BROADBAND IN THE AGE OF PAI: THE PAST, PRESENT, AND FUTURE OF THE INTERNET

INTRODUCTION

What makes the internet so great? For millions of people in the United States and abroad, the internet is a means of communication and exchange, where ideas and content are exchanged free from censorship or interference by the private companies that provide internet to consumers. However, that freedom is now coming under fire by a new generation of leadership at the Federal Communications Commission (the “FCC”). The new Chairman of the FCC wants internet service providers, such as Xfinity and Verizon, to be able to adjust how fast certain websites are accessed. In doing so, the FCC would be getting rid of “net neutrality”, which is commonly defined as the premise that internet service providers should treat all internet traffic in an equal fashion, even if the source is unpopular or unprofitable. 1 Removing certain net neutrality regulations would present opportunities to help consumers, but the FCC should keep in place most of the rules they promulgated in 2015. If the FCC makes the mistake of removing net neutrality rules, internet service providers should still act as if net neutrality was still in force unless straying from net neutrality results in faster, more affordable, and more available access to broadband internet for everyone. Similarly, Congress should make every possible effort to pass legislation to enforce net neutrality if the FCC is unwilling to do so itself. Faster internet opens up countless opportunities for creativity, innovation, and commerce, and we must protect net neutrality to secure those opportunities for future generations.

The internet has become so intertwined with America’s cultural fabric that it has come to be viewed as a basic utility or piece of infrastructure, accessible by all. Support for that idea is lent by politicians such as Senate Minority Leader Chuck Schumer, who compared the internet to both infrastructure and utilities when he said that “[w]e don’t reserve certain highways for a single trucking company, and we don’t limit phone service to hand-picked stores. In

1 Cf Jennifer Wong, Net Neutrality: Preparing for the Future, 31 J. Nat’l Ass’n L. Jud. 669 (2011) (Noting that “there is no single recognized definition of net neutrality at this time” but “most definitions seem to revolve around the basic premise that Internet connectivity providers should treat all data equally, regardless of its source or destination.”).
today’s economy, it is equally important that access to the backbone of twenty-
first century infrastructure, the Internet, be similarly unfettered.”

The FCC should avoid dismantling most of the protections laid out by the
2015 Open Internet Order, which protects net neutrality so that every website
on the internet can be accessed without purchasing specialized data plans. Additionally, corporations which provide high-speed internet should abide by
net neutrality standards even if those standards are removed, unless said
internet service providers can find a better way to enhance value for every
internet user. Lastly, Congress should pass a bill which forces the FCC to
comply with net neutrality standards, while limiting the instances where the
FCC must abstain from enforcing rules. These actions, in aggregate, would
hopefully be enough to ensure that children have access to educational
programs, that people in rural areas can receive medical diagnoses without
driving 10 hours, and that newer websites will have the opportunity to rise and
become part of American culture.

I. HISTORY

The history of the internet has been fraught with challenges, both in its
creation and in its maintenance. Many of the challenges facing the internet
today are questions which have been long-standing, and understanding the
history of the FCC’s internet regulations helps to underscore why net neutrality
is so important, why corporations should comply with net neutrality standards,
and why Congress should force the FCC to promulgate and enforce pro-
neutrality rules.

Prior to the popularization of what we now know as the internet, the FCC
decided to create two classifications to regulate various carriers’ “offering of
transmission capacity for the movement of information”.
3 The first
classification was “basic transmission services”, which were services which
only provided bare-bones “transmission capacity”, whereas the second
classification was “enhanced services”, which would use “computer processing
applications . . . or provide the subscriber additional, different, or restructured
information, or involve subscriber interaction with stored information.”
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2 Chuck Schumer, Op-ed: The Internet Belongs to the People, Not Powerful Corporate Interests, Ars
people-not-powerful-corporate-interests/.

3 77 F.C.C.2d 384, 387 (1980).

4 Id.
Early on, most of the internet was regulated as a “basic transmission service”, but that was poised to change. In 1996, Congress passed the Telecommunications Act. The Telecommunications Act of 1996 kept in place regulations on basic communications services, which were subsequently renamed “telecommunications services”. Among those regulations were so-called “common carriage” regulations, which were rules preventing internet service providers from altering, slowing, or blocking the transfer of lawful information. However, it also required the FCC to refrain from enforcing regulations, including net neutrality, on “information” services—as “enhanced services” were now called—if the FCC determined that nonenforcement would be in the public interest.

While Congress was passing the Telecommunications Act, a new type of internet access was being tested which fundamentally expanded the number of ways that people can use the internet. “Broadband”, as the service was known, allowed for internet service providers to offer internet connections which were always on and offered consistently higher speeds than traditional “dial-up” internet. Dial-up internet is a method of internet connection which uses traditional phone lines to connect to “dial into” a centralized internet hub via a “digital handshake”, the source of the famous “dial-up sound”, which needs to happen every time a dial-up user wishes to go online. With the advent of broadband, internet service providers had much more “bandwidth”, which is the measurement of how much data can be sent along a particular “band” of internet spectrum. Traditional dial-up internet connections are limited to a maximum speed of 56 kilobits/second. By comparison, the median internet

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6 F.C.C., Supra note 3 at 679.
7 Id.
10 See In re WorldCom, Inc. Sec. Litig., 346 F. Supp. 2d 628, 638 n.6 (S.D.N.Y. 2004) (defining bandwidth as “the maximum amount of information that can be sent along a particular communications circuit per second.”).
download speed in 2015 was 41 megabits/second, or roughly 41,000 kilobits/second.\textsuperscript{12}

Naturally, in an effort to avoid regulations, internet service providers sought to reclassify broadband internet as “information” services on the basis that broadband involved the sort of computer processing and additional information described in the FCC’s regulations.\textsuperscript{13} In 2002, the FCC announced that it was interpreting the Telecommunications Act of 1996 to mean that broadband services were indeed information services, rather than telecommunications services. Multiple parties sued, and one case made it to the United States Supreme Court in 2005, \textit{National Cable & Telecommunications Association v. Brand X Internet Services.}\textsuperscript{14}

In \textit{National Cable}, the Court’s majority opinion, penned by Associate Justice Clarence Thomas, held that the \textit{Chevron} doctrine applied to the FCC’s decision to classify broadband internet as information services. In particular, the Court found that the FCC’s interpretation of the Telecommunications Act did not need to be the “best reading” of the statute as the Ninth Circuit Court of Appeals had held, but merely needed to be a “permissible” reading.\textsuperscript{15} Applying \textit{Chevron}’s “two-step procedure for evaluating whether an agency’s interpretation of a statute is lawful”, the Court found that “[t]he Commission’s interpretation” was “permissible at both steps”.\textsuperscript{16} In fact, Thomas’ opinion went on to state that, due to the complex nature of communications, “[t]he Commission” was “in a far better position to address these questions than we are.”\textsuperscript{17}

One key point to note when examining the Telecommunications Act of 1996 was that it mandated the FCC exercise forbearance \textit{only} if the Commission determined that “forbearance from applying such provision or regulation is consistent with the public interest.”\textsuperscript{18} In 2007, the FCC began reconsidering whether forbearance from regulations on broadband providers

\textsuperscript{13} \textit{Ericson, Supra} note 5 (“Realizing the lighter regulatory touch on information services, service providers soon began pushing both the Commission and the courts to recognize their services as information services.”).
\textsuperscript{14} \textit{Nat’l Cable & Telecomm. Ass’n v. Brand X Internet Servs.}, 545 U.S. 967 (2005).
\textsuperscript{15} \textit{Id} at 982-85.
\textsuperscript{16} \textit{Id} at 986.
\textsuperscript{17} \textit{Id} at 1003.
really was in the public interest, most notably after Comcast began denying or limiting customer access to certain websites. To be more specific, Comcast began blocking and limiting access to “Peer-to-Peer” networking sites, which are websites that “allow users to share large files directly with one another without going through a central server” but “also consume significant amounts of bandwidth”. Comcast argued in court that slowing and blocking peer-to-peer networking sites helped the company keep internet speeds up for everyone else. The FCC acted slowly and methodically, but not decisively. By the time they acted, Comcast had already changed the way their company managed bandwidth. In lieu of imposing a fine or some other penalty, the FCC merely asked Comcast to tell them how they were changing their system and what measures they were using to measure how things had progressed. Comcast subsequently sued the FCC, arguing that the Commission lacked the jurisdiction to back up their demands. The FCC responded by arguing that the power to investigate Comcast and compel disclosure of certain information fell under FCC ancillary jurisdiction, because the power to investigate Comcast’s business practices were necessary for the FCC to perform the agency’s statutorily prescribed functions. The Court of Appeals for the DC Circuit heard the case, and ultimately ruled in favor of Comcast, finding that the FCC failed to cite a sufficient statutory basis for their claim to that particular type of investigative authority.

In response, the FCC promulgated rules through the 2010 Open Internet Order (the “2010 Order”). The 2010 Order would require disclosures not unlike the kind they requested from Comcast, but also prohibited blocking and throttling the speed of lawful content on the internet. In effect, the 2010 Order ostensibly gave the FCC the power to impose net neutrality on high-speed internet providers. However, at that time, broadband was still technically classified as an “information service”. Verizon subsequently filed suit against the FCC, again asserting that they did not have the authority to impose the

19 ERICSON, supra note 5 at 693.
20 Comcast Corp. v. FCC, 600 F.3d 642, 644 (DC Cir. 2010).
21 See Id. at 644–45. (“Comcast defended its interference with peer-to-peer programs as necessary to manage scarce network capacity.”)(citations omitted).
22 Id.
23 Id.
24 Id.
25 Id.
26 Id.
27 Id. Note that “throttling” is a practice whereby an internet service provider will slow down internet access after a reaches a certain threshold of data consumption.
rules contained within the 2010 Order. In 2014, the Court of Appeals for the D.C. Circuit struck down the rules that prohibited the throttling the speed of lawful internet content in *Verizon v. FCC* because the Communications Act only allowed those rules to be imposed on telecommunications services.

In early 2015, the Federal Communications Commission promulgated the 2015 Open Internet Order (the “2015 Order”), which announced that the FCC was classifying broadband internet as a “telecommunications service”. In doing so, the FCC established that the government had both the right and duty to more closely supervise the way that private entities (such as AT&T or Comcast) control access to the internet. When the content of the 2015 Order is viewed in the light of the history of the FCC’s regulatory efforts, it seems clear that the FCC classified broadband as telecommunications service so they could protect the ideals of net neutrality.

Ajit Pai, one of the FCC’s commissioners, issued a Dissenting Statement criticizing the 2015 Order as imposing “intrusive government regulations that won’t work to solve a problem that doesn’t exist using legal authority the FCC doesn’t have”. Unsurprisingly, the 2015 Open Order also frustrated many players in the telecommunications industry. Consequently, their professional association filed a lawsuit asserting that the FCC lacked the authority to make the reclassification. In 2016, the United States Court of Appeals for the D.C. Circuit sided with the FCC, finding that the FCC worked within the statutory framework provided to the Commission by Congress and therefore deserved Chevron deference.

Now, however, the FCC is led by Chairman Ajit Pai, who was recently nominated to serve a second 5-year term as commissioner, pending Senate approval. Chairman Pai, who represented Verizon as an attorney, opposes net

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29 *Id.* at 650 (“We think it obvious that the Commission would violate the Communications Act... [g]iven the Commission’s still-binding decision to classify broadband providers... as providers of ‘information services’
31 *Id.* at 5921.
32 United States Telecom Ass’n v. FCC, 825 F.3d 674 (D.C. Cir. 2016).
33 *Id.*
neutrality. Indeed, Chairman Pai publicly announced that he plans to “fire up the weed whacker and remove” the rules promulgated by the FCC under the Obama Administration, and that net neutrality’s “days are numbered”. Additionally, there are two vacancies which were left by Democrats in January 2017, which will give President Trump an opportunity to shape FCC policies for many years to come.

President Trump, for his part, has criticized net neutrality, tweeting that it is a “top down power grab” that will “target conservative media.” Given these developments, it should come as no surprise that the telecommunications designation of broadband internet, and net neutrality itself are on the chopping block. President Trump, however, is mistaken.

II. CHANGES

Donald Trump’s election has brought about many changes to agencies governing all aspects of American life, and the FCC is no exception. Corporations should be prepared for the likelihood that Chairman Pai’s signals and suggestions will be promulgated as rules by the FCC, regardless of how meritorious those rules may be. “Independent” FCC Commissioner nominees may end up lying about their political orientations, which may further increase the odds of a reversal of net neutrality. As a result of the foregoing, Congress may be forced to intervene in the affairs of the FCC if they wish to preserve any modicum of the internet’s inherently democratic nature.

In December of 2016, former FCC Chairman Tom Wheeler, an Obama nominee, announced he would step down as chair and as a FCC commissioner on January 20th, 2017, coinciding with President Trump’s inauguration. The tenure of another FCC commissioner affiliated with the Democratic Party, Jessica Rosenworcel, expired on January 3rd, 2017, following over a year’s worth of gridlock over whether Senate Republicans would confirm her for

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37 Id.
another 5-year term. The day after former Commissioner Rosenworcel was forced to retire, Former President Obama once again moved to renominate Mrs. Rosenworcel to serve a second 5-year term as Commissioner. On March 1st, 2017, President Trump chose to withdraw Former Commissioner Rosenworcel’s nomination. Now that President Trump has withdrawn Mrs. Rosenworcel’s nomination, the only thing stopping major changes to FCC policies is the fact that every major change by the FCC requires at least 3 commissioners to cast votes, and the remaining Democrat, Commissioner Mignon Clyburn, could choose not to vote, thereby keeping net neutrality in a sort of limbo until President Trump can get another Republican (or conservative “independent”) to fill one of the 2 vacancies previously occupied by Former Chairman Wheeler and Former Commissioner Rosenworcel, respectively.

One of the dangers about the future of the FCC is that it could easily be turned into a partisan agency. Traditionally, the FCC has had 5 Commissioners, with 3 of the Commissioners (including the Chairman) hailing from the President’s political party. The other 2 commissioners are technically nominated by the President, but are often de facto nominees of the opposition party. By law, no more than 3 FCC Commissioners may be members of the same political party. However, there is no law prohibiting President Trump from nominating someone who is ideologically identical to a Republican, but not registered as one. Former Commissioner Rosenworcel was, as previously mentioned, nominated by Former President Barack Obama, a Democrat, so Trump’s rescission of her nomination would seem to violate the longstanding tradition of allowing members of the opposition party to choose 2 of the 5 FCC Commissioners. Given President Trump’s notorious proclivity for iconoclasm, Congress should expect President Trump to be innovative in his approach towards who he nominates for the FCC, and should

41 Id.
43 Id.
44 Id.
45 Id.
47 KASTRENAKES, supra note 41.
be prepared to vote down his nominees if he attempts to circumvent the traditional system of bipartisanship when selecting an FCC Commissioner, or if his nominees play coy with their views.

In his dissent to the 2015 Open Internet Order, now-Chairman Pai cited an example of the sort of businesses he would want to thrive if the Order were not implemented. Specifically, he cited MetroPCS, an “upstart” competitor to AT&T and Verizon in his view, with “not an ounce of market power” which was “targeted” by proponents of net neutrality.48 “Its crime? Unlimited YouTube”.49 MetroPCS’ “Unlimited YouTube” functioned as a type of “zero-rating”, which is a term used in tech circles to describe the practice where internet service providers exclude certain websites from data caps.50 A post-neutral internet would, in Chairman Pai’s ideal world, allow internet service providers to speed-up or “zero-rate” any website they want.

In February of 2017, Chairman Pai took the first major step towards dismantling net neutrality by announcing that, moving forward, the FCC would cease its investigation into “free-data-offerings”, as he called zero-rate plans.51 In his official statement, Chairman Pai defended zero-rating plans, arguing that they “have enhanced competition” in the wireless internet marketplace.52 Zero-rate plans have been opposed by consumer advocates and content providers alike because those plans would potentially create a situation where internet service providers would reallocate their limited bandwidth to intentionally slow down their “normal” broadband packages or show automatic preference to certain traffic, or even certain users. In the worst-case scenario, the internet could end up functioning like cable television, where users can only effectively

48 Supra note 1 at 5923.
49 Id.
50 “Data caps” are limits on the amount of information that a consumer can download under a contract with the internet service provider. Throttling is a practice whereby internet service providers deliberately slow down upload and download speeds, often after a consumer uses up a certain allotment of data. See also Cecilia Kang, Trump’s F.C.C. Pick Quickly Targets Net Neutrality Rules, N.Y. TIMES (Feb. 5, 2017), https://www.nytimes.com/2017/02/05/technology/trumps-fcc-quickly-targets-net-neutrality-rules.html?module=ArrowsNav&contentCollection=Technology&action=keypress&region=FixedLeft&p getType=article (“Zero-rating is the offering of free streaming and other downloads that do not count against limits on the amount of data a consumer can download.”).
52 Id.
access certain products if they purchase “packages”, or upgrade to “faster” unthrottled internet packages which work exclusively for the targeted site.53

One massive innovation that Chairman Pai will oversee is the advent and mass proliferation of 5G internet. 5G stands for “5th Generation”, as it represents the fifth wireless standard for internet speed.54 Certain 5G internet connections being tested in March 2017 can, in optimal conditions, download files at 500 megabytes per second, which would make 5G more than 75 times faster than the average self-tested internet speed in the United States.55

Coincidentally, a wireless internet standard which is competing with 5G, LTE-U, takes advantage of its own type of “5g”, but the g stands for “gigahertz”. More specifically, LTE-U is a type of wireless internet which uses traditional LTE wireless internet, but takes advantage of the 5ghz “unlicensed spectrum” to augment and compound download and upload speeds.56 The suffix “ghz” refers to the range or channel number of the “spectrum”, which is “the range of radio frequencies used to transmit sound, data and video to TVs or smartphones.”57 5ghz is an “unlicensed spectrum” because, unlike licensed spectrums, its use does not require an FCC license, although users of 5ghz spectrum are still required to use radio equipment certified by the FCC, as well as keep within certain power usage limits.58 Historically, licensed spectrums were auctioned off by the U.S. Government.59 Given the fact that spectrum has a physical limitation, prices have risen as demand and usage of bandwidth rose while supply of spectrum remained the same.60 The last several times that the United States Government has sold licensed bandwidth, companies have paid tens of billions of dollars for its exclusive use.61

55 Antonio Villas-Boas, Your Internet Speeds will be Insanely Fast when 5G Arrives, BUSINESS INSIDER (Mar. 4, 2017), http://www.businessinsider.com/5g-speed-network-lte-2017-3/#-1 (noting that Samsung’s 5G Home Routers could download files at speeds up to 500 megabytes-per-second, whereas the average internet connection in the United States downloads files at only 6.5 megabytes-per-second).
59 REARDON, supra note 43.
60 Id.
61 Id.
As stated previously, the United States Government sells exclusive rights to use licensed bandwidth. However, those exclusive rights have historically been divvied up by geographic areas. The geographic distribution of exclusive bandwidth could lead to the predication that internet service providers might have the capacity and desire to create virtual monopolies in the areas in which they own exclusive rights. That view is borne out by the facts, as very little competition exists between internet service providers offering broadband. In August of 2016, the FCC released an “Internet Access Services Report” which is damning to those that would assert that customers already have choices about which high-speed internet to choose.

For the purposes of the Internet Access Services Report, the FCC divided broadband internet bundles in “Developed Census Blocks” into 4 categories based on their speed. Census blocks are small areas; there were more than 11.16 million census blocks in the United States as of 2010. Of those 11 million or so census blocks, about 6 million are “developed census blocks”, meaning that they have at least one residence; in this way, Developed Census Blocks represent a near-ideal unit with which to measure broadband availability and competition. The Internet Access Services Report found that only three percent of Developed Census Blocks had three or more providers of high-speed internet packages from the second-fastest category, and only one percent of Developed Census Blocks had three or more providers of the fastest category of broadband internet. Making matters worse, the FCC notes that “[a] provider that reports offering service in a particular census block may not offer service, or service at that speed, to all locations in the census block”, meaning that prospective high-speed internet customers in a given census block may very well have even fewer options than the report indicates. Market conditions for prospective internet service providers are terrible already, but there is nothing to suggest that the changes being proposed by

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65 Id. at 8.
67 Brodkin, supra note 59.
68 Wireline, supra note 52.
69 Id.
Chairman Pai will do anything to better the conditions for new market entrants, especially given the above information, which suggests that it will do more harm than good.

Perhaps the single most important issue facing the FCC moving forward is the question of how much money the FCC will be working with in the coming years. Unfortunately, there is very little information to go by for compliance officers wishing to ensure that their companies continue to operate within the confines of the law. On March 16, 2017, the Office of Management and Budget released America First: A Budget Blueprint to Make America Great Again. However, that budget blueprint makes no mention of the FCC at all. Regardless of how much or how little money Congress allocates to the FCC, the FCC is poised to make numerous big decisions that will affect the lives of nearly everyone in the United States, and almost certainly everyone on Earth. The future of net neutrality, however, depends on whether President Trump’s nominees can make it through Senate confirmation, how President Trump evolves on issues of technology, and the ways that internet service providers will choose to innovate in the absence of (ostensibly well-deserved) regulations.

III. SUGGESTIONS

The prospective elimination of net neutrality provides innumerable opportunities for internet service providers to increase their profits, but it also poses challenges for companies which seek to avoid the appearance of conflicting interests. Make no mistake: the FCC should absolutely protect and maintain net neutrality protections. However, there is often a gap between what a person or entity should do and what they ultimately end up doing. Congress, the FCC, and corporations themselves should act in every acceptable way to preserve the FCC’s bipartisan structure. Congress should preempt any of the possible changes listed in the segment above by enshrining net neutrality into law, rather than leaving it as a rule prone to change with every presidential election. Senators should also be willing to break partisan ranks to oppose any nominally “independent” nominee for FCC Commissioner unless that nominee

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71 See also Nancy Cook, 5 Ways Trump’s Budget is Less Than Meets the Eye, POLITICO (Mar. 16, 2017), https://secure.politico.com/story/2017/03/trump-budget-5-takeaways-236127 (“The blueprint also does not even mention the FCC or FTC, according to POLITICO’s tech reporters.”).
has been chosen by (or with the help of) the Senate Democratic Caucus, in keeping with historical precedent. The FCC should continue to embrace innovation, and perhaps refrain from enforcing certain regulations, but promoting net neutrality and greater competition should be their primary consideration in working to expand access to high speed internet.

In the unfortunate event that Chairman Pai and the FCC eliminate or minimize net neutrality as part of a future policy regime, the primary consideration for telecommunications companies should be the length of time the future policy regime may last. To put it another way, internet service providers should be on their best behavior, because bad behavior may lead the FCC to reestablish net neutrality for high-speed internet providers. In short, companies should work within the confines of net neutrality and the FCC should retain its powers to enforce net neutrality and improve access to high-speed broadband internet.

Perhaps the keystone of net neutrality is fairness in regards to accessing the internet. Chairman Pai has stated that he wants to expand access to the internet and “close the digital divide”—in other words, the gap in high speed internet accessibility that exists between rural and urban areas. 72 That happens to be a very noble objective, as millions of people around the country continue to use dial-up internet, and for numerous reasons. In fact, 2.3 million Americans were actively subscribed to AOL-branded dial-up internet services in 2015, which was only slightly lower than the number subscribed to AOL dial-up two years earlier, which was in turn nearly the same as it was back in 2010.73

Chairman Pai should improve his work on improving internet accessibility, and should consider using more of the tools available for him to do so. Part of the reason that dial-up internet remains so popular, in absolute terms, is because it is far more affordable than any other means of accessing the internet; in 2015 the price for dial-up internet from AOL was less than $12 a month.74 However, many individuals use dial-up because there are simply no other options.75 To his credit, Chairman Pai does do more than merely give lip service when it comes to expanding access to broadband. In fact, Chairman Pai’s first action as chairman of the FCC was to give the state of New York

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72 KHALID, supra note 34.
74 Id.
75 Id. (Citing a Pew Survey which showed that, in 2009, around 15% of dial-up users reported not having any other options for internet access).
more than $150 million dollars to develop broadband in rural parts of the state.\textsuperscript{76} Expanding broadband access to rural parts of the country is something to be admired. With that being said, Chairman Pai’s rural internet expansion may incentivize multibillion dollar internet service providers to establish de facto monopolies in rural areas because, as previously noted, the great majority of developed census blocks lack basic competition. Chairman Pai’s problem is compounded when accounting for the fact that, in his capacity as FCC Chairman, he successfully prevented 9 internet service providers from participating in the FCC’s “Lifeline” program, which provides subsidized internet to low-income households.\textsuperscript{77} High speed internet can be elusive even for individuals who have the financial means to afford it. After all, more than 34 million Americans lack access to high speed internet.\textsuperscript{78} In denying the previously-mentioned 9 internet service providers the ability to provide subsidies to low-income individuals under the Lifeline program, Chairman Pai argued that there were insufficient protections in place to “prevent further waste, fraud, and abuse”.\textsuperscript{79} If aiming to save money is Chairman Pai’s position, then he should keep net neutrality in place. To do otherwise would invite “a lengthy legal battle” which would surely drain government coffers for several years.\textsuperscript{80} Chairman Pai was decidedly less concerned about fraud and abuse when, in March 2017, he struck down data security requirements for internet service providers.\textsuperscript{81} Again, if Chairman Pai truly wanted to prevent fraud and abuse in the internet service industry, he would retain net neutrality, anyways.

One way that the FCC might be able to improve wireless speeds while maintaining net neutrality would be to introduce a hybrid standard that combines the best features of “5G” internet with the best features of “LTE-U” internet. Under such a standard, 5G internet would be the base internet which

\textsuperscript{76} KHALID, supra note 34.
\textsuperscript{77} Andrew Tarantola, FCC halts nine companies from participating in the ‘Lifeline’ program, ENGADGET (Feb. 03, 2017), https://www.engadget.com/2017/02/03/fcc-halts-nine-companies-from-participating-in-the-lifeline-program/.
\textsuperscript{79} TARANTOLA, supra note 77.
would be constantly on, and would be able to continue offering one of the chief benefits of 5G internet—the ability to download and upload data at or near the speeds offered by fiber optic wire, which can exceed 1 gigabit/second but is “incredibly expensive” to use, lay, and maintain.\(^{82}\) Meanwhile, additional internet capabilities would be enabled through the LTE-U component of the new standard. The LTE-U component would, like the current LTE-U standard, “aggregate spectrum\(^{83}\), include unlicensed spectrum that is not being used by other appliances.

Corporations need to be on their best behavior during Chairman Pai’s tenure heading the FCC. One example of good behavior which would enhance service provider profits while avoiding a conflict of interest would be forming deals with content providers to provide exclusive or higher-quality content on their company’s broadband or high-speed network. The term “content provider” can encompass many users of the internet, from massive corporations like Google to independent record labels producing albums nobody buys. Many of the internet’s most popular content providers, such as Google or Netflix, have expressed opposition to the dismantling of net neutrality.\(^{84}\) However, that may be a function of their fear of losing money under a new regime. Under the current system, zero-rate plans hurt content creators who are not a part of the internet service providers zero-rate plan. By allowing customers to access certain content without charging their data usage towards a data cap, they are effectively drawing competitors away from other plans. For example, if a user has their internet throttled whenever they access any search browser that isn’t Bing, they might be more likely to use Bing and less likely to use a competitor like Google. Chairman Pai argued that getting rid of the prohibition on zero-rate plans encouraged major wireless internet providers to bring back “unlimited data” plans for the first time in years.\(^{85}\) However, unlimited data plans are far from “unlimited”.\(^{86}\)

In 2015, the FCC fined AT&T $100 million for misleading customers about ostensibly “unlimited” data plans that throttled, or placed limits on,

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\(^{82}\) Villas-Boas, supra note 55.


\(^{86}\) Mike Gikas, AT&T and the Truth about ‘Unlimited’ Data Plans, CONSUMER REPORTS (June 18, 2015).
downloads after an invisible data cap was reached.\textsuperscript{87} One of the biggest problems with AT&T’s “unlimited” data plan was that the throttling effect significantly slowed down internet usage speeds after users reached their “cap”. In fact, it slowed download and upload speeds by up to 95%, which would render the internet virtually inaccessible, and often did so for more than 10 days.\textsuperscript{88}

Few situations are more harmful to the principles of net neutrality than when websites are targeted individually for throttling. The primary reason that targeting websites for throttling is so wrong is that human beings are almost comically impatient when it comes to accessing information on the internet. In fact, Google has found that slowing their website’s loading speed down by even 250 milliseconds is enough to have a noticeable impact on the number of people willing to use their site.\textsuperscript{89} For online retailers, where sales (rather than advertisements) are the primary form of revenue, the effects can be devastating. Back in 2009, online shoppers expected their online shopping websites to load within 2 seconds; a significant number of online shoppers refused to shop at an online store if the website failed to load within 3 seconds.\textsuperscript{90} The amount of time that an online shopper was willing to spend waiting for a store’s webpage to load dropped by half between 2006 and 2009.\textsuperscript{91} There is no reason to believe that the precipitous drop in online shoppers’ patience between 2006 and 2009 was a one-off change in the collective human psyche; as internet speeds have increased, so have expectations as to how websites should function. Net neutrality therefore seeks to keep all retailers, shoppers, streamers, content creators, and social networkers on even ground, because the effects on the economy would be catastrophic.

In the absence of net neutrality, content providers may able to restructure their businesses in such a way as to improve their own value, as well as the

\textsuperscript{87} Id.
\textsuperscript{88} Chris Morran, AT&T Faces $100M Fine Over “Unlimited” Data Plans, CONSUMERIST (June 17, 2015) (“AT&T didn’t just slow down speeds to normal network rates, but at speeds as slow as 1/20 that of normal speeds . . . for upwards of 12 days out of a month”).
\textsuperscript{90} Id.
\textsuperscript{91} Id.
value they provide to customers.92 By partnering with internet service providers, content providers would benefit from increased speeds and more loyalty from customers. That should not happen, though, because net neutrality should remain in place at all costs.

Given the President’s tweets, it may seem expedient in the short-term to provide favorable traffic benefits to political websites that agree with the President. However, such favoritism would not be kept secret for very long and would appear to be a major conflict-of-interest. On the other hand, internet service providers would be well served to offer these benefits more readily to large content providers because those providers are more likely to wield political influence of their own. Partnering with major content providers to allow customers to access, for example, Netflix at a much higher speed than is currently offered would arguably increase the popularity of a post-neutral internet among Netflix customers and Netflix itself.

Under the newest iteration of the FCC, content providers which thrive on advertisements may convince mobile carriers to allow their sites to benefit from zero-rate plans. In doing so, it would help the carrier, the content provider, and prospective customers, all without creating even the appearance of conflicts of interest. However, zero-rate data plans should not be allowed to exist where they are leaching speed from normal customers or websites which choose not to participate. If zero-rate data plans are to create a “fast lane” for certain websites or customers, it should not come at the cost of turning every other internet connection into a “slow lane”.

Returning to the example of Netflix, internet service providers should seek to avoid the problems created by virtually all parties in Netflix’s notorious throttling fiasco. In early 2014, Comcast and Netflix were in the middle of negotiating a contentious deal which would possibly give Comcast internet users a smoother experience when using Netflix’s video streaming service.93 That would have been fine, but it soon became apparent that Comcast and Netflix were playing hardball with one another, as Netflix streaming speeds via Comcast more than doubled when comparing the month before the deal was


struck with the month after the deal was struck. However, in retrospect it appears that the company that managed Netflix’s internet traffic, Cogent, may have been violating principles of net neutrality by intentionally slowing down Netflix’s traffic itself. Website owners and operators should practice due diligence and test whether the companies that manage their internet traffic are operating ethically. Internet service providers should do the same because otherwise internet providers will run the risk of getting blamed like Comcast did, or worse.

Internet service providers could also begin marketing their new, post-neutral internet packages from a sort of “walled garden” approach, such as that employed (to much success) by Apple. A “walled garden” approach to information entails removing features in an effort to create a streamlined, safer, easier-to-use product. If internet service providers were to present their post-neutral internet packages as a carefully-cultivated, faster, and safer approach to the current system, people would perhaps be more willing to give up access to smaller content providers, thereby increasing the leverage internet service providers will be able to use to convince smaller content providers that partnering with their company makes financial sense.

Lastly, Congress should take action to ensure that net neutrality remains on the books, and should empower and mandate that the FCC takes adverse actions against companies that violate net neutrality principles. Moreover, Congress should pass a law requiring the FCC to issue fines that exceed the profits gained from engaging in the behavior that prompted the fine. For example, even though Comcast had to pay a record $100 million fine for lying about their supposedly “unlimited” data plans, a senior FCC official indicated that the fine was far exceeded by the profits Comcast made from lying about offering “unlimited” data. A superior system would have fined Comcast for an amount equal to, or in excess of the expected earnings that Comcast made from their fraudulent “unlimited data” claims and would have used the proceeds to develop broadband internet in places where there is virtually no

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97 MORRAN, supra note 83.
internet access. Such a system could make a difference in rural U.S. territories, where the FCC reports that 98% of the population lack access to broadband.98

Hopefully internet service providers will never actually be in a position where the internet is so congested that they will need to prioritize data usage. There are certainly glimmers of hope. The most recent FCC report on broadband found that median download speeds more than quadrupled between March 2011 and September 2015, and the annualized median download speed had increased by 28% just between 2014 and 2015.99 By fostering actual competition amongst high-speed internet providers, the FCC and Congress can ensure that corporations abide by net neutrality rules unless it betters the customer experience. After all, who would pay $50 per month for throttled internet if they could pay less for the same service or pay the same amount and get unthrottled internet? FCC Chairman Ajit Pai has argued that the FCC’s approach to regulations has made it more difficult for high-speed internet service providers like Google Fiber to “enter the market incrementally”.100 However, Google has denied that net neutrality has made Google Fiber’s rollout any more difficult than it needed to be and has indicated that net neutrality would make it easier to work with local municipalities to install the fiber optic wire they need to get their high-speed internet working.101 Given the facts, net neutrality needs to stay in place, with the FCC, Congress, the President, and internet service providers all doing their job to protect it.

CONCLUSION

At the outset of the Second Gulf War, Secretary of Defense Donald Rumsfeld famously declared “[Y]ou go to war with the Army you have . . . not the Army you might want or wish to have at a later time.”102 Internet service providers have long been in a similar situation, doing business with the rules they had, not the rules they wanted or wished to have. The aggregate change in leadership borne out in recent months with the resignation of Former Chairman Tom Wheeler, the forced retirement of Commissioner Jessica Rosenworcel,
and the appointment of Commissioner Ajit Pai to serve as Chairman of the FCC are not symbolic transfers of power from powerless figurehead to powerless figurehead. Instead, the recent changes in the FCC’s leadership have formed the basis for a radical upheaval of conventional internet. President Trump should see to it that net neutrality is protected and that Chairman Pai’s troubling intentions vis-à-vis net neutrality are not brought to fruition. Members of the U.S. Senate’s Republican Caucus should make sure that their next nominee for FCC Commissioner protects net neutrality. Additionally, the Senate’s leadership should protect the longstanding bipartisan spirit of the FCC by promising to block any non-Republican nominee which hasn’t been approved by the U.S. Senate’s Democratic Caucus. Realistically speaking, recent developments have suggested that internet service providers may finally get the rules they want. What they do with them, however, will determine whether a deregulated internet will remain deregulated for long.

CHRISTIAN HAMAN

* Emory University School of Law, J.D. Candidate, 2018; Managing Editor, Emory Corporate Governance and Accountability Review; B.S. Business Management, Florida Gulf Coast University. I would like to thank my parents, Barbara and Michael, for purchasing internet access many years before it was cool. I would also like to thank my brother, Ian, for keeping me grounded. Finally, I would like to thank Kevin Engelberg, Sapna Jain, Forrest Lind III, Blake Meadows, and Nicholas Torres for their patience and valuable insights; without them, none of this would be possible.