

Proceeding

From "Network Neutrality" to "Algorithm Neutrality": Idea Changes and Enlightenment[†]

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Abstract: Since algorithmic recommendation has been widely adopted in information distribution, as a new concept of "network neutrality", "algorithmic neutrality" has come into the public view. Thus, from an initial requirement only to Internet Service Providers providing wire or wireless services, restricting their controlling of the application and content providers, "network neutrality" requirement has extended to contain content providers, service providers and terminal equipment manufacturers, until covers all the upstream and downstream industries' technologies around fixed or mobile networks. Nowadays, it has further become a requirement of platishers represented by social media to recommend information to users by algorithm.

Keywords: network neutrality; algorithm neutrality; Internet policy

1. Introduction

"Network Neutrality" is one of the crucial problems in the Internet governance. since it was formally proposed by America in 2003, "Network Neutrality" has become one of the most important and controversial issues in the field of the Internet and telecommunications policies around the world. In America, debates and legislative battles centered on "network neutrality" have never stopped. However, they are used to observing the legislative processing reality, and interpret it from the perspective of political struggle and interest competition. Usually, they ignore the changes of "network neutrality" controversy itself. These changes reflect the spring up of mobile communication and the idea changes of the Internet industry regulations in media convergence era. Besides, they are also the direct reaction to the pattern changes of information distribution and reception, and effect the adjustment of the Internet policy in future profoundly.

2. "Network Neutrality" To "Technology Neutrality"

2.1. Return to the Battle of Technology

"Network neutrality" itself originally belongs to the "technical discourse", and its concept can be traced back to the "Open Access Movement at the turn of the century, which embodies two basic principles of the Internet design in the last century: "End-to-end" principle and "Best-effort" principle^[1]. In the policy practice of translating this idea into reality, as complex stakes are involved, it has become a tool of political game with strong political complexion. In America, it has become a hot topic in the contention of two parties over the past years. The over 10 years' controversy, on the one hand, is about the political interest pursuit, on the other hand, is about the technology itself. These two parts have been in parallel for a long time. However, the latter one has been occupying a larger proportion, and has become the mainstream gradually in recent years.

Jon Crowcroft, coming from the University of Cambridge, considered that the real difficulty of the "network neutrality" controversy is to compare the "get" and "lost" between two kinds of policies. For example, how much is the "innovation"? How about the price of "customer worries"? Digital TV replaced by IPTV, VOIP replaced by

GSM, or P2P TV replaced by Netflix, what is the price of them? This is the key issue needs to be calculated and considered carefully.

2.2. Technical controversy raises calls for "technical neutrality"

The meaning of "network neutrality" is complex, and there has not been a widely accepted definition. However, it definitely stems from the worries about the ISP controlling the Internet. According to the assertion of the "Save the Internet" organization in America, "network neutrality" is defined as "to prohibit network operators accelerating, reducing or preventing it based on the Internet traffic sources, the owners or the destinations."^[2]

The "network neutrality" framework adopted by the FCC in the "Network Neutral Command" 2010 consists of three basic principles: "transparency", "shielding prohibition" and "inappropriate discrimination Prohibition". Although the Command has not been conducted, these basic principles have never been given up by FCC. Tom Wheeler, the current Chairman of FCC, stressed that "There is only one Internet, but not a fast Internet and a slow Internet."^[3]

In recent years, tremendous changes has happened in the ecology of Internet industry, the most prominent manifestation is that as the growing up of content and application providers and the rising up of mobile terminal equipment manufacturers, more and more users are approaching to the Internet through mobile terminals. Mobile device manufacturers and mobile operating system developers have exerted more and more influences on the usage of mobile devices' content and applications^[4].

3. Origins of "Algorithm Neutrality" Idea

The objects of the "network neutrality" controversial issue have extended from the former simple carrier network to the entire network industry, some scarcely discussed topics before such as "Device Neutrality" of mobile device manufacturers, "content neutrality" of search engines and so on are entering into the discussion of "network neutrality".

Based on that circumstance, "algorithm neutrality" has also been into the public view as the algorithm-based information dissemination became increasingly popular. The algorithm is "a series of steps taken to solve a particular problem or to come true a specific purpose." Automatic decision-making process is the core of algorithmic power. The algorithm decision making is mainly based on the process rules, the occurred conditions and the results based on massive data calculation^[5].

3.1. The Connotation of "Algorithm Neutrality"

"Algorithmic neutrality" is to require the values and opinions of programmers influence decision making programs minimally. —Joni Salminen, 2016It is based on the principles of expression freedom and network neutrality. External forces cannot impose their values and opinions, and cannot interfere with the algorithmic program operating as well.

3.2. The Controversies "Algorithm Neutrality"

For the media, "click-driven" leads to the prevailing of "headline party". For politicians and voters, the truth will be obscured by rumors and videos out of the context, leaving wrong impression. For common users, harmful wrong messages can be widely circulated because of the algorithm neutrality, and sometimes they are forced to accept unwanted information.

Another controversy is the relationship between the algorithm and the overall policy environment. The illegal content should be excluded by the algorithm, which needs to dock higher level legislation and regulation context. It requires a fair and just legal environment; otherwise the objectivity of algorithm neutrality would lose its due significance.

New challenges: When the algorithm encounters human nature.

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