., 521 (1989).

[63]W.E. Lyons & D. Lowery, *Citizen Responses to Dissatisfaction in Urban Communities: A Partial Test of a General Model*, 51 J. POL. 841 (1989).

[64]*See infra* Section IV.B.. Even incorporating assumptions of a :two-sided market" with network effects, the more traditional models tend to ignore the value of user dynamism and do not recognize the particular ramificiations of quality-based exit from a platform with "community" characteristics. *Id.*

[65]*E.g.,*, Carlyn E. Rusbult & Isabella M. Zembrodt, *Responses to Dissatisfaction in Romantic Involvements: A Multidimensional Scaling Analysis*, 19 J. EXPERIMENTAL SOC. PSYCHOL. 274; Carlyn E. Rusbult, *Responses to Dissatisfaction in Close Relationships: The Exit-Voice-Loyalty-Neglect Model, in* INTIMATE RELATIONSHIPS 211 (Perlman, D. & Duck, S., eds., 1987)[hereinafter Rusbult].

Dynamic users cannot be treated as purely consumers or purely producers.

Treating users as traditional consumers oversimplifies the analysis of their behavior and its effects on network development. Under the standard microeconomic model, when the price of a good rises, the marginal consumer – that is, with the smallest consumer surplus – drops out first. Obligations such as interconnection or nondiscrimination that raise a network operator's cost force it to raise prices and lose these marginal consumers. Thus, where users are treated as pure consumers, any benefits of these obligations come with a seemingly clear tradeoff of higher costs and resultant reduced "sales."

Applying the traditional model to online communities by dividing users into consumer-users and producer-users,[66] or by segmenting producer and consumer behavior into two sides of the market,[67] does not track the new reality of user dynamism. Where users generate content or produce innovation that they (and other similar users) also consume, the attempt to cleanly segment them fails. Instead, the "consumer" is more accurately modeled as something more like a community member.[68] Altruism may be part of this sense of community membership,[69] but reciprocity and potential pecuniary and nonpecuniary rewards may well provide incentives to participate.

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[66] *See* Barnett, *supra* note 12, at 12 (of draft).

[67] *See* Evans, *supra* note 12, at 332-33. *Cf.* Manne and Wright, *supra* note 11 at 38-39 (focusing on advertisers versus "end-users" in Google case).

[68] *Cf.* HIRSCHMANN, *supra* note 16, at 100 ("the 'buyer' is now in reality a member and as such he is involved in both the supply and the demand sides"). *See also* Lee Anne Fennell, *User Participation in the Production of Local Public Goods,* 80 Tex. L. Rev. 1, 11-12 (2001) (pointing out this observation and commenting that Hirschmann's exit-voice options as useful for legal scholarship on local govevnment, where citizens can exit, that is move, or vote or otherwise express themselves if they are dissatisfied).

[69] *See* BENKLER, *supra* note 5.

Instead, dynamic users produce the *quality* of the platforms they also in turn consume in a quality-sensitive manner. Eric von Hippel has shown empirically that

> innovating users (both individuals and firms) . . . have the characteristics of 'lead users.' That is, they are ahead of the majority of users in their populations with respect to an important market trend, and they expect to gain relatively high benefits from a solution to the needs that they have encountered there.[70]

Von Hippel's study encompassed a range of situations from physical manufacturing to open-source software development – the latter is the jumping-off point for the user dynamism we see on many contemporary platforms. Because of this sensitivity to the quality of freedom to innovate and reap the gains, where users' activities mix consumption and dynamism, the effects of interconnection or nondiscrimination obligations on them become more difficult to predict.[71] As noted previously, when users are treated as pure consumers, such obligations are claimed to raise price and cause marginal consumers to exit; reduced demand due to this exit places pressure on the network operator to lower the price.[72] Thus, in the traditional model, reduced quality places pressure on the host to raise quality or lower prices.

But where user dynamism actually improves product quality, the effects of the user's exit are more ambiguous. Because the user is now more of a community member and thus involved on both the supply and demand sides, her quality-consciousness

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[70]VON HIPPEL, *supra* note 5 at 4.

[71]*See infra* Section IV.A.2. for discussion of interconnection and nondiscrimination interventions.

[72]*See infra* Section IV.B. for discussion of arguments against intervention. *See also* HIRSCHMANN, *supra* note 54, at 99-100 (in a situation where a buyer is a price-maker, withdrawal of the buyer will lead the producer to try to lower price or raise quality).

becomes an important factor.[73] Quality-consciousness both determines the dynamic user's demand and her willingness to supply content and innovation that improves the quality of the platform – such a virtuous cycle has been observed in other "membership" examples.[74] Interconnection and nondiscrimination obligations, all things being equal, prevent reduction in the quality of a platform for its users – when access to some content or some other users is blocked or reduced, the platform generally worsens from a quality perspective, even if the financial price of the platform for users remains the same. Thus, a regulatory commitment that prevents reduction in the quality of a platform for dynamic users encourages quality-sensitive users to continue to participate in and improve the platform by generating content and innovation. Thus, the same obligations that might raise costs that lead price-sensitive users to exit based on higher price can also play a role in keeping quality-sensitive users by safeguarding the quality they value.

Quality-sensitivity leads to different behavior than price-sensitivity

The EVLN model calls into question the implications of the traditional economic model, since, in contrast to the equilibrating tendencies of the exit of cost-conscious pure consumers, the exit of quality-conscious dynamic users will likely lead to further deterioration and thus further exit. The contrast is between a dynamic that self-equilibrates and one that leads to a death spiral.

[73]HIRSCHMANN, *supra* note 16, at 100 (describing how the transformation of "buyers" to "members" brings them into "both production and consumption of the organization's output").

[74]HIRSCHMANN, *supra* note 16, at 52-53 (describing the link in the context of public education parents between quality-consciousness as a consumer and the production of quality as a producer).

Is this a realistic portrayal of how dynamic users of platforms act? Examples ranging from online fora to Wikipedia suggest that it may be.[75] Commentators observe that network effects can work to unravel platforms as quickly as they help establish them.[76] But the effect of quality-conscious users' departure is to further lower the demand and production of quality, encouraging the next-most quality conscious users to also depart. In other words, the death spiral is not only the product via network effects of declining numbers; it is also about a race to the bottom in quality.[77]

In a traditional product market with no quality effects, a firm that loses too many customers when it raises prices will face self-corrective pressure to cut prices to regain them.[78] However, this does not seem to reflect the actual experience of online communities based on user dynamism. Managing exit in a community to avoid a death spiral is a lot harder. Wikipedia has managed this problem by using an arbitration system to partially manage the exit of active users; those involved in disputes who lacked the ability and commitment to provide quality participation were weeded out, while those

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[75]See Eric Goldman, *Wikipedia's Labor Squeeze and its Consequences*, 8 J. Telecomm. & High Tech. L. 157, 167 (2010) (describing social dynamics of Wikipedia and its challenges); Barnett, supra note 12 (regarding instability of platforms generally). See also infra notes 29 to 55 and surrounding text.

[76]*See* Barnett, *supra* note 12, at 14 (stating that "[e]ven the most dominant platform inherently occupies a precarious position: it can be slow to start and can suffer a rapid demise"); Salil Mehra, *Information in an Antitrust Age*, 2000 U. CHI. L. FORUM 219, 244 (2000) (observing that "[t]he fact that some users flee the product would by itself lead other users to cease using the product due to the reduced utility of doing so, and so on in a 'death sprial'") (citing *A&M* v. *Napster,* 2000 WL 1182467, *26 (N.D. Cal. 2000) (acknowledging that "even a narrow injunction may so fully eviscerate Napster, Inc. as to destroy its user base").

[77]*E.g.,*, HIRSCHMAN, *supra* note 54, at 25 (noting that "in perfect competition . . . the firm is not deprived of an effective correction mechanism because performance deterioration . . . is reflected directly in a decline in revenue").

[78]*Id.*

who possessed such qualities were "weeded in."[79] The Internet in particular is riddled with examples of unarrested downward spirals, from no longer usable online discussion forums to MySpace, formerly the world's largest social networking site, where the added value stemmed from user-generated content, but the exit of participants led to a cascading decline.[80]

Unlike the assumption of the traditional economic model,[81] this deterioration does not face automatic self-corrective pressure. This is particularly important if there is significant variation among users in both their generation and appreciation of the fruits of user dynamism. In a perfect competition model, economists assume that increased quality of a particular good is the exact equivalent of a lower price for the same good; lower prices or increased quality makes the good more attractive.[82] The equivalence allows the modeler to ignore quality as a dimension by treating it simply as part of a good or service's price.[83] But where quality exists as a separate dimension, and where users

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[79] *See* Hoffman & Mehra, supra note 48 (empirical analysis finding correlation between banishment as a result and hallmarks of behavior making expectation of quality participation unlikely in the future).

[80] *E.g.*, Emily Steel & Russell Adams, *Myspace's Future Gets Fuzzy*, WALL ST. J., Feb. 7, 2011 (noting nearly one-third decline in users of formerly most-popular social networking site in 2010 alone).

[81] *See* HIRSCHMANN, *supra* note 54, at 99-100 (observing that in the classical economic model where price and quality are fungible and information is perfect, "withdrawal of a buyer" "will lead to price being lowered, or correspondingly, to quality being improved," but where "the 'buyer' is now in reality a member and as such [s/]he is involved in both the supply and the demand sides, in both production and consumption of the organization's output," "withdrawal of the quality making 'buyer' leads to a quality decline" and so "if those who have the greatest influence on quality of output are also, as is likely, more quality-conscious than the rest of the members, any slight deterioration in quality may set off their exit, which in turn will lead to further deterioration, which will lead to further exits").

[82] *Id.*

[83] *See* HIRSCHMANN, *supra note_* at 47-48 (observing that "[q]uality changes have usually been dealt with by economists and statisticians through the concept of the *equivalent* price or quantity

are in fact members of a community on both the supply and demand sides, this simple relationship breaks down. Quality can decrease while price remains the same, but with a smaller base of less quality-conscious users.

Besides exit, quality-conscious users have another alternative: *neglect*. However, for platforms with community characteristics, neglect may have similar effects as exit. Social psychologists and labor relations scholars focusing on a variety of human relationships extended Hirschmann's original economics-focused model by developing the possibility of neglect as a response to deteriorating quality.[84] That is, quality degradation in a community leads some members not to exit completely, but to become more neglectful in their participation in that community. In the context of an online platform, a user might ratchet down the degree to which they generate value on the production side. Returning to the example of Wikipedia, a formerly productive generator of content might do so at a lower rate, while still using the site as a consumer. In the platform context, neglect may simply be a lower degree form of exit. However, like exit, neglect has been broadly classed as destructive in a variety of human contexts[85]; it is likely the same in the context of platforms with significant community aspects.

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change," that is, the traditional model treats a decline in quality as the equivalent of a higher price for the same quantity or less quantity for the same price).

[84]*E.g.*,, Carlyn E. Rusbult & Isabella M. Zembrodt, *Responses to Dissatisfaction in Romantic Involvements: A Multidimensional Scaling Analysis*, 19 J. EXPERIMENTAL SOC. PSYCHOL. 274; Carlyn E. Rusbult, *Responses to Dissatisfaction in Close Relationships: The Exit-Voice-Loyalty-Neglect Model, in* INTIMATE RELATIONSHIPS 211 (Perlman, D. & Duck, S., eds., 1987)[hereinafter Rusbult]. .

[85]Exit and neglect have been classed as "destructive" responses, in that they tend to be destructive of the relationship in question, while loyalty and voice are seen as "constructive" responses that help to improve or maintain the relationship. *See* Rusbult, *supra* note 84, at 211. *See also supra* note 62 and surrounding text (describing this model in other contexts).

Voice and loyalty

Given this dynamic, the ability of such quality conscious users to get improvement by voicing their dissatisfaction becomes important. In the EVLN model, the ability to arrest quality degradation or to effect quality enhancement is mediated by the ability of members to voice their satisfaction rather than exit; their willingness to choose the former over the latter is influenced by the degree of loyalty that they feel to the organization.[86] In contrast to exit and neglect, voice and loyalty have been classed as fundamentally constructive responses to problems, in that they potentially foster repair.[87]

Platform users may choose responses motivated by loyalty or may voice their dissatisfactions for several reasons. Loyalty rather than exit can stem from a variety of sources, ranging from affective bonds with the community to severe initiations and high penalties for – or even impossibility of – exit.[88] Ultimately, loyalty influences the choice to stay and improve rather than exit, which as discussed in the prior section, may trigger a cascade of deterioration.

Where the value of a platform depends heavily on user dynamism, fostering repair through voice rather than exit is important not only to the platform host, but to users who do not wish to lose their investment. If no repair can be made, such investment is a sunk cost, and exit is logical. But if mechanisms for voice exist, they can help to address quality deterioration before it starts spiraling. The mere ability to voice one's dissatisfactions may not be enough; there may also need to be some level of shared

[86] *See* HIRSCHMAN, *supra* note 54, at 30-43, 76-105.

[87] *See* Figure 1 and note 65.

[88] *Id.*, 91-92, 98.

governance by which platform hosts commit to address deterioration. With respect to nonprofit Wikipedia, we can observe layers of dispute resolution and governance by a mix of elected and appointed community members.[89] Facebook, in response to concerns about privacy and risks to minors, formed an advisory board with five leading Internet safety organizations, allowing for input on a kind of quality degradation in a quicker, though somewhat less committed, manner.[90]

For commitments of shared governance to convince users that they will foster voice that arrests quality degradation rather than exit that accelerates it, and thereby foster user investment in a platform, such commitments must be credible. The need to make these *ex ante* commitments credible to foster investment may require *ex post* enforcement when such commitments are reneged upon. Whether this is an appropriate problem to call on law as a solution depends in part on how we make decisions under an unavoidable level of uncertainty. One particular area of innovation-focused economic regulation has a particularly advanced framework to analyze decisionmaking under uncertainty: antitrust.

[89] *See* Hoffman & Mehra, *supra* note 48, at 169-75 (describing establishment of a series of bodies and steps within Wikipedia ostensibly to resolve disputes, but in fact generating norms for internal governance).

[90] *See* Steven Musil, *Facebook Forms Safety Advisory Board*, CNET NEWS, Dec. 6, 2009 (describing board formed with 5 leading Internet child safety organizations after controversy over secret online advertising and access to social network by sex offenders).

V. The Current Options: Antitrust or Regulatory Action vs. Inaction

There has been an active debate over whether there is a need for intervention based on network effects and downstream impacts of platforms, and if so, what form any such intervention should take. But the analysis of this question depends on the assumptions we make given uncertainty.

A. Action

1. An Antitrust Approach?

Antitrust law has useful tools and approaches that can inform a discussion of platform dominance. Despite that, monopolization law under Section 2 of the Sherman Act is unlikely to provide an active response for practical and ideological reasons. From a practical standpoint, antitrust law as it is conducted in the United States is unlikely to work well on Internet – or faster – time.[91] Additionally, two decades of case law cabining Section 2 have blunted the potential impact of potentially relevant cases such as *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, *Eastman Kodak Co. v. Image Technical Services*, or *United States v. Microsoft Corp.*[92]

a. The Error-Cost Framework

Antitrust's most useful contribution to this discussion may be its well-developed focus on error-cost minimization for market intervention. In particular, Judge Frank

[91] *E.g.,,* John Lopatka and William Page, *Antitrust on Internet Time: Microsoft and the Law and Economics of Exclusion*, 7 SUPREME COURT ECON. REV. 157, 163 (1999); William H. Page, *Microsoft and the Limits of Antitrust,* 6 J. COMP. L. & ECON. 33, 40 (2010) (questioning whether importance of network effects justified DOJ reassessment of monopolization prosecutions);

[92] 472 U.S. 585 (1985); 504 U.S. 451 (1992); 253 F.3d 34, 55 (D.C. Cir. 2001) (en banc).

Easterbrook's landmark analysis of error-cost minimization[93] not only provided a framework for Chicago-School antitrust, it also suggested a broader approach to economic regulation. His application of the error-cost framework continues to draw both praise[94] and criticism[95] Easterbrook stressed that it was not enough for antitrust rules to track anticompetitive conduct – they also had to account for the costs of errors by courts and enforcement officials. And as he rightly pointed out, the costs of false positives might differ from those of false negatives. For Easterbrook, this was an opportunity to perform a kind of jiu jitsu on the activist antitrust that had preceded the Chicago School. Because of *stare decisis* and the dominance of an interventionist stream during the 1960s – sometimes called the *Von's Grocery* era[96] – error-cost minimization could be deployed in the 1980s to argue for caution in extending existing antitrust rules against certain types of business conduct.

The error-cost minimization lens as set forth by Judge Easterbrook supplied is quite insightful. Early in *The Limits of Antitrust,* to illustrate why he thought error costs were so critical to formulating better antitrust law, Easterbrook critiques four then-recent

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[93] Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1, 10 (1984) (advocating judicial error-cost minimization).

[94] *E.g.*, Geoffrey A. Manne & Joshua D. Wright, *Innovation and the Limits of Antitrust*, at *7 (Geo. Mason L. & Econ., Research Paper No. 09-54; Lewis & Clark L. Sch. Legal Studies, Research Paper No. 2009-26, 2009), *available at* http://ssrn.com/abstract=1490849 (calling the error-cost approach a "simple but powerful analytical tool").

[95] *E.g.*, Alan J. Devlin & Michael S. Jacobs, *Antitrust Error*, 52 WM. & MARY L. REV. 75, 84 (2010) (arguing the error-cost approach causes many consumer-injuring acts to go unpunished).

[96] John Leibowitz, Chairman, FTC, *Remarks at the 36th Annual Conference on International Antitrust Law & Policy* (Sept. 24, 2009), *available at* http://www.ftc.gov/speeches/leibowitz/090924fordhamspeech.pdf (referring to the "era of Von's Grocery") (last visited Jan. 20, 2011).

antitrust cases to make points about antitrust indeterminacy and judicial obstinacy.[97] In his view, courts were too quick to condemn what he saw as indeterminate cases: three horizontal agreements, including a blanket license agreed upon by competing music copyright holders, a horizontal agreement among physicians, and rules adopted by the NCAA to govern universities with football programs that competed not only on the playing field, but also in inputs such as players and outputs such as television broadcasts.[98] In each of these cases, Easterbrook contended that the Supreme Court had too quickly allowed condemnation of a practice that he believed might be benign – creating what he termed a "false positive."[99]

But with the (admittedly unfair) benefit of more than a quarter-century of hindsight, it is interesting to note how his seminal article got so much wrong. While Easterbrook's benign appraisal of each of the horizontal agreements involving health care[100] and the NCAA[101] appears incorrect, he may have erred the most significantly in

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[97]Easterbrook, *supra* note 93, at 6-8.

[98]*Id.*

[99]*Id.*

[100]Concerning *Arizona* v. *Maricopa County Medical Society*, 457 U.S. 332 (1982), Easterbrook asserts very succinctly that a horizontal agreement among doctors to set their fees might be a precompetitive "signaling [sic]" device. Easterbrook, *supra* note 93, at 7 (arguing that such an arrangement could serve as "a signalling device by which the lower-price physicians can identify themselves" and "offer to share some of the insurance function"). This argument is difficult to critique, since treatment of physicians' agreements has shifted during the 40 years, in part due to the growth of HMOs, the per se treatment of physician-sponsored agreements after *Maricopa,* and shifting antitrust agency approaches to doctor-sponsored agreements of this kind. *E.g.,*, Robert Kuttner, *Physician-Operated Networks and the New Antitrust Guidelines*, 336 NEW ENG. J. MED. 386, 389 (1997) (providing an interesting healthcare industry-oriented, as apposed to caselaw oriented view of the aftermath of *Maricopa County*). However, policymakers have linked horizontal arrangements among competitors in the healthcare industry to the acutely spiraling cost of American health care in recent decades. For example, in 2007, then-presidential candidate Obama faulted in part lax antitrust policies that had allowed 95% of health insurance

his view of *Broadcast Music, Inc. v. Columbia Broadcasting System, Inc.*,[102] in which the Court remanded for consideration under the rule of reason "the 'blanket license' issued by ASCAP and BMI, two performing rights societies," to broadcasters who play music.[103] Easterbrook pointed out that "the license is a cost-reducing device, allowing those who want music to get what they need without thousands of individual licensing transactions."[104] While that sounds good in a static sense, we have come to recognize, thanks chiefly to Harold Demsetz, that property rights and transaction costs are not necessarily exogenous.[105] To the extent that distributions and rules shape the evolution of transaction costs themselves, a rule tolerating the blanket license – which is what ultimately resulted on remand[106] – can actually inhibit the development of superior

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markets to become "highly concentrated." Senator Barack Obama, Statement for the American Antitrust Institute (Sept. 26, 2007), *available at* http://www.antitrustinstitute.org/files/aai-%20Presidential%20campaign%20-%20Obama%209-07_092720071759.pdf.

[101]With respect to *NCAA v. Board of Regents of University of Oklahoma*, 468 U.S. 85 (1984), Judge Easterbrook contested the Court's too-quick disapproval of the NCAA's restrictions "controlling the number of college football games available for broadcast" on television. Easterbrook, *supra* note 93, at 8. As justifications for friendlier treatment for the NCAA, Easterbrook pointed to the need for the business of college football for schools to cooperate and to the usefulness of the NCAA's restrictions for its competition against other forms of entertainment. *Id.* However, last term, the Supreme Court revisited similar arguments concerning the NFL, and still found them wanting. *See* Am. Needle, Inc. v. NFL, 130 S. Ct. 2201, 2213-14 (2010) (rejecting argument that NFL teams constitute a single entity due to cooperation because "justification for cooperation is not relevant to whether that cooperation is concerted or independent action").

[102]441 U.S. 1 (1979).

[103]Easterbrook, *supra* note 93, at 7.

[104]*Id.*

[105]Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. 347, 350 (1967) (describing endogenous nature of property rights and their relationship to transaction costs).

[106]*Columbia Broad. Sys., Inc.* v. *Am. Soc'y of Composers, Authors & Publishers*, 620 F.2d 930, 938-39 (2d Cir. 1980).

alternatives to a transaction-cost reducing, but price-fixing, restraint. For example, we now realize that iTunes makes possible the efficient individual licensing of copyrighted music at the *retail* level – where the number of 21st century music download customers greatly exceeds number of late 20th century broadcasters in *Broadcast Music*. Could something similar have been developed earlier to allow song-by-song licensing to broadcasters? With the blanket license greenlighted by *Broadcast Music*, the incentives to create such a system were diminished. As a result, a "false negative" might also have costs, including a kind of Heisenberg Uncertainty Principle effect in which toleration of a restraint itself slows the creation of more efficient, innovative alternatives.[107]

Easterbrook's second point – and, in retrospect, his second misjudgment – was his concern with the particular durability of false positives, distinctly from false negatives, in antitrust case law. He pointed to the *Monsanto* case[108] to illustrate the durability of false positives.[109] In *Monsanto,* the Court refused to overturn the per se rule against resale price maintenance, which was in fact overturned in *Leegin* v. *PSKS, Inc.* in 2007.[110] While one might argue that an additional generation represents sufficient durability, in fact there remains significant doubt, as Justice Breyer's dissent in *Leegin* noted, that resale price maintenance overall is a benign practice.[111] Easterbrook decried what he

[107]*See also* Devlin & Jacobs, *supra* note 95, at 117 (arguing antitrust restriction upon the right to exclude will disincentivise innovators and the cost of such an outcome is larger than short-run monopoly prices associated with exclusivity).

[108]*Monsanto Co.* v. *Spray-Rite Serv. Corp.,* 465 U.S. 752 (1984).

[109]Easterbrook, *supra* note 93, at 7.

[110]*Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 899 (2007).

[111]*Id.* at 910-911 (2007) (Breyer, J., dissenting) (listing possible negative results of resale price maintenance in regard to dealers and producers); *see* Easterbrook, *supra* note 93, at 7 (criticizing

called a tradition of "inhospitability," specifically, a tendency of judges in antitrust cases to condemn practices that they did not understand.[112] However, the Court – and indeed the judiciary as a whole – now comes to antitrust cases from a very different ideological stance than the one Easterbrook critiqued in 1984. The federal judiciary now views antitrust largely through a technocratic lens.[113] When ideology peeks through, it tends to reveal itself as inhospitability not to antitrust defendants, but to antitrust plaintiffs, [114] and sometimes, seemingly to antitrust law itself.[115] Easterbrook critiqued a Supreme Court

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the *Monsanto* decision to decline the Solicitor General's invitation to reassess the per se rule against resale price maintenance).

[112] Easterbrook, *supra* note 93, at 4.

[113]Daniel A. Crane, *Technocracy and Antitrust*, 86 TEX. L. REV. 1159, 1160 (2008) ("celebrat[ing] antitrust's technocratic shift").

[114] The past term saw *American Needle*- the first Supreme Court decision in favor of an antitrust plaintiff in an antitrust case since 1992; the intervening time had seen a string of cases ruling for defendants and adopting more-defendant friendly antitrust rules. *Am. Needle*, 130 S. Ct. at 2201; *Brooke Grp. Ltd.* v. *Brown & Williamson Tobacco Corp*., 509 U.S. 209 (1993); *Verizon Commc'ns Inc.* v. *Trinko, LLP,* 540 U.S. 398 (2004); *Volvo Trucks N. Am., Inc.* v. *Reeder-Simco GMC, Inc.,* 546 U.S. 164 (2006); *Ill. Tool Works Inc.* v. *Indep. Ink, Inc.,* 547 U.S. 28 (2006); *Credit Suisse Sec. (USA) LLC* v. *Billing,* 551 U.S. 264 (2007) [hereinafter *CSFB*]. *Eastman Kodak Co. v. Image Technical Services*, 504 U.S. 451 (1992), was the last Supreme Court case to rule for a plaintiff in which the argument was about substantive antitrust rules; *Hartford Fire Ins. Co. v. California*, 509 U.S. 764 (1993), involved a ruling for a plaintiff in an antitrust case centering on the jurisdictional reach of US antitrust laws.

[115]For example, in several recent merger cases, federal courts have explicitly discounted the concerns about anticompetitive effects of the *customers* of the merging firms in favor of judges' own impressions of the transaction. *E.g.*, *FTC* v. *Arch Coal, Inc.,* 329 F. Supp. 2d 109 (D.D.C. 2004) (denying FTC's request for an injunction of a merger pending an administrative trial, stating that "[c]ustomers do not, of course, have the expertise to state what will happen in the market after the merger"); *United States* v. *Oracle Corp.,* 331 F. Supp. 2d. 1098, 1168 (N.D. Cal. 2004) (discounting testimony as to anticompetitive concerns of merging firms' enterprise software customers, including executive at Daimler Chrysler, and stating that "the court found the testimony of the customer witnesses largely unhelpful" and that "customer testimony of the kind plaintiffs offered can put a human perspective or face on the injury to competition that plaintiffs allege . . . [b]ut unsubstantiated customer apprehensions do not substitute for hard evidence"). This level of judicial inhospitability to antitrust is remarkable for at least three reasons. First, the Chicago School in antitrust took as its lodestone a shift from concerns about competitors to concerns about consumer welfare. A further shift away from consumer concerns about their own

that had shown little recent hesitance to overrule established precedent; indeed, in recent years, the Court seems quite willing to do so.[116]

To be sure, the specifics of these cases were Judge Easterbrook's support for his thesis, not his ultimate point. His basic conclusion was that because, in his view, "monopoly is self-destructive" and "monopoly prices eventually attract entry," "judicial errors that tolerate baleful practices are self-correcting, while erroneous condemnations are not."[117] That is, false negatives fix themselves, but due to *stare decisis*, false positives do not. Finally, he sought to elevate Joseph Schumpeter's concept of dynamic competition as a "gale of creative destruction" in which innovation blows away competitors, above the more modest static competition over prices and quantity.[118] However, we might question all of these premises today. First, concerning monopoly's fragility, the owners of dominant platforms, while they compete for the field at some points, also have the ability to alter the nature of the next such competition. And because they sell "tethered" devices over which they may maintain control after purchase via the Internet, the ability to direct their industry's evolution does not end at the point of

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welfare in favor of paid economists' testimony would widen avenues for rent-seeking behavior. Second, customers are generally seen to be valid indicators concerning the competitive effects of a transaction, since they should rationally believe that increased efficiency should lead to lower cost, from which they may benefit, but decreased competition should lead to higher cost, from which they will suffer. Finally, judicial second-guessing both enforcement agencies *and* customers may radically increase the frequency of false negatives.

[116] *State Oil Co.* v. *Khan*, 522 U.S. 3 (1997); *Leegin*, 551 U.S. at 877 (2007). *See also Trinko*, 540 U.S. at 398; *CSFB*, 551 U.S. at 264. Some would argue that the new judicial freedom from *stare decisis* goes beyond antitrust. *See Leegin* 551 U.S. at 918-19, 929 (Breyer, J., dissenting).

[117] Easterbrook, *supra* note 93, at 2-3.

[118] *Id.* at 5.

original sale.[119] Admittedly, whether they have the ability to do so in a meaningful way is not yet measurable, but the possibility cannot be dismissed outright. Second, regarding judicial flexibility, it is worth noting that, if recent Supreme Court decisions are any guide, *stare decisis* appears to have waned compared to a quarter-century ago,[120] and at any rate, antitrust can be applied not only by the Court, but also by the FTC, where regulatory interpretations can and do change rapidly.

Finally, a model that rests innovation solely in the hands of competing producers may fundamentally understate the impact of "democratized innovation." As Eric von Hippel points out, user innovation operates in sharp contrast to the traditional economic model, "in which products and services are developed by manufacturers in a closed way," with manufacturers alone having IP and where a consumer's "only role is to have needs" that the manufacturer meets.[121] Because of a variety of real-world effects, including users' heterogeneous desires for better fit for their needs, agency costs with respect to getting manufacturers to meet those needs, and the ability of users to generate and share their innovations to their common benefit, empirical study shows that user innovation provides real benefit; this undercuts Easterbrook's exalting of competition for the field *à la* Schumpeter.[122]

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[119]ZITTRAIN, *supra* note 3, at 106 (describing such devices as "*tethered* because it is easy for their vendors to change them from afar, long after the devices have left warehouses and showrooms") (ital. in original); *United States* v. *Microsoft Corp.,* 253 F.3d 34 (D.C. 2001) (addressing attempted monopoly case based on theory that Microsoft used monopoly over operating system to shape the competition for Internet browsers running on that operating system).

[120]*Khan*, 522 U.S. at 20-22; *Leegin*, 551 U.S. at 900-902. *See also Bush* v. *Gore*, 531 U.S. 98 (2000) (disclaiming *stare decisis* effect); *Citizens United* v *Fed. Election Comm'n*, 130 S. Ct. 876 (2010) (Roberts, C.J., concurring) (stating that "if adherence to a precedent actually impedes the stable and orderly adjudication of future cases, its stare decisis effect is also diminished").

[121]VON HIPPEL, *supra* note 5, at 2.

Viewed through the error-cost framework, commentators have argued that the possibility of false positives militates against overhasty antitrust intrusion on the property rights of innovators.[123] The concern about lost innovation is especially significant given the widespread empirical finding that innovation and dynamic efficiency are the most important driver of economic growth.[124] However, where users increasingly supply valuable innovation rather than (as under antitrust's current dominant paradigm) the platform owner, the valence of this concern should flip towards concern about false *negatives.* That is, as user dynamism increases in importance, so too does the potential loss due to false negatives involving the harmful acts of the network host.

Consequently, the error-cost framework militates towards viewing antirust treatment of platform dominance through the lens of false negatives and false positives. What this paradigm helps us see clearly is the ultimate indeterminacy of monopolization theory with respect to user dynamism. Traditionally, concerns that false positives will

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[122]*Compare id. with* Easterbrook, *supra* note 93 at 5-6 (describing antitrust as inhibiting Schumpeter's "gale of creative destruction" with exclusive focus on a paradigm of "business" versus "business" using lawyers and antitrust law strategically).

[123]Devlin & Jacobs, *supra* note 95, at 117 ("When a company refuses to share its intellectual or physical property with a rival, it exercises the power to exclude, which defines a property right. By intruding upon that right, antitrust authorities wade into dangerous waters. If a successful innovator cannot reap the fruits of its invention, the crucial incentives that drove that innovation yesterday may be absent tomorrow. The cost of such an outcome is apt to be far larger than the short-run monopoly prices associated with exclusivity.").

[124]*See* Elhauge, *Defining Better Monopolization Standards,* 56 STAN. L. REV. 253, 274-75 (2003) (noting that "innovation" is the "most desirable form of market activity we can have" and that "[r]epeated economic studies indicate" it is more valuable than the mere avoidance of static allocative inefficiency such as the deadweight loss from monopoly pricing). *See also* See III Phillip E. Areeda & Herbert Hovenkamp, ANTITRUST LAW P 801, at 318 (2d ed. 2002); Joseph A. Schumpeter, CAPITALISM, SOCIALISM, AND DEMOCRACY, pp.84-92, 99-106 (3d ed. 1950); Moses Abramovitz, *Resource and Output Trends in the United States Since 1870*, 46 AM. ECON. REV. 5 (1956); Robert M. Solow, *A Contribution to the Theory of Economic Growth*, 70 Q.J. ECON. 65 (1956).

justify intervention an incumbent's intellectual property and thereby inhibit innovation duel with fears that false negatives will allow incumbents to thwart new entry by competing entrant platform owners.[125] But user innovation provides a new concern over false negatives: the injury that unaddressed, but pernicious, restraints may do to a potentially large source of ongoing innovation. Unfortunately, we are simply not yet in a position empirically or theoretically to do this accounting. Thus it is hard based on error costs, monopoly costs and innovation costs to simply weigh up and endorse either intervention or non-intervention on monopolization grounds.[126] Nevertheless, the error-cost framework can continue to be of use. First, as we develop more understanding of the benefits of user innovation, error costs should continue to be a useful guide to policy making. Additionally, the error-cost framework is useful in considering other possible responses.

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[125] *E.g.,*, Carl Shapiro, *Exclusivity in Network Industries,* 7 GEO. MASON L. REV. 673, 674 (1999) (exclusionary strategies by a network-effect enhanced incumbent may "suppress the net and improved network by selectively signing exclusive agreements with customers who would otherwise be pioneers"); Philip Weiser, *The Relationship of Antitrust and Regulation in a Deregulatory Era*, 50 ANTITRUST BULL. 549, 551 (noting "argument that antitrust courts should forbear from intervening in monopolization cases in new economy industries more generally" "reflects three principal concerns: the Schumpeterian critique [that antitrust inhibits creative destruction], the risk of false positives versus false negatives; and the institutional advantages of regulatory agencies over antitrust courts")(2005); David McGowan, *Between Logic and Experience: Error Costs and* United States v. Microsoft Corp., 20 BERKELEY TECH. L. J. 1185, 1186-87 (2005) (observing that there are two schools of thought on error costs, one associated with Frank Easterbrook in which a kind of precautionary principle would stay antitrust's hand where courts were not sure that an error might not result, and another associated with Oliver Williamson in which error costs would internalized into the calculus along with the likelihood of anticompetitive harm to decide whether antitrust action was warranted).

[126] *Compare* MICHAEL A. CARRIER, INNOVATION FOR THE 21ST CENTURY 299 (Oxford Univ. Press 2009) (stating that "we do not know all the potential innovators or the optimal relationship between R&D and innovation," but endorsing antitrust approaches to promote dynamic efficiency") *with* Geoffrey A. Manne, *Assuming More Than We Know About Innovation Markets: A Review of Michael Carrier's Innovation in the 21st Century*, 61 ALA. L. REV. 553, 557 (2009) (asking, in the face of indeterminacy concerning innovation, "[w]hy are we intervening at all?" and "[w]hy are we not, at most, attempting to incorporate a more dynamic analysis into our traditional assessment of product market structure and behavior?").

b. Antitrust and Network Effects

The importance of network effects has been appreciated by economists for decades, although they are dealt with uneasily by antitrust law.[127] Despite this awkwardness, antitrust case law does help explain the potential consumer harms involved.

The Supreme Court first addressed issues critical to platform dominance over a decade ago in *Eastman Kodak Co.* v. *Image Technical Services*.[128] In that case, the Court considered the impact on consumers of information costs and lock-in.[129] Although the case itself did not involve a network industry or computer or Internet technology, the merits of the case forced the Court to examine issues relevant to these fields.

The *Kodak* case involved an antitrust claim against Eastman Kodak for changing its policies in supplying parts for expensive, high-capacity photocopiers.[130] In particular, in a departure from pre-existing policies, owners of such photocopiers – primarily businesses – were required to purchase repair and maintenance services only from Kodak in order to get access to replacement parts.[131] And Kodak was the only source of such

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[127] *E.g.*, Jeffrey Rohlfs, *A Theory of Interdependent Demand for a Communications Service*, 5 BELL J. ECON. 16 (1974); Joseph Farrell & Garth Saloner, *Standardization, Compatibility and Innovation*, 16 RAND J. OF ECON. 70 (1985) [hereinafter *Standardization*]; Joseph Farrell & Garth Saloner, *Installed Base and Compatibility: Innovation, Product Preannouncement, and Predation*, 76 AM. ECON. REV. 940 (1985) [hereinafter *Installed Base*]; Michael L. Katz & Carl Shapiro, *Network Externalities, Competition and Compatibility*, 75 AMER. ECON. REV. 424 [hereinafter *Externalities*]; Michael Katz & Carl Shapiro, *Systems Competition and Network Effects*, 8 J. ECON. PERSP. 93 (1994) [hereinafter *Competition*].

[128] 504 U.S. 451 (1992).

[129] *Id.* at 477.

[130] *Id.* at 456-58.

[131] *Id.* at 458.

parts.[132] Kodak argued in response to this claim that its "bundling" of parts and service could not actually harm consumers because the market for the photocopiers themselves was a competitive one.[133] Kodak contended that, as a result, it could not raise the price of aftermarket parts and service by bundling them without facing a corresponding penalty in the "primary" market for photocopiers.[134]

The Court rejected the proposition that Kodak's argument was strong enough to avoid a trial on the merits, citing information and switching costs.[135] The Court recognized that real-world consumers, whether businesses or others, do not possess the perfect information that classical economics predicts.[136] Their failure to be informed does not show a lazy irrationality. On the contrary, the Court observed that information is costly, and that it might be difficult for consumers to get the kind of information they would need to make the kind of rational decision that Kodak claimed.[137] Furthermore, even if some consumers *could* inform themselves and accurately predict Kodak's conduct, that would not prevent Kodak from selectively exploiting that segment of consumers who could not cost-effectively get that information.[138]

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[132] *Id.*

[133] *Id.* at 465.

[134] *Id.* at 466.

[135] *Id.* at 473-76.

[136] *Id.*

[137] *Id.*

[138] *Id.*

Additionally, the Court focused on the lock-in that characterizes network industries.[139] While Kodak photocopiers were not a communications device or computer software, they did represent a substantial investment that effectively "locked in" consumers to the Kodak network of parts and services.[140] Because aftermarket consumers were effectively "trapped" behind a proprietary Kodak wall, the Court observed that Kodak's argument that consumers could penalize it in the primary market was limited to *new* customers only.[141] Existing customers would be stuck with the harmful effects of Kodak's bundling.[142]

The Court's analysis in Kodak provides a doctrinal hook to doubt claims that post-adoption changes to Internet platforms merely represent the natural evolution of a product or service, as opposed to opportunistic exploitation relevant to competition law. In particular, Kodak's discussion of information costs is quite relevant to arguments that consumers contract into such exploitation by agreeing at the time of adoption to revisable terms of service with the Internet platform provider. Platforms that create bargains with consumers that they later revise to the platform's benefit may simply be exploiting information costs to effectively impose contractual terms that consumers rationally will not fully inform themselves about. This is not the same thing as being wilfully lazy; in fact it simply a form of rational consumer behaviour. Indeed, where the platform provider's post-adoption changes are unforeseeable – or worse yet, opportunistically

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[139] *Id.* at 476-77.

[140] *Id.*

[141] *Id.*

[142] *Id.*

hidden – consumers will not be able to protect themselves. And as *Kodak* suggests, the fact that some sophisticated consumers may understand the bargain does not prevent the exploitation of others.

Additionally, where the impact of adoption plus one-sided post-adoption changes is to take advantage of information costs to lock in large numbers of consumers to a proprietary standard, the logic of Kodak is also very important. To the extent that groups of consumers become "invested" in a proprietary standard, they may lose their future ability to check exploitive practices by exiting from the standard.[143] If large enough numbers of consumers wind up in a captive proprietary network, there may be industry-wide inefficiencies. The cost of leaving the network due to lock-in might trap consumers on an inefficient path.

This concern provided the subtext for much of the D.C. Circuit court's opinion in *United States* v. *Microsoft Corp.*[144] In that highly-publicized case, the Microsoft Corporation faced the claim (among others) that, to maintain the dominant position of its Windows operating system franchise, it had improperly bundled-in the web browser Internet Explorer.[145]

In its defense, Microsoft raised the economic concept of serial monopoly.[146] In particular, Microsoft tried to argue that the nature of operating systems was such that the

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[143]Indeed, the European Union has voiced such concerns with respect to Apple's iTunes music sales platform and its related FairPlay digital rights management (DRM) technology. *EU's Consumer Chief Takes Aim at Apple over iTunes*, REUTERS, Mar. 12, 2007, *available at* http://www.reuters.com/article/idUSL1114922320070312.

[144] 253 F.3d 34 (D.C. Cir. 2001) (en banc).

[145] *Id.* at 45.

[146] *Id.* at 49-50.

industry faced a series of competitions "for the field" of operating systems, rather than "in the field" of operating systems.[147] According to this argument, users and producers of software were both better off if there were a single standard universal operating system.[148] Thus, there was an economic value to having consumers tied to a single network.

The D.C. Circuit rejected this argument for a couple of reasons. First, the Court noted that innovation is both helped and hurt by a "serial monopoly."[149] As Microsoft contended, competitors face strong incentives to innovate in order to leapfrog each other and capture the "next" monopoly in the series.[150] But, the Court pointed out, economists had observed strong negative effects on ongoing innovation within the scope of the current monopoly.[151] The net effect of this situation was unclear.[152]

Additionally, the Court pointed to the facts of the case itself. The substance of the monopolization – or "monopoly maintenance" – claim was that Microsoft had bundled in Internet Explorer in order to *foreclose* the competition for the next monopoly in a series.[153] Thus, the possibility of serial monopolies was no longer exogenous to the

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[147] *Id.*

[148] *Id.*

[149] *Id.*

[150] *Id.*

[151] *Id.*

[152] *Id.*

[153] *Id.* at 64-65.

overall market structure; in fact, one market participant, Microsoft, could change the rules of the serial monopoly game while it was still in play.[154]

The logic of the D.C. Circuit in *Microsoft* has serious implications for platform dominance as well. To the extent that an Internet platform is subject to ongoing "upgrades," the platform operator may actually be able to delay or even prevent "competition for the field." To the degree that substantial consumer lock-in exists, the result may be an entrenched dominant platform. That is, the contest to be the next dominant platform may not occur if the incumbent can effectively control the market's evolution with post-adoption alterations.

Despite these doctrinal hooks on which a theory of platform dominance could hang, potential obstacles remain in the path of any monopolization theory that would impose affirmative duties on the monopolist. The U.S. Supreme Court in *Verizon* v. *Trinko*[155] made it very hard for a plaintiff to use monopolization law to punish a defendant who unilaterally refuses to deal with a rival.[156] And the Court's recent decision in *Pacific Bell Telephone Co.* v. *Linkline Communications Inc.* reinforces this point.[157]

While these decisions involving attempts to gain access to telecommunications networks stand on their own facts, they have particular relevance to Internet platforms,

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[154] *Id.* at 66-67.

[155] 540 U.S. 398 (2004).

[156] *See id.* at 408-411 (refusing to recognize insufficient assistance in the provision of service to rivals as an antitrust claim).

[157] 129 S. Ct. 1109, 1119 (2009) (quoting *id.* and holding no antitrust duty exists to deal with rivals at wholesale).

which tend to be characterized by strong network effects among users. In particular, the decisions in *Trinko* and *Linkline* make it unlikely that private plaintiffs at least will be able to use Section 2 to "open up" a network. Accordingly, this makes locked-in users more vulnerable to exploitation through after-the-fact changes to the platform, whether contractual or technological.

Additionally, *Trinko* is particularly important in its reconception of the relationship between monopolization and innovation. In the past, impeding innovation has been seen as a cardinal harm of monopolization.[158] But in *Trinko,* Justice Antonin Scalia recast the relationship between monopolization and innovation from antagonistic to cozy, writing that

> [t]he mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system. The opportunity to charge monopoly prices–at least for a short period–is what attracts "business acumen" in the first place; it induces risk taking that produces innovation and economic growth. To safeguard the incentive to innovate, the possession of monopoly power will not be found unlawful unless it is accompanied by an element of anticompetitive *conduct*.[159]

Thus, Scalia casts monopoly as an incentive that drives entrepreneurs to innovate in the first place – in his view, a reward for the bright, hard-working and creative.

Despite adopting a distinctly Schumpeter-colored worldview where firms compete *for* the market, not merely *within* it, *Trinko* does not go so far as to declare antitrust law unnecessary and unproductive.[160] However, it does draw a limit around the

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[158]*See United States* v. *Alcoa*, 148 F.2d 416, 428-29 (2d Cir. 1945) (discussing reasons to forbid monopoly).

[159] *Trinko*, 540 U.S. at 407.

[160]*See also* Weiser, *supra* note 125, at 3.

potential extent of the essential facilities doctrine.[161] A prominent lower court formulation of the doctrine required control of an essential facility by a monopolist, who then denied access to it to a competitor unable to duplicate the essential facility, despite the feasibility of providing access.[162] But the *Trinko* court emphasized an additional element in *Aspen Skiing* v. *Aspen Highlands*: the unwillingness of a competitor to sell a good or service to a competitor it had previously dealt with that it was already offering at a retail price.[163] By emphasizing a backwards look at a prior course of conduct, *Trinko* dealt a serious blow to the application of the essential facilities doctrine to technologically developing markets.

The interplay of *Aspen*, *Trinko*, and related cases[164] suggests the limits of antitrust under Section 2 concerning dominant platforms. In particular, Justice Scalia's embrace of a Schumptererian model of monopoly and innovation, together with drawing a line in the sand between using Section 2 to redress anticompetitive acts versus using it to engender competition, makes monopolization law a difficult tool to use for platform dominance. Nonetheless, the error-cost framework, the consumer welfare implications and the focus on monopoly and innovation all provide useful heuristics for thinking about policymaking for platforms characterized by user dynamism.

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[161]The *Trinko* case describes the "essential facilities" doctrine as "crafted by some lower courts," and limits its impact assuming *arguendo* the same doctrine were to be adopted by the U.S. Supreme Court. *Trinko,* 540 U.S. at 410-11.

[162]*See MCI Comms. Corp.* v. *AT&T Co.,* 708 F.2d 1081, 1102 (7th Cir. 1982).

[163]*Trinko,* 540 U.S. at 408 (citing *Aspen Skiing Co.* v. *Aspen Highlands Skiing Corp.,* 472 U. S. 585 (1985), and describing it as the "leading case for § 2 liability based on refusal to cooperate with a rival").

[164]*E.g.*, *Linkline*, 129 S. Ct. at 1109.

2. Regulation: Net Neutrality and Other Policies

a. Wu and Network Neutrality Theories

The past decade has also seen impassioned arguments for the imposition of "net neutrality" rules that would seek to bar, in particular, broadband Internet access providers from discriminating against unaffiliated providers of Internet content and applications.[165] Proponents of these rules argue that they are necessary to prevent a fragmentation of the Internet that would tend to harm users.[166] Indeed, such balkanization might also harm providers themselves, who might collectively benefit from interconnection but might face powerful individual incentives to go their own way, undermining their own well-being in the process.[167]

While the goal of network neutrality rules is to keep barriers to new entrants low and approximate a competitive market, net neutrality proposals may not address all problems with platform dominance. First, the proposals usually hinge on intervention by

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[165]*See* Timothy Wu, *Network Neutrality, Broadband Discrimination*, 2 J. TELECOMM. & HIGH TECH. L. 141 (2003) (comparing different approaches to the regulation of broadband providers and arguing for policies that preserve "neutral" network design, defined as the situations in which "useful public information network[s] aspires[]to treat all content, sites, and platforms equally"); *Letter from Timothy Wu, Assoc. Prof., Univ. of Va. L. Sch. & Lawrence Lessig, Prof. of L., Stanford L. Sch., to Marlene H. Dortch, Sec'y, Fed. Commc'ns Comm'n* 12-15 (Aug. 22, 2003), *available at* http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6514 683884 (proposing a sample network neutrality regime in the broadband application context). *But see* Christopher S. Yoo, *Network Neutrality and the Economics of Congestion*, 94 GEO. L.J. 1847, 1898 (2006) (pointing out that "[j]ust because a market-based outcome is suboptimal does not mean that a government-imposed outcome will necessarily fare any better").

[166]*See* Wu, *supra* note 165, at 151 (using banning of chat programs by broadband operators as an example of possible "last mile" discrimination); Letter from Timothy Wu & Lawrence Lessig to Marlene Dortch, *supra* note 165, at 15 (using traffic-blocking of online gaming applications by broadband carriers as an example of possible discrimination).

[167]*See* Kevin Werbach, *Only Connect*, 22 BERKELEY TECH. L.J. 1233, 1246-47 (2008) (doubting "hyperbolic claims" of both sides of net neutrality debate and pointing out with examples that attempts by network providers to cut off content, or content providers to do exclusive licenses with certain network providers, might lead to unintended results that make both worse off).

the Federal Communication Commission (FCC), and so face the common objections to regulation that seeks to alter market structure.[168] Imposition of network neutrality on existing networks may result in de facto appropriation of gains that motivated the platform host's investment in the creation of the network. Additionally, Christopher Yoo has argued that network neutrality could tend to ossify existing networks and chill the emergence of valuable network diversity.[169] Second, net neutrality primarily focuses on non-discrimination with respect to different network traffic, and so does not extend to other issues involving changes in pricing schedules or alterations in services, so long as they are not non-discriminatory or so long as they occur off the network or just beyond its end.[170] Finally, platforms that do not fall under the regulatory ambit of the FCC would potentially escape such regulation and provide an opportunity for arbitrage – although this concern could be alleviated by broadening the regulatory reach.[171]

Despite these concerns, advocates of network neutrality have highlighted a primary concern about the network environment. The network operator may face a powerful incentive to favor some traffic over others – especially traffic that generates it additional reward versus traffic that might tend to compete with it.[172] Where network

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[168] *Id. See also* Weiser, *supra* note 125 at

[169] Yoo, *supra* note 165, at 1889.

[170] *E.g.,* Zittrain, *supra* note 3, at 182-83 (pointing out the inability of network neutrality alone to address this possibility, particularly with proprietary devices at the end of a network and for what he terms "appliancized systems" of information).

[171] *Id.* (describing how some formulations of net neutrality rule can be end-run).

[172] Brett M. Frischmann & Barbara van Schewick, *Network Neutrality and the Economics of an Information Superhighway: A Reply to Professor Yoo*, 47 JURIMETRICS J. 383, 387-90 (2007) (stating that net neutrality advocates argue that fear of network operators' price and access discrimination will reduce unaffiliated application and content developers' incentives to innovate,

users have become locked-in or where the network is a durable monopoly, the welfare gains to the network provider may outweigh the losses to the network user, allowing such discrimination to persist. This concern anticipates the potential harm that the owner of a dominant platform may impose opportunistic controls that increase its welfare but diminish the welfare of users, potentially with large but difficult to quantify costs to user dynamism.

b. Frischmann, Weiser, Werbach and Infrastructure Theories

A number of prominent theorists have called for regulatory intervention on a slightly different basis than the net neutrality advocates. These calls for action do not necessarily differ based on their goals, but rather on the characteristics of platforms that they highlight, and the decision rules that they advocate.

Perhaps the most useful theory for understanding how antitrust can play a role in the online environment has been the infrastructure theory set forth by Brett Frischmann, alone and together with coauthors including Michael Madison, Katherine Strandburg and Spencer Waller.[173] The theory identifies a class of goods and services that is often nonrivalrous, whose "social demand" is "driven primarily by downstream productive activity," and which serves as an "input into a wide range" of uses, "including private goods, public goods and nonmarket goods."[174] Fundamentally, the theory provides an

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and that resulting reduction in innovation will reduce social welfare).

[173] Frischmann, *supra* note 3; Frischmann & Waller, *supra* note 13; Michael J. Madison et al., *Constructing Commons in the Cultural Environment*, 95 CORNELL L. REV. 657 (2010).

[174] Frischmann, *supra* note 3, at 956.

economic rationale for managing infrastructure resources to provide open access.[175] In so doing, infrastructure theory has been deployed in arguments for reviving essential facilities in antitrust[176] and for reevaluating intellectual property doctrine.[177]

Infrastructure so defined overlaps with the networks that are the focus of sharing and net neutrality theories, and also with concerns about platform dominance described herein. However, there are important differences that make infrastructure a weaker fit for platform dominance. In particular, infrastructure theory emphasizes the variance in uses, especially involving public goods and nonmarket goods, due to the difficulty in measuring social value in such cases.[178] The measurement difficulty creates the possibility of inefficiency through an underproduction of these downstream public and nonmarket goods. Where differential value is more easily measured, price discrimination may well provide a more efficient result.[179]

However, dominant platforms may create harms that infrastructure theory is not designed to address. Dominant platforms may be used as inputs by user-creators and user-innovators without actually yielding a wide variance in the downstream products that makes value unmeasurable. First, they may yield widely varying products whose value can adequately be handled by market forces. Consider, for example, a platform

[175]*Id.* at 959.

[176]Frischmann & Waller, *supra* note 13 (arguing, pre-*Linkline*, for the resurrection of the essentially facilities despite *Trinko*).

[177]*See* Madison et al., *supra* note 173, at 708 (equating resource-pooling arrangements for information- and knowledge-based works to common-pool resources in the natural environment and calling for alternatives to a pure exclusionary right regime or government intervention).

[178]*Id.* at 671-74 (describing difficulties with functional approach to valuation).

[179]Frischmann points to this consideration as crucial to the decision to favor infrastructure theory-based regulation over price discrimination. Frischmann, *supra* note 3, at 978-79.

like the iTunes App Store. While the Apps produced and distributed through the platform may vary on several dimensions and may include both private, public and nonmarket goods, they can also be readily priced and valued. Sellers possess the ability to set and alter prices in response to sales signals. Moreover, some platforms may allow user-creators to produce products that do not vary greatly in the way infrastructure theory describes – consider Twitter, which only transforms private information, such as an individual's private perceptions or activities, into the public good of information. Such information can be quite valuable and difficult to replicate, such as first hand accounts of antigovernment protests in a society without a free press.[180] But as designed, it pretty much only produces the public good of information.[181]

Besides the infrastructure theory, Kevin Werbach has proposed regulatory intervention based on an interconnection principle.[182] Drawing on the history of the telephone network and its regulation, Werbach points out the differences between regulatory policies based on non-discrimination, like net neutrality, and interconnection; most relevantly, he argues that the Internet at heart "is interconnection," and so a

[180]*See* Lev Grossman, *Iran Protests: Twitter, the Medium of the Movement*, TIME, Jun. 17, 2009, *available at* http://www.time.com/time/world/article/0,8599,1905125,00.html.

[181]At a second order downstream, one could argue that that public good of information can be transformed into variable outputs, including private, public and nonmarket goods. However, adopting such a loose connection between inputs and outputs could transform a vast percentage of inputs into infrastructure. Frischmann, *supra* note 3, at 978-79.

[182]*See* Kevin Werbach, *Only Connect*, 22 BERKELEY TECH. L. J. 1233, 1239-41 (2007) (arguing that nondiscrimination principles such as that of net neutrality do not sufficiently address the challenges to consumer welfare that some network operators' practices may pose). *See also* Kevin Werbach, *The Network Utility,* __ DUKE L. J. __, p.52 (of draft) (forthcoming 2011) (asserting that "connectivity issues go beyond nondiscrimination"), *available at* http://papers.ssrn.com/sol3//images/ssrntiny_over.gif (last visited Feb. 15, 2011).

regulatory policy based on interconnection flows logically as a result.[183] This type of regulation is reasonable on its own terms, and would have positive effects on user dynamism, but would not necessarily prevent appropriation or other forms of *ex post* policy change that undercuts user investment.

Similarly, drawing on the history of telecommunications regulation, Philip Weiser has pointed out the need for antitrust to supplement regulation when the regulator's role is "insufficient to displace antitrust oversight."[184] In particular, he argues that incumbent network hosts may find profitable it to stall technological innovation by walling off their consumers from new entrants and innovations.[185] As a result, he has called both for what he sees as practicably enforceable regulatory rules such as requiring "best efforts" service for broadband traffic,[186] as well as the application of Section 2 monopolization theories as a backstop to regulation.[187] Scott Hemphill has similarly argued for the importance of such best efforts rules and nonexclusion rules for peer production on the grounds that such phenomena may be particularly vulnerable to exclusion by network hosts.[188] Like interconnection requirements, such rules may be necessary in the telecommunications context, but may not be sufficient for the platforms where the value added lies more

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[183]*Id.* at 1250.

[184]Philip Weiser, *The Relationship of Antitrust and Regulation in a Deregulatory Era,* 50 Antitrust Bull. 1, 13 (2005) [hereinafter Weiser, *Relationship*].

[185]*Id.* at 6-7. *See also* Einer Elhauge, *Defining Better Monopolization Standards,* 56 STAN. L. REV. 253, 283 (2003) (observing that buyers might individually agree with a unitary monopolist to restrictions that harm buyers collectively and that may have pernicious effects on innovation).

[186]*See* Weiser, *The Next Frontier for Network Neutrality,* 69 ADMIN. L. REV. 273, 320-21 (2008) (advocating practically enforceable rules such as "best efforts" standards).

[187]*See* Weiser, *Relationship,* at 13.

[188]*See* Scott Hemphill, *Network Neutrality and the False Promise of Zero-Price Regulation*, 25 YALE J. REG. 135, 161 (observing that "a social producer is less able to pay an access fee")

heavily in user dynamism. The latter context may require more variation in the range of commitments that need to be enforced, that is, enforcing commitments each platform host makes as opposed to a one-size fits all rule may well be the superior choice.

These theories of regulation draw on the interplay between regulation and antitrust, and on the downstream effects of network industries. However, platform dominance concerns what contract law might call the "hold-up problem" – only writ large-scale between the dominant platform and a potentially huge mass of user-creators and user-innovators. The problem is not that pulling the rug out from under such user-creators and user-innovators is unfair or immoral,[189] rather, the concern is that such opportunistic exploitation could be fundamentally destructive of user-innovation and user-creation, and given the yet-unknown value of these dynamic effects, enforcing the commitments of platforms to their users may be both fair *and* efficient.

B. Do Nothing? Reasons Not to Pursue Antitrust or Net Neutrality-Based Solutions

That networks, platforms and the like require state-compelled openness is not an unquestioned consensus, however.[190] Opponents of intervention claim that access or other mandates impose costs on network hosts with uncertain benefits. These *laissez-faire* commentators argue that intervention to foster net neutrality-like openness thus may

[189]These ethical concerns, while relevant to statutory language that could apply to these cases, *see infra* Section V and VI (discussing FTC Act Section 5's bar on "unfair or deceptive" acts), are separate from the central argument in this Article, which is based on instrumental efficiency-related concerns.

[190]*E.g.,*, Daniel F. Spulber & Christopher S. Yoo, *The Hidden Side of* Trinko, 107 COLUM. L. REV. 1822, 1843-48 (2006) (describing the essential facilities doctrine's potential negatives when applied to telecommunications and Internet contexts) [hereinafter, Spulber and Yoo, Trinko].

be flawed as a matter of economic theory,[191] may not matter to consumer welfare,[192] and may in practice be difficult to apply without causing unforeseen harm to innovation.[193]

In several articles, separately and together, Christopher Yoo and Daniel Spulber have questioned the wisdom of mandated access to networks and intellectual property. They are particularly concerned that access mandates' erosion of the owner's property rights and the inhibiting effect that they believe such policies are likely to have on innovation.[194] Additionally, Yoo has separately advocated *ex post* regulation of network providers that would allow such providers to experiment with different policies "until such time as those practices can be shown to harm competition."[195] Like Yoo's proposal, the proposal in this Article also seeks to foster diversity among platforms; unlike Yoo's, instead of sacrificing user dynamism by waiting until the passage of time makes user

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[191]*See id.* at 1845 ("Compelled access also dampens the incentives of the essential facilities defendant to invest in improvements in its facilities, since price regulation will limit the returns it can earn on such investments and force it to share successful investments with its competitors.").

[192]Barnett, *supra* note 12, at 6 (of draft) (arguing that "[a]ccess policies, as implemented through some mix of closed and open organizational components, are simply part of the consumption bundle" and "there is no assurance that open structures even promote consumer welfare").

[193]Manne and Wright, *supra* note 11, at 17 (of draft) (arguing that "anti-market bias in favor of monopoly explanations for innovative conduct" plus "increased stakes" of "intervention against innovative business practices" makes essential facilities-related intervention "problematic from a consumer welfare perspective").

[194]*E.g.,,* Spulber and Yoo, *Trinko*, *supra* note 9; Daniel Spulber, *Competition Policy and the Incentive to Innovate: The Dynamic Effects of Microsoft* v. *Commission,* 25 YALE J. ON REG. 247, 26-69 (2008) (arguing that "mandated access," including "platform access," "unbundled access" and "interconnection access" for intellectual property and information products reduces innovation by both the owner, who faces reduced incentive to innovate, and by the competitor, who can allegedly use regulators to get access and "free ride" off of the innovation of the owner); Daniel Spulber and Christopher Yoo, *Rethinking Broadband Internet Access,* 22 HARVARD J. L. & TECH. 1, 64-66 (2008) (arguing that mandatory access to broadband networks will increase demand for such services while imposing costs on hosts, thereby reducing incentive to invest in providing and improving such networks).

[195]*See* Christopher Yoo, *Network Neutrality, Consumers and Innovation,* 2008 U. CHI L. F. 179, 261 (2008) (calling this approach "network diversity").

harms clear, the proposal here would apply where the host reneges on a commitment to users. That wait-and-see approach may have unknowable costs, while allowing platform hosts to withdraw their *ex ante* commitments does not have obvious social benefits.

Recently, in an article forthcoming in the Harvard Law Review, Jonathan Barnett has argued that there is no real difference between an open platform and a proprietary one. According to Barnett, each category is subject to the same needs to attract users and the same insolvency constraints. Therefore, he argues, open networks must find a way to control and monetize at least part of their scope, while proprietary networks can commit to users by "forfeiting" valuable properties and thereby opening up part of their closed networks. As a result, he claims, there is little rationale for state intervention.

Barnett's argument captures an important role that partial opening or partial closing of a platform can play. However, as discussed in Section II, key examples he points to do not necessarily support the idea that forfeiting valuable properties can generate the same user investments that enforcing platform hosts' commitments to users can. In particular, the Wikipedia/Wikia example may suggest that the kinds of forfeitures Barnett relies on are perhaps necessary but not sufficient to foster user dynamism. To the extent that users participate on both the supply and demand sides and value the fruits of that participation as quality-sensitive members of a community, such commitments may take on increased importance, since they do not merely lower cost in the way that "free" access does, but they also maintain or promote improved quality.[196]

Another argument for inaction is the concern that judges and regulators are not well-placed to deal with quickly changing platforms on the merits. The evidence from

[196] *See supra* Section III.

abroad is mixed at best. The European Commission has struggled for a decade to implement its interoperability dictates on Microsoft,[197] and after five years, France's attempts to impose interoperability on Apple's FairPlay have murkily morphed into an agency that imposes three-strikes-and-you're out rules on users who infringe copyrights online.[198] Domestically, the picture is also somewhat cloudy. The Supreme Court justice with the deepest experience with antitrust and intellectual property law is on record as stating that he does not understand even the Hollywood version of Facebook[199]; the Court's current longest-serving justice described himself as "Mr. Clueless" when asked

[197] *E.g.*, Memorandum from the European Comm'n, *Antitrust: Commission Takes Note of Microsoft's Announcement on Interoperability Principles* (Feb. 21, 2008), *available at* http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/106 (mentioning past failed attempts to create compliance).

[198] Jane K. Winn & Nicolas Jondet, *A New Deal for End Uesrs? Lessons from a French Innovation in the Regulation of Interoperability,* 51 WM. & MARY L. REV. 547, 560 (2009) (describing how France created an interoperability agency in 2006, but as of 2009, no one had yet challenged any DRM before the agency, which underwent a name change and revamping to become "the cornerstone of the so-called graduated response policy" of "three strikes and you're out").

[199] *See* Erik Schelzig, *Breyer Says Justices Must Adapt to Facebook World*, ASSOCIATED PRESS, Nov. 16, 2010 (quoting Justice Breyer, "If I'm applying the First Amendment, I have to apply it to a world where there's an Internet, and there's Facebook, and there are movies like ... 'The Social Network,' which I couldn't even understand.").

about Twitter.[200] These anecdotes are amusing until one considers the economic[201] and social impact[202] of these technologies.

These practical concerns may be of more relevance to an antitrust essential facilities doctrine than to enforcing platform host commitments to users. Antitrust courts may feel justifiable hesitance to intervene in nascent markets on essential facilities grounds, because of the possibility of unintended consequences.[203] Even where the access in question is a traditional example of nondiscrimination or interconnection,[204] forced access will be susceptible to interpretation as forced participation in a new product or market. For example, would a post-*Trinko* Court view *Aspen Skiing*'s compelled participation in an all-mountain *snowboarder* pass as simply providing lift tickets, as it

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[200]*Hearing Before the Subcommittee on Commercial and Administrative Law of the House Comm. on the Judiciary*, 111th Cong. No. 111-127, p.39 (May 20, 2010) (statement of Justice Scalia) (stating in response to a question of whether he has considered using Twitter "I don't even know what it is, Mr. Chairman, to tell you the truth" and "I have heard it talked about, but, you know, my wife calls me Mr. Clueless. I don't know what you—with tweeting") [hereinafter *Hearing*].

[201]*See* Susanne Craig and Andrew Ross Sorkin, *Goldman Invests in Facebook at $50 Billion Valuation,* THE NEW YORK TIMES, Jan. 2, 2011, *available at* http://dealbook.nytimes.com/2011/01/02/goldman-invests-in-facebook-at-50-billion-valuation/ (last visited Feb. 1, 2011).

[202]*E.g.,,* Micah Sifry, *Did Facebook Bring Down Mubarak?* Feb. 11, 2011, *available at* http://articles.cnn.com/2011-02-11/opinion/sifry.egypt.technology_1_egypt-internet-access-revolution/2?_s=PM:OPINION (last visited Feb. 17, 2011). *See also* Hearing, *supra* note 175, at 39 (statement of Justice Breyer) (stating with respect to Twitter's role in demonstrations against the government of Iran "I thought 'My goodness, this is now for better or for worse.' I think maybe in many respects for better—in that instance, certainly").

[203]*Compare Rambus* (D.C. Cir. 2008) (refusing to find liability where FTC concluded that defendant's conduct made its technology "more likely" to be chosen to be incorporated into a standard for nascent technology, but did not prove that "but for" defendant's conduct, an alternative standard would have been chosen) *with Microsoft* (D.C. Cir. 2001) (concluding that despite uncertainty about the results of defendant's exclusionary conduct, court would infer harm).

[204]*See* Werbach, *supra* note 167, at 1246-47 (2007) (describing the history and characteristics of nondiscrimination and interconnection as approaches to traditional telecommunications network regulation).

always had done in cooperation with Aspen Highlands for *skiers*, or, something new? And should it grow in popularity, what about compelled participation in an all-mountain *downhill biker*[205] pass? Both examples involve sale of the same lift tickets, though arguably "new" sets of customers and therefore new markets.[206] A *Dupont (Cellophane)*-based analysis would support prioritizing consumer response (cross-price elasticity of demand) over function (what is the product).[207] While consumer response data might eventually show that these are new products, such data would be hard to come by at a nascent stage.

However, enforcing a platform host's *ex ante* commitments should not involve similar difficult distinctions for courts. Instead, interpreting statements and commitments and their effects on their recipient is a quintessential judicial role. Furthermore, the argument that courts' fundamental role in contract actions is to prevent opportunism is commonplace, even of those commentators not ordinarily disposed to government regulation.[208] And as this Article discusses in the following section, consumer protection

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[205]The downhill ski venue for the 2010 Winter Olympics operates some of its trails as a downhill mountain biking park in the summer. *See Whistler Mountain Bike Park – Whistler, BC* (website advertising downhill mountain biking trails at former Olympic skiing venue), *available at* http://www.whistlerbike.com/index.htm (last visited Feb. 11, 2011). However, winter downhill biking also exists. *E.g.,, Camden Snow Bowl Downhill Bike Race* (website advertising February downhill bike race at Camden, Maine ski resort), *available at* http://winter.camdensnowbowl.com/event/downhill-bike-race (last visited Feb. 10, 2011).

[206]*Id.*

[207]*United States* v. *E.I. DuPont de Nemours & Co.,* 351 U.S. 377, 400 (1956) (defining market for cellophane with inquiry into possible substitutes as defined by consumer behavior).

[208]*E.g.,, Jordan* v. *Duff and Phelps*, 815 F.2d 429, 438 (1987) (Easterbrook, J.) (stating that "One term implied in every written contract and therefore, we suppose, every unwritten one, is that neither party will try to take opportunistic advantage of the other"); Richard A. Posner, ECONOMIC ANALYSIS OF LAW 81 (3d ed. 1986) (stating that "the fundamental function of contract law (and recognized as such at least since Hobbes's day) is to deter people from behaving opportunistically toward their contracting parties, in order to encourage the optimal timing of economic activity and to make costly self-protective measures unnecessary)."

law already addresses this problem in other contexts where direct contractual enforcement is an inferior response.

V. Lessons from the FTC's Standard Setting Cases

A. The Lessons

The relevance of antitrust's essential facilities doctrine and the post-AT&T breakup regulatory regime to arguments for net neutrality and similar interventions is well-known. However, the FTC's standard setting cases are comparatively undiscussed. These cases provide an analytical framework that highlights considerations of timing, deception and opportunism that should be central to protecting dynamic users' trust in the platforms they use. These cases are particularly relevant to user dynamism for two important reasons. First, as with user dynamism, the parties' actions and the cases themselves operate in an environment characterized by multilateral innovation, as opposed to static consumers as "innovation takers" in the market. Second, the parties in these cases, and the FTC itself, act against a background of uncertainty about what they do not and cannot yet know about how these markets may develop.[209] But as in such

[209]The problem of making decisions under uncertainly, including uncertainty about what is in fact uncertain, has analogues in other areas. *See e.g.*, Nicholas Nassim Taleb, *The Black Swan: The Impact of the Highly Improbable* (Penguin: 2007) (discussing the impact of very unexpected events on markets and societies); Donald H. Rumsfeld, Sec'y of Def., Dep't of Def. News Briefing (Feb. 12, 2002), *available at* http://www.defense.gov/transcripts/transcript.aspx?transcriptid=2636 ("[A]s we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns -- the ones we don't know we don't know.") [hereinafter Briefing].

disparate fields as investing[210] and war,[211] uncertainty cannot automatically compel inaction.

In the FTC standard-setting cases, a common pattern emerges: private parties make arrangements to manage these unknowns, and the FTC tries to enforce these understandings in the face of post hoc opportunism. For reasons that are even more compelling for cases involving user dynamism, party self-protection through contract law is potentially a weaker response, not least because of the pattern of concentrated interests facing off against unconcentrated counterparts. As a result, the parties' standard-setting activities, similar to network adoption by dynamic users, represents an attempt at managing uncertainty; the FTC cases aim at protecting the participants' expectations in that process.

B. From Patent Ambush to User Dynamism

In a string of recent cases, the FTC has focused on the problem of deception in the context of standard setting.[212] These cases have varied on several dimensions. Some involved deception in addition to holdup. Some cases involved breaches of clear commitments to contribute proprietary standard to the technology, while in other cases, the commitments were vaguer.[213] Some were monopolization cases under Section 2 of

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[210]Taleb, *supra* note 209.

[211]Rumsfeld, Briefing, *supra* note 209.

[212]*See In re Dell Computer Corp.*, No. 3658, 121 F.T.C. 616 (1996); *In re Rambus Inc.*, No. 9302 (F.T.C. Feb. 2, 2007), *available at* http://www.ftc.gov/os/adjpro/d9302/index.shtm, *rev'd in part*, 522 F.3d 456 (D.C. Cir. 2008); *In re Negotiated Data Solutions LLC*, No. 051-0094 (F.T.C. Jan. 22, 2008), *available at* http://www.ftc.gov/os/caselist/0510094 [hereinafter N-Data]; *In re Intel Corp.*, No. 9341 (Nov. 2, 2010), *available at* http://www.ftc.gov/os/adjpro/d9341/index.shtm. *See also Broadcom Corp.* v. *Qualcomm Inc.,* 501 F.3d 297 (3d Cir. 2007) (private standard setting antitrust case under Section 2).

the Sherman Act,[214] others were brought solely under Section 5 of the FTC Act, which empowers the FTC alone to order private parties to "cease and desist" from "unfair or deceptive acts or practices."[215] But all involved post-hoc attempts to profit from users who had adopted a standard and were committed to its use.

Standard setting implicates network effects in a manner similar to platforms. Indeed, in the era before the Internet was a household word, the early economic analysis of network effects focused significantly on standard setting and systems that required compatibility.[216] The reasons are fairly straightforward. Adopting a standard can foster direct network effects, that is, an immediate benefit from others' use of the standardized product. For example, adoption of Morse Code as a communication standard helped make telegraphic communication much more useful.[217] Indirect network effects, including the development of complementary products based on the standard, can also

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[213]*Compare N-Data*, No. 051-0094 *with Rambus*, No. 9302. In *Rambus* and related private cases, the ambiguity in the standard setting organization's policies on the ex ante disclosure of patent interests by participants in standard setting was criticized by two district courts, two appellate panels, plus the FTC and an ALJ. *See Hynix Semiconductor Inc.* v. *Rambus Inc.,* 441 F. Supp. 2d. 1066, 1074 (N.D. Cal. 2006); *Micron Tech. Inc.* v. *Rambus Inc*., No. 00-792, 255 F.R.D. 135 (D. Del. Jun. 15, 2006); *Rambus Inc*. v. *Infineon Techs*., 318 F.3d 1081, 1098 (Fed. Cir. 2003); *Rambus*, 522 F. 3d at 467-68; *Rambus,* FTC Docket No. 9302, 2004 FTC LEXIS 17, at *582 (Feb. 23, 2004).

[214] *Dell*, 121 F.T.C. at 616; *Rambus*, No. 9302. *See also Broadcom*, 501 F.3d at 297 (non-FTC private case).

[215]15 U.S.C. § 45(a) (2006).

[216]*E.g.,*, Farrell & Saloner, *Standardization*, *supra* note 127; Farrell & Saloner, *Installed Base*, *supra* note 179; Katz & Shapiro, *Externalities*, *supra* note 127; Katz & Shapiro, *Competition*, *supra* note 127.

[217]Prior to Morse Code, different standards had existed that failed to catch on, including an English telegraphic system involving an arrow on the machine that would rotate to point to different letters, and Morse's first system, which used a code to indicate numbers, which could then be translated into words using a chart. These varying systems apparently did not catch on as well as Morse Code did once it was invented. RUSSELL W. BURNS, COMMUNICATIONS: AN INTERNATIONAL HISTORY OF THE FORMATIVE YEARS, 84 (Inst. of Elec. Eng'rs 2004).

follow, such as the development of Western Union's telegraph-based money transfer systems. Similar analogous effects are by now familiar to Internet businesspeople, scholars and users.

As a result, market competition between standards or between networks, as opposed to competition between other products, particularly emphasizes expectations, coordination, and compatibility.[218] Because a user's value depends on the concurrent decisions of others, consumer welfare cannot be maximized purely by competition combined with consumers' option to exit, as is characteristic in "normal" conditions.[219] Users become locked in by network effects, as antitrust courts have recognized.[220] Even those who argue that the real-world importance of lock-in is exaggerated do not go so far as to argue that consumers could never become locked-into a standard that is suboptimal.[221]

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[218]Katz & Shapiro, *Competiton*, *supra* note 127, at 93.

[219]This point was actually recognized, prior to the development of economic theory on network effects, in connection with "membership" goods in which the "buyer" is "involved on both the supply and demand sides." HIRSCHMAN, *supra* note 54, at 21, 100.

[220]*E.g.,*, United States v. Microsoft Corp., 253 F.3d 34, 55 (D.C. Cir. 2001) (en banc) (recognizing that the "chicken-and-egg" situation of consumers preferring an operating system that developers write applications for and developers preferring to write applications for an operating system that consumers use "ensures that applications will continue to be written for the already dominant Windows, which in turn ensures that consumers will continue to prefer it over other operating systems").

[221]Stan Leibowitz and Stephen Margolis, perhaps the most vocal critics of path-dependency theories, explicitly limit their doubts to the category of "third-degree" path dependency, that is, situations in which "actors make particular durable commitments in spite of the availability of a feasible better alternative," which "maybe have been there all along" or "might have become available later on." Stan J. Liebowitz & Stephen E. Margolis, *How the Lock-In Movement Went off the Tracks* 12 (Oct. 26, 2010) (unpublished manuscript) *available at* http://ssrn.com/abstract=1698486. They are explicitly not concerned with "second degree" path dependence, where "actors can make durable commitments that are wise given all the information available at the time they made their commitments, but unanticipated events can yield payoffs such that the decision turns out to be unfortunate." *Id.* They believe that such situations cannot

In a series of cases, the FTC has dealt with issues of coordination, deception, hold-out and policy change in the standard setting.[222] In *Rambus,* the Commission took on the failure of an industry player to disclose pending patent applications to members of a standard setting organization allegedly seeking to monopolize markets for computer memory technologies included in the standard.[223] The Commission's argument was that strategic deception made it possible for the defendant to get its technology adopted into the industry standard first, let other producers and innovators get locked into the standard, and then ambush them with a demand for high levels of royalties. That is, in the

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be relevantly addressed by policy, but to the extent that the FTC standard setting cases show firms trying to manage both known unknowns and unknown unknowns, while other firms practice strategic nondisclosure that can yield individually better but socially worse outcomes, policy improvements may be possible by effectively creating penalties for strategic nondisclosure. *Id.* The argument that such policy steps, even if they might not track what parties would have bargained for, might create incentives for better bargaining, is related to the classic normative claim concerning penalty defaults in contracting. *See* Ian Ayres & Robert Gertner, *Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules*, 99 YALE L.J. 87, 91 (1989) (describing penalty defaults).

[222]In these cases, the FTC has viewed anticompetitive conduct by a dominant firm through the lens of unfairness and deception. While private standard setting can promote consumer welfare by promoting the interoperability of products, standards that rely on or embody intellectual property may confer market power on the patentee or licensee. As a result, many standard setting organizations (SSOs) have instituted policies to govern the use of patented technologies in proposed industry standards. For example, some SSOs require members to disclose any relevant patents covering the proposed standards, while others condition the inclusion of patented technologies upon the patentees agreement to license them on a "reasonable and non-discriminatory" basis, while still others explicitly avoid adopting standards that rely on protected intellectual property. In a series of cases, the FTC has challenged IP rightsholders who were deceptive about the existence or scope of their intellectual property during the standard setting process and then later asserted their rights against manufacturers producing products in compliance with the standard. *See Dell*, 121 F.T.C. at 617 (failure to disclose VL-bus standard); *In re UNOCAL.*, No. 9305 (F.T.C. Jun. 10, 2005), *available at* http://www.ftc.gov/os/caselist/0510125/0510125.shtm [hereinafter *Unocal*] (failure to disclose pending patents on emissions research for which it intended to seek royalties); *Rambus*, No. 9302 (FTC sought to impose mandatory licensing of patents that were not disclosed during the standard setting process); *N-Data*, No. 051-0094 (failure to honor predecessor's promise to license patents on a RAND basis, resulting in consent not to enforce patents).

[223]*See Rambus Inc.,* FTC Docket No. 9302 (Aug. 02. 2006), *available at* http://www.ftc.gov/os/adjpro/d9302/060802commissionopinion.pdf [hereinafter *Rambus* I].

Commission's view, the defendant made a commitment *ex ante,* built scale in the standard, and then reneged on the commitment *ex post*.[224] In the Commission's view, had the defendant disclosed its IP rights as it was allegedly required to by the standard setting organization, the other industry participants might have demanded a RAND commitment[225] or chosen other technologies for the standard.[226]

In a decision that has drawn significant criticism,[227] the Commission's judgment in *Rambus* was reversed on appeal by the D.C. Circuit based on insufficient evidence of anticompetitive harm for a Sherman Act Section 2 monopolization case.[228] However, the appellate court left open the possibility of stand-alone action under Section 5 of the FTC

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[224]There is a separate issue concerning whether this type of conduct, even if wrong, is in fact an anticompetitive harm subject to redress under Section 2 of the Sherman The D.C. Circuit's *Rambus* decision decided that it was not, relying heavily on *NYNEX* v. *Discon*, 525 U.S. 128 (1998), to argue that a lawful monopolist's use of deception to enhance its ability to raise prices is not an antitrust concern. But timing is everything. NYNEX involved an existing, inherited (and government-sponsored) monopoly. The allegations in *Rambus* under Section 2 were that the defendant's deception in the standard-setting process helped it to transform its patent rights – which by themselves do not necessarily constitute a monopoly for antitrust purposes – into monopoly power. *See* CARRIER, *The D.C. Circuit's Error in Rambus and a More Justifiable Framework for Causation and Standard-Setting*, 77 ANTITRUST LAW JOURNAL __, 12-13 (of draft) (forthcoming 2011). But just as law professors observe that just because something is wrong, it is not necessarily unconstitutional, just because something is not anticompetitive does not mean it is not actionable. *See* Section V.B. (discussing enforcement under FTC Section 5 authorizing action against "unfair or deceptive" acts).

[225]"Reasonable and non-discriminatory," a term of art that leading economists suggest should mean those "royalties that would have been voluntarily negotiated before users became committed to using the patented technology." Joseph Farrell, John Hays, Carl Shapiro, and Theresa Sullivan, *Standard Setting, Patents and Hold-up*, 74 ANTITRUST L. J. 603, 637 (2007). Farrell and Shapiro are currently the chief economists at the FTC and the U.S. Department of Justice's Antitrust Division, respectively.

[226]*Rambus I* at 25-26 (describing how deception could work and its effects on chilling precompetitive standard-setting activity).

[227]*E.g.,,* Carrier, *supra* note 224, at 12-13, 23 (of draft) (assailing standard of causation used by *Rambus* court and its claimed mistaken reliance on *NYNEX* v. *Discon*).

[228]*See Rambus, Inc.* v. *FTC*, 522 F.3d 456, 459 (D.C. Cir. 2008) (hereinafter *Rambus* II).

Act,[229] which authorizes the FTC to sanction "unfair or deceptive" conduct, including conduct that may not meet the standard of "exclusionary" required in a monopolization case.[230]

In the context of technological standards such as the design for a CPU bus (a mechanism for transferring data) and the Fast Ethernet protocol (100 Tbase-T, for years the most widely used method of implementing a local area network), the FTC has pursued several cases under Section 5 cases that are either wholly[231] or largely separate from allegations of Sherman Act violations.[232] Since an independent Section 5 case moves through a fairly quick administrative process,[233] and does not carry the specter or private piggyback damages,[234] these cases have ended in settlement agreements. Similarly to *Rambus,* the FTC has sought to enforce *ex ante* commitments made by IP

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[229]The FTC decided to dismiss the complaint instead however, possibly given the D.C. Circuit's dubiousness as to the degree of candor that the standard setting organizations rules required of the defendant. *See Rambus* v. *FTC,* Docket No. 9302, *Order Returning Matter to Adjudication and Dismissing Complaint* (May 12, 2009), *available at* http://www.ftc.gov/os/adjpro/d9302/090512orderdismisscomplaint.pdf.

[230]*E.g., N-Data, supra* note 212, at 1.

[231]*Id.* at 2.

[232]*See In re Dell Computer Corp.,* 121 F.T.C. 616 (1996) (explicitly alleging only unfair competition under Section 5, but referring in its decision, issued upon a settlement agreement with the defendant, that the latter might have gained monopoly power through deception). In its recent case against Intel, the allegations largely focused on deceptive conduct subject to enforcement under Section 5, though allegations of exclusion subject to Section 2 were also included, drawing from criticism from at least one commissioner who felt it to be unhelpful to both Intel and the Commission. *See In re Intel Corp.,* Docket No. 9341, Concurring and Dissenting Statement of Commissioner J. Thomas Rosch, (Dec. 16, 2009) *available at* http://www.ftc.gov/os/adjpro/d9341/091216intelstatement.pdf. *See also In re Intel Corp.,* FTC File No. 0610247, Decision and Order of the Federal Trade Commission (Oct. 29, 2010); *id.* Complaint of the Federal Trade Commission, (Dec. 16, 2009) *available at* http://www.ftc.gov/os/adjpro/d9341/091216intelcmpt.pdf.

[233]The Intel case moved from administrative complaint to decision and order in 10-1/2 months. *See id.*, Complaint, *supra* note 232; *id.,* Decision and Order, *supra* note 232.

[234]

rightsholders at the time of standard adoption that these rightsholders or their assigns later sought *ex post* to renege after the standard had been widely adopted by industry participants both upstream and downstream.[235]

The decision to bring such cases has drawn criticism. First, it could be argued that such "patent ambush" conduct can already be addressed through defenses and counterclaims such as implied license and fraud in an underlying patent infringement action. However, the delays and uncertainty of civil patent litigation, combined with the possibility of harm to innovation beyond those in direct contact with the ambusher, makes sole reliance on patent infringement defenses an inferior response. Others have argued that while it makes sense for the FTC to protect reliance interests generally, the FTC's role should be more limited where those relying are sophisticated, large industry players.[236]

While it is yet unclear whether these cases are ideal for FTC enforcement, the issues at stake in these cases closely resemble those relevant to platforms characterized by user dynamism. Just as component suppliers, hardware manufacturers, and software

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[235]In *Dell*, the allegation was that Dell had warranted to the standard setting organization that it held no patent rights in the standard for a VL-bus, a unit that transfer data from a computers CPU to other components, only later to seek to enforce patent rights against firms following the standard. *In re Dell, supra* note 212. In *In re N-Data,* the central allegation was that National Data Solutions had agreed during the standard setting process to license its technology used in the then-new Fast Ethernet standard to any part using that standard for a one-time license fee of $1,000; after National transferred the patents, which were then again transferred, the later patent holder sought to renege on the earlier royalty commitment. *See In re N-Data, supra* note 212.

[236]*See In re N-Data,* Dissenting Statement of Commissioner Deborah Platt Majoras, at 5 (Jan. 22, 2008) *available at* http://www.ftc.gov/os/caselist/0510094/080122majoras.pdf, (stating that "[w]e have taken care to exercise this authority judiciously, however, to protect small businesses, non-profits, churches, and 'mom and pop' operations15 that lack the resources and, in some cases, the experience or understanding to defend themselves adequately against fraud" but that "[t]here is a clear qualitative difference between these entities and the computer manufacturers that the majority treats as injured consumers in this matter").

developers all rely on industry standards to coordinate their investments, so too dynamic users rely on the platforms they adopt to coordinate their own investments in innovation and content creation. An increasingly important set of devices, websites and online communities differs in important respects from the economic phenomena that the sharing, network neutrality and infrastructure theories address as their core focus. Such platforms host semi-captive markets such as that of the iTunes App Store, Facebook's interface for exchanging personal and professional information, and potentially, GoogleBooks' future licensed content. These platforms and the activities that they host likely do not rise to the level of monopolies meriting antitrust scrutiny under traditional market power tests, and in fact, may never do so.

But beyond that static dominance, platform dominance can become a significant issue vis-à-vis the user-innovators for whom the platform is a vital input to the creative process. In this respect, platform dominance holds the potential for dynamic harm to the activity of the downstream user-innovators. Even where an antitrust-defined monopoly does not result, the potential for abused power in the aftermarket of a platform can deter investment in innovation by user-innovators. While existing evidence has left the question of which matters more, dynamic effects or static effects, somewhat indeterminate, the consensus is that dynamic harms are potentially much more destructive of consumer welfare.[237] Some might contend that it is unnecessary to use consumer protection law to protect dynamic users from harms that could be eliminated by contract.

[237] *E.g.,,* Keith N. Hylton and David S. Evans, *The Lawful Acquisition and Exercise of Monopoly Power and Its Implications for the Objectives of Antitrust*, 4 COMPETITION POL'Y INT'L 203, 207 (2008) (arguing that dynamic effects are more important than static effects and calling for academic economists to change their focus accordingly); Herbert Hovenkamp**,** *Schumpeterian Competition and Antitrust***,** 4 COMPETITION POL'Y INT'L 2, 9 (2008) (agreeing on importance of dynamic effects but disagreeing that antitrust is necessarily antagonistic to them).

But contract may be a dissatisfying option where it is difficult to specify *ex ante* all the interests at issue, where legal action suffers from cost, uncertainty and collective action problems, and where the host's limited lifespan and assets may make enforcement difficult.[238]

Admittedly, the overall empirical evidence is uncertain: before pursuing a course of action, it is difficult to know how the loss to user-creation and user-innovation would stack up against the loss in investment and innovation in platform creation. However, one way to take a step towards addressing the tradeoff is to hold platform operators to the representations they make when convincing users to adopt their platform. Such a policy has two-fold benefits. First, it forces platforms to put their money where their mouth is. If Google promises a "Droid" phone that is totally amenable to running open source software, then enforcing such a commitment prevents Google from reneging after users have adopted the platform. Enforcing such commitments does not merely prevent Google from selling the razor cheap and the blades dear.[239] It also prevents the possibility of jettisoning user innovation or user-generated content that may have value to other users (but not to Google). Additionally, preventing such opportunism protects not

[238]See Barnett, *supra* note 12, at p.21 (observing these flaws with contract, but advocating a very different laissez-faire solution).

[239]There is a *per se* rule against product tying. *See Northern Pac. Ry. Corp.* v. *United States*, 356 U.S. 1, 5-6 (1958) (stating per se rule against tying); 8 Phillip E. Areeda & Herbert Hovenkamp, ANTITRUST LAW, pp. 1720-22 (2d ed. 2000) (describing case law shifts surrounding per se rule against tying) However, its continuing existence is not favored by all commentators. *E.g.,* Richard D. Cudahy, *Anticompetitive Effect,* 95 MINN. L. REV. 59, 92 (2010) (stating that "[r]equirements contracts [that require a buyer to purchase all its required supplies for, e.g., a machine, from the seller] may operate as unusually precise metering devices," and so "it might be reasonable to presume that tying is more often than not desirable from a total-welfare standpoint"); WARD S. BOWMAN, JR., PATENT AND ANTITRUST: A LEGAL AND ECONOMIC APPRAISAL 55-56, 118 (U. Chicago Press: 1973) (explaining tying arrangements as facilitating metering and the charging of differential, effective prices).

only these user innovations and user creations, but also safeguards the *process* of user innovation and user creation; maintaining user trust in this regard could be very important. User dynamism will likely suffer if users cannot trust that the platform they adopt will remain valuable to them.

As a second benefit, enforcing platform operators' commitments will tend to foster a kind of qualitative competition involving the tradeoff between platform security and user freedom. Many platforms confront a dilemma, in which increased freedom for users also increases their security vulnerability.[240] At the launch of a platform, competition arises concerning where to make this tradeoff. One platform provider might promise more freedom, but less security; its competitor might promise more security, but less freedom. Ideally, this would push the production possibility frontier outward, so that a third platform might offer as much freedom as the first and as much security as the second. By holding platforms to their commitments, competition can emerge based on the tradeoff between these, or other, dimensions.

A clear analogy can be drawn between the theory behind the FTC's standard-setting cases and an approach to platform dominance that keys on holding platform operators to their initial commitments. Both examples seek to prevent opportunistic hold up from creating both ex post and ex ante disincentives to innovation. The ex post effect of hold up is to later exploit those who have chosen to adopt the standard – or the platform – after they have made investments that may make it difficult to avoid the exploitation. The ex ante effect is to deter others from adopting standards – or platforms – which lowers overall welfare.

[240] *See* ZITTRAIN, *supra* note 3 (contrasting secure but sterile "network appliances" with generative but risky devices such as Internet-linked PCs).

The case for a similar approach to platform dominance may be even stronger than the argument in support of the FTC's standard-setting cases. First, one of the chief objections to the standard-setting cases is that the other standard-setting participants are powerful, sophisticated players who could protect themselves *ex ante* through contract.[241] Even if that is to some degree correct in the standard-setting context, the argument has less force in the online space, where users-creators and user-innovators may be much smaller, more diffuse players. Additionally, in many cases the beneficiaries of user-innovation may not be present at the initial stages of platform adoption, negating arguments that such beneficiaries can protect themselves adequately through contract. Finally, while SSOs, their participants and their licensees might be able to use contract and civil litigation to assert their rights, it is a great deal less likely that thousands or millions of online user-creators or user-innovators will be able to adequately use state contract law to obtain similar relief. Indeed, these characteristics – difficult to identify beneficiaries, diffuse claims, and complex adjudication – all seem to tip the balance in favour of administrative action.

VI. A Proposal

A. A Framework of Considerations

The discussion above suggests that the application of competition law to platform dominance should address three primary issues. First, regulation for platform dominance should focus on the relationship between the interoperability issues and the traditional

[241] *N-Data*, 2008 WL 258308 (Majoras, Chairman, dissenting), *available at* http://www.ftc.gov/os/caselist/0510094/080122majoras.pdf.

consumer protection issues. The interoperability problem is the idea that once users become committed to a particular platform, they face real costs in migrating to another platform. The traditional consumer protection issue is that users may be exploited by a platform owner who promises one thing at the start and delivers quite another later in the relationship. To the extent that regulation of platform dominance focuses on this link with consumer protection concerns, it provides a ready answer to those who oppose any forced access or affirmative duties on a network monopolist.

Second, regulation in this area should also focus on the value created by user/creators. The importance of this phenomenon is not yet completely understood. Competition law in this area would provide a regulatory space in which information about the value of user-generated content and user-innovation could be appraised. Understanding such value is important to more fully develop our understanding of the complex relationship between innovation, monopoly, and improper monopolization. Particularly to the extent that platform dominance is implemented through FTC Section 5, the focus on user dynamism counters arguments that harms based on consumer deception may nonetheless provide benefits to competition or be avoided by consumers themselves.[242] Even where such arguments justify departures from prior commitments in specific cases, they could still have a chilling effect on user dynamism generally.

Finally, such regulation can promote credible commitments by platform owners that can then help user-generators make better decisions about the investment of their time, energy and money. To the extent that Internet platform owners make up-front commitments about issues such as freedom and security on their platform, and regulation

[242]*See* 15 U.S.C. § 45(n) (requiring unfair acts or practices to cause a likelihood of "substantial injury" to consumers, which is "not reasonably avoidable by consumers themselves" and "not outweighed by countervailing benefits" to consumers or competition).

enforces these commitments in ways that individual users cannot, such regulation will reduce the uncertainty that may deter some user-creators and -innovators from making socially optimal investments with particular Internet platforms. By the same token, restricting platform dominance to commitments affirmatively made by the operators of dominant platforms both provides an implicit safe harbour and stimulates competition among several dimensions. The safe harbor is simple: you are only responsible for your commitments. And because your commitments become more credible, you can compete for the adoption of your platform based on what you are willing to promise along several dimensions: so much freedom, so much security – and perhaps even the preset duration of your commitments. In a sense, the arguments for enforcing these commitments is analogous to compulsory licensing, whose impact is empirically indeterminate,[243] but effectively stronger since by making or eschewing commitments to users, platform hosts can select in or opt out. Enforcing these commitments fosters competition on the quality dimension of empowering user dynamism, promoting a race to the top, should platforms hosts so choose.

B. An Analogy to Consumer Protection Online

Can regulators really protect consumers online? For more than a decade, the FTC's consumer protection bureau has in fact been enforcing the commitments of web platforms to their customers.[244] While another regulator besides the FTC, such as a *de*

[243]*See* Devlin and Jacobs, *supra note* 95, at 49 (observing that empirical evidence about the overall effectiveness of compulsory licensing is indeterminate).

[244]For a review and critique of corporate responses to the FTC's actions as a "roving privacy regulator," *see* Kenneth A. Bamberger and Deirdre K. Mulligan, *Privacy on the Books and on the Ground,* 63 Stan L. Rev. __, __ (forthcoming 2011) (presenting empirical review of corporate privacy officers' responses to FTC privacy initiaves).

novo body,[245] might be better at dealing with platform dominance, the actual experience of the FTC with online privacy representations shows that it is more than theoretically possible for regulators to enforce online promises to consumers despite the passage of time and the changing of business models.

In a string of enforcement actions, the FTC has repeatedly brought complaints against companies for handling consumer information in ways that contravene the representations that they made initially in gathering the data.[246] The cases vary in their details. Some involve failing firms trying to sell consumer data they had gathered online years earlier, despite promises not to "share" the data with third parties.[247] Other cases involve sharing or selling consumer data more broadly than the firms' privacy policies stated at the time of data collection – often in a manner that can only be described as deceptive.[248] Still other cases involve perhaps less blatant conduct with respect to

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[245]*E.g.,*, Frank A. Pasquale III & Oren Bracha, *Federal Search Commission? Access, Fairness and Accountability in the Law of Search*, 93 CORNELL L. REV. 1149 (2008) (proposing creation of regulatory framework to apply to search engines).

[246] *E.g.,*, News Release, FTC, *FTC Announces Settlement With Bankrupt Website, Toysmart.com, Regarding Alleged Privacy Policy Violations* (July 21, 2000), *available at* http://www.ftc.gov/opa/2000/07/toysmart2.shtm [hereinafter Toysmart.com] (announcing settlement of charges that bankrupt online seller was selling consumer data gathered online for purposes that violated privacy policy); News Release, FTC, *Online Pharmacies Settle FTC Charges* (July 12, 2000), *available at* http://www.ftc.gov/opa/2000/07/iog.shtm (announcing settlement involving misuse of online pharmacy customer data for purposes other than physician consultation, in violation of company policy); News Release, FTC,„ *Internet Site Agrees to Settle FTC Charges of Deceptively Collecting Personal Information in Agency's First Internet Privacy Case* (Aug. 13, 1998), *available at* http://www.ftc.gov/opa/1998/08/geocitie.shtm (settling charges that website with 2 million member virtual community was misrepresenting the purpose for which it gathered consumer data online).

[247]*E.g.*, *Toysmart.com*, *supra* note 246.

[248]*E.g.*, News Release, FTC, *High School Student Survey Companies Settle FTC Charges* (Oct. 2, 2002), *available at* http://www.ftc.gov/opa/2002/10/student1r.shtm (settling charges that companies gathered "extensive personal information from millions of high school students," often online, "claiming that they would share the information only with" colleges and universities, then "sold the information to commercial marketers").

consumer data, such as promising, yet failing to deliver, state-of-the-art data protection; such conduct can still be seen as falling within the ambit of deception.[249]

While many of these cases seem like obvious targets for a consumer watchdog agency, others approach the possibility of preventing modification of the website's business practices over time.[250] This raises a serious question. If a platform owner makes representations, but discloses that such representations are subject to change, at what point are such changes no longer, strictly speaking, deceptive? Similarly, if a platform owner does not actually makes any representation, but appears to be part of a separately-owned platform that does make representations, at what point does a violation of those representations amount to deception?[251]

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[249]*E.g.*, News Release, FTC, *Microsoft Settles FTC Charges Alleging False Security and Privacy Promises* (Aug. 8, 2002), *available at* http://www.ftc.gov/opa/2002/08/microsoft.shtm [hereinafter Microsoft] (settling charges that Microsoft falsely claimed to employ appropriate measures to safeguard consumer data and passwords entrusted to its "Passport" service which would "remember" consumer sign-in and other data across different retail websites); News Release, *FTC, Guess Settles FTC Security Charges; Third FTC Case Targets False Claims about Information Security* (Jun. 18, 2003), *available at* http://www.ftc.gov/opa/2003/06/guess.shtm (settling charges that apparel companies' website claimed that "your credit card information and sign-in password are stored in an unreadable, encrypted format" but instead were left vulnerable to theft by hackers); News Release*, FTC, Petco Settles FTC Charges* (Nov. 17, 2004), *available at* http://www.ftc.gov/opa/2004/11/petco.shtm (settling case alleging that PETCO.com falsely claimed to "strictly protect" "customer's dta" "against any unauthorized access," but instead left vulnerabilities "by failing to implement reasonable appropriate measures to secure and protect databases that support or connect to the website").

[250]*See* News Release, FTC, *Gateway Learning Settles FTC Privacy Charges* (July 7, 2004), *available at* http://www.ftc.gov/opa/2004/07/gateway.shtm [hereinafter Gateway] (settling charges that "Hooked on Phonics" changed its policy to allow renting consumer data to third parties – which it advised consumers might change – but without giving consumers the opt-out chance that it had promised should it change its policy).

[251]*E.g.,*, News Release, FTC, *Internet Service Provider Settles FTC Privacy Charges* (Mar. 10, 2005), *available at* http://www.ftc.gov/opa/2005/03/cartmanager.shtm [hereinafter Vision I] (settling charges that provider of "shopping cart" software that operated its own website that was linked to various retailers' websites with which it partnered could not sell customer data in contravention of retailers' stated policies, even though "shopping cart" software provider had not actually mane these representations itself).

The answer to such questions might emerge from the enforcement program itself, the results that consumers expect from it, and the legislation that may result in part from the publicity that such an enforcement program generates. For example, the FTC has tended to obtain remedies that effectively enforce the platforms' original privacy representations.[252] Such results will tend to bolster consumers willingness to rely on such representations, knowing that there is the possibility of enforcement against the platform owner's wishes. Ultimately, in these cases, the FTC is playing the role of a contractual enforcer where, for various reasons, private plaintiffs may be unlikely to bring the cases necessary to obtain such relief. While plaintiffs may have real reliance interests, the diffuse and difficult-to-measure nature of harm makes an individual or aggregated claim unlikely. Additionally, like chilling effects on user dynamism, threats to privacy, once made, lead to a generalized mistrust and potential inefficiency in online markets.

The FTC role in these cases sheds light on the unethical business practices involved, perhaps contributing to legislation aimed at addressing them. Some of these enforcement actions implicate specific anti-spam [253] and online child-protective

[252]*See* Gateway, *supra* note 250 (settlement prohibiting "Hooked on Phonics" from renting out consumer data gathered under "no third party sharing policy" without an opt-out); Microsoft, *supra* note 249 (settlement requiring an independent verifier to pass judgment on Microsoft Passport's security methods once every two years); News Release, *FTC, Online Apparel Retailer Settles FTC Charges That It Failed to Safeguard Consumers' Sensitive Information, in Violation of Federal Law* (Jan. 17, 2008), *available at* http://www.ftc.gov/opa/2008/01/lig.shtm (requiring online apparel retailer to submit to independent third-party security auditor biennially after online apparel retailer "unnecessarily risked [customer] credit card information by storing it indefinitely in clear, readable text on its network," in contrast to its representation to its customers that "[w]e are committed to maintaining our customers' privacy").

[253]*E.g.*, News Release, *FTC, ValueClick to Pay $2.9 Million to Settle FTC Charges* (Mar. 17, 2008), *available at* http://www.ftc.gov/opa/2008/03/vc.shtm ($2.9 million settlement in case implicating FTC Act and CAN-SPAM Act, in which customer data was not encrypted per websites' stated privacy policy and firms deceptively used consumer information to spam customers).

legislation,[254] but by and large the FTC has relied on its authority under the "deceptive practices" language of Section 5 of the FTC Act.[255] In doing so, it often has transformed rather mundane statements of intent to "safeguard customer privacy" or "take reasonable and appropriate steps to protect customer data" into the equivalent of enforceable warranties. Similarly, it has benchmarked such representations against evolving industry custom.

Of course, there are important differences between competition and consumer protection – and between privacy and openness as substantive goals. It may be easier to make clear representations about customer data than it is, for example, about rights to user dynamism. However, the example of the FTC Section 5 online privacy cases shows how regulation can make commitments in an evolving area credible. While one might worry about over-zealous enforcement scaring off potential platform providers, one could equally worry that weak enforcement might lead potential consumers to shy away from platforms whose policies they suspect could never be enforced, absent a consumer protection watchdog.

Such steps need not be zero-sum between platform hosts and dynamic users. User dynamism can increase the value of platforms and thus benefit the hosts themselves.[256]

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[254] *E.g.*, *Toysmart.com, supra* note 246 (settlement of first FTC complaint under Children's Online Privacy Protection Act requiring bankrupt toy seller to destroy its database rather than sell it to others who would use the data in violation of the stated policies under which it was gathered).

[255] 15 U.S.C. § 45. *E.g.,*, *Gateway, supra* note 250; Vision I, *supra* note 251; News Release, *FTC, Mortgage Company Settles Data Security Charges* (Nov. 6, 2008), *available at* http://www.ftc.gov/opa/2008/11/pcl.shtm (settling charges that failure to live up to website security representation amounted to a violation of Section 5 of the FTC Act).

[256] *See* VON HIPPEL, *supra note* 5 at 111 (observing in the manufacturing context that "if the manufacturer makes positive margins on the platform, then the availability of user-developed add-ons can have a positive effect: it can increase the value of the platform to users, and so allow manufacturers to charge higher margins on it and/or sell more units).

The point of enforcing hosts' commitments is to foster a race to the top in user dynamism, rather than a race to the bottom through appropriation of user investments. That is, by making commitments credible, enforcement can help keep a walled garden a creative paradise.

VII. Conclusion

The deployment of the FTC to deal with platform dominance is not the only way to handle these issues. The considerations sketched here should be relevant to any attempt to protect user dynamism from deception and opportunism. But as discussed, traditional antitrust law and proposed net neutrality regulation will likely not reach these concerns. Given the traditionally high value placed on dynamic effects, and the incipient stage of user dynamism, attempts should be made to bolster user trust by enforcing host platform commitments. This is particularly true where it is possible to do so with limiting principles. A regulatory plan tailored to making *ex ante* commitments credible can reduce the degree to which user dynamism is chilled by appropriation. A regulatory body that understands its role in protecting user dynamism may yield significant social returns.

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