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Sponsored Data and Net Neutrality: Exemption and Discrimination in the Mobile Broadband Industry

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Abstract:

The FCC's 2015 Open Internet regulations are strong net neutrality protections, but their effectiveness ultimately depends on their enforcement. The rules prevent broadband providers' blatant discrimination but leave open possibilities for less obvious but still troubling preferential treatment online. This article considers AT&T's Sponsored Data program—which charges online content providers to exempt their traffic from users' mobile broadband data caps—as an example of a subtle erosion of net neutrality that the FCC should address. While Sponsored Data provides users some relief from data caps, it also threatens to limit the reach of bottom-up creativity online through its uneven distribution model. This article argues that sponsored data cap exemptions are pernicious paid prioritization that unfairly disadvantage independent and noncommercial creators. Through a case study of AT&T's Sponsored Data, the analysis here shows how such discrimination through exemption creates conditions of inequitable online distribution by unfairly favoring those commercial enterprises that can afford to pay for this privilege. This case shows how, by installing data caps on internet access and then collecting tolls to get around them, broadband providers can leverage their bottleneck position in internet infrastructure to be powerful gatekeepers of online expression.

Keywords: Internet, Mobile, Distribution, Infrastructure, Regulation

How do you think they're going to get to customers? Through a broadband pipe. Cable companies have them. We have them. Now what they would like to do is use my pipes free, but I ain't going to let them do that because we have spent this capital and we have to have a return on it. So there has to be some mechanism for these people who use these pipes to pay for the portion they're using. Why should they be allowed to use my pipes? The Internet can't be free in that sense, because we and the cable companies have made an investment and for a Google or Yahoo! or Vonage or anybody to expect to use these pipes free is nuts!

— Ed Whitacre, former AT&T CEO[2]

In early 2015, the Federal Communications Commission (FCC) passed surprisingly strong regulations to protect "net neutrality," the principle that internet service providers (ISPs) treat

all network traffic equally. The FCC's 2015 Open Internet Order lays out rules that prohibit broadband ISPs from restricting users' internet traffic or unfairly favoring certain online content or services.[3] The Open Internet rules came after a decade-long policy battle over net neutrality, in which the interview quoted above served as an opening shot.

Ed Whitacre—then poised to become the head of a dominant ISP as CEO of AT&T—signaled his desire to charge online content providers (including the Googles and Yahoo!s mentioned, but also media creators of all sizes and motivations) to "use [his] pipes." Whitacre's comments were more than just a blunt iteration of familiar corporate discourses of private property control and capitalist imperatives of return-on-investment. His words revealed a larger shift in broadband industry logic: ISPs acting less as communications conduits and more as media distributors. ISPs traditionally charge users for a connection between users' devices and the internet, with access to any content, applications, and services users choose. With what we might call a "Whitacre Toll," ISPs seek to insert themselves as distribution partners, charging online content providers to connect to users. Collecting payments from both users and content providers creates what economists call a two-sided market and what one Wall Street analyst called "the holy grail for wireless operators."[4] Although Whitacre was no longer at the helm, AT&T got its hands on this "holy grail" by 2014 and—depending on the FCC's policy enforcement going forward—it may be able to keep it, at the expense of creators seeking to reach users online.

The FCC's 2015 Open Internet regulations are a strong set of rules to protect net neutrality and a very important victory for media democracy. While they prevent the most blatant means of ISP gatekeeping, they still leave open the possibility for some more subtle forms of discrimination online. Broadband providers will be kept from brazen blocking and throttling and are reined in when it comes to extracting payments from content providers. While ISPs have not established a crude version of the Whitacre Toll—charging just for traffic to cross the last mile to users—mobile broadband operators in particular have explored other ways to get content providers to pay up.[5] Much of the net neutrality debate has centered on the issue of ISPs charging for exclusive access to internet "fast lanes," which the Open Internet rules rightfully outlaw as unfair "paid prioritization."[6] However, a less direct form of pay-for-priority had already taken hold by the time the rules were passed that was not meaningfully addressed by the FCC—discrimination not for fast lanes but for free lanes. This prioritization comes when ISPs "zero-rate" certain internet traffic, to not charge users for a selected set of online content.[7] Zero-rating is an increasingly common—and controversial—practice in the mobile broadband industry globally, but one particularly problematic form it has taken in the US is data sponsorship.

AT&T's Sponsored Data program charges online content providers to exempt their traffic from users' mobile broadband usage allotments, or "data caps." Sponsored Data may seem like a good deal, in that users get some relief from the pressure of data caps. However, it comes with consequences for equality in the circulation of content online. AT&T's charges for data sponsorship can become a Whitacre Toll that not only gouges online content providers but also can severely limit the reach of bottom-up creativity online through its uneven distribution conditions. Despite these implications for net neutrality, the FCC's Open Internet regulations take a largely permissive stand on data sponsorship.[8]

This article examines data sponsorship as a subtle erosion of net neutrality, arguing that such data cap exemptions are pernicious paid prioritization that unfairly disadvantage independent and noncommercial creators. Through an investigation of AT&T's Sponsored Data, the analysis

here shows how such discrimination through exemption creates conditions of inequitable online distribution by unfairly favoring those commercial operators that can afford to pay for this privilege. The deeper data sponsorship is allowed to take root in the broadband industry, the more it can become a mechanism to filter out smaller players and circumscribe end users into a role as consumers, as opposed to meaningful participants in content creation and circulation. By installing data caps on internet access and then collecting tolls to get around them, ISPs seek to leverage their bottleneck position in internet infrastructure to become gatekeepers in online content, diminishing the possibility for more democratic media structures. In this way, we can see how protecting net neutrality will take more than stopping ISPs' blocking, throttling, and fast lanes—AT&T's Sponsored Data is an example of a second-generation net neutrality issue, where the discrimination emerges in less obvious but still troubling forms. The battle for net neutrality in the United States is far from over; it has just shifted terrain. There are now solid Open Internet rules on the books, but they will only be as effective as the FCC's enforcement of them, so our focus ought to shift to how they will be applied in specific complex cases like Sponsored Data. This article contributes to a critical understanding of net neutrality's implications for media industries and users that seek to hold the FCC accountable for effective enforcement of Open Internet policy.

This article's approach is grounded in critical media industries studies, seeking to deepen this emerging field's engagement with the rapidly evolving issue of net neutrality. While it is clear that how net neutrality policy is enforced will seriously influence media circulation online, there is not yet critical media industries scholarship that closely considers specific cases of how that influence is felt. This article develops such a focused case study, through analysis of policy and corporate documents, technical and economic literature, trade press reports, user survey data, and commentary from policy advocates and independent media creators related to data sponsorship plans and their implications for net neutrality. It answers Des Freedman's call in this journal's first issue to investigate how policy structures the creation and flow of media.[9] In particular, it intervenes in media industries studies of digital media distribution.[10] Of this work, Jennifer Holt in particular has developed a valuable research agenda on what she calls "cloud policy" that looks at broadband infrastructure issues like net neutrality, data caps, and network interconnection. [11] The research here builds on Holt's work at the intersection of media policy and distribution, with a focus on the business logics evident in the broadband industry and how they are shaped by net neutrality regulations, but differs in an emphasis on the implications beyond those for established commercial media operations.

This critical media studies approach is sensitive to both political-economic and cultural power relations within broadband industry and infrastructure developments, but the majority of scholarship on the shift toward broadband business models like data sponsorship and its implications for net neutrality has come from strictly legal, economic, and technical perspectives. Most existing research on data sponsorship and other so-called "smart data pricing" schemes has come from computer science and network engineering literature concerned primarily with the design and development of such techniques of discrimination and, unfortunately, not the critical evaluation of their advisability.[12] Meanwhile, economists have mostly focused on judging differential pricing schemes by network operators based on the comparative economic welfare of content providers or end users subsidizing investments in network infrastructures, and yet connections of data sponsorship to the economics of two-sided markets remain underdeveloped.[13] A great deal of legal scholarship engages debates around differential treatment of internet traffic and a portion of this work is more mindful of the

sociocultural consequences of broadband industry power, led most prominently by Susan Crawford and Tim Wu.[14] The critical value of most of this work, though, remains limited by a neoclassical law and economics framework, seeking "consumer welfare" rather than social justice.[15]

In analyzing industry developments like Sponsored Data in connection with its consequences as felt by independent, noncommercial, and grassroots media creators, this article seeks to push this discussion further into the territory of social justice questions of equality and fairness in cultural participation. This perspective is informed by the theory of "spreadability" forwarded by Henry Jenkins, Joshua Green, and Sam Ford that describes the bottom-up circulation of media content at the heart of online participatory culture and its importance for independent and grassroots creators to be able to engage users.[16] In Aymar Jean Christian's work we can see vivid examples of the possibilities opened up by these alternative modes of media circulation for self-representations by creators of color, queer-identifying creators, and others excluded or marginalized by commercial mainstream media industries to reach audiences.[17] However, as Christian points out, these media-democratizing possibilities exist tenuously within a larger frame of concentrated ownership structures and fragmenting technological infrastructures.[18] "Spreadability," then, while offering an important positive vision of a more participatory culture, must be augmented to account for the industrial and regulatory structures that afford or delimit its democratizing possibilities. For instance, Jenkins, Ford, and Green make a distinction between "distribution," as commercial control of content movement, and "circulation," user-led content sharing, to argue that distribution is outdated in a decentralized and participatory media environment online. But a shift from distribution to circulation as the principal model of media transmission is far from inevitable, and the authors severely downplay the ways in which broadband providers are actively working to use their concentrated control of internet infrastructure to channel open participatory circulation toward distribution.[19] This article focuses on these issues by developing a case study of the kind of online discrimination that threatens to squeeze out this sort of bottom-up circulation through preferential treatment for large commercial media distribution. The cultural and political stakes of online inequality such as this are high, especially considering how participation in media culture online contributes toward a larger "civic culture," as Peter Dahlgren puts it.[20]

This article proceeds in three remaining parts. The following section briefly introduces the FCC's Open Internet policy and surrounding net neutrality issues before examining the operations of and exemptions from data caps in the mobile broadband industry. The next section contains a case study of AT&T's Sponsored Data program and its consequences for equitable participation in online content circulation. The final section offers some brief concluding remarks regarding policy responses to data sponsorship and zero-rated services. In the interest of using limited space to develop more advanced analysis, this article assumes that readers of this journal have a basic level of understanding of net neutrality issues, which are not reviewed in detail but briefly introduced in the following section.[21]

Open Internet Policy and Data-Capped Mobile Broadband

Over a decade, an erosion of net neutrality in practice spurred attempts to enshrine the principle in policy. Net neutrality served as a guiding principle for the early development, management, and regulation of internet infrastructure, but a deregulatory wave at the FCC in the early to mid-2000s afforded more concentrated ownership in the US internet-access industry and the development of more aggressive network management techniques. A response was the

FCC's 2010 Open Internet Order, which prohibited blocking online content, services, applications, and devices, and unreasonably prioritizing or degrading certain traffic. The 2010 rules, though, were only a half measure in protecting net neutrality: the FCC exempted mobile broadband from most of the rules and relied on an untenable legal interpretation of its authority. It was due to this latter point that the policy was short-lived, as a federal appeals court gutted the rules in 2014 because the FCC needed instead to use what is known as Title II statutory authority. Following that case, a large grassroots movement rose up to demand real net neutrality protections and the FCC responded by passing stronger Open Internet rules: the 2015 regulations prohibit blocking, throttling, and prioritizing traffic, but go further to apply to both wired and wireless networks and are rooted in Title II, with its long-standing regulatory tradition of "common carriage" that protects openness and equality for essential two-way communications infrastructure. Although the 2015 Open Internet regulations face judicial challenges, at the time of this writing they are the rules of the road online.

The 2015 Open Internet rules delivered nearly everything net neutrality advocates had been fighting for, but they are not perfect: while laying out mostly clear-cut rules, the regulations stop short in some cases, leaving certain network operator practices to be examined on a case-by-case basis. Most relevant to this article, one of the practices the FCC has vowed to monitor but did not ban outright is charging content providers to exempt their traffic from users' data caps—what AT&T calls Sponsored Data.[22] The 2015 rules prohibit "paid prioritization," defined as "the management of a broadband provider's network to directly or indirectly favor some traffic over other traffic."[23] Despite this broad definition—and acknowledging that "paid prioritization is inherently a business practice" and not a technical practice of network management—the 2015 Open Internet Order considers "prioritization" only in the narrowly technical sense of sending certain data packets to the front of the line, leaving aside prioritization in other forms, such as sending certain data without charge.[24] That is, Open Internet policy explicitly bans payment for speed advantages but takes a wait-and-see approach to payments for other advantages, like data cap exemptions. However, both forms of paid preferential treatment are forms of discrimination that achieve the same practical effect of favoring some traffic over others, but one is banned and the other is not.

To understand what makes data sponsorship possible takes understanding the incentive structure put in place by data caps. Known in industry discourse as "usage-based billing" or "usage allowances," data caps are broadband network operators' limits on the total amount of internet content that their customers can use in a month without having that traffic throttled or incurring extra charges. Although their implementation was met with backlash in early-adopting countries like Canada, data caps became the norm for wireless and, increasingly, wired internet access in the United States by the late 2000s.[25] To use AT&T's mobile broadband service as an example, at the time of this writing, the company offers three tiers of data (250 MB for $15 per month, 3 GB for $30 per month, or 5 GB for $50 per month) with overage fees for using more than each tiered amount in a month ($15 for each additional 250 MB over the lowest tier and $10 for each additional 1 GB over the two higher tiers).[26] This pricing model replaced the previously standard model of broadband access where it was taken for granted that one could access as much internet content as one wanted—indeed, data caps are more akin to the dialup internet access model, but with metered billing based on the MB or GB rather than the minute or hour. AT&T still provides "unlimited" mobile broadband service to some existing subscribers who have been grandfathered in, but it nonetheless comes with limitations, like throttled traffic speeds above a certain usage threshold—a misleading practice for which AT&T

is being sued by the Federal Trade Commission.[27] The FCC's perspective on data caps has been decidedly ambivalent, acknowledging their limitations and potential for abuse while also viewing them as pricing "innovations" that offer users "more choices."[28]

Justifications given by broadband providers for data caps have typically focused on the necessity of alleviating network congestion—there is only so much bandwidth available on a network, especially in the case of limited wireless spectrum, and networks operators have to use it efficiently. However, congestion on broadband networks has nothing to do with the total amount of data users use in a month—congestion happens on a place-by-place and hour-by-hour basis, so "managing" congestion through monthly data caps makes little sense.[29] Congestion problems are not a matter of whether individual users happen to download five gigabytes of data over the course of a month rather than four.

Rather, network operators seek to create new revenue streams from users paying overage fees and content companies paying fees to not have the data they send to their customers count against the cap—a way to more directly tap into the high-growth sector of mobile apps and maximize average revenue per user. By 2013, smartphone penetration reached over 60 percent, saturating the market to the point that mobile providers could not count on adding new mobile data subscriptions to drive revenue growth.[30] While the number of first-time mobile broadband subscribers began to slow down, though, the amount of data used by existing subscribers continues to skyrocket: mobile data traffic in North America grew by 77 percent in 2013 alone, with projections for a compound annual growth rate of 50 percent each year until 2018.[31] With data usage growing so quickly, mobile providers' focus began to shift away from data service for a flat fee to ways to charge by the amount of data used. This is consistent with the industrial logic of maximizing return-on-investment in existing infrastructure and drawing as much as possible out of those sunk costs.

Data caps serve as means of limiting, and encouraging self-limiting, the online activities of internet users. In 2013, Michael Powell, who leads the National Cable and Telecommunications Association and was the FCC Chairman who spearheaded the deregulation of broadband in the early 2000s, explained data caps this way: "If you have an unlimited pricing model, you can basically say: 'I can build an app or a service and I don't really concern myself with how much bandwidth consumption it will take . . .' There is no disciplining element."[32] While he was referring to fixed broadband, Powell's words echo those of AT&T executives who speak of "educat[ing]" mobile users to "modify their usage."[33] It is more than just words, too: studies show that most mobile broadband users make choices about engaging online with data caps in mind.[34]

Data caps' "discipline" operates through an assertion of private control over public resources that comes with social justice implications. This discourse of discipline comes from a vision of private property ownership like Whitacre's and the desire to control everyone else's use of that property. This discourse of broadband networks as private tools—property that gives its owners the ultimate right to determine its uses—stands opposed to the existence of internet access as a foundational resource for communication and connection finally recognized by the FCC in its reclassification of broadband as a Title II common carriage service. In the context of mobile broadband, both its fundamentally public nature and the social justice implications of restricting it are even more pronounced: mobile broadband relies on the use of the public property of the electromagnetic spectrum and comes with the attendant public interest obligations of such licenses. Further, because communities of color and lower-income users

disproportionally access the internet through mobile broadband only, data caps unfairly constrain the engagement of marginalized groups to engage in participatory practices of creating and sharing online.[35] Indeed, data caps are but one way in which the mobile-only internet users of historically marginalized groups are second-class digital citizens.[36]

While data caps themselves serve as unfair restrictions on internet usage, the primary concern of this article is the way they also create conditions that can be used to give preferential treatment to some uses of the internet over others. Data caps, regardless of what the FCC's Open Internet rules may say, are not neutral—not everyone's data is being capped, and those who can pay up get the advantage. As the next section shows through the case of AT&T's Sponsored Data program, data caps enable new business models based on more subtle forms of discrimination like exempting apps that can pay for the advantage.

AT&T's Sponsored Data and Discrimination through Exemption

In January 2014, AT&T unveiled Sponsored Data, a program through which providers of mobile apps pay to exempt the traffic generated by the use of those apps from user data caps.[37]

WATCH: "AT&T Sponsored Data"

Comparing the model to toll-free 1-800 phone numbers or free shipping from retail, AT&T pitched the plan to content providers as a way to ensure that, in a data-capped wireless environment, users will continue to use streaming video and music apps on their smartphones and tablets without worrying about the amount of data they use—so long as those providers can pay the sponsorship fee.[38] Early negotiations involved ESPN, an ideal target for such a plan: with a massive user base that generates a great deal of mobile video traffic, it stands to lose much from AT&T's data cap limitations and has the deep pockets to take a Whitacre Toll in stride.[39] At the time of writing, Sponsored Data partners include established advertising firms but the program remains a temporary experiment for a short list of online content and service providers not including the rumored marquee names like ESPN.[40] Despite AT&T's claims that the program was developed in response to offers to sponsor data ("The content guys are asking for it," as AT&T CEO Randall Stephenson put it), the slow response from big media players appears to indicate that content providers are not, in fact, knocking down AT&T's door to institute a new system of payments and that the program is not actually a great deal for media producers and distributors.[41]

The rather underwhelming list of AT&T's Sponsored Data partners, however, actually masks the traction that it has achieved in bringing major media players into its new model of digital distribution. Syntonic Wireless, a mobile network services provider that is participating in AT&T's Sponsored Data program, has been particularly central in bringing big online content providers into the fold with its Freeway mobile app.[42] Content accessed within the app does not count against users' data caps and, while as of this writing the content available is still sparse, the providers involved include some of the biggest names in online content: ESPN, Amazon, Facebook, the *New York Times*, eBay, Yelp, *Rolling Stone*, Airbnb, and MLB.com.[43] While media industries did not jump into the Sponsored Data pool right away, AT&T has coaxed them to test the waters, which suggests that it has made strides toward making it acceptable for broadband providers to be more than passive conduits to others' content—they can be distribution partners positioned to take a cut of the revenues generated by online content.

AT&T has been at the forefront of data sponsorship, but the shift toward discrimination through exemption is evident across the wireless and wired broadband industries globally.[44] In the United States, T-Mobile in particular has taken up a more active distribution role: in June 2014, in the splashy style of its rebranding as the "Uncarrier," T-Mobile announced Music Freedom.

WATCH: "T-Mobile '6.0 Music Freedom' Press Video"

With this program, music streamed from services including Pandora, Spotify, iTunes Radio, and iHeartRadio do not count against users' data usage totals.[45] In an important distinction from Sponsored Data, though, T-Mobile's Music Freedom is purely "zero-rated"—not charging for exemption but simply not counting the traffic toward users' data totals—and offers participation to music services on an open basis.[46] T-Mobile's move into the territory pioneered by AT&T, however, suggests that such broadband traffic exemptions are becoming increasingly normalized, accelerating as more users begin to count on getting certain traffic streams for free.[47] Indeed, T-Mobile's new "Uncarrier" moniker perfectly articulates where the mobile industry could be headed: while intended more to separate itself from the more dominant mobile carriers than as a bald-faced claim to abandon common carriage, it is nonetheless reflective of a vision of a discriminatory future less about connecting one end of the network to the other and more about gatekeeping and the ability to choose which services to feature and favor.

Sponsored Data may seem positive on its face, but it comes with problematic implications. Having content providers defray the costs of using their apps is appealing from a user perspective because it can alleviate concerns about going over data caps, and could conceivably lead to lower monthly subscription fees. Sponsored Data may appear free from the end-user perspective, but it is not likely to actually reduce costs. The extra charges that content providers incur are typically passed back onto users, either opaquely within the price of the service or through additional advertising—there is no such thing as a free lunch. In a longstanding example, since 2007 Amazon has paid AT&T for the traffic generated by Kindle users downloading e-books, but it builds those same costs into the price of the e-books themselves.[48] Further, mobile providers argue that such differentiated service offerings are evidence of competition and choice in the mobile marketplace, therefore precluding the need for further regulation.[49] However, competing based on content distribution arrangements—rather than on access to the whole internet at a better price and faster speed than competitors—is a serious revision of the role of ISPs that empowers former carriers to act as gatekeepers. Irrespective of competition, differentiation through discrimination is unfair.

Data sponsorship is a form of discrimination that prioritizes some online content providers over others, which raises serious net neutrality concerns. Under Sponsored Data, AT&T charges content providers for the advantage of data cap exemption, which shows how paid prioritization can be about more than speeding up certain traffic—this is priority not in a fast lane, but in a free lane. The concern here is not that powerful media corporations like ESPN or Amazon would have to pay more for their traffic to reach users but, rather, how Sponsored Data tilts the playing field in their favor. At this point, these harms are admittedly speculative: while data caps are well established, exemptions to them are still rather new, so their full impact is yet to be felt. Nonetheless, several independent and noncommercial creators have spoken out about the very real threat of Sponsored Data, suggesting that waiting until this

inequality is cemented enough in industrial structure that its harms are already clearly present may prove too late.

Data cap exemptions distort the market for online content by creating advantages for the bigger and more established services. In charging new fees for content delivery, Sponsored Data raises previously relatively low barriers to entry by forcing small startups to effectively buy access to customers from the network operator before being able to distribute to them.[50] Prominent venture capitalist Fred Wilson demonstrates the economic realities of this situation on his blog: he runs through hypothetical startup pitches in a world of widespread data sponsorship. Wilson lauds each imaginary pitch's innovative new service but turns it down for funding because the initiative would be too small to secure a distribution deal with a major broadband provider.[51] Concerns about unfair advantage persist even without charges for data cap exemption, as in the case of T-Mobile's Music Freedom.[52] Such a system threatens to lock in the services that are currently most dominant by artificially propping them up while unfairly marginalizing smaller independent services. For example, David Porter, the CEO of music-streaming startup 8tracks, said of Music Freedom, "I heard about this a while back, and I was recently annoyed when I learned that a new friend hadn't been using 8tracks because it did count against the bandwidth limit."[53] Indeed, Porter's friend is not alone: surveys show users would choose sponsored services out of fear of exceeding data caps.[54]

Beyond these marketplace concerns are troubles for the tremendous numbers of those creating and circulating content with nonmarket motivations, who are at even more of a disadvantage with the establishment of more costs to reach potential users online. For example, speaking on behalf of community radio stations, noncommercial broadcasters, and amateur webcasters, the blog Radio Survivor has spoken out against Sponsored Data and Music Freedom, calling them essentially "toll-free fast-lane[s]" that "put small and independent services at an even greater disadvantage with regard to reaching most of the country's mobile listeners."[55] In a filing with the FCC, National Public Radio goes further in explaining the implications for public media: "Mobile paid prioritization may be equally harmful to an open Internet, and connection speed is not the only way broadband providers can manipulate the market. Data caps and sponsored services for commercial [content] providers who can afford to pay for such prioritization discourages consumers from using their mobile devices to access the vital content provided by public radio via websites and apps."[56] These same conditions also threaten the structural affordances for participatory culture that have allowed amateur creators to be able to reach significant audiences through spreadability.[57] Cementing this shift in practices of media distribution and consumption—conditions that circumscribe users as participants in the latter and not the former—also comes with dangers of discouraging emerging practices of digital citizenship and online civic culture.[58] Inequality in participation online, then, must also be understood as a social justice issue, not a matter that can be reductively measured in economic terms of marketplace competition or consumer welfare. The more that the Sponsored Data model gets cemented in industry practice, the more such charges can become a de facto gatekeeper fee on the connection between content providers and their users—instituting the Whitacre Toll and his vision of a two-sided market in broadband.

Economics scholarship has explored the net neutrality implications of two-sided markets, but has not much discussed data sponsorship models as a way to implement it—which this section will briefly do following an explanation of the concept.[59] In a two-sided market, a service provider has two sets of clients and charges both for the ability to connect to each other, such as

a credit card company charging both cardholders and merchants. This is not to be confused with the two sides of a traditional retail market—where a store buys goods from a wholesaler on one side and sells them to consumers on the other—because a two-sided market involves charging both sides for access to the other. Neither of these market structures has been the norm for internet access service, which has been based on the telecommunications model known as "bill-and-keep," where a network operator charges consumers for access to the network but does not charge those on the other side of the network to whom they are connecting. In the traditional model of retail internet access, ISPs' revenues come from charging end users for a connection to the internet. Within this typical arrangement, online content providers either subscribe to a back-end ISP to reach the internet or (for those large enough to need the higher capacity) directly invest in infrastructure by owning or leasing their own transit network to connect themselves to the internet. Typically, then, an ISP collects payment for the use of its network bandwidth from one end of the network or the other, but not both. Introducing new fees to the providers of online content to reach their users means AT&T wants to be paid twice for the same service: it already charges end users for that traffic but is now beginning to charge content providers on the other end for the exact same traffic. This also means that content providers are charged twice: for its content to enter the on-ramp to the internet (in subscription costs to its upstream ISP or the costs of running its own infrastructure) and then paying again for that content to exit the off-ramp to its users (this time to its users' downstream ISPs). Charging both sides of the connection between content providers and end users is what makes it a two-sided market.

Data sponsorship is a means through which ISPs, led by mobile network operators like AT&T, seek to institute a two-sided market for internet access. By leveraging its position between content providers and users through charging for data cap exemption, AT&T seeks to establish itself as a gatekeeper online. A two-sided broadband market makes sense from this perspective, of course. ISPs like AT&T see a more profitable role for themselves as a distribution middleman able to charge extra for valuable commercial media content to reach consumers, rather than simply passing traffic from one end of their network to the other in the common carrier tradition. Content providers depend on ISPs' phone and cable infrastructure to reach their users and ISPs want to charge for what they see as an otherwise free ride across their pipes—this is Whitacre's point. What this perspective leaves out, though, is how that traffic is paid for: by content providers on one end and users on the other. Economic arguments for the two-sided market primarily focus on potentially lower costs for users and new revenues for broadband providers that can be put into investment in network infrastructure.[60] As discussed earlier, any savings users could find in broadband subscriptions are likely to be passed back in the costs of online content. For its part, AT&T is likely not eager to direct Sponsored Data revenues into network investment: not only is it under great pressure from Wall Street to send any new profits to shareholders and not infrastructure, but a revenue stream from data cap circumventions depends on squeezed bandwidth capacity. Indeed, even though mobile operators as a whole are spending much more to upgrade their networks than their fixed broadband counterparts, AT&T's infrastructure investment is declining.[61] The two-sided market is quite a clever way to capture a portion of the huge growth in online content markets without the need for additional capital expenditures. Extracting new revenues generated by streaming media and mobile apps is especially key as the legacy businesses of the large cable and phone companies that dominate the broadband market are being threatened by the

emergence of new markets for exactly those services going "over-the-top" of their broadband services.[62]

The danger of a two-sided broadband market goes beyond ISPs unfairly double-dipping from content providers, to how this threatens to severely limit the reach of bottom-up creativity and participation online. Economic arguments against a two-sided market in broadband focus on the new charges for content delivery becoming what in telecom law are called termination fees. This refers to gatekeeper tolls instituted by a network operator who has a termination monopoly (i.e., the only means to reach customers is through them) where content providers have little choice but to pay up. Termination fees in broadband, many economists argue, favor established content providers and discourage new market entrants, incentivize unfair discrimination for content owned by or contracted with broadband providers, and can lead to investment only in "specialized services" at the expense of "the public internet."[63] Rather than charging an arbitrary fee to all traffic that comes across its broadband networks to reach end users—the original Whitacre Toll vision and a textbook termination fee—AT&T's Sponsored Data program imposes these charges as a form of prioritization—exempting that traffic from users' data caps.

Beyond new revenue streams, then, AT&T and other mobile broadband providers also stand to gain over the longer term by setting up a discriminatory industry structure with new conditions of control over online content circulation. Rather than their traditional role as pure connections to others' content, broadband providers are interested in more active curation of that content for users—selectively featuring and favoring the content of those who pay for delivery. Such a new model, of broadband-provider-as-distribution-partner, means establishing more stable market relations with fewer but larger media enterprises—weeding out the unruly and unpredictable mishmash of user-led online content circulation that has thus far characterized the internet. Selective enforcement of data caps can become such a gatekeeping mechanism through which AT&T can pick winners and losers based on who is able and willing to pay for play. Public interest advocates such as Harold Feld of Public Knowledge and Philip Dampier of Stop the Cap! have persuasively argued that data caps are arbitrary limits on content usage, unrelated to network management but instead designed to create and ration artificial scarcity, which can in turn be exploited by ginning up users' fear of going over their caps, making cap-exempt status more attractive and therefore worth paying for from content providers' perspective.[64] The ultimate goal of this can be to raise the barriers to entry in the online content and application market such that network operators can set up stable and reliable dealings with the small number of large corporations able to consistently pay a Whitacre Toll as a regular part of their distribution business and dry up the open circulation of independent and noncommercial content once users are disciplined into familiar consumer roles. Content and services from independent producers and everyday internet users would still be able to reach end users under this model but, especially as such schemes become more common and users get used to having their data subsidized, this sort of prioritization could become a gatekeeping mechanism working to marginalize anyone who does not pay extra.

Conclusion

We have seen in this case study of AT&T's Sponsored Data an example of an emerging business model in the broadband industry that counts on and profits from discrimination in online traffic, indicative of shifting relations of unequal participation in digital media distribution. Sponsored Data takes advantage of AT&T's position in between online content providers and

their users, seeking to set itself up as a gatekeeper able to pick winners and losers online based on who can pay up. However, because this paid prioritization is not based on speed, the FCC's Open Internet rules allow it to continue. This discrimination through exemption is more subtle than a brazen "fast lane" scheme—it is construed in such a way as to seem like a good deal for content providers to circumvent data caps, even though it is network operators that created the data-constrained situation where such a shakedown seems desirable in the first place. The discourse of "fast lanes" helped to raise awareness and understanding of paid prioritization, but has also narrowed the view of unfair preferential treatment and perhaps distracted from less obvious but still troubling forms of discrimination online.

This case study has contributed to an understanding of data sponsorship and its net neutrality implications, but more scholarly attention will be needed to address the subtle forms of broadband discrimination that we might call second-generation net neutrality issues. This is especially pressing, as different forms of "zero-rated" services grow rapidly worldwide. By 2014, zero-rated services—of which Sponsored Data is just one type—were offered by half of all mobile operators globally.[65] Zero-rated services, like those rolled out by Facebook as part of its Internet.org initiative to connect the developing world to the internet, represent a conundrum where digital inclusion is pitted against digital equality. While connecting users to some internet content without charge increases access to information overall and can be crucial in bridging digital divides, zero-rating comes with steep tradeoffs in what that access actually is: new structures of inequality that restrict already marginalized users to a walled garden of pre-selected content and entrench currently dominant content providers.[66] Providing more people with access to some of the internet is better than nothing, but why accept that false choice in the first place? Based on such net neutrality concerns, zero-rated services from Facebook and Airtel have recently seen a prominent backlash from media industries and users in India, while various forms of zero-rating have been banned in countries including the Netherlands, Chile, Slovenia, Norway, Austria, and Canada.[67]

As laudable as the 2015 Open Internet policy is, the FCC must now address second-generation net neutrality issues, such as zero-rating in general and Sponsored Data in particular. Based on the examination above, this article recommends that the FCC should ban discrimination through exemption, at the very least for paid data-cap circumventions like AT&T's Sponsored Data. The case of Sponsored Data may come to serve as a test to the limits of the FCC's good net neutrality policy—how strong the Open Internet rules are will depend on how the FCC enforces them.

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[2] Patricia O'Connell, "At SBC, It's All about 'Scale and Scope,'" *BusinessWeek*, November 6, 2005.

[3] Federal Communications Commission (FCC), "Open Internet Order (In Re: Protecting and Promoting the Open Internet)," 80 FCC Rcd. 19737 (2015). Hereafter cited as "2015 Open Internet Order."

[4] Amol Sharma, Spencer E. Ante, and Anton Troianovski, "ESPN Eyes Subsidizing Wireless-Data Plans," *Wall Street Journal*, May 9, 2013.

[5] Such a crude toll has actually taken root elsewhere within internet infrastructure, though, in the form of "paid-peering" arrangements such as Comcast extracting payments from content providers, including Netflix, to connect to the last-mile network itself—but that is beyond the scope of this article.

[6] 2015 Open Internet Order, 7-8.

[7] Kevin Fitchard, "Half of Global Mobile Carriers Now Have Some Kind of Toll-Free Data Plan," *Gigaom*, July 15, 2014; David Talbot, "In Developing Countries, Google and Facebook Already Defy Net Neutrality," *MIT Technology Review*, January 20, 2014.

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[12] E.g., Matthew Andrews, Glenn Bruns, and Hyoseop Lee, "Calculating the Benefits of Sponsored Data for an Individual Content Provider," paper presented at the Conference on Information Sciences and Systems, Princeton, NJ, March 19, 2014; Dirk Trossen and Gergely Biczók, "Not Paying the Truck Driver: Differentiated Pricing for the Future Internet," in *Proceedings of the ACM Re-architecting the Internet Workshop* (New York: Association of Computing Machinery, 2010); Soumya Sen, Carlee Joe-Wong, Sangtae Ha, and Mung Chiang, eds., *Smart Data Pricing* (Hoboken, NJ: Wiley, 2014).

[13] Nicholas Economides, "Net Neutrality, Non-discrimination, and Digital Distribution of Content through the Internet," *I/S: A Journal of Law and Policy for the Information Society* 4, no. 2 (2008): 209–33; Economides and Joacim Tag, "Network Neutrality on the Internet: A Two-Sided Market Analysis," *Information Economics and Policy* 24 (2012): 91–104; John Musacchio and Dohoon Kim, "Network Platform Competition in a Two-Sided Market: Implications to the Net Neutrality Issue" (paper presented at TPRC: The Research Conference on Communication, Information, and Internet Policy, Arlington, VA, September 2009); Dennis Weisman and Robert B. Kulick, "Price Discrimination, Two-Sided Markets, and Net Neutrality Regulation" (working paper), accessed March 24, 2010; Robin S. Lee and Tim Wu, "Subsidizing Creativity through Network Design: Zero-Pricing and Net Neutrality," *Journal of Economic Perspectives* 23, no. 3 (2009): 61–

76; Christopher S. Yoo, "Network Neutrality, Consumers, and Innovation," *University of Chicago Legal Forum* (2008): 179–262; Gregory Sidak, "A Consumer-Welfare Approach to Network Neutrality Regulation of the Internet," *Journal of Competition Law and Economics* 2, no. 3 (2006): 349–474.

[14] Susan Crawford, *Captive Audience: The Telecom Industry and Monopoly in the New Gilded Age* (New Haven, CT: Yale University Press, 2013); Crawford, "The Internet and the Project of Communications Law," *UCLA Law Review* 55 (2007): 359–407; Tim Wu, "Wireless Carterfone," *International Journal of Communication* 1, no. 1 (2007): 389–426; Lee and Wu, "Subsidizing Creativity through Network Design." See also Jack Balkin, "Digital Speech and Democratic Culture: A Theory of Freedom of Expression for the Information Society," *New York University Law Review* 79, no. 1 (2004): 1–55; Dawn Nunziato, *Virtual Freedom: Net Neutrality and Free Speech in the Internet Age* (Stanford, CA: Stanford University Press, 2009); Pedro Henrique Soares Ramos, "Towards a Developmental Framework for Net Neutrality: The Rise of Sponsored Data Plans in Developing Countries" (paper presented at TPRC: The Research Conference on Communication, Information and Internet Policy, Alexandria, VA, September 13, 2014).

[15] E.g., Wei Dai and Scott Jordan, "Design and Impact of Data Caps" (paper presented at the IEEE Global Communications Conference, Atlanta, December 9, 2013); Daniel Lyons, "Internet Policy's Next Frontier: Usage-Based Broadband Pricing," *Federal Communications Law Journal* 66, no. 1 (2013): 1–45; Jacob Joseph Orion Minne, "Data Caps: How ISPs Are Stunting the Growth of Online Video Distributors and What Regulators Can Do About It," *Federal Communications Law Journal* 65, no. 2 (2012): 233–60.

[16] Henry Jenkins, Sam Ford, and Joshua Green, *Spreadable Media: Creating Value and Meaning in a Networked Culture* (New York: New York University Press, 2013).

[17] Aymar Jean Christian, "Not TV, Not the Web: Mobile Video Between Openness and Control," in *The Mobile Media Reader*, ed. Noah Arceneaux and Anandam Kavoori (New York: Peter Lang, 2012), 87–101.

[18] Ibid.

[19] An entire book about online media circulation, Jenkins, Ford, and Green's *Spreadable Media* has only a single passing mention of net neutrality, even though it is exactly the infrastructural condition which enabled such participation in the first place and is in the midst of a pivotal battle that could unravel the positive progress the book chronicles (162).

[20] Peter Dahlgren, *Media and Political Engagement: Citizens, Communication and Democracy* (Cambridge: Cambridge University Press, 2009).

[21] Numerous primers are available which supply background information that can be useful to less familiar readers, such as: Danny Kimball, "Net Neutrality Is a Struggle over Control of Communications Infrastructure," *Media Industries Project Research*, May 5, 2014.

[22] 2015 Open Internet Order, 66–68.

[23] Ibid., 8.

[24] Ibid.

[25] Crawford, *Captive Audience*, 170–87.

[26] "Wireless Data Plans," AT&T, accessed May 12, 2015.

[27] Brian Fung and Craig Timberg, "The FTC Is Suing AT&T for Throttling Its Unlimited Data Customers," *Washington Post*, October 28, 2014.

[28] 2015 Open Internet Order, 68-69; Cecilia Kang, "FCC's Pay-as-You-Go Internet Plan Raises Video, Access Questions," *Washington Post*, December 8, 2010. How data caps have been used anticompetively, however, has been looked at in a Department of Justice investigation that is underway at the time of this writing. See also Thomas Catan and Amy Schatz, "US Probes Cable for Limits on Net Video," *Wall Street Journal*, June 13, 2012.

[29] E.g., one's neighborhood broadband network might become congested in the evening hours, but not in the middle of the night; trying to connect to a mobile data network in a football stadium may be difficult during a heavily attended game, but across town at the same time it would be no problem. Andrew Odlyzko, et al., *Know Your Limits: Considering the Role of Data Caps and Usage Based Billing in Internet Access Service* (Washington, DC: Public Knowledge, 2012).

[30] *Mobile Majority: US Smartphone Ownership Tops 60%*, Nielsen, accessed June 6, 2013

[31] *Global Mobile Data Traffic Forecast Update, 2013–2018* (white paper, Visual Networking Index, Cisco, February 5, 2014).

[32] John Eggerton, "NCTA's Powell: Usage-Based Pricing about Fairness, Not Capacity," *Broadcasting and Cable*, January 17, 2013.

[33] Peter Svensson, "AT&T: Tighter Control of Cell Data Usage Ahead," *USA Today*, December 9, 2009.

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[36] Karen Mossberger, Caroline Tolbert, and Alison Hamilton, "Measuring Digital Citizenship: Mobile Access and Broadband," *International Journal of Communication* 6 (2012): 2492–2528.

[37] Russell Brandom, "Sponsored Data: AT&T Will Now Let Companies Buy Out Your Data Charges for Specific Videos and Apps," *The Verge*, January 6, 2014.

[38] Stacey Higginbotham, "AT&T's Mad, Mad Plan to Charge Wireless App Developers," *Gigaom*, February 27, 2012.

[39] Sharma, Ante, and Troianovski, "ESPN Eyes Subsidizing Wireless-Data Plans"; Phil Goldstein, "Report: ESPN in Talks with US Carrier on Toll-Free Data Plans," *FierceWireless*, May 10, 2013.

[40] Ryan Knutson, "Will Free Data Become the Next Free Shipping?," *Wall Street Journal*, October 24, 2014.

[41] Phil Goldstein, "AT&T's Stephenson: Content Providers Are Asking for 'Toll Free' Data Plans," *FierceWireless*, June 1, 2012; Om Malik, "With 'Sponsored Data' AT&T Is Double Dipping. And That's Just Dirty," *Gigaom*, January 6, 2014; Nilay Patel, "AT&T's Sponsored Data Is Bad for the Internet, the Economy, and You," *The Verge*, January 6, 2014.

[42] "Freeway—Frequently Asked Questions," Syntonic, accessed October 25, 2014

[43] Phil Goldstein, "AT&T Sponsored Data Partner Syntonic Wireless to Launch 'Toll-free' Content Store," *FierceWireless*, July 10, 2014.

[44] Phil Goldstein, "Strategy Analytics: Sponsored Data Plans Growing in US, China, Europe and Elsewhere," *FierceWireless*, March 11, 2015; Jared Lynch, "Netflix Reveals Australian Launch Date and iiNet Deal," *Sydney Morning Herald*, March 3, 2015; Kyle Orland, "Comcast: Xbox 360 On Demand Streams Won't Count against Data Caps," *Ars Technica*, March, 26 2012.

[45] Roger Cheng, "T-Mobile Unveils 'UnRadio' Service, Offers Data-Free Music," *CNET*, June 18, 2014.

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[48] "Toll-Free Data: The Technical Details, the Business Model and the Skeptics," *FierceWireless*, August 16, 2012.

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[50] Higginbotham, "AT&T's Mad, Mad Plan to Charge Wireless App Developers."

[51] Fred Wilson, "VC Pitches in a Year or Two," *AVC*, January 15, 2014.

[52] Hayley Tsukayama, "T-Mobile, Bundles and the Future of Entertainment," *Washington Post*, June 19, 2014; Marcus Wohlsen, "Free Mobile Data Plans Are Going to Crush the Startup Economy," *Wired*, August 1, 2014.

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[54] *Mobile Data Users Fear Exceeding Their Quota, Open to Sponsored Data Plans*, Citrix, last modified April 16, 2014.

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[56] National Public Radio, Comment, "In Re: Protecting the Open Internet," FCC GN Docket No. 14-28, July 15, 2014: 11.

[57] Jenkins, Ford, and Green, *Spreadable Media*.

[58] Mossberger, Tolbert, and Hamilton, *Measuring Digital Citizenship*; Dahlgren, *Media and Political Engagement*.

[59] See Lee and Wu, "Subsidizing Creativity through Network Design"; Economides and Tag, "Net Neutrality on the Internet"; Weisman and Kulick, "Price Discrimination, Two-Sided Markets, and Net Neutrality Regulation."

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