

IS1103 IS INNOVATIONS IN ORGANISATION AND SOCIETY

Take-home Assignment

Disclaimer: The report is my work effort. I have complied with the NUS Code of Student Conduct.

Question 1:

In general, net neutrality is the principle that all traffic on the internet should be treated equally (Reardon, 2018). It applies specifically to corporations labeled “Internet Service Provider” (ISP) whose role is to provide internet access to people around the world. In particular, net neutrality dictates that ISPs should not charge users extra to access specific online content, nor slow down access to sites which take up too much bandwidth (Hio, 2017). For example, no matter whether you are scrolling Facebook or posting stories on Snapchat, an Internet service provider (ISP) who has favorable tie with Facebook should not be allowed to intentionally make it faster for you to access Facebook pages and make it slower for you to view Snapchat stories. This principle was first adopted by the United States’ Federal Communications Commission (FCC) “to preserve and promote the vibrant and open character of the Internet as the telecommunications marketplace enters the broadband age”. Essentially, it is the belief that a free and open Internet is beneficial to mankind, and that to achieve this all ISPs must treat all kinds of (nonharmful) Internet traffic as if they are equivalent.

As expected from its idealistic nature, net neutrality principle was well-liked by the Democrats, notably former US president Barack Obama. He wrote a nearly 1,100-word statement that there should be no toll takers between you and your Internet content, and he implied that enforcing net neutrality was the only way to ensure the Internet remained open to everyone (Reardon, Net neutrality a reality: FCC votes to bring Internet under utility-style rules, 2015). Three Democrats congressmen, namely reps. Nancy Pelosi of California, Frank Pallone, Jr. of New Jersey, and Mike Doyle of Pennsylvania, also believe that “without the FCC acting as a sheriff, [...] big corporations [would start] exploring ways to change how consumers access the Internet in order to benefit their bottom line” (Reardon, Here's everything you need to know about net neutrality on the anniversary of its repeal, 2018). In 2015, net neutrality was first institutionalized by the FCC through a reclassification of broadband as a “Title II telecommunication service”. Former FCC Chairman Tom Wheeler said that such a move is necessary to ensure that the rules will stand up to future court challenges. Prior to this, the FCC has lost two legal challenges when defending its net neutrality rules. To Tom Wheeler, institutionalizing net neutrality is just as important to an open Internet as how the First Amendment is important to human’s freedom of speech (Reardon, Net neutrality a reality: FCC votes to bring Internet under utility-style rules, 2015).

Not everyone was happy about the institutionalization of net neutrality principle. Richard Bennett, a technologist with more than 30 years of experience in network engineering and several important contributions to the standards of the Internet we are using today argues that it is impossible to enforce net neutrality with the current tools and technologies, backing his arguments with a research paper in which a computer scientist surveyed the six best methods of “traffic management detection” and concluded that all of them lack practicality. He then said it is meaningless to institutionalize a principle that we cannot enforce. He further argues that the Internet is “open and relatively neutral by

design”, and hence will remain open “because the costs to Internet business of deviating from essential neutrality are too high” (Bennett, 2017). This view sings to many Republicans, notably Ajit Pai, the current FCC Chairman, who are of the opinion that the Internet had “worked” in the early 2000s without rules explicitly enforcing net neutrality, and it will continue to “work” without those rules. Big players who provide internet services like AT&T and Comcast resent the rules, saying that classifying broadband service as “Title II telecommunication service” allows the FCC to impose higher rates, which would negatively affect their bottom line and discourage them from building or upgrading their networks (Reardon, What you need to know about the FCC's 2015 net neutrality regulation, 2015).

Under this light, it comes as no surprise that after the election of Donald Trump, a Republican, as the new US president in 2016 and the appointment of Ajit Pai, someone who has always been fighting against the institutionalization of the rules for net neutrality, as the new Chairman of FCC, FCC repealed net neutrality rules and they officially went away on June 11 in 2017. Ajit Pai thinks that “Title II” reclassification was a “wrong decision” because “rules designed for the Ma Bell monopoly during the era of rotary phones were a poor fit for [...] the internet” (Pai, 2018). He claimed that the rules deterred innovation related to the Internet (Pai, 2018), and the deterrent might have happened in more than one way. Firstly, because of the rules, internet service providers had little incentive to improve the broadband network infrastructure. Secondly, following FCC’s decision to institutionalize the rules, network investment fell by billions of dollars as if a recession in the broadband era was happening (Pai, 2018), and the lack of fund would naturally lead to an absence of ground-breaking projects. On a more business-centric note, the FCC said the rules restrained broadband providers like Verizon and Comcast from experimenting with new business models. After the repeal, the FCC handed the authority to regulate broadband to the Federal Trade Commission (FTC), which could take actions against companies that violate contracts with consumers or that participate in anticompetitive and fraudulent activity (Reardon, Here's everything you need to know about net neutrality on the anniversary of its repeal, 2018).

Question 2:

In Singapore, the Infocomm Media Development Authority (IMDA) is the institution that regulates the local internet. Despite the repeal of the net neutrality rules by the United States’ Federal Communications Commission, IMDA maintains its viewpoint that it is important to enforce net neutrality.

There are many similarities in the policies IMDA uses to enforce net neutrality and the net neutrality rules that the United States’ FCC put in place in 2015. These include forbidding ISPs from blocking legitimate Internet content as well as from implementing practices which render content “effectively inaccessible or unusable” (Hio, 2017). However, IMDA policies are more flexible as it looks at net neutrality from a practical perspective of consumer benefit rather than a strict, ideal perspective of

human right to access content on the internet and an ideal image of how the Internet should look like. For example, IMDA does not outright forbid “throttling” - ISPs can choose to slow down applications or services which consume too much bandwidth, as long as the applications or services which are “throttled” are still effectively usable. It also does not outright forbid “fast-lane” – ISPs can prioritize and assign more bandwidth to applications whose companies are willing to pay more for lower latency. At the same time, to make sure that corporations do not abuse this loop hole to stifle smaller firms who does not have enough finance to buy the necessary bandwidth, IMDA requires corporations to adhere to IDA’s Telecom Competition Code (IMDA, 2010). In addition, IMDA allows ISPs to offer specialized or customized plans to differentiate themselves from the competition. For instance, this lets ISPs, including telcos, offer what is known as zero-rating plans, where certain services do not count towards a monthly data cap.

Based on the public consultation on net neutrality opened by Singapore’s Infocomm Development Authority (IDA), big broadband providers, including MNC firms like AT&T and local firms like Singtel and Starhub, are generally supportive of IMDA policies to enforce net neutrality. On the other hand, IMDA also “have not found any pattern to suggest that ISPs are operating in breach of [its policies]”. This have further strengthened IMDA’s decision not to revise its policy approach to net neutrality. This is clearly different from FCC’s situation where big broadband providers are unhappy with the rules and FCC have also brought to court several cases where corporates allegedly violate its net neutrality rules.

Question 3:

I think that net neutrality should be enforced instead of being left to the market to decide.

Firstly, I find Richard Bennett’s argument that rules should not be made if they cannot be practically enforced unconvincing. If the rules indeed help with the betterment of society, they should be institutionalized anyway. For example, in Singapore, even though there is no effective way to make sure that people do not eat or drink on the bus or the MRT, it is still made into rule that one would incur 500 SGD fine if he/she eat or drink on the bus or the MRT so as to keep the public transport system clean. Even if the rules are not effectively enforceable, their presence would serve as an effective psychological deterrent to those who intend to violate it.

Secondly, current FCC belief that the Internet will continue to “work” without net neutrality rules because it has “worked” back in the early 2000s without those rules is rather oblivious and ignorant of how the Internet has changed. The Internet that we see today is totally different from the Internet in the early 2000s. In the Internet of the early 2000s, fresh tech startups were the stars – they helped undo Microsoft’s hold on the tech business and displayed several things that we did not know were possible (Manjoo, 2018). For example, while Amazon literally invented e-commerce, Google revolutionized how people access information, and Facebook invented an entirely new way in which

people could socialize and keep in touch. On contrary, the Internet today is run by giants, where a handful of American tech behemoths control the most important digital infrastructure, while a handful of broadband companies control most of the internet connections in the United States (Manjoo, 2018). In addition, these tech behemoths are so much more aware of the danger of competition than behemoths in the past – they invest heavily in research and development of the next-big-thing, or as Google’s CEO Larry Page calls it, the moon-shot projects. Instead of undoing these behemoths’ position in the market, it is becoming more likely for new startups to be acquired or squashed by them. We can already see it happening in the past few years, during which Facebook copied features from Snapchat, a social media startup, and Waymo, Google’s self-driving car division, try to sue Uber, a startup with a potential self-driving car business, for stealing its technology with no clear evidence.

The evidence above only strengthens my belief that tech behemoths will monopolize the market in the absence of net neutrality rule. As Farhad Manjoo brilliantly pointed out, the domination will not happen right away because as long as the repeal is still being challenged in court, the behemoths need to play nicely so that court would rule in their favor (Manjoo, 2018), but it will happen slowly. Startups would be less likely to succeed and innovation would be deterred. The Internet would turn heavily biased towards pages that favor big corporations and applications serving big corporations. It is time to recognize that the Internet has changed drastically compared to when it was first conceived, and drastic measures must be taken to ensure that things do not turn sour on the Internet.

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