The Evolution of the Over-the-Top Regulatory Debate

Katie Watson
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Executive Summary

Over-The-Top (OTT) internet applications, like Facebook, Twitter, and Gmail, have sparked a debate in national and international political fora alike. This seemingly new conversation is in fact a cyclical continuation of the long-standing fight for control of the telecommunications market place. Throughout history, network operators, such as Western Union, the Bell Company, and Comcast, have used their market dominance to increase control of all aspects of telecommunication services. This situation has evolved from one of control over when and how to send telegrams, to the cost of phone calls for different customer groups, to the net neutrality debate. Now, it is an attempt by network operators to argue that OTT services have an unfair market advantage, which harms their businesses, and affects competition and investment.

Over the course of this paper, we will discuss the history of telecommunication network debates, how they relate to the current net neutrality debate, and why OTTs should be regulated separately from telecommunication services. As we will show, there are decades of policy and countless triumphs by public interest groups and policymakers that prove efforts to disrupt equal access over the internet are undesirable, unnecessary, and sometimes unlawful. In addition, we will outline possible regulatory answers to the well-founded concerns from the public, regulators, and legislators in the internet economy.

Introduction

Over the past several years, national telecommunications regulators and international telecommunications bodies, such as the International Telecommunication Union (ITU), have discussed new ways to (re)regulate internet services and applications, sometimes called “Over-The-Top” (OTT) applications. For the vast majority of consumers and users, OTTs have become the identifiable layer of the internet. For many, OTTs are “the” internet, and its governance is a close proxy to governance of the internet as a whole. As a result, the discussions regarding their regulation will have serious consequences for consumers and internet users worldwide.

The OTT governance debates centers on three key questions: the level playing field, the free rider, and the same service same rules question. Network operators argue that as a result of applying different regulations to OTTs, they have developed an unfair advantage in the market which has created an unlevel playing field. Additionally, network operators claim that OTTs use of the physical infrastructure owned by telecommunication companies without fair payment has allowed them to become free

riders. Finally, network operators argue that because some OTT services and applications offer what they consider to be similar services to the ones provided by network operators, such as Voice Over Internet Protocol (VoIP) or instant messaging, they should be subject to the same set of rules.

In this paper we explain not only why the three questions advanced by network operators are misguided, but also how the complaints of network operators about OTTs are not new: **since the days of the telegraph network operators have tried to limit competition and consumer choice**. Reviewing the history of the telegraph, the telephone, and the early internet, we illustrate how -- much like today -- network infrastructure incumbents have always tried to limit innovation and competition in their networks in order to increase their bottomline. We will show that network operators' OTT concerns are not a byproduct of the internet era, but rather part of a recurring pattern of complaints and malignant behavior by the incumbent owners of the physical communications infrastructure. We will discuss the current OTT governance debate, and conclude with policy recommendations to protect the public interest online.

A History of Anti-Competitive Behaviour

The Telegraph

Created in 1837 by Samuel Morse, the telegraph revolutionized the way people interacted, and it quickly became an essential means of sharing information. Within a few decades, the industry developed into a robust and competitive market place. In New York City alone, ten different businesses offered telegraph services. The route for telegraph lines between Buffalo and New York City was a particularly popular one, and each time a new firm announced it would offer service there, rates for consumers would drop by nearly 50%.[1] However, as time passed the businesses began to seek partnerships with one another and to merge. Between 1853 and 1857 the entire United States market was reduced to just six competing businesses. By 1864, only three massive corporations remained. Not long after, in 1866, Western Union absorbed its last two competitors to emerge as the only major telegraph company in the United States.[2]

In order to defend its margins, Western Union started to deny or delay its telegraph service to businesses it competed with, and to individuals who had previously held debts with the company.[3] Several cases were brought to courts against this anti-competitive behavior as the public began to worry about how infrastructure incumbents used their power to reduce consumer choice and increase barriers to access.

This consolidation of power became particularly problematic when Western Union signed an exclusive agreement with the Associated Press (AP). Other news sources were

[1] https://eh.net/encyclopedia/history-of-the-u-s-telegraph-industry/
[2] https://eh.net/encyclopedia/history-of-the-u-s-telegraph-industry/
[3] http://www.cybertelecom.org/notes/jones.htm#II

charged huge fees to access the telegraph lines, which ultimately priced them off the network. The AP became a monopoly for national news in the United States, and it used its position to decide what Americans should know, and how information should be presented to them. The AP frequently censored the news, favored some politicians over others, and silenced some voices. As a result, Western Union's decision to favor some uses of its service over others deeply harmed consumers and democracy.[4]

Policy makers at the state and national level recognized that they needed to act in order to protect the public interest. In 1848, New York became the first state to to pass comprehensive telegraph legislation. It established that, as an indispensable means of communication, the telegraph network owners should not engage in paid prioritization, price discrimination, or unequal delivery speeds. Telegraphs were effectively banned from controlling the information that travelled their networks with the following text:

> *It shall be the duty of the owner or the association owning any telegraph line, doing business within this state, to receive dispatches from and for other telegraph lines and associations, and from and for any individual, and on payment of their usual charges for individuals for transmitting dispatches, as established by the rules and regulations of such telegraph line, to transmit the same with impartiality and good faith, under penalty of one hundred dollars for every neglect or refusal to do so…*
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> *It shall likewise be the duty of every such owner or association, to transmit all dispatches in the order in which they are received, under the like penalty of one hundred dollars . . . provided, however, that arrangements may be made . . . for the transmission of [newspaper dispatches] out of [their] regular order.*[5]

By the end of 1848, Connecticut had enacted nearly identical legislation, followed not long after by Illinois, California, Maryland, Missouri, Louisiana, Wisconsin, and several other states.[6] In 1877, Dakota (which had not yet split into North and South) passed comprehensive provisions for telegraphs, labelling them "common carriers." As a result, telegraphs received a "specifying duty to serve, a prohibition on preferential treatment, a general standard of reasonable compensation, and restrictions on contracts limiting liability."[7] A decade later, the United States Congress established similar principles at a national level through the Telegraph Lines Act of 1888. This Act stated that telegraph businesses:

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[4] Wu, Tim, Network Neutrality: Competition, Innovation, and Nondiscriminatory Access (April 24, 2006). Available at SSRN: https://ssrn.com/abstract=903118 or http://dx.doi.org/10.2139/ssrn.903118

[5] Containing All Decisions of General Interest Decided in the Courts of Last Resort of the Several States: with Notes and References of Isaac Grant Thompson: Including Cases Decided in the Courts of Maryland, Massachusetts, Wisconsin, Iowa, Vermont, Pennsylvania and New York, Volume 8, page 528

[6] http://www.cybertelecom.org/notes/jones.htm#II

[7] Id.

> *Shall so operate their respective telegraph lines as to afford equal facilities to all, without discrimination in favor of or against any person, company, or corporation whatever, and shall receive, deliver, and exchange business with connecting telegraph lines on equal terms, and affording equal facilities, and without discrimination for or against any such lines; and such exchange of business shall be on terms just and equitable.*[8]

This laid the groundwork for future communication systems by establishing the idea that vital communications services should act in the public interest and refrain from discriminating against content, businesses, or individuals in favor of their own narrow business interests. This was a major win for consumers, particularly as the telephone rose to prominence not long after these rules were passed. Regulators and consumers alike relied on the precedent set in the 1800s through the Telegraph Lines Act to make a case for similar, fair treatment by growing telephone monopolies in the 1900s.

The Telephone

Created in 1876 by Alexander Graham Bell and patented by the Bell Company, the telephone did not become a mainstream communication service until Bell's patent ran out and competitors were able to enter the market. By the beginning of the 1900s, there were over 200 telephone companies and prices for telephone service rapidly declined.[9] Just as the telegraph industry had done decades before, after an explosion of growth the market began to consolidate as network owners vied for increased control of the field.

The Bell Company began sublicensing to independent contractors with smaller networks. As the contractors' prices were often lower than the Bell Company's own, it charged excessive tolls and fees to the contractors. This passed costs to consumers, thus raising the overall cost of service back to Bell's preferred range.[10] When Bell came up against a competitive independent company that would not sublicense, most notably the United States Telephone Company, it slashed its rates to undercut the profits of the rival until they agreed to sell.[11] In this way, Bell was able to gain wider control of the market at consumers' expense.

Once consolidated, the Bell Company discriminated and manipulated its competitors and users. Company officials openly admitted to price discrimination and to the fact that rates

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[8] http://uscode.house.gov/view.xhtml?path=/prelim@title47/chapter1&edition=prelim

[9] Opening Networks to Competition: The Regulation and Pricing of Access, edited by David Gabel, David F. Weiman (page 85)

[10] Opening Networks to Competition: The Regulation and Pricing of Access, edited by David Gabel, David F. Weiman (page 87)

[11] Opening Networks to Competition: The Regulation and Pricing of Access, edited by David Gabel, David F. Weiman (page 88)

were not set based on the cost to the company, but rather on "the value of service to the communities and without special regard to...the cost of service in a particular case."[12] The Bell Company operators routinely offered different prices and levels of service to businesses and individuals, arguing that businesses should pay more because they received bigger benefits from the ability to use the telephone. In order to entice businesses to remain customers despite increasing fees, the Bell Company charged varying prices and regulated usage so that key business customers would be able to reach the largest consumer base, receive the most efficient service, and enjoy the most reasonable pricing structure.[13]

The Bell Company went a step further in the 1960s when it prohibited anyone from hooking anything to their telephone service, such as a fax machine or answering machine, that wasn't a Bell-made device. This limited the capabilities of the telephone, and significantly reduced consumer choice in how they utilized the services for which they had already paid heavily.[14]

As a result, the Bell Company faced a series of antitrust cases as the government and consumers grew frustrated with the how a lack of competition impacted the market.[15] After intense public disgruntlement with the company, Congress passed the Mann-Elkins Act and telegraphs, telephones, and wireless companies were all named common carriers.[16] The Act prevented these critical communication services from giving preferential treatment to any messages sent across their wires for commercial reasons. As with the telegraph, legislators had to intervene to guarantee that network operators did not abuse their position as owners of a critical communications infrastructure.

Network operators attempted to stop innovation and consumer choice in the telegraph and telephone eras, and they are now making an effort to do the same with OTTs. They have slowed down web pages, banned services, and blocked content. As a result, the fight for net neutrality has taken center stage.

The Internet and Net Neutrality

The internet accelerated the debates for network control. Beginning in the early 2000s, growing internet service providers (ISP) tried to regulate the use of their networks in much the same way as Western Union did in the 1800s and the Bell Company (now AT&T) did in the 1900s. Just as both those companies fought for control of the market at

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[12] Opening Networks to Competition: The Regulation and Pricing of Access, edited by David Gabel, David F. Weiman (84)
[13] Id. (85)
[14] Wu, Tim, Network Neutrality: Competition, Innovation, and Nondiscriminatory Access (April 24, 2006). Available at SSRN: https://ssrn.com/abstract=903118 or http://dx.doi.org/10.2139/ssrn.903118
[15] https://www.mackinac.org/6033
[16] https://archive.org/stream/jstor-1883490/1883490_djvu.txt

the expense of consumers, ISPs and telecommunication companies attempted to bar competition by degrading user experience, charging discriminatory prices, and limiting services and the interconnectivity of devices.

In 2007 it was discovered that for over two years one ISP, Comcast, had throttled or blocked access to sites such as Netflix and BitTorrent.[17] Since then, AT&T,[18] Verizon,[19] MetroPCS,[20] Canada's Freedom Mobile,[21] and more have all been accused of the same practice. Applications such as Skype, FaceTime, Google Wallet, and peer-to-peer technologies were all found to be blocked and slowed by ISPs between 2005 - 2014 in both North America and Europe. The problem was so endemic that the Body of European Regulators for Electronic Communications issued a report in 2012 stating that at least one in five consumers had been affected.[22]

As a result, a debate emerged similar to the one surrounding the telegraph and telephone. At the height of popularity for both technologies, they were deemed so important to modern communications that it was the duty of network owners to ensure that all usage was treated equally. Consumers and public interest groups now argue that the internet has reached the same level of prominence in modern society, and should be regulated as such. Just as Western Union was required to send competing telegraph companies' messages at the same prices and speeds as its own, and allow all applications to utilize the network, and as the Bell Company was prohibited from blocking or slowing the ability of some users to make and receive calls, today's internet service providers should be required to deliver all OTTs without blocking, throttling, or requiring paid prioritization from them.

In 2015, the Federal Communications Commission (FCC) codified "net neutrality" -- the principle that service providers should ensure access to all content and applications online without blocking, throttling, or charging unfair fees for them -- through the Open Internet Order; a rulemaking that Public Knowledge and many other groups and experts ardently supported. The Open Internet Order asserted that the internet should remain open and equally accessible to everyone on every site. The internet is a totally decentralized network, and the companies that connect users to the internet should not be able to control what users do and see online. Net neutrality codifies the intrinsic nature of the internet, protects its original design, and has been largely upheld since the

[17] https://torrentfreak.com/comcast-throttles-bittorrent-traffic-seeding-impossible/

[18] https://arstechnica.com/tech-policy/2016/12/fcc-says-att-is-violating-net-neutrality-with-directv-data-cap-exemption/

[19] https://www.theverge.com/2017/7/21/16010766/verizon-netflix-throttling-statement-net-neutrality-title-ii

[20] https://www.digitaltrends.com/mobile/metropcs-accused-of-violating-net-neutrality/

[21] https://www.privateinternetaccess.com/blog/2017/07/canadas-freedom-mobile-throttles-video-streaming-accused-violating-net-neutrality/

[22] https://www.freepress.net/blog/2017/04/25/net-neutrality-violations-brief-history

internet's inception. Just as equal and open telegraph and telephone lines spurred market growth and widespread adoption, a neutral internet led to the creation and rise of hundreds of thousands of edge-providers and small businesses alike.

Network operators fiercely opposed net neutrality, and its principles, and as a result they have taken two approaches to undermine the values of an open internet. First, network operators have directly undermined existing net neutrality through regulations and legislation from local to international forums. Second, they have indirectly undermined open internet values by questioning OTT governance.

In 2017, network operators' massive lobbying efforts paid off and the FCC reneged on its promise to uphold the open internet by rolling back the 2015 Open Internet Order. This will have grave implications for consumer choice in the years to come. Service providers are now able to block, throttle, and slow the speeds of any internet service or application they choose, so long as they are transparent about the fact that they are not net neutral. However, the FCC also gave up its jurisdiction to oversee potential net neutrality violations, so if consumers or OTT providers have complaints about unfair treatment, there will not be any governmental agency capable of hearing the case outside of the court system. For OTT providers, this means that consumers who try to access their applications or services may experience delays, lag, or total blockage without knowing whether there is a problem with their service, the speed, or the OTT itself. This will have significant repercussions for investors and entrepreneurs online who are looking to secure their spot in the global, digital marketplace.

However, network operators know that the fight for net neutrality is far from over. Domestically, Congress is considering nullifying the FCC's rollback of the 2015 Open Internet Order. Internationally, other jurisdictions such as the European Union and Chile, have committed to upholding their own net neutrality laws. As a result, network operators have begun to seek new ways of regaining control of the content that moves through their pipes. Today, network operators are attempting to undermine net neutrality rules in the United States and abroad by undermining the regulation of OTTs. If successful, this strategy will diminish the open internet, harming competition and consumer choice.

The OTT Governance Debate

OTTs range from video streaming sites like Youtube, to social media sites like Twitter, and messaging services such as Viber. These are the services that make up the internet, and they rely on network access to be usable.[23] For the average internet user, OTTs are *the* internet.

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23 https://www.whitecase.com/publications/article/new-players-old-rules-current-debate-regulation-ott-services-eu-and-germany

OTTs are not an accident, but a conscious intended consequence of the original design of the internet. In fact, their success and prevalence reflect the technical workings of fixed and mobile broadband service and the Internet's original design: "placing intelligence at the edges rather than control at the middle of the network."[24] The other layers of the internet, such as the cables that bring internet to homes and the towers that connect our cellphones, are fundamentally "an infrastructure that provides services to applications."[25] Internet technologies are purposely modular: internet subscribers can use their service to send and receive their choice of every single form of content ever conveyed over any electronic communications system, through voice, video, or text.

Network operators are worried that consumers are using less of their lucrative legacy services -- such as SMS, traditional international phone calls, or cable TV -- and instead choosing OTT platforms. For that reason, they are questioning the current state of OTT governance trying to steer it by advancing three questions: the "level playing field" question, the "free rider" question, and the "same service same rules" question.

The first, whether there is a "level playing field" between OTTs and the legacy voice, SMS, and video services provided by network operators and broadcasters is the most often asked in the OTT governance debates. Network operators argue that it is unfair that the legacy services they provide are subject to a different set of regulations than OTTs. After all, they ask, what is that makes an SMS fundamentally different from an iMessage?

But the reality is that there cannot be, and there should not be, a "level playing field" between OTTs and network operators, simply because OTTs and network operators are in two fundamentally separate markets that ought to be regulated in very different ways. The truism that like services should be regulated in like ways does not mean that all services are, in fact, alike. On the one hand, network operators are often a monopoly (natural or not) that owns the network, or are granted exclusive control of a scarce public resource (through spectrum licensing, access to public rights-of-way, and so on). Regulation should guarantee those network operators are not allowed to unfairly abuse their privileged position, for example, by restricting the ability of consumers to use the OTTs of their choice. On the other hand, OTTs operate in what is typically a more competitive environment, and rely on the network access to expand opportunities and offers to consumers. Consumers freely access their choice of OTTs through the service they purchase from network operators.

The "level playing field" is a fallacy in its own right. Legacy services that network operators provide have the advantage of policies and economic conditions that produce

[24] Nuechterlein & Weiser, "Digital Crossroads: Telecommunications Law and Policy in the Internet Age" 187; see also id. at 164-65
[25] Kurose, J. F., & Ross, K. W. (2010). Computer networking: a top-down approach. Pearson.

and promote monopoly dominance over all services that are accessed through their network. OTTs are successful not because of existing market conditions, but despite them, thanks to the innovation allowed by the end-to-end principle that governs the internet. OTT markets could become concentrated and pose regulatory and competition challenges of their own, but these challenges cannot be answered through comparisons to last-mile network operators.

Network operators second proposition, the “free rider” question, refers to the idea that edge providers -- the OTTs -- should be contributing to network infrastructure sustainability. In essence, allowing network operators to charge OTTs to reach consumers, thus establishing a paid prioritization of internet traffic. This is also a misguided question.

First, it omits the role of users, who pay network operators specifically to access OTT applications. It likewise ignores the positive externalities created by open networks -- the “virtuous cycle” created by “new uses of the network—including new content, applications, services, and devices -- lead to increased end-user demand for broadband, which drives network improvements, which in turn lead to further innovative network uses.”[26] This cycle depends on edge providers being able to easily enter the market, driving end-user demand and increasing innovation. Absent a ban on paid prioritization and other harmful behaviors from network operators, edge providers may not be able to freely enter the market. Instead, they will have to use their scarce resources to access the “fast lanes,” market specific tiers, or other expensive plans in order to remain competitive against incumbent businesses.

The best way to guarantee that all stakeholders prosper and thrive is to dismiss the “free-riding” fallacy, ban paid-prioritization, and encourage an environment in which consumer choice and innovation drive up the demand for internet services. In addition, OTT providers such as Amazon, Microsoft, or Google among others are contributing to the physical internet infrastructure by financing the layout of submarine internet cables, exploring TV white space initiatives to connect rural America, and more. In matters of infrastructure investment, the last mile is important but not the only aspect of internet infrastructure.

Regarding the “same service same rules” proposition, most OTTs remain complementary rather than substitutes of legacy services. For example, the most successful Video on Demand (VoD) OTTs do not offer linear programming, and therefore should not be subject to the same rules as cable or air TV channels. In the US, the relationship between legacy pay-TV services and broadcasters is highly regulated; bringing OTT video providers under the “same rules” would require, among other things, granting them compulsory video copyright licenses. In addition, OTTs do not benefit from

[26] 2010 Open Internet Order at 17910-11, para. 14.

the structural advantages of vertical integration that the services provided by network operators enjoy. Take for example the Public Switched Telephone Network (PSTN). Right now, PSTN service is part of the mobile phone plan that most subscribers purchase, which is itself a distinct advantage. PSTN traffic, too, is treated differently than data traffic on mobile carriers' networks. But even if one day the PSTN might transform into an application that runs over the internet, that does not mean it would become "just another" application like Viber, FaceTime, or Skype. The PSTN has its own numbering system and phone numbers that require international cooperation between governments and many private entities. Emergency calling depends on the PSTN. Business can give out phone numbers without worrying whether their customers have some special app or particular level of expertise. The PSTN is useful, and it is useful because it is a decentralized, international, nonproprietary, and universal means to establish voice calls between any two places on Earth.

While instant messaging, email, video streaming, non-PSTN voice communication, and others are all important applications, none of them are as clearly affected with the public interest as the PSTN, and this is true whether or not the PSTN corresponds to a separate physical network. Network operators have the structural advantage of offering services that users can usually not choose to have in the telecommunications packages they use. These services, in addition, are offered in a vertically integrated fashion. In contrast, OTTs are not universal, are not automatically integrated into the network, are not by default available in the devices that connect to the network, and are not encouraged, supported, and mandated by public policies and regulations. Hence, there is no need to try to impose a false equivalence among services that are not equivalent.

How the OTT Debate Has Unfolded Internationally

Rules surrounding OTTs are different in most countries, but the majority of regulations focus on one kind of OTT as opposed to the entirety of all OTT services. It is important to remember that OTTs are not in a regulatory vacuum. For example, France and Spain have blocked OTT providers that offer Voice over Internet Protocol (VoIP) that connect to traditional PSTNs, but have not blocked video streaming services.[27] As mentioned above, net neutrality is another kind of OTT related regulation, as it sets standards of equality and openness for users who want to access OTTs.

Telecommunication service providers[28] are responsible for building and maintaining the networks that connect users to the internet. While international standards have been set

[27] https://www.itu.int/en/ITU-D/Regional-Presence/AsiaPacific/Documents/Events/2016/Jul-RR-ITP/OTT_Muhammad_Ahmed_Kamal.pdf

[28] Also called internet service providers (ISP) for the purposes of this paper.

by institutions such as the International Telecommunications Union (ITU),[29] the actual application of these rules often varies widely by country and can get particularly complicated in cases where the government is also a stakeholder in the telecommunication industry. In these cases, there may be excessive regulation of OTTs, which limits the public's ability to access the entirety of the internet. Other countries, such as the United States, suffer from a lack of competition among network operators, which poses its own problems for connectivity.

Officials in Indonesia, for example, argue OTTs should be held to the same standards and tax structures as any other national business. They released a liability framework for OTT regulation in August 2017 that would require OTT services to have a permanent establishment in the country. If enforced, this framework would require OTTs to have either a fixed address in Indonesia or employ locals, and to create censorship mechanisms to curtail detrimental content.[30]

Indonesia's proposal to require OTTs to exist in both the real and virtual worlds could be seriously detrimental to both OTTs and consumers. If passed, OTTs would need to divert a significant number of resources from developing new services to managing a physical space. This would decentivize new entrants to the market and could limit Indonesians' experience online. Telecommunication services however, exist purely in the physical world and are responsible for maintaining and managing the wires that run throughout the country and into people's homes. Therefore, it is reasonable to require them to have a local office that is responsible for overseeing infrastructure development projects.

Some countries have already tried to address the level playing field question. Officials in Thailand have suggested leveling the playing field by charging OTTs bandwidth fees and licensing taxes. They have also argued that OTTs should be liable for any illegal content on their platforms in the same way businesses are liable for selling illegal items.[31] Advocates for this approach argue that it would make it easier for the government to benefit citizens by tapping into the huge amount of revenue generated by OTTs while simultaneously protecting them from harmful content.

Thailand's proposal has its own flaws. Excess fees are often passed on to consumers, and could lead to significant price increases. As prices rise, some consumers may be driven offline, weakening the entire internet ecosystem. OTTs are not solely used as a means of communication and entertainment -- they also act as two way market facilitators that encourage everyone to kindle their inner entrepreneur. Without access to

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29 https://www.itu.int/en/ITU-D/Regional-Presence/AsiaPacific/Documents/Events/2016/Jul-RR-ITP/OTT_Muhammad_Ahmed_Kamal.pdf

30 https://www.eff.org/deeplinks/2017/10/over-top-approach-internet-regulation-developing-countries

31 http://www.telecomramblings.com/2017/10/regulating-otts-risky-move-eff/

the growing, global digital economy, communities will be unable to buy and sell goods in real and virtual marketplaces.

Censorship requirements in Thailand also pose significant risks. If OTTs are responsible for deciding what content does and does not reach consumers, they will have to violate the principles of network neutrality, the harmful effects of which we have already discussed. Additionally, giving individual companies decision making power over what constitutes legal or illegal content would likely lead them to over-limit content out of fear of governmental retribution. As a result, both OTTs and consumers would suffer, leading to a weakened internet experience for everyone.

In order to ensure that the internet remains open, accessible, and free from detrimental regulation, global policy makers should closely consider the public interest before passing any laws. They must look past the fallacies of the free rider, same rules for same service, and level playing field questions to address OTT regulation in such a way so as to ensure consumer benefit, not corporate benefit.

Recommendations

As we have shown over the course of this paper, telecommunication networks and OTTs exist in tandem, but they are fundamentally different and it makes little sense to treat them as a single entity. National and international rule making bodies should refrain from passing any legislation that would seek to treat OTTs like telecommunication networks.

That is not to say that OTTs should not be regulated at all. OTTs and telecommunication services should both be subject to the same overarching policy goals. Regulators should ensure that any new rule making for OTTs upholds the ideas of a fair and open marketplace that includes safeguards for consumer benefit. For example, it is sensible for regulators and consumers alike to want certain standards to be met both online and off. This is especially true when it comes to public safety measures, access to emergency services, and general non-discriminatory practices. Both telecommunication services and OTTs should offer services to all users, regardless of income, race, religion, or other demographic factors. They should also act in the public interest and make a reasonable effort to ensure that all persons can use their services in times of distress.

Moving forward, lawmakers should thoroughly consider the implications for consumers before drafting OTT regulation. Any rules and regulations regarding OTTs should emphasize the need to maintain an equal and open internet for all internet users.

Conclusion

This paper shows that the three questions in the OTT regulator debate -- the level playing field question, the same service same rules question, and the free rider question -- are all fallacies. OTTs and telecommunication service providers are vastly different, so it makes little sense to regulate them in the same way, particularly given that providers often exist as a monopoly, or near monopoly.[32] This gives them unfair control of resources, such as spectrum and the public right of way. Regulation must exist to make sure that they do not abuse their power to control the market. OTTs, however, are a part of an unlimited resource -- the internet. There is no natural restriction on how many OTTs may operate or utilize the resources needed to exist. This difference in the physicality of services is important, as OTTs do not disrupt communities with upkeep or physical maintenance, nor do are they subject to the associated costs of sustainability.

Network operators in favor of regulating OTTs under the same laws they themselves are subject to have asserted that as OTT communication services become more sophisticated, they will compete with legacy services without being subject to any of the same restrictions.[33] These advocates worry that the low barrier to entry for new OTTs may expedite their ability to grow to scale, leading to new and unwanted competition in the marketplace. Telecommunication services say that the lack of regulations for OTTs make them more difficult to compete with, which may decentivize existing providers from building new internet infrastructure.[34] As a result, regulating bodies like the European Parliament are considering imposing rules that would apply to OTTs and service providers equally.[35]

However, though OTTs can be *similar* to traditional communication services, they are not necessarily substitutive. Today, even the best OTT communication tools are a supplement to traditional services, not a stand-in for them, so the same service same rules question makes little sense.[36] For example, apps like Netflix, Hulu, or HBO GO do not offer linear programing, making it difficult and unnecessary to treat them like services that do, such as cable or air TV channels. Similarly, WhatsApp, Facetime, and Skype all offer a means of communication, but they are not a substitute for a universal and internationally accessible phone number. While consumers may use OTTs as a supplement to legacy services, there is no risk today that they will switch to one of these services in lieu of paying for traditional telecommunication services.

Legacy services are also advantaged by the regulatory structures that have already been put in place to assist them. The telephone service industry, for example, benefits

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[32] Susan Crawford, *Captive Audience*, http://scrawford.net/captive-audience/
[33] http://www.bakermckenzie.com/en/insight/publications/2016/08/regulating-over-the-top-services/
[34] http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/586641/EPRS_BRI%282016%29586641_EN.pdf
[35] Id.
[36] http://www.itu.int/en/Lists/consultationJune2017/Attachments/47//PK_IDEC_FINAL_OTT_3.pdf

from long-standing infrastructure, perceived cultural and social necessity, and a single, international regulatory body to ensure that each number is unique and universally reachable. Communication applications that mimic phone lines, such as WhatsApp, Facetime, and Skype each require users to create a new identification that relies on an existing phone number for verification. For these reasons, and many more, proposals to treat telecommunications and OTTs as like services with like regulations is fundamentally flawed.

The problem of infrastructure is a recurring theme in the OTT regulatory debate. Network operators argue that OTTs should be required to help maintain and expand the networks that they depend upon in order to be delivered to consumers. They also note that because OTTs take up so much bandwidth, they may grow to clog networks and degenerate consumers' experience. This in turn may lead consumers to blame their service provider and switch services, causing long-term business decline. Network operators argue that if OTTs must not be allowed to become free riders. If they want to benefit from the infrastructure that companies built, they should be responsible for helping to maintain and upgrade them. However, operators' proposal that OTTs should have to pay to help build out and maintain networks is particularly problematic when you consider the fact that consumers already pay them for that same purpose. Network operators benefit heavily from internet users' ability access everything available online. The more services offered on the internet, the more individuals will pay providers to access them easily and quickly. If OTTs are charged fees at varying levels to reach consumers at the same speeds, it will discourage new entrants to the marketplace, which could ultimately cause consumers' willingness to pay high prices for access to decline.

This paper also shows that despite its particularities, the OTT debate is not a unique or new regulatory issue. On the contrary, since the advent of telecommunications systems in the 1800s, network providers have attempted to starve innovation and competition through a variety of duplicitous practices and regulatory loopholes. Fortunately for consumers and entrepreneurs, policy makers have thus far been able to find solutions that simultaneously encourage innovation and consumer protection. As a result, advanced new technologies and applications have been introduced to the market, resulting in significant societal benefit. It is critical that policy makers continue this long held tradition of ensuring that the communications market remains open. OTTs and networks must be treated as separate, but important aspects of the internet. When creating any new regulations, this relationship should be acknowledged and rules passed that encourage an inclusive and nondiscriminatory internet experience. Policy makers should take steps to ensure consumers are protected and benefit by regulating OTTs and telecommunication services as best fits each.

OTTs are a crucial and unique part of the internet, and they currently exist in a symbiotic relationship with telecommunication services. Both play different roles in the ecosystem,

and both need each other to thrive in order to survive themselves. Without network updates and build outs, OTTs will be unable to reach consumers.