

Take-Home Assignment

I acknowledge that this report is my own work effort and that I have complied with the NUS Code of Student Conduct.

Q1: Net neutrality, as coined by Professor Tim Wu in 2003, is the principle that all data on the Internet should be treated without discrimination or bias. In an allusion to this, the then-head of the Federal Communications Commission (FCC), Michael Powell, proposed the Four Freedoms of the Internet in an address. These Freedoms were an exhortation by Powell to encourage networks and ISPs to follow non-discriminatory practices, but came without new legislation. They outlined a viewpoint where the ideal Internet was a free and open one for consumers; an Internet where consumers had less freedom of choice was a dangerous one which would leave them vulnerable to the profit-driven decisions of companies. However, the FCC was unable to enforce net neutrality; an investigation into Madison River Communications' selective blocking of services was ultimately dropped after a token fine of \$15,000. At this point, net neutrality was a principle that the FCC encouraged and wished to enforce, but was unable to.

The FCC's first major legal battle occurred in 2008, and resulted in a defeat for the FCC. Comcast, one of the largest telecommunications companies in the US, had been throttling BitTorrent's Internet traffic for two years. The FCC demanded that Comcast become transparent about its network management practices and that they cease similar blocking of any site, but those rulings were overturned on appeal, as was a 2009 set of new regulations that would prevent companies from throttling or otherwise blocking particular information on the Internet. The FCC, in taking a more assertive stance despite their ultimate failure, here implicitly argued that net neutrality was not only an ideal to strive for, but a legal ruling where sanctions and punishments could be dealt out over. The failure of their proposals rested on a distinction between information services (Title I services) and common carrier services (Title II services) – Internet services such as those being provided by ISPs and other networks, it was argued, were Title I services; the FCC held jurisdiction only over Title II services, and therefore had no legal power to impose restrictions or regulations over networks and ISPs. While seemingly minor, this classification of Internet services rendered the FCC virtually impotent in the fight for net neutrality. The FCC eventually pursued a watered-down version of their original stance: the 2010 Open Internet Order provided some groundwork for the eventual regulation of networks by laying out a set of rules, such as a requirement that companies be transparent about their network management practices; however, it stopped short of enforcing or otherwise banning it.

In 2015, the FCC sought to reclassify Internet services as Title II services. Amidst legal challenges, the second Open Internet Order did just that – in a huge boost for net neutrality, it reclassified the Internet as a Title II service, and provided new regulations for it. One of the main goals which had been set a decade ago was finally accomplished. With the rules of net neutrality being formally enacted in legislation, the FCC now had the authority to enforce those rules on companies who infringed upon them.

However, it faltered at an unexpected hurdle – the Democrats, which had cultivated the environment necessary for the FCC to realize its net neutrality ideals, fell out of power in spectacular fashion. The Chairman of the FCC was replaced, and with that, the direction of the Commission

dramatically changed. The new stance of the FCC was that net neutrality no longer required regulation and legislation. Instead, under the watchful eye of Ajit Pai, regulation after regulation was torn down, in favour of the belief that market forces would drive the way. If companies wished to abuse their power, then let them – consumers would leave them instead, and they would be forced to change or otherwise become obsolete. This huge about-turn in the FCC's stance, just a mere two years after its victory in 2015, was highlighted by the repeal of the ruling earned in that victory; a repeal championed by the very same organization which had previously legislated it. Ajit Pai, in his defence amidst public uproar, argued that net neutrality should be enforced only in the case of actual anti-competitive behaviour, rather than as a safeguard which would dampen the entire branch of the economy. It would stifle innovation and growth, in his view, to forcibly regulate and manage Internet services; rather, he would prefer to enforce transparency of companies' management practices, and then let the money of the public decide their fate.

Q2: Singapore's formulation of net neutrality is less stringent than the United States Federal Communications Commission's (FCC's) perspective was in 2015, but is similar to the FCC's perspective at the current moment. This is due to Singapore's nature as an economic hub.

For Singapore, ISPs and network operators are only obliged to be transparent, and are only required to not block or otherwise implement policies that effectively block users' content to particular services or sites. Crucially, they are allowed to implement differentiated services – this means that networks can create payment plans that allow a user to pay more for faster Internet service.

This legitimization of differentiated services stands in stark contrast to the FCC's legal battles in the late 2000s, most notably in 2008 with Comcast. Throttling, as it appeared in the 2008 Comcast case, is lawful under the definitions of Singapore's net neutrality, since it restricts but does not effectively block access to particular sites. Similarly, even though differentiated payment plans were previously not allowed in the US, with the argument that this would unfairly disadvantage certain groups of users, they are explicitly allowed in Singapore's laws. Singapore, it seems, prioritizes the economic flexibility that fewer restrictions give, above the risks that those fewer restrictions give; consumers should only be protected by regulations to a reasonable degree, and not to an extreme one.

However, Singapore's viewpoint is more aligned with the current FCC's direction – both seem to be content with letting market forces dictate the winners and losers, and both prize the freedom of innovation above the freedom of consumers. If the battle of net neutrality lies in seeking a balance between giving consumers more protection from profit-driven companies and giving companies the freedom to innovate and find their own niches, then Singapore and the current FCC lie on the same side; on the side of giving companies more freedom, for as far as consumers are not at risk from the companies' business practices. In essence, they are both fiscally conservative.

Singapore as an economic hub tends to be more fiscally conservative, since market forces were the original driving factors that allowed it to flourish in the first place. For as long as Singapore

touts itself as both an economic and technological hub, it must placate companies in order to appear more attractive to their investments; doubly so for Internet-related companies. At the risk of hurting consumers, Singapore tries to be business-friendly, with the argument that the trickle-down benefits of economic growth spurred on by a set of rules conducive for technological innovation would outweigh the possible harms of companies taking advantage of consumers.

Q3: Broadly speaking, I believe that while net neutrality is something we should uphold, the ideal of net neutrality should be distinguished from the practical concerns and necessities surrounding it. Although it would be ideal if all companies followed net neutrality, it is difficult if not impossible to ensure, even with regulation, that these profit-driven entities will not find loopholes in the law and its enforcement, and by doing so, privately violate net neutrality.

Net neutrality, as an ideal, is very noble. The Internet was designed as a fair and free platform for collaboration, discussion, and the furthering of human potential; it has indeed served well for all of them. So the concept that certain kinds of information could be prioritized over others seems to run antithetical to the founding premise of the Internet. If net neutrality didn't exist and the resulting Internet was left to simmer for a decade, it might very well be the case that ISPs would start to tweak or otherwise quietly adjust the bandwidth for websites or processes that they disagreed with. They might, for instance, throttle the bandwidth for a newspaper which strongly supported enacting more regulations for ISPs, or prioritize traffic for a political party that they agreed with. Such biased actions undermine the structure and identity of the Internet as being free and fair, and are probably unanimously agreed upon as undesirable.

But practical requirements make it difficult for any governmental entity to prove guilt. Demands for transparency would only go so far, as it is hard to conclusively show that a company has not been truly transparent, and it is even harder to adequately punish them – a fine of several hundred thousand dollars is a mere fraction of the operating costs of large companies, and in fact is often factored in as just another inevitable section of their operating costs. If a company flouts the ideals of net neutrality, what methods would you take to catch them, and how would you punish them? Many large companies often wield too much political power for them to be punished without repercussions for individual political figures, so enforcement becomes a thorny issue.

A recurring proposal to resolve this conundrum is that market forces should be allowed to pave the direction of such companies. If the public is aware that a particular company is engaging in such practices, and they still remain loyal to that company, then clearly the market has cast its vote. Similarly, if the company's stock plummets, then the public has also made its voice heard.

However, market forces are very unreliable, for the same reason that it is difficult to ensure the transparency of companies' practices. ISPs and companies can be deliberately opaque, and the layperson would be none the wiser, especially since they might not even be aware of such an issue. They could easily be taken advantage of without their knowledge – for instance by having their

bandwidth throttled and diverted to other consumers. Furthermore, the concept of allowing market forces to determine direction depends heavily on the idea that the consumer even has a choice to begin with. In some more rural locations of the world, for instance, certain ISPs might hold a strong monopoly, and this would give them significant leverage over consumers in matters such as price discrimination. None of this is desirable, of course, and therefore should be avoided as much as possible.

Regulations, therefore, are the way to move forward. There will always be an inability to enforce transparency and rules of punishment, but stronger regulations contain the threat and potential for punishment, rather than a lack of regulations which contains no threat whatsoever. Left unchecked, companies will invariably drift towards finding that thin line between exploiting consumers and not outright being illegal, and more often than not, the consumers are none the wiser.

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