

# IS1103 IS INNOVATIONS IN ORGANISATIONS AND SOCIETY

## Take-home Assignment

Disclaimer: This report is the result of my efforts and complies with the NUS Code of Student Conduct.

Net neutrality is the principle that all traffic on the internet should be treated equally and preferential treatment should not be given to any websites. (Reardon, 2018)<sup>i</sup> This principle has sparked off much debate and has been the talk of the town in recent years, with the FCC at the centre of it.

### **The Federal Communications Commission's changing views on Network Neutrality**

It all started back in 2003 when Columbia University law professor Tim Wu coined the term (network

neutrality) in his paper addressing the issue of broadband service providers implementing restrictions on the network at that time, and called for anti-discrimination rules (Finley, 2018)<sup>ii</sup>. The FCC took action in 2005, making a policy statement that prohibited internet service providers from blocking legal content or preventing customers from connecting the devices of their choosing to their internet connections. (Finley, 2018) This policy was subsequently institutionalized in 2015. There are 2 main reasons behind the institutionalization of this policy. Firstly, the FCC was afraid that without net neutrality, internet service providers (ISPs) would offer fast lanes to certain firms. This will allow large and dominant content providers to gain an advantage over new tech upstarts, possibly driving them. This will dampen both innovation and competition in the economy (The Guardian, 2018)<sup>iii</sup>. This could result in firms, with high market share, monopolising the market and eradicate consumers' welfare through profit maximising acts, causing the free market to fail. Secondly, ISPs could exploit the situation and implement extra charges on certain websites or applications that consumers must pay in order to access, in hopes of maximising profits. Such action will not only drive up internet prices, but also result in inequality among the different income groups, posing serious social problems. Therefore, the FCC has serious basis behind this institutionalization.

However, in 2017, Republican FCC Commissioner Ajit Pai became the agency's new chair (Finley, 2018). This introduced a brand-new way of thinking and resulted in a drastic change in the agency's viewpoint regarding net neutrality. Eventually, the agency voted to repeal the policy on net neutrality. Pai defended his controversial and shocking decision, saying that the current rules are too restrictive (Reardon, 2018). He mentioned in a statement made in 2017 that under the Title II, investment in high-speed networks has declined by billions of dollars and 80% of network providers "incurred additional expense in complying with the Title II rules, had delayed or reduced network expansion, had delayed or reduced services and had allocated budget to comply with the rules" (Pai, 2017)<sup>iv</sup>. As such, this repeal will free broadband providers from onerous and outdated regulation which will allow them to invest more in their networks, increasing both speed and quality. With the increased investments, more jobs will also be created for Americans resulting in a competitive economy.

FCC also thinks that net neutrality can stifle innovation. Some ISPs find it difficult to implement new projects when the policy was still in effect. In fact, Pai (2017), mentioned that a coalition of 19 municipal Internet service providers have told the FCC that they "often delay or hold off from rolling out a new feature or service because they were afraid of enforcement actions". This shows that an increase in regulations results in slower progress in the fast-paced broadband network industry. This is detrimental to the economy, and consumers will be denied upgraded services and greater access. With more flexibility to innovate, ISPs would be able to better differentiate their services from their competitors and this competition will benefit end users, providing more choice.

## **Singapore's stand on Net Neutrality**

The Infocom Media Development Authority (IMDA) (was IDA before 2016) in Singapore thinks that competition between ISPs is necessary in providing quality services for consumers. ISPs in Singapore have voiced unanimous opinions saying that restricting network operators' abilities to recoup their network costs will undermine future investments and deployment of broadband infrastructure (IMDA, 2011). Furthermore, the IMDA believes internet traffic shaping or traffic prioritisation measures are necessary to ensure a reasonable Quality of Service ("QoS") standard for all users of the Internet, by preventing heavy users from hogging the network. In addition, Singapore has not observed any instance of blocking or discriminatory treatment of legitimate Internet content by local ISPs or telecom network operators (IMDA, 2011), and hence have little reason to regulate. This was unlike the US, whereby the FCC was pressured by the public to implement the policy on net neutrality due to discriminatory acts by certain ISPs between 2000s and 2015 (Finley, 2018). The only complaint that arose in Singapore is that there has been an increasing number of end-users who are dissatisfied with their Internet broadband access services (IMDA, 2011). As such, there is a need to facilitate innovations and encourage product differentiation in ISPs around Singapore. Hence, the IMDA, under the consultation of 18 service providers in Singapore, has decided that it is important to provide ISPs with enough flexibility to innovate and price their services (IMDA, 2011)<sup>v</sup>.

Taking the interest of consumers into consideration, the IMDA has implemented pre-emptive measures, with a legislation to ensure the service quality of ISPs. ISPs, that have high market share (>10%), are requirement to abide by IDA's Quality of Service (QoS) requirements which sets a minimum quality standard of the services ISPs must provide (IMDA, 2011). This prevents dominant ISPs in the market to abuse their power by using profit maximising or discriminative practices at the expense of the consumers. To ensure fairness in the economy, the IMDA also implements fair competition guidelines under the Telecom Competition Code (TCC) (IMDA, 2011). This is also in line with what the United States' Federal Trade Commission (FTC), enforces anti-trust laws against ISPs that run afoul of anti-competitive behaviour, to curb abuse of power by ISPs (Hio, 2017). Lastly, the IMDA also believes that information transparency between consumers and providers must be maintained. This is on the same note with FCC's transparency rule (FCC, 2015)<sup>vi</sup>, and both agencies require ISPs to fully disclose their practices to the public. It is important to ensure that customers fully understand what they are paying for so that they know their rights and not be short-changed. Moreover, it allows law enforcers to monitor and detect suspicious or illegal practices that are not pursuant to the guidelines. By regulating competition of the industry with such legislations, IMDA hopes to tap on the benefits of such competition and at the same time, reduce problems that may arise.

While both the FCC and Singapore's IMDA share the same view over net neutrality, situations in both countries are very different. Singapore has vast network infrastructure that can handle the growing data demands of its people. In addition, Singapore the fastest broadband speeds in the world, coming

in first among 133 countries based on the November 2017 rankings on the US-based Ookla's Net Index (Hio, 2017). United states on the other hand, "have parts (of the country) that do not even have mobile data coverage" says NTU professor Ang Peng Hwa (Hio, 2017). From Americans' perspective, without net neutrality, people could be denied internet access as there is simply not enough to go around. Without action taken, this could manifest into a serious human right issue.

## **Evaluation**

Net neutrality, while the intention behind this principle might be to provide fairness in the society, is not actually achievable. An article by Bennett (2017)<sup>vii</sup> explains that currently there are no suitable methods to detect unfair treatment of websites and hence the notion of net neutrality is not enforceable. Even if it is enforceable, whether it should be practiced remains controversial. While governments will certainly need to continue enforcing check and balances to regulate this industry, I personally feel that in general (might not apply to all situations) it is unnecessary to blindly and strictly follow the principle of Net Neutrality. Market forces are required to drive the industry. If net neutrality is forcefully implemented, it might eradicate competition between ISPs, resulting in less competitive prices and a drop-in variety of services. Competition is needed to provide ISPs with incentive in providing better quality services for consumers, to differentiate their services. An open competitive market will also attract more foreign investments which will strengthen the economy. One example is Singaporean telco Singtel partnering with foreign content providers like, Netflix and Spotify, offering zero-rating plans or subsidised plans to consumers (Singtel, 2018)<sup>viii</sup>. Such deals are win-win for both the ISPs and consumers as firstly, it differentiates the services and attracts more customers and secondly, provides consumers with cheaper variety of services. However, there are exceptions to this theory. One being if the ISPs' industry is monopolised or dominated by very few companies who have high incentive to collude. This will result in the market to fail and eradicate consumer surplus. One may also argue that while a lack of network neutrality boost competition for ISPs, it allows dominant content providers to gain an unfair advantage over new start-ups, who are unable to opt for such "fast lane" services, and hence reduce competition/ innovation. As such, government intervention is required to mitigate such issues.

The broadband service industry is oligopolistic in nature due to their high barriers of entry. Such industries are prone to collusion, which if they do, will remove all benefits mentioned earlier. Therefore, the government must carefully implement check and balances on the industry to maximise the benefit of competition and yet not fall prey to market dominance. In Singapore, there many legislations in place such as IDA's QoS requirements as well as TCC (IDA, 2011), which both regulate dominant companies, ensuring equal playing field, making quality internet services available for all. The government also provides much support for Small to Medium enterprises (SMEs)<sup>ix</sup>, hopefully allowing them to compete more effectively with the more dominant firms. Therefore,

coupled with legislations, the lack of net neutrality may perhaps be more favourable excluding situations whereby the market is monopolised, and the government is forced into taking control.

Many are worried about the social impacts of not practicing net neutrality. People are afraid that the lack of net neutrality will have a devastating impact on accurate information (Weaver, 2017)<sup>x</sup>, especially in nations like United States whereby Freedom of Speech is a human right. Despite this, unless it is information that specifically targets the ISPs, there is little reason to for ISPs to regulate them. In addition, it is difficult and very costly to manipulate specific information in the internet. Bennett (2017) mentions that the Internet is relatively neutral by design and remains so because the costs to Internet business of deviating from essential neutrality are too high. Even if the ISP has the intention to do so, there are still ways to prevent this. The transparency rule that was adopted by both the IDA and FCC can come into play. Under this rule, ISPs must be transparent about their practices. Any suspicious or illegitimate actions would be discovered quickly, action can be taken.

Governments will need to play a vital role in setting the right direction for the broadband industry, with or without net neutrality. Moving forward, internet discrimination will happen, and when it does, the government should step in to set things right, and hence, I argue that check and balances are what is needed, not the neutrality of networks.

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<sup>i</sup> Here's everything you need to know about net neutrality on the anniversary of its repeal, Marguerite Reardon (22<sup>nd</sup> Nov 2017) Reference source: <https://www.cnet.com/news/the-net-neutrality-fight-isnt-over-heres-what-you-need-to-know/>

<sup>ii</sup> THE WIRED GUIDE TO NET NEUTRALITY, Klint Finley (5<sup>th</sup> Sep 2018) Reference Source: <https://www.wired.com/story/guide-net-neutrality/>

<sup>iii</sup> The Observer view on net neutrality, The Guardian (17<sup>th</sup> Dec 2017) Reference Source: <https://www.theguardian.com/commentisfree/2017/dec/17/net-neutrality-fundamental-society-must-not-be-unregulated-private-monopoly>

<sup>iv</sup> Ajit Pai's statement, 2017 <https://www.theverge.com/2017/12/14/16777626/ajit-pai-net-neutrality-speech>

<sup>v</sup> IMDA's Decision (16<sup>th</sup> June 2011) Reference source: [https://www.imda.gov.sg/-/media/imda/files/inner/pcdg/consultations/20101111\\_netneutrality/netneutralityexplanatorymemo.pdf](https://www.imda.gov.sg/-/media/imda/files/inner/pcdg/consultations/20101111_netneutrality/netneutralityexplanatorymemo.pdf)

<sup>vi</sup> Open Internet Transparency Rule, FCC. Reference source: <https://docs.fcc.gov/public/attachments/DOC-328399A1.pdf>

<sup>vii</sup> The Neutrality Delusion, Richard Bennett (31<sup>st</sup> May 2017) <https://www.technologyreview.com/s/607984/the-neutrality-delusion/>

<sup>viii</sup> Singtel website, Reference source: <https://www.singtel.com/personal/products-services/lifestyle-services/cast/netflix>

<sup>ix</sup> 6 Useful government grants (28<sup>th</sup> Feb 2018) <https://www.opensoft.com.sg/6-useful-government-grants-schemes-smes-2018/>

<sup>x</sup> Forbes: What Young People Could Lose Without Net Neutrality, Tony Weaver (Dec 2017) Reference source: <https://www.forbes.com/sites/under30network/2017/12/13/what-young-people-could-lose-without-net-neutrality/#2713e4b74770>