

For a Free and Open Web: The Fight for Net Neutrality

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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Net neutrality as a term was coined in 2003, but the concept was applied to radio and telephony networks in the 1930s. Debate began in the 1990s for extending these common carrier regulations to the Internet. This led to Title II reclassification of Internet service providers (ISPs) in 2015 via the Open Internet Act; however, 2017's Restoring Internet Freedom Act reversed this decision (Troiano, 2019). Since then, no federal legislation or regulation has passed, but statewide law enforces neutrality in Washington, Oregon, California, and Vermont (Lichtenberg & Kline, 2018).

While both pro- and anti-net neutrality groups appeal to generalized ideals of freedom, innovation, and public good, they have greatly differing interpretations and implementations of these ideals due to conflicting social and economic ideologies. Pro-net neutrality groups include consumer advocacies and civil rights activists, while anti-net neutrality groups include ISPs and market-oriented think tanks. Content providers (CPs) are divided. Since 2010, these groups have competed to influence public opinion and to gain a favorable regulatory and legislative environment.

Review of Research

The net neutrality debate is shaped by social and economic goals. Bauer and Obar (2014) note a tendency to overextend arguments due to viewpoint bias, where “stakeholders primarily interested in political goals assert that their proposed solutions also promote economic objectives,” and vice versa. Arguments are rarely entirely social or economic even when a group's agenda is.

The International Communication Association (ICA) explores how consumers learn about net neutrality. They observe that differences in media usage (partisan slant of news

viewership, cable vs. streaming, etc.) correlate with the likelihood that a viewer both has heard of net neutrality and supports governmental regulation to ensure net neutrality (ICA, 2017c).

Kimball (2015) connects net neutrality to wonkish populism, an advocacy mechanism whereby anti-establishment rhetoric stimulates mass participation in bureaucracy. Freelon et. al. (2016) investigate a gender gap in net neutrality advocacy; while men and women share similar support for net neutrality, men are more influenced by technical and conservative campaigns while women are more influenced by social and progressive campaigns. This paper will largely avoid analyzing how consumers and constituents acquire their views and instead will analyze how other groups attempt to win popular support and justify their actions to the public.

The ICA likewise analyzes the comments submitted to the Federal Communications Commission (FCC) using a latent Dirichlet allocation (LDA) with linear regressions to group similar comments into 47 subtopics. In doing so, they analyze word usage, location, etc. to predict a commenters' income and education levels and degree of support for net neutrality (ICA, 2017a). However, they do not control for the duplicate (and often fake) comments; this paper builds upon this analysis by investigating how many valid comments were submitted and suspected astroturfing involved.

Mehta (2015) explores values, both economic and ethical, associated with the net neutrality debate. He investigates actions that control the narrative and drive the results, especially emphasizing the role of interest groups. The ICA explores the ideology of organizations that oppose net neutrality. They group these into three groups: libertarian think tanks, cyber-libertarian policy organizations, and trade associations. They explore the arguments these groups make to persuade the public and delegitimize net neutrality and associated institutions (ICA, 2017c). This paper analyzes arguments from and actions taken by groups from

both sides of the debate. It explores the impact of a few additional groups not explored by this existing research, including that of Internet Service Providers (ISPs).

Pro-Net Neutrality Arguments and Advocacy

Technology activists and many consumer advocacies focus on the power ISPs gain over consumers when lacking oversight. Jonathan Schwantes of Consumers Union argues economics: “Internet providers are now free to move forward on the anti-competitive practices they were flirting with”; practices “that place smaller businesses at a disadvantage and ultimately cost consumers more” (Willcox, 2018). The Center for Democracy & Technology (CDT) focuses on the risk of Internet censorship by ISPs, calling for rules “to preserve the Internet’s crucial qualities as an open and accessible forum” (CDT, n.d.). The Electronic Frontier Foundation (EFF) explains that the repeal of the Open Internet Order likely prevents punishment of Verizon for throttling fire fighters during the California wildfires (Falcon, 2018).

Librarian and teaching associations are broadly in support of net neutrality to keep an open internet for libraries, education, and communities. Courtney Young, former president of the American Library Association (ALA), explains that “network neutrality strikes at the heart of library core values of intellectual freedom and equitable access to information” (ALA, 2014). The ALA fears certain educational content will be slowed down in favor of more profitable content, which could influence curriculum decisions and introduce uncertainty. Rural schools would be harmed most from local ISP monopolies (Adams & Harris, 2018).

Computing experts and societies fear impacts of net neutrality’s repeal. Association for Computing Machinery (ACM) president Vint Cerf notes that two-sided markets with ISPs as gatekeeper are distorting the market and removing consumer choice (IEEE Computer Society,

2014). Likewise, World Wide Web (WWW) inventor and Web Foundation (WWWF) founder Sir Tim Berners-Lee suggests that the FCC now allows a few concentrated ISPs to pick winners and losers. “To reach its full potential, the internet must remain a permissionless space for creativity, innovation, and free expression” (WWWF, 2017).

Civil rights groups demand action to ensure equity of Internet access. Sohn (2019) remarks that unlike centralized and top-down networks like radio and television, the Internet is controlled by the users; social movements ignored by other media can thrive online. Centralizing power in ISPs instead of users can risk silencing marginalized voices and “takes away Internet Freedom from those who need it most — the public” (Sohn, 2019). These groups tend to prefer permanent legislation over temporary regulation, as seen in a joint statement released by the Multicultural Media, Telecom & Internet Council (MMTC): “We support a permanent statutory solution that enshrines the basic open internet principles into law”; they “should not be subject to endless litigation, regulation, and reconsideration” (MMTC et. al., 2017).

Religious groups and interfaith activists also fear throttling. Cheryl Leanza, co-founder of the Faithful Internet initiative, states that religious communities worshipping remotely need equal and fair access to high-speed Internet connections. Likewise, Valarie Kaur, a Sikh lawyer, recalls how the open Internet allowed the Sikh community to successfully petition the government to track hate crimes against religious minorities after a terrorist attack on a Sikh temple in Wisconsin (Pellet, 2015).

To defend net neutrality, these organizations take action through litigation, rallying their followers, and petitioning the government. The CDT sued the FCC over the repeal and were likewise involved when courts ruled that Internet can be classified as Title II (Hayes, 2018). The EFF directed hundreds of thousands of comments to the FCC through an online interface, which

it claims helped shape 2015's regulations "as a direct result of that intense public activism and scrutiny" (EFF, n.d.a). Over 150 nonprofit advocacy organizations, including the WWWF, CDT, EFF, Faithful Internet, and ALA, signed a joint statement to the Senate Committee and Commerce, Science, and Transportation and the Energy and Commerce Committee to request that net neutrality rules be retained. "The principle of net neutrality is what has made the internet the great engine of free expression, organizing, and economic opportunity that it is today" (18MillionRising.org et. al., 2017).

Anti-Net Neutrality Arguments and Advocacy

Many opponents of net neutrality, especially libertarian think-tanks and business-oriented interest groups, argue from a laissez-faire capitalist stance. They disagree with technological and economic arguments for net neutrality. Doren and Firey (2017) argue that the typical internet experience requires non-neutrality because different paths for packets to travel are slower/faster and cost more/less, even within a single network. Likewise, they argue that some data is time-critical, such as streaming content, while other data can have delays without much adverse effect to the consumer, such as email; thus, consumers and ISPs can reach favorable agreements that are not necessarily neutral.

Susanto (2017) writes of a potential harm from an inability to prioritize important content. She writes that net neutrality is not in the best interest for healthcare professionals and their patients due to the increasing usage of the Internet for telemedicine. She proposes the creation of a fast lane exclusively for healthcare services due to the importance of healthcare communications relative to most other data on the Internet. The EFF dissents, remarking that the 2015 rules did not ban prioritization of telemedicine, etc. but merely banned for-profit

prioritization. They note the instance of Verizon throttling firefighters during California's wildfires as a real instance that may become common without net neutrality (EFF, n.d.b).

Some who oppose Title II regulations argue that they are unnecessary because the Internet has run without major complaints or violations for several decades. They view potential threats of censorship or price gouging as nonexistent and regulation as governmental overstepping to fix what they do not see as broken. Gregory (2015) summarizes this argument: "Even though ISPs have been able to do this (change speeds based on priority) for most of the time since the internet began, instances of it occurring have been incredibly rare." He notes that the American Civil Liberties Union (ACLU, a pro-net neutrality organization) notes only four violations total and none since 2007. Anders (2014) points to the features some ISPs have to constrain access to users with weak connections such that their frequent re-requests for dropped packets do not increase network load, a potential violation of net neutrality but that benefits the network as a whole.

Internet Service Providers (ISPs) are some of the most organized and influential groups opposing net neutrality, influencing the debate largely through lobbying. While the three largest ISPs (Comcast, AT&T, and Verizon) donate nearly equally to Democrats and Republicans, their lobbying efforts with regard to net neutrality skew heavily against it. To achieve this and other ends, they employ 118, 101, and 71 lobbyists respectively. In 2016, AT&T was the ninth biggest spender on lobbying, while Comcast was 12th. Few pro-net neutrality organizations have a comparable lobbying might; Google is the pro-net neutrality organization that spent the most on lobbying in 2016 (10th overall), but lobbies on a much larger range of issues than most other companies; thus, it likely contributes less towards net neutrality than any of the main three ISPs (Leathley, 2017).

There is also a significant potential conflict of interest present for many members of Congress. In 2015, shares of Comcast, Verizon, and AT&T were owned by 31, 50, and 47 members of Congress respectively (Leathley, 2017). Peterson and Grose (2020) have found a statistically-significant linkage between financial holdings of legislators and their votes on legislation. These factors demonstrate a serious difficulty towards reenacting net neutrality via legislation rather than regulation.

Anti-net neutrality groups have also been accused of astroturfing associated with the net neutrality issue, especially with regard to the FCC's second online public commenting period in 2017. The Gravwell analytics team deduced that only 17.4% of 22 million comments submitted during this period were unique. The most common duplicate comment was submitted over one million times. Likewise, many were submitted closely in time through the FCC's bulk comments API (as opposed to through their typical web interface) with some having their state specified as "{STATE}" (Thuen, 2017). These factors suggest heavy presence of bot-submitted comments.

Pew Research Center corroborates these statistics. Their analysis revealed 57% of submitted comments were from temporary or duplicate email addresses, with only seven duplicate comments comprising 38% of submissions. They calculated that only 6% of comments were unique, and that many duplicate comments also had duplicate names. However, they suggest bulk submissions came not only from bots, but also from online interfaces, such as Battle for the Net (pro-net neutrality), Taxpayers Protection Alliance (anti-net neutrality), and the EFF's aforementioned online interface (Hitlin, Olmstead, and Toor, 2020).

Pro-net neutrality activists created a website to fight this astroturfing named Comcastroturf (a portmanteau of Comcast and astroturf, although a direct link between major ISPs and astroturfing is only speculative) (FFTF, n.d.b). A Reddit post that received 114k

upvotes publicizes the site, updates users about a cease-and-desist over the name, and vows to continue unless court-ordered to stop (/u/evanFFTF, 2017). The post is by Fight for the Future (FFTF), the parent organization behind Comcastoturf whose mission statement is to “fight for a future where technology liberates — not oppresses — us” (FFTF, n.d.a).

Some arguments and groups typically associated with a pro-net neutrality position likewise have an anti-net neutrality counterargument. The Taxpayers Protection Alliance (TPA) presents itself as a consumer advocacy organization that takes a pro-big tech and anti-net neutrality stance, praising Ajit Pai for “undoing the regulatory damage left behind by President Obama and former FCC Chairman Tom Wheeler” when repealing Title II regulations (TPA, 2017). Its legitimacy as an independent consumer advocacy is questionable, though; Propublica classifies it as a dark money group of the Koch network, funded largely by the billionaire Koch family (Shaw, Meyer, and Barker, 2014). Thus, it may likewise be a subtle form of astroturf. It is responsible for similar pro-big tech campaigns that are arguably detrimental to consumers, such as their campaign against Louisville’s proposal for municipal broadband (Bailey, 2017).

Many opposition groups likewise argue from a position of innovation similar to that of supporters; however, while supporters argue of innovation that utilizes the internet and associated networks as a medium of innovation, opponents argue of innovation within the network itself. Anders (2014) presents a case study of GreenByte, a patented system to automatically raise or lower rates depending on traffic, helping to balance network stresses and shift non-critical usage to more manageable time slots. However, this system is ultimately a violation of (some definitions of) net neutrality. Gregory (2015) compares modern neutrality violations to the case of Almon Brown Strowger who invented the automatic telephone exchange after a corrupt operator shifted calls away from his business.

While much less common than capitalistic critique, some opponents of net neutrality criticize it from a leftwing perspective. McMurria (2016) addresses racial inequality by proposing an idea of net equality to replace net neutrality. He suggests that net neutrality assumes a race neutrality not true of the net nor of the rest of society. He claims net neutrality is based around achieving market efficiency rather than equity; while minority-owned ISPs remain scarce, infrastructure and innovation within minority-majority communities will not be prioritized. He describes two approaches from two groups to solve the issue separately: the MMTC (as addressed earlier) that desires regulation for equitable employment and accessibility of infrastructure and the Open Internet Civil Rights Coalition (OICRC) that views the Internet as a tool to challenge or work around traditional/corporate power structures. To prevent violations of users' rights, he suggests that the users of the network should likewise be the ones to control the network.

Groups of Varying Stances

Various social groups have vied for control of public and governmental support in the net neutrality debate. Despite the seemingly two-sided nature, Americans mostly align with pro-net neutrality arguments, sometimes overwhelmingly so, although specific polling results vary. A poll by Morning Consult in 2018 found 58% of voters support net neutrality, while 54% of young voters (18-29 years old) consider it a somewhat or very important issue. A fourth of respondents had no opinion on the issue, suggesting that many voters may remain unaware of the claims of either side (Morning Consult, 2018). A poll by the Program for Public Consultation (PPC) preceding the repeal found that, after being presented with a summary of arguments by

both sides, 82.9% of polled registered voters opposed the repeal, including 75.4% of Republicans, while only 1.6% of voters neither supported nor opposed (PPC, 2017).

In line with their economic agenda, ISPs pursue a two-fold approach with regard to net neutrality. As noted earlier, ISPs are the largest source of anti-net neutrality lobbying. Due to the broad public support for net neutrality, they do not publicize or promote these lobbying efforts. To retain favor with customers, ISPs will publicly claim to support net neutrality while working to oppose it. Comcast's net neutrality page asserts support for an Open Internet and insists that they "do not block, slow down, or discriminate against lawful content" (Comcast, 2020). Likewise, Verizon insists that they "continue to strongly support net neutrality and the open internet" in an article supporting the Title II repeal (Young, 2017).

To remain competitive, content providers (CPs) make decisions based off of their economic agenda, similar to ISPs. As Martin (2015) notes, without net neutrality, larger CPs can pay for favorable deals with ISPs, gaining further market advantage by starving the smaller CPs of network resources. Guo et. al (2017) reinforce this point by explaining that CPs that support net neutrality can sometimes benefit economically by reversing their stance once they have gained a dominant position in the market. Netflix is a partial example of this trend, having once been a strong supporter of net neutrality and now choosing to remain neutral. In the words of Reed Hastings, Netflix's CEO, "where net neutrality is really important is the Netflix of 10 years ago. And it's important for society, innovation, and entrepreneurship... but it's not our primary battle at this point" (Recode, 2017). Dominant content providers can continue to support net neutrality if it is a vital issue to their users, as is true for Reddit.

Vertical integration adds an additional conflict-of-interest for ISPs and CPs. As Meese (2020) notes, ISPs can acquire or merge with CPs. In doing so, the ISP acquires the same

incentives as the CP and inherently becomes a participant in the market for which it is supposed to act as a neutral medium. Kaplan (2018) argues that some vertical agreements can be beneficial for consumers. However, a report by the Institute for Local Self Reliance (ILSR, 2019) shows that up to 50 million Americans have only one ISP available to them. This could potentially force them into a negative agreement if they live in one of these local ISP monopolies.

The Future of the Debate

Americans from all sides of the political aisle are (generally) in agreement about what they want: access to information without censorship; innovation and improved infrastructure; and lower prices. Despite efforts to educate and persuade from both sides of the debate, many still remain uninformed or undecided. Likewise, while a strong majority are convinced of a necessity of net neutrality, this did not prevent its repeal. Internet Service Providers (ISPs) have gained undue influence in the debate due to their lobbying efforts, whilst holding monopolies over service in some regions.

These facts point to goals that those involved in the debate can pursue, no matter what side they support, to ensure results that are democratic and representative of all accurate available information. Education shows consumers the nuances of the debate and persuades the undecided. In doing so, misinformation and astroturfing misrepresent the issues and should be prevented to reach honest consensus. Supporting policies to limit corporate lobbying power and increasing democratic engagement ensure constituents receive representation working towards their best interest. Reforming regulations to break local ISP monopolies allow consumers to choose companies that more properly represent their values and likewise give consumers more autonomy over network control (such as through public broadband initiatives).

The debate will progress further over the next decade as it has thus far. With community engagement and continuing activism, consumers can shape the debate in a direction favorable for everyone.

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