How the debate on Net Neutrality is poisoning the law

The principle of net neutrality is that Internet Service Providers (ISPs) should treat all Internet traffic the same way (Dolasia, 2015). This principle worked as a charm for years without regulations. Problems aroused with the introduction of services such as Netflix, YouTube and Skype that requires more bandwidth than before, illustrated by the Netflix vs. Comcast case. This type of service is referred to as over-the-top content (OTT) which is delivery of primarily video and audio over the Internet (ibid).
The ISPs have spent billions of Euros on infrastructure by laying cables in the ground which they of course want a return on investment off (Dolasia, 2015). Therefore the ISPs want to create "fast lanes" with prioritized traffic for the OTTs with a monthly fee for having their content load faster than others. Some ISPs justifies the fee by saying that the additional costs in relation to content streaming should be paid by the specific OTT rather than all the ISPs subscribers (ibid).

Net Neutrality in the EU:
In late October 2015 it was announced that net neutrality rules would be introduced for the first time in EU law (Digital Agenda 1, 2015). Specifically, the law ensures equal and non-discriminatory treatment of traffic, so that ISP will not be able to block, throttle or slowing down particular content or services, and have to inform subscribers about traffic management (ibid). This is a general prohibition which is subject to three exhaustive exceptions; a public authority have ordered blocking of specific illegal content; spreading of virus, malware, and DoS attacks; minimization of exceptional or temporary network congestion (European Commission, 2015). The rules on net neutrality will apply from 30 April 2016 (ibid).
The EU acknowledges that "*there is a fragile balance between ensuring the openness of the Internet and the reasonable and responsible use of traffic management by* ISPs" (Digital Agenda 2, 2015). In addition, they see rules on traffic management as a tool to encourage innovation and competition between OTTs and ISP in delivering content and applications (VoIP, video streaming etc.). On the other hand, the EU accepts that traffic management is used by the ISP to ensure quality of service for the benefit of their customers, by reducing network

congestion caused by an "*outstanding growth in data traffic*" (ibid). The general idea behind the "reasonable traffic management" is that it should be based on the technical quality requirements, "*… and not on commercial considerations, and it must be transparent, non-discriminatory…*" and to benefit for the consumer (European Commission, 2015).

Comcast vs. Netflix:

In 2014, the customers of Netflix in the US experienced a decline of quality in the streamed video content, with a drop from HD quality to nearly VHS resolution. The story went that Comcast deliberately denied throttling the traffic from Netflix's servers (Dolasia, 2015). After Netflix agreed to pay extra for a direct connection to Comcast's network, the connection speed and quality of the video content increased to a higher level than ever. The story blew up in the media with claims of violation of net neutrality and fueled a huge debate not only in the US. But the case has nothing to do with net neutrality despite allegations made by Netflix's CEO Reed Hastings, but is merely a dispute over interconnection fees (Reardon, 2015).
The short story of why this is not a question of net neutrality is that it "*… does not have to do with how Comcast is treating Netflix's traffic once it is on the Comcast broadband network*" (ibid). But in order to understand this matter, one must know the basics of how the infrastructure of the Internet works.

The Internet is build up by three layers of networks, with the Tier 3 layer that consists of the ISPs which the users have a subscription with (Wikipedia 1, 2015). The connection between Tier 3/ISPs and the end user is called "the last mile" and it is this connection that has to do with net neutrality. The two other layers Tier 1 and Tier 2 are in the "backbone" of the Internet which basically connects all the networks that makes up the Internet by either peering or purchase IP transit (ibid). A Tier 1 network can reach every other network on the Internet without paying a settlement (or IP transit) (ibid).

The distance and the number of "network hops" between the server and the end user has an effect on how many data packets are lost which basically makes the video on Netflix run smooth (Reardon, 2015). OTT content providers such as Netflix knows this and has for years partnered up with companies who have their servers closer to the users. This business is known as the Content Delivery Network (CDN) business (ibid). These CDNs works as an intermediary between e.g. Netflix and Comcast, which basically connects Netflix to the Internet (for a fee of course). But sometimes the amount of data becomes too much for e.g.

Comcast's network, so they have a handoff of traffic known as 'interconnection' or 'peering' with other networks. All of this happens in the backbone of the Internet with private deals between companies without the public's knowledge, as it has for many years (ibid).
The deal between Netflix and Comcast is merely a disintermediation or forward integration removing the CDN, where the money instead goes directly to Comcast. This also decreases the number of network hops and distance, essentially delivering higher Quality of Service (QoS) to the users of Netflix (Reardon, 2015). The thing that Netflix is unhappy about is that they think it is just a peering agreement between them and Comcast, and therefore they should not pay anything as it is merely an exchange of traffic. But the request of viewing a video on Netflix compared to actually streaming it, has a huge difference in the amount of bandwidth it takes. Comcast sees this asymmetry in exchange of traffic and has therefore told Netflix to pay for the interconnection (ibid).
This is where all the nonsense about violation of net neutrality comes in, which Netflix is trying to use by pressuring Comcast into creating a more favorable deal with them. This is a commercial business deal about interconnection to the backbone of the Internet which has nothing to do with net neutrality.
Going back to the argument of net neutrality, even if a ISP tried to slow down the speed to access e.g. Netflix and demanding a fee from the customer, competition would push the customer to other providers. In the world of mobile network, the opposite is happening with providers being very afraid of the competition, and offering OTTs such as Netflix as part of a package, sometimes with zero charge.

Regulation can be a dangerous thing:
Companies such as Netflix try to force legislators to regulate these interconnection deals which have been self-regulated all the time without problems. According to an OECD report on Internet traffic exchange, 99.5% of the thousands of networks that exchange traffic do so without a written contract or formal agreement (Van der Berg, 2012). As with the case of Netflix vs. Comcast, net neutrality has proved to be "*… a dangerously simplistic term, one concocted by legal academics rather than network engineers*" (Downes, 2014). Critics of net neutrality are warning the legislators to be careful because over-regulating this matter would "discourage investment in Internet infrastructure and not motivate the ISPs to innovate" (Dolasia, 2015).
In order to meet the demands of consumers with an Internet that is dominated increasingly

by heavy media such as video that require high bandwidth and low latency, the networks need to be flexible (ibid). In order to keep these networks flexible it is essential to not over regulate and especially in areas which are working perfectly fine. Even experts such as Tim Wu who coined the term net neutrality in 2003 has allegedly been poisoned by the debate of net neutrality, when he claimed that it was "*the first-ever direct interconnection deal between a broadband provider, like Comcast, and a content company, like Netflix or Google*" (ibid). The truth is that nearly every major content provider including Amazon, Facebook, and Google has for a long time established interconnection deals – "not because they were forced to, but because such deals made good technical and business sense" (ibid).

The telecommunication industry is challenged by the OTT services which are taking market shares. The Netflix vs. Comcast case is just one example of how telecommunication companies (telcos) are pressured from different actors, in an industry that already is challenged by legislation, lack of innovation and deteriorating infrastructure. This case is used as a mean for the OTTs to fire a debate about posing even more legislation into an already overregulated telecom industry. The problem of over regulating in an industry that provides critical infrastructure such as the Internet is that it decreases the incentive to innovate, and laying fiber-optic cables that brings the bandwidth of which the future Digital Economy is to be built. As mentioned before, IT infrastructure is a high risk investment as the telcos has to post a lot of money without any guarantee of getting a return on investment.
In contradiction to the telecom industry, OTTs are lightly regulated in the EU. Furthermore, the business models that they are using are with low cost as they use the telcos infrastructure to deliver their services. So the competition between OTTs and telcos is uneven and potentially unfair, leaving the telcos tied legally on both their hands and feet.

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