

NET NEUTRALITY AND ITS INFLUENCE ON THE COMPETITIVENESS OF WEB-BASED SERVICES

NEUTRALNOŚĆ INTERNETU I JEJ WPŁYW NA KONKURENCYJNOŚĆ USŁUG ŚWIADCZONYCH W SIECI

Krzysztof Trnka ✉

Polska, Uniwersytet Wrocławski
Wydział Prawa, Administracji i Ekonomii

Abstract. Access to knowledge and technology is necessary for the proper functioning of a competitive economy. The fastest and most efficient way to obtain and relay information is through the use of electronic media, particularly the Internet. Therefore nation-states should take steps to ensure the free flow of information and fair access to it through the Internet. One of the means to achieve this goal is net neutrality – a regulation, mandating the equal treatment of all sites, platforms and services available on the Web. For the purposes of this paper, achievements of the school of law and economics have been utilized, the behavioural method in particular. The method is used to examine legal rules through the prism of expected social response, i.e. behaviour of addressees of the rule being analyzed, with the assumption that they are guided by a rational desire to fulfill their own economic interests to the fullest extent possible. The author reviewed the arguments presented in scholarly literature, put forward by representatives of economic, legal and IT sciences, both opponents, as well as advocates of net neutrality. An emphasis was put on arguments taking the traits of the Internet as a two-sided market into account. The critical analysis of the aforementioned arguments has led the author to the conclusion, that abandoning the principle of net neutrality creates conditions for companies that are favoured by Internet Service Providers to become more competitive in an undeserved manner. This increase in competitiveness would not involve a higher quality of services or a lower price, so it would be detrimental to consumers. As a consequence, new monopolies may be created or existing ones may become more entrenched. Net neutrality was on the books in the USA from 2015 to 2017, based on a regulation issued by the FCC. This regulation was recently repealed.

Keywords: net neutrality, two-sided market, competitiveness, monopoly, Federal Communications Commission

Streszczenie. Dla prawidłowego funkcjonowania konkurencyjnej gospodarki konieczny jest dostęp do wiedzy i technologii. Najszybszym i najbardziej efektywnym sposobem pozyskiwania informacji są media elektroniczne, w szczególności Internet. Państwa powinny zapewnić swobodny przepływ informacji i sprawiedliwy do niej dostęp za pośrednictwem tego medium. Środkiem służącym realizacji tego celu jest neutralność Internetu – regulacja prawna, nakazująca równe traktowanie wszystkich stron, platform i usług dostępnych w Sieci. Zabronione jest blokowanie dostępu, nakładanie dodatkowych opłat czy spowalnianie połączenia z określonymi adresami. Autor wykorzystał dorobek ekonomicznej nauki prawa (law and economics), w szczególności metodę behawioralną, służącą do oceny regulacji prawnych poprzez pryzmat spodziewanej reakcji społecznej, tj. zachowania adresatów analizowanej normy, przy założeniu, że kierują się oni racjonalną chęcią zrealizowania własnych interesów gospodarczych w maksymalnym stopniu. Dokonano przeglądu prezentowanych w piśmiennictwie argumentów, wysuwanych przez przedstawicieli nauk ekonomicznych, prawnych i informatycznych, zarówno przeciwników, jak i zwolenników neutralności Internetu, w szczególności uwzględniające specyfikę Internetu jako rynku dwustronnego. Krytyczna analiza przytoczonych poglądów doprowadziła autora do wniosku, że zaniechanie zasady neutralności Internetu stwarza warunki do tego, aby faworyzowane przez dostawców Internetu przedsiębiorstwa stały się w niezasłużony sposób bardziej konkurencyjne. To zwiększenie konkurencyjności nie wiązałoby się z wyższą jakością świadczonych usług czy niższą ceną, odbyłoby się więc z uszczerbkiem dla konsumentów. W konsekwencji mogą powstać nowe bądź umocnić się już istniejące monopole. Neutralność Internetu obowiązywała w latach 2015-2017 w USA, na podstawie rozporządzenia Federalnej Komisji Komunikacji, które zostało jednak uchylone.

Słowa kluczowe: neutralność Internetu, rynek dwustronny, konkurencyjność, monopol, Federalna Komisja Komunikacji

Introduction

On the fourteenth of December 2017, the Federal Communications Commission (FCC), a regulatory body tasked with overseeing the telecommunications industry in the United States of America, held a vote on the Commission's chairman's proposition to repeal the principle of net neutrality. The proposed change to the rules passed with a three-to-two margin, causing great controversy and bringing net neutrality into international spotlight. The repeal of net neutrality is part of a broader campaign of deregulating various industries, spearheaded by the current presidential administration, the effects of which can be seen in healthcare, environmental protection and consumer protection. Net neutrality is both a complex, economic, political and legal issue in its own right, as well as an element of a broader discussion on the validity of deregulating industries as a means of inducing growth.

The goal of this paper is to examine the principle of net neutrality in the context of safeguarding competition among companies and entrepreneurs utilizing the Internet as a venue for their business and to determine, whether it's beneficial to the market as a whole. To this end, various scholarly arguments, put forth by both opponets and proponents of net neutrality, shall be examined.

Material and methods

The author utilized scholarly writings, representing various sciences associated with the issue of net neutrality, namely the economic, legal and IT sciences. This review included arguments put forth both by opponents, as well as proponents of the principle of net neutrality.

The presented scholarly arguments pertained to the specific traits of the Internet as a two-sided market, the impact net neutrality has on the competitiveness of Web-based enterprises, investment incentives for Internet Service Providers and content providers, the viability of extra-regulatory means of enforcing net neutrality.

Presented arguments were subjected to critical analysis in order to determine, whether net neutrality has a significant impact on competition among companies providing services on the Internet and what is the nature of this impact.

Since the analyzed subject is a specific legal rule and its impact on a selected sector of the economy, the author has opted for the methodology specific to the legal science. For the purposes of this paper,

achievements of the school of law and economics have been utilized, the behavioural method in particular. The method is used to examine legal rules through the prism of expected social response, i.e. behaviour of addressees of the rule being analyzed, with the assumption that they are guided by a rational desire to fulfill their own economic interests to the fullest extent possible (Jolls, Sunstein, Thaler, 1998).

Results and discussion

In the most simple of terms, net neutrality is a legal principle, prohibiting Internet Service Providers (ISPs) from discriminating against lawful content available on the Internet. Such discrimination may involve slowing down (throttling) or outright blocking particular websites, services or applications (Lee, Wu, 2009, Cheng, Bandyopadhyay, Guo, 2011).

Internet Service Providers are capable of such discrimination because of their control over the infrastructure. An ISP's infrastructure network consists of multiple routers, which receive and transmit data packets. Should the number of data packets exceed the transmission limit of a router, the excess data is stored in a buffer. If the router runs out of buffer memory, some data packets must be discarded (Felten, 2006). An ISP may assign different levels of priority to different types of data packets, for example data originating from website A could be given higher priority than that of website B. Data packets with the highest level of priority would be the last to be discarded in the event of a router running out of buffer memory. This type of discrimination is called minimal discrimination (Felten, 2006), as it involves giving preferential treatment ("positive discrimination") to certain data packets without directly handicapping the others. An ISP may also limit router capacity available to a particular type of data. In such an event, if discriminated data packets required network capacity exceeding the arbitrary limitation (set as a percent of the total capacity), they would be discarded. This type of discrimination is called non-minimal discrimination (Felten 2006).

The distinction between minimal and non-minimal discrimination is relevant for discussing net neutrality. Minimal discrimination is unavoidable, simply because of the limited capacity of the available infrastructure. However, the process of selecting data packets to be delayed or discarded ought to be based on objective and equitable criteria, like the time of transmission, with older data packets being given priority over newer ones. Non-minimal discrimination, on the other hand, is never justified from the techno-

logical standpoint and is purely a result of economic or political factors. For the purposes of this paper, “discrimination” is understood as “non-minimal discrimination”.

When discussing the market of services provided via the Internet, it is important to take into account the interests and mutual relationships of three groups: end users, content providers and ISPs. End users are customers, purchasing the various services offered on the Internet. This group is diverse and includes regular and juridical persons, consumers and entrepreneurs alike. Content providers are businesses which maintain contact with their consumers using the Internet as a medium, for example: online shops, video on demand services (VOD), online gaming companies, Internet telephone services. The term “content” should be defined broadly, as encompassing all types of media, applications, retailers, and services (Lee, Wu, 2009). Finally, ISPs facilitate the communications between the two aforementioned groups, by lending their infrastructure.

Under the principle of net neutrality, ISPs serve merely as platform facilitators, charging both end users and content providers for the ability to engage in communications through their network infrastructure (Musacchio, Schwartz, Walrand, 2009). Such charges may include access fees as well as usage fees, depending on the period of access and the amount of used bandwidth (Lee, Wu, 2009). These charges are not, however, dependent on the type of service being provided or sought after. In particular, ISPs are not allowed to charge network participants (whether end users or content providers) specifically for reaching other participants. This solution is called the zero-price rule (Hemphill, 2008). A model employing the zero-price rule can be described as a neutral network regime (Musacchio, Schwartz, Walrand, 2009). On the other end of the spectrum would be a model in which ISPs are legally able to differentiate services, and charge different rates based on the type of service. This could manifest as charging end users and/or content providers more for engaging in a particular service or as lowering the quality of a particular service by throttling its data packets. A serious question could be raised about the compatibility of service differentiation with the right to free speech (see Chong, 2007 and Odlyzko, 2008). In this context, also the issue of safeguarding the diversity of opinions, expressed by Web-based media, is noteworthy (Cheng, Bandyopadhyay, Guo, 2011). However, for the purposes of this paper, the

author is going to focus solely on the economic ramifications of this phenomenon.

Services provided on the Internet constitute a two-sided market. A market of this type consists of the platform provider (ISPs) and two categories of participants (end users and content providers) (Musacchio, Schwartz, Walrand, 2009). In order to properly function, a two-sided market must attract an appropriate number of both end users and content providers (Hahn, Wallsten, 2006). Service differentiation results in heightening the barrier of entry into the market for content providers and limits the accessibility of the market for end users, thus lowering the demand and disrupting competition. Limiting the number of end users able to purchase services on the Internet bodes ill for content providers, by lessening their opportunity to find customers. Levying additional charges on content providers will in turn translate into higher prices for end users (as content providers will try to recoup their higher operating expenses) and a decreased level of competition, as smaller businesses are unable to enter the market.

A prevailing aspect of two-sided markets is the positive correlation between the increasing amount of participants and growth (Farrell, Garth, 1985, Katz, Shapiro, 1986, Liebowitz, Margolis, 1994). A greater amount of end users creates demand for services, while the increased number of content providers translates into fiercer competition, which drives the prices down and innovation up. Levying additional charges by the platform providers inevitably results in a decrease in the number of participants, slowing growth down.

As with every market, growth in the Internet services sector is heavily reliant on investments (Hahn, Wallsten, 2006). It is of paramount importance to create appropriate incentives and eliminate factors which might discourage investors. Levying no charges on content providers, save for the cost of accessing and using the network, would provide the ultimate investment incentive, while pricing various services in a different manner would decrease investment in the more heavily priced sectors. Net neutrality should therefore be considered enticing to would-be content providers (Cheng, Bandyopadhyay, Guo, 2011). In fact, some scholars consider the zero-price rule to be a form of subsidy to content creators and one of the main factors creating the great wave of innovation in the sector of content creation and provision (Lee, Wu, 2009). It is important to note, that zero-price is different from low-price. Additional charges act as a deterrent for content creators not only because of their direct financial burden, but also because of the

administrative costs they cause (need to conduct negotiations, book-keeping etc), which is especially cumbersome to start-ups (Lee, Wu, 2009).

Investment incentives ought to be considered not only from the content providers' perspective, but also from the point of view of the ISPs. In fact, net neutrality opponents raise reduced investment incentives for ISPs as one of their main arguments (Pil Choi, Kim, 2010). Their reasoning is based on the concept, that if ISPs are not allowed to levy additional charges on end users and content providers, on top of the price for accessing and using the network, the lower profits will not justify additional investments, resulting in a worse quality of infrastructure and services, feeble technological advancement and less competition. In fact, some opponents try to reduce the issue of net neutrality purely into a matter of price regulation (Hahn, Wallsten, 2006). However, it is a gross oversimplification of the principle of net neutrality. Net neutrality regulations, by their definition, do not mandate prices, only the equal treatment of all end users and content providers. As long as ISPs charge all participants of the market in the same manner for the same access to the network, their conduct is compatible with the principle of net neutrality. In other words, they are free to set the prices as high as they like, on the condition that the same price applies to all.

While establishing net neutrality is not a form of price regulation per se, it does indirectly drive down the cost of access to the network for end users and content providers. However, it should be noted, that this is a result of increased competition on the market. Price reduction is a natural and desirable effect of competition. Artificially inflating prices simply to attract more investors would constitute a significant disruption of the market and create an investment bubble. Taking the abovementioned arguments into account, it should be noted, that the potential negative effect of net neutrality regulations on investment incentives for ISPs is minuscule (Pil Choi, Kim, 2010).

Some opponents of net neutrality acknowledge, that the market of Internet services is susceptible to the establishment of monopolies, but they do not consider net neutrality to be a valid remedy, as they believe it is a form of price regulation (Hahn, Wallsten, 2006). It's hard to argue with the notion, that merely regulating prices is insufficient to combat and prevent monopolies. However, as it was argued above, the principle of net neutrality has little to do with prices. It merely lowers the barrier of entry for new content providers, thus increasing competition and both weakening the existing monopolies, as well as preventing new ones from being formed.

Another argument put forth by opponents of net neutrality is that it constitutes an unwarranted intervention of the state in the dealings of the market (the dreaded "overregulation"). Instead, they propose to focus on antitrust laws enforcement as a way of dealing with monopolists among the ISPs and content providers (Hahn, Wallsten, 2006). Net neutrality and antitrust enforcement should never be a "one-or-the-other" choice, as both can be simultaneously employed. Focusing solely on antitrust enforcement is not feasible, for a variety of reasons. Discrimination against data on the Internet is incredibly hard to detect, as its effects are virtually indistinguishable from delays caused by legitimate technical issues (Felten, 2006). Which is why policymakers should focus on preventing, not prosecuting this behaviour. Certain types of businesses offering their services on the Internet are especially vulnerable to data discrimination (video on demand, Internet phone services) (Felten, 2006). Preventing discrimination is vital to the existence of these companies. Lastly, while it is possible to prevent data discrimination utilizing extra-regulatory measures, like data encryption, these are not fully effective and can never supplant laws and the supervision of regulatory bodies (Felten, 2006).

As we have already established, the principle of net neutrality is not a form of price regulation and does not preclude ISPs from recouping their investments by charging network participants. The claim, that pricing end users and content providers for the access to other network participants is the only way for ISPs to profit from their infrastructure, is patently false (Economides, 2008), as ISPs already charge access and usage fees.

The true reason for the ISPs opposition to net neutrality might very well be associated with expanding their business activities into the field of content creation and provision. Multiple ISPs in the United States of America and worldwide became content providers as well. This expansion is being conducted on multiple fields, including search engines, news sites, e-mail hosting and, most notably, video on demand services. This turn of events creates a conflict of interest – ISP companies provide a platform for other content providers, despite being content providers themselves and thus competitors.

ISPs engaging in content creation and provision might engage in discriminatory practices against entities offering similar services, for example an ISP with its own Internet phone service might discriminate against Internet phone companies utilizing its network (Felten, 2006). The abovementioned discriminatory practices would be especially effective,

given that 98% of consumers in the United States of America have the choice between only two ISPs, or no choice at all (Economides, 2008). By effectively controlling, which services are available on the market, an ISP might gain an unfair advantage (Cheng, Bandyopadhyay, Guo, 2011). Services provided by the ISP, or by an associated company, would be more competitive than services provided by third parties, based solely on enjoying unlimited access to the infrastructure. This increase in competitiveness would not involve a higher quality of services or a lower price, so it would be achieved in an undeserved manner and be detrimental to consumers. Therefore, discriminatory practices employed by ISPs would disrupt the proper working of market forces.

The principle of net neutrality in the US had its basis in a rule adopted by the Federal Communications Commission (FCC). The FCC, acting within its area of competence specified in the Telecommunications Act of 1996, is empowered to adopt rules. These rules, pursuant to their publication in the Federal Register, become a part of federal law and thus are universally binding and enforceable in the US. In 2015, a rule was adopted, extending the application of provisions contained within Title II of the Telecommunications Act to ISPs, thereby instituting net neutrality. However, this solution was short-lived, as the rule was repealed a mere two years later.

Pursuant to the provisions of the 1996 Congressional Review Act, the US Congress provides oversight of the FCC and can repeal any rules adopted by the Commission. Given the Republican majorities in both chambers of Congress (Senate and the House of Representatives), and the willingness of some of the “business-friendly” Democrats to vote in lockstep with the Republicans, overriding the repeal of net neutrality seems improbable.

The fight to save net neutrality continues on state and local levels, with various states, counties and municipalities adopting their own versions of net neutrality. This includes both states controlled by the Democrats (so called “blue states”, like California, Washington, Oregon) and by Republicans (some of the “red states”, for example Montana). The adopted measures can be divided into three categories: statutes, executive orders and public broadband utilities.

State legislatures in Alaska, California, Connecticut, Georgia, Hawaii, Idaho, Massachusetts, Nebraska, New Jersey, New Mexico, New York, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, Washington, West Virginia and Wisconsin introduced or passed bills containing provisions establishing the principle of net neutrality.

However, these statutes are likely to be sued by the FCC and become a subject of judicial review by the federal courts. This is due to the doctrine of preemption, which prohibits state governments from regulating areas which are already subject to federal regulation, FCC rules in this case. State net neutrality statutes are thus likely to be struck down by federal courts.

Similarly to the President of the United States and the federal executive branch, state governors are chiefs of the executive branches of their respective state governments. As a result, governors may issue executive orders, detailing the organization and activity of various state agencies and bodies, including their choice of contractors. The Governors of Montana, New York and New Jersey issued executive orders, mandating the executive agencies of their states to utilize only the services of ISPs which do not engage in discriminatory practices. While not directly establishing net neutrality, these regulations force ISPs to de facto uphold this principle in order to pursue lucrative public contracts.

Some local governments decided, that net neutrality can successfully be enforced only if there is a publicly owned network infrastructure. Numerous localities funded their own municipal broadband. Most recent examples are the cities of Longmont, Colorado, San Antonio, Texas and Seattle, Washington.

The recent developments in the US exemplify the need to enshrine the principle of net neutrality in legal documents which are difficult to amend and repeal – at least statutes, preferably the constitution. Regulations adopted by executive agencies are too susceptible to lobbying, regulatory capture, and there is little political price to pay, since the legislative body is not directly involved.

Conclusions

Taking all of the abovementioned arguments into account, it is the author's opinion, that net neutrality is a pillar of competitiveness in the Web-based market. Abandoning the principle of net neutrality creates conditions for a grievous disruption of the market forces and is detrimental both to consumers and businesses.

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