



Net Neutrality: Setting Sun or a New Dawn for the Internet?

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Net-Neutrality: Setting sun or a new dawn for the Internet?

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Net Neutrality: Setting Sun or a New Dawn for the Internet?

Introduction

The future of the Internet is in flux. In the US, the Federal Communications Commission (FCC) ruled in 2015 to repeal net neutrality; the policy landscape in the UK is changing in the face of Brexit. Scandals around the use of data in the 2016 US Presidential election and the UK's European referendum are live. Nevertheless it is becoming increasingly clear that the Internet is very important for freedom of expression and access to services for many.



This report, produced by students in UCL's Department of Science and Technology Studies (STS), as part of the third year module 'Investigating Contemporary Science', aims to provide insight and analysis to help policymakers and other stakeholders to address the unknown future ahead for the internet – and our increasingly online world. We do not claim that this report is fully comprehensive – we present only summaries of our individual chapters, full versions of which were submitted for our assessments. However we believe that the analytical tools we have learned through our studies in STS offer us a useful lens through which to consider issues such as the future and politics of technologies: What is at stake? Who is set to benefit? Who is set to lose?

From the start, it is important to recognise that the concept of net-neutrality – and whether it has ever existed – is contested. We explore this further, but for the purposes of this report, we have worked with the definition of net-neutrality offered by the European Commission:

“Internet traffic shall be treated without discrimination, blocking, throttling or prioritisation.”

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Summary

The future of the Internet is in flux. In the US, the Federal Communications Commission (FCC) recently ruled to repeal net neutrality; the policy landscape in the UK is changing in the face of Brexit. Scandals around the use of data in the 2016 US Presidential election and the UK's European referendum are live. Nevertheless it is becoming increasingly clear that the Internet is very important for freedom of expression and access to services for many. This report, produced by students in UCL's Department of Science and Technology Studies (STS), as part of the third year module 'Investigating Contemporary Science', aims to provide insight and analysis to help policymakers and other stakeholders to address the unknown future ahead for the internet – and our increasingly online world.

Conclusions

- A move away from net-neutrality would see a loss of online diversity and the disempowerment of small players and citizens, coupled with the consolidation of existing power.
- The current debate around net neutrality is too polarized. Rather than considering whether it is a good or bad thing, the debate needs to be thought about differently – in particular, the nuances around what kind of future we want with the Internet, and who decides?
- The future of the Internet – and the kind of Internet enabled society we have - is not inevitable. This future will however be shaped by decisions made in policy and in industry, but also in wider society – by the way we interact with and adopt or reject applications of these technologies.
- In considering these issues, it will be important to recognise their inter-connectedness – both in terms of technologies, past, present and future, and of issues of concern relating to them.
- These issues – particularly in relation to privacy and access – also raise questions around the nature of the social contract between citizen and state – and the role of technologies in this.

Recommendations

1. As a society, we need to decide what we want from net neutrality, in order for policy and practice to follow.
2. Discussions around the future of net neutrality should involve a diversity of voices – not just policymakers and industry, but citizens and small businesses too.
3. More transparency around net-neutrality is needed – for example, a labeling system to alert users when the net is not neutral.
4. Government has a role to play in setting these rules and the level of the playing field, but this needs coordination across Government, as it affects many different Departments.
5. Governing net-neutrality is not the responsibility of Government alone however – companies need to paly their part. Codes such as the Open Internet Code should be developed and extended to include all companies on the Internet.
6. Given the uncertainties ahead, an adaptive form of governance, which is reviewed as new information comes to light, is recommended.

“The future of the Internet – and the kind of Internet enabled society we have - is not inevitable. This future will be shaped by decisions made in policy and in industry, but also by wider society”

Chapter Summaries

CHAPTER 1: Has the Internet ever been neutral?

This chapter considers whether the Internet has ever been neutral in the context of the Net Neutrality (NN) debate.

Looking at the internet's history and present functioning, the chapter asks three questions:

1. Does a concept like 'neutrality' really exist in technology and is this an adequate way of talking about the Internet's openness?
2. Have we remained oblivious to the truth of non-neutrality and if so– what does it tell us of the relationship technology and people share?
3. If the Internet has never been neutral, who has been in power all along?

The Chapter concludes that the Internet is far from neutral and has never been such. Peering, competitive differentiation, caching and physical distance are just a few of the modern network's many features that produce inequalities among content and/or users. And despite being out in the open (and not as hidden schemes), the public has still not protested against them. This is perhaps because we commit to the Internet as we do to non-digital society- sacrificing some of our freedoms to participate in a second –online- community necessitating order and thus, certain rules. Thus, the internet's non-neutrality necessitates some form of semi-centralized governance.

Recommendations:

- The NN debate needs to be reconsidered in light of technology's inherent non-neutrality, so as to attain a more adequate approach to managing the Internet and its openness via acknowledging the presence of cultural assumptions and values underpinning it.
- Governmental power over the network's core resources should be recognized as necessary in light of it providing some common rules of use, for as long as this is done openly, democratically and responsibly. It should also not restrain the network's evolution beyond what is necessary to achieve regulatory aims.
- As users can potentially impact and make informed decisions about the Internet, a user-focused approach to the NN debate can be embraced, where customers are clearly informed about non-neutral features, processes, and policies. User-led appraisal of non-neutral policies can best balance consumer's safety with innovation.

CHAPTER 2: The evolution of the Internet as a tool for freedom of expression, the neutrality of society and the detriments of a deterministic outlook toward the Internet

This chapter examines society's expectations of who, or what, has the power to create a neutral Internet, and whether these expectations need re-addressing.

Article 19 of the Universal Declaration of Human Rights is examined as an example of society passively allowing an offline ideal, to try and create a neutral Internet. Society has recognised the importance of the Internet for our freedom of expression, but has yet to recognise the importance of its own role in creating an Internet that can fulfill its potential as a neutral medium. A deterministic outlook takes the Internet to be inherently neutral and online equity to be inevitable. This means that any attempt to enforce neutrality is simply conforming to standards that are already a part of the very core of the Internet. However, this chapter proves neutrality to not be an inherent Internet property, as attempts to enforce neutrality have not resulted in a neutral net. Instead, society must realise that the internet is not something out of its control, but that the net acts as a mirror for society, laying bare its inequities and issues. The Internet itself will not become neutral of its own accord and without society playing an active role in this process and reflecting a more equitable version of itself onto the Internet. Without society, the Internet does not exist; society can use this power to shape the net and construct the world to which we aspire.

CHAPTER 3: Will repealing net neutrality regulations disproportionately benefit Internet Service Providers and online monopolies?

This chapter asks if repealing net neutrality regulations in the UK will disproportionately benefit Internet Service Providers (ISP) and online monopolies. Despite current legislations, net neutrality can reinforce socioeconomic inequalities by stifling investment in the network infrastructure, begging the question of whether net neutrality regulations are the answer to an equal Internet, or whether they reinforce inequalities. This chapter highlights how the benefits of repealing net neutrality will not be shared equally and evenly for the relevant parties involved.

This raises the question of whose interests are being served and who may lose? The chapter considers this, firstly by considering the current UK regulation. Secondly, by considering the effect that regulating or repealing net neutrality laws will have on ISP's, particularly whether repealing regulations will render ISP's the 'gatekeepers' of the Internet. The chapter will argue that there has been a rise of online monopolies, which, if net neutrality regulations are repealed, could intensify and stifle the growth and innovation of newer CSPs and Internet start-ups, possibly excluding consumers from the conversation.

Recommendations:

- All relevant parties (ISP's, CSP's and consumers) should be welcome into the conversation to ensure benefits are shared evenly and equally.
- The culture of the internet should be acknowledged as not thoroughly neutral and therefore the discourse should keep this in consideration.
- Policy should ensure that the internet promotes innovation from smaller CSP's and allow economic and social growth.
- Investments into the network infrastructure should be acknowledged as significant in keeping ISP's happy and making them in support of net neutrality regulations.

CHAPTER 4: How does net neutrality, or the lack thereof affect innovation and emerging technologies?

This chapter examines the net neutrality debate with reference to the emerging technology 'the Internet of Things' (the IoT hereafter). The IoT has been defined by Internet Society as 'scenarios where network connectivity and computing capability extends to objects, sensors and everyday items not normally considered computers, allowing these devices to generate, exchange and consume data with minimal human intervention'. The emerging IoT envisages an extended internet that is open and connected and therefore, encapsulates principles closely associated with the internet; particularly conceptions of the internet at its origin. This chapter locates motivations for the IoT within the history of the internet. This contextualisation leads to discussion of entrepreneurship and start-up culture, topics that have been a focus of net neutrality debates. However, this chapter also acknowledges the significant challenges that the current internet and its associated technologies faces. In the case of the IoT these concerns include matters of security and privacy; so the chapter postulates the potential role of net neutrality as a method of controlling the internet to this end. In sum, this chapter argues the IoT to be a physical manifestation of net neutrality laws, and therefore explains how it may be a useful tool for identifying the implications of changes to internet governance. In addition, it endorses a multi-stakeholder method of internet governance in order to simultaneously deliver and control emerging internet-reliant technologies.

Recommendations:

- A multi-stakeholder approach to internet governance should be employed in order to accommodate the globality of the internet and its associated emerging technologies.
- Emerging technologies such as the IoT must be considered in any changes to net neutrality or wider internet governance.
- Stakeholders must be prepared to acknowledge the need to control certain emerging technologies and the methods available to achieve this.

CHAPTER 5: Case study – net neutrality and the monopoly of Google.

This chapter discusses how monopolies have formed under the current state of net-neutrality, alluding to the fact that we do not currently have a neutral Internet. The crucial question from a policy perspective is not *if* companies such as Amazon, Netflix and Google are monopolies, but rather *why* they have such a large market share. The chapter will consider such monopolisation by using the case of Google and their previous anti-competitive behaviours, suggesting that this contributes to the current lack of neutrality. The chapter also identifies other possible factors that have led to such monopolies, such as access to user data and financial advantages that these large companies have access to; all of which give companies such as Google an advantage and make it harder for start-ups to break in to established markets allowing for monopolization.

The chapter concludes that the repeal of net-neutrality will only strengthen monopolies. In light of that, while the repeal of net neutrality is a concern, the more pressing issue is the monopolization of Internet services.

Recommendations:

- Introduce adaptive governance to deal with the adjustments that will happen as a consequence of the repeal of net-neutrality as well as the current speed of innovation.
- Alongside this, strategies to combat tech giants' potentially uncompetitive behaviours is also an important step even during the current climate – ensuring data sharing and transparency over sponsored and affiliated links.

CHAPTER 6: How is Net Neutrality Ideologically Influenced?

This chapter examines the political and ideological influences present in the debate over net neutrality. The chapter argues that net neutrality is as much a battle between modern political ideologies as it is between the conflicting interests of several parties (including Internet Service Providers (ISPs), Internet Content Providers (ICPs), and users). The chapter exposes a struggle between supporters of freely accessible information, a movement dating back to the Enlightenment era, and those emphasising the need for a more profitable industry surrounding the internet. Three main questions are answered in this chapter:

- How is current policy influenced by politics and ideology?
- What are the main political issues surrounding Net Neutrality?
- What are the concurrent ideologies regarding our use of the internet?

The chapter features a case study of Facebook's efforts to establish a free internet initiative in India, which was eventually banned for breaching NN. This case is particularly interesting as it exposes an ideological middle ground in NN, as well as prompting for better efforts to provide internet access.

Recommendations:

- Political debate should be mindful towards the long-term benefit of the user by taking into account the concerns of ISPs over the economic viability of providing a more demanding internet infrastructure and of ICPs over the economic and political freedom to produce content.
- Communication should be focused on the core underlying issue of NN: whether to believe in freedom of information or productivism. This would help establish a key priority for NN policy makers.
- Expose the use of the internet as a political device. Examples include: presenting investment in IT as a miracle solution to complex economic and social problems; using security threats to justify exerting greater control over the internet.
- Promote greater international cooperation to improve internet access (for example, with EU-wide roaming). A possibility is to draft a version of the UK's "Open Internet Code" which could be ratified by ISPs internationally.
- Contribute aid towards programmes that provide free or affordable access to the internet and advertise its benefits to isolated groups, while upholding NN.

CHAPTER 7: The battle of power in net neutrality: how will the US repeal of net neutrality affect the UK?

A range of stakeholders are involved in net neutrality, forming complex and contrasting voices within to the debate. This chapter looks at the notion of power of different stakeholders in the net neutrality debate. This includes examining how some stakeholders gain power, the shift of power between different stakeholders, and comparison of power between the contrasting views in net neutrality.

Recommendations:

- A diversity of voices and opinions should be heard and considered equally in the discussion of net neutrality debate to ensure shared benefits.
- Ensure effective communication between different groups of stakeholders. A dialogue model of science communication should be deployed to improve public engagement of net neutrality. It is important to allow the stakeholders in the public sphere (especially the disempowered users and small businesses) to participate in the debate.
- Policy makers should ensure political decisions are made with consideration of how technology and economics will be affected by net neutrality.
- Since the power between different stakeholders in the government sectors are likely to shift over time, it is important to acquire adaptive governance and flexible regulations on net neutrality. Active decisions should be made upon net neutrality in response to changes of voices between the scientific community and the different stakeholders in the public sphere.

CHAPTER 8: Does net neutrality mean the Internet is neutrally accessible for everyone worldwide?

With the United Kingdom set to leave the European Union in 2019, a sense of uncertainty has been brought to the governance and political guidelines around the Internet in the UK. Brexit could mean our current open access regulations and net neutrality are open to the possibility of change. This chapter aims to establish whether net neutrality combined with open access policies provides a neutral, equal platform for the consumer.

Using evidence from a range of countries worldwide, the chapter argues that Net Neutrality is varied around the world as a result of the various approaches to government and governance. Therefore, it can never provide a wholly equal platform. Some countries are currently allowing for a more equal demographic than others, but none are wholly equal. However, we conclude that the countries that are doing better in terms of equality are those who have adopted net neutrality guidelines, because governments active in net neutrality tend to have an impact on Internet access too.

CHAPTER 9: Values, needs and expectations of net neutrality

This chapter sets out to uncover the network of values and expectations that go into making the Internet a social as well as a technological structure. With this evidence, we can move towards understanding how and why these values interact to create the issues we see in Internet governance today, and ones that will emerge in the near future.

The chapter identifies the current UK government approaches to the Internet, arguing that as the Internet becomes more integrated with modern society, government and businesses, conflicts arise as to how it should be used, and how it should be governed. Listing the issues that arise for these three groups, the chapter then considers the conflict in values between the government, the public and businesses as they interact online and offline.

The chapter concludes that while the Internet is being shaped by multiple values, needs and expectations, the varied nature of government departments means that their policies can be dependent, or conflict with one another, as well as with those new values that are being shaped on the Internet. The values and expectations of all stakeholders on the net have to be heard and understood in order for responsible governance. It is a fast-moving technology that is strongly shaped by the values and expectations of those who use it, and these values in turn shape the society that is being created today and in the near future. As a result, the actions of the government come with great responsibility.

About This Paper

This report was produced by students of the Investigating Contemporary Science Module in the Department of Science and Technology Studies, UCL. The introduction, summary and recommendations were written collectively, but the full chapters formed part of the student assessments and were authored individually.

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