INTERNET FILTERING: SOLUTION FOR COUNTERING NEGATIVE CONTENT ON THE INTERNET?

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ABSTRAK

Pesatnya perkembangan teknologi utamanya teknologi informasi telah menempatkan internet sebagai salah satu teknologi vital yang dibutuhkan dalam berbagai bidang aktivitas.Sebagai teknologi penyedia informasi tercepat, Internet telah menjadi alternatif penting dalam hal akses mengakses informasi. Namun demikian, bebasnya arus informasi via internet menimbulkan berbagai dampak negatif utamanya penyebaran konten-konten berbahaya, seperti virus yang membahayakan sistem komputerisasi pengguna, maupun akses terhadap gambar-gambar pornografi yang dapat merusak moral pengguna di bawah umur.

Oleh karena itu, tergantung pada budaya dan kebijakan di beberapa negara, saat ini *Internet Filtering* atau penyaringan internet telah diterapkan untuk melindungi pengguna internet terhadap konten-konten berbahaya yang disajikan oleh internet. Namun di balik itu sistem penyaringan internet bukan tanpa kendala, dalam beberapa kasus, sistem penyaringan tersebut membatasi kebebasan pengguna dalam mengakses informasi yang mereka butuhkan. Untuk itu, diperlukan teknik penyaringan internet yang tepat sehingga tetap mampu memberikan kebebasan kepada pengguna sekaligus memungkinkan keluarga dan lembaga pendidikan untuk melindungi anak-anak tanpa harus memblok akses penting yang dibutuhkan oleh masyarakat.

Peran regulator dalam hal ini pemerintah bekerja sama dengan internet service provider sangat penting dalam melindungi pengguna internet dari konten-konten berbahaya namun tetap melindungi hak pengguna dalam mengakses informasi dengan pengaturan dan penyesuaian sistem penyaringan yang tepat bagi pengguna.

INTRODUCTION

The vast advance of technology nowadays has brought internet to become a powerful medium that shape people's life. It almost exists in every people's activities and merges in many areas such as business, education, and even in private life. The Internet has been proved to provide effective solution and guidance for problems in

those areas. Furthermore, the Internet is an interactive media that not only enables users to search information but also to be an actor who creates the internet content. Despite its benefits, there are also some problems arise as the negative impact of the Internet technology. For instance, it is often to hear people are being attacked by others via the internet, or website providing illegal materials that can harm people who are accessing them. Also, a number of reports about child sex abuse through the Internet. Those implications bear an idea to implement internet filtering in order to block the illegal materials to protect the internet users. This article will provide an overview of the internet filtering with firstly discuss the concept and some issue arise. There is also an analysis of the internet filtering in some countries particularly in relation with the government's regulation. The last part is the discussion of how the internet filtering is implemented, the implication for a network manager, and the recommendation of who should manage the network content and the action of the network manager regarding the internet filtering.

WHAT IS INTERNET CENSORSHIP

The terms internet censorship and internet filter are used interchangeably. According to Hamade (2008, p.1082) Internet censorship is the way to protect internet user by controlling the publishing and access over the internet. More specifically, Jones (2005, p.9) defines internet filtering as a software that is provided in users' computer either by individually or via Internet service provider to filter out the unwanted contents from the Internet. This idea has long been talked and even implemented in other countries. The reasons for the censorship are vary in each country based on their primary concern.

Other obvious reason of internet censorship in many countries is to protect children from pornography content and internet abuse. The growing number of the internet service providers (ISPs) has made the Internet become more accessible not only for adult but it is already common for children. As can be seen in several primary and elementary school in many countries computer and internet have been included in school curriculum to be taught for students. The pornography content provided in the internet could be harmful for the development of their thought since they have not been able to

measure bad or good things. Shea (1999, p. 167) argue that as the Internet has become popular in public school and library, it is likely for children to be in touch with pornography and violent content which are commonly shown via the Internet. Therefore, blocking the internet will be appropriate reason to be implemented as protection for users under ages.

Although the concept of the internet filtering has long been existed, nowadays it is still being a debatable issue. There are pros and cons come up of whether or not the Internet filtering to be implemented. The pros side believes that the uncensored internet has been very harmful and often provides multiple damages for users, for instance, pedophilia, fraud, scams, or annoying content such as spam. Wartella and Jennings (2000, p.38) revealed a study that showing one–quarter featured sex crimes committed via the Internet, while two third discussed the contents related to pornography, pedophilia, and violation regarding privacy. However, the opponent of the internet censorship believes that blocking the internet content is breaking the human rights in getting valuable information. This is due to the fact that some internet filtering techniques fail to differentiates legally protected content from unwanted materials on the internet, for instance, the word 'Breast cancer' can be categorized illegal and contain pornographic feature (Manuey 2009, p. 42). This term is usually mentioned as over filtering.

INTERNET CENSORSHIP IN VARIOUS COUNTRIES

Internet filtering has existed in various countries over the world with different way of implementation according to the countries' culture and policy. In the United States of America (USA), this problem has become the national concern which has been implemented as a regulation under the Children's Internet Protection Act. The law requires all public library to install software that can filter the inappropriate content for children (Jaeger, Bertot, and McLure, 2004, p. 1).

Differently, China as the famous internet filtering implementation has blocked many sites including international news media. Zittrain (2004, p.105) stated that apart from pornography, the target of internet filtering in China is sites related to news, as for example, China regularly blocks the online homes of the BBC, CNN, Time,

PBS, The Miami Herald, and the Philadelphia Inquirer. The main reason for filtering the internet in China is for political and ideological matters in which people are not allowed to access and share information which opposites the ideology and the country's principles. Research conducted by the Harvard Law School shows that the top site blocked in China by using google search term are the key words "Tibet", "Taiwan" and "equality" which are totally blocked (Zittrain and Edelman, 2003, p.72). This is aligned with the report published by CBS News (Collins, 2002) revealed that China has been trying to battle the subversive action through internet censorship.

Other country that concern with internet censorship is Australia. As information released in 'the Department of Broadband, Communication and Digital Economy' website (2008) shows in May 2008 the Australian Government has invested $128.8 million over four years to battle online risks and help parents and educators to protect internet user particularly children from harmful content of the internet. This action was based on the concern of the Government for many cyber crimes as consequences of low security of internet access. According to the Australian Communication and Media Authority website (2010), by August 2010 there are 355 complaints regarding cyber crime.

Although the cyber safety plan seems to be a good will from the government in protecting the citizen, this plan however has got many critiques regarding its effectiveness. Most of the critics believe that the implementation of internet censorship could lead to the blocking of numbers of sites including the contents that are purely for educational purposes (Ackerman, 2010, p.9). Furthermore, it is worrying that this regulation will not run effectively as its function and more likely to go beyond the regulation. The recent polling shows that 90 percent of Australian concern about this law (Ackerman, 2010,p.9). Therefore, it seems to be another work for Australian government to convince the citizen and ensuring the well implementation of the regulation.

Responding to the critiques, the Australian government with its cyber safety plan has released some activities involving public

institution, researcher, and network institution to evaluate implementation of the regulation.

Issue related to Internet censorship also arises in Indonesia recently. The number of deception and violation via the Internet has triggered the government of Indonesia to make regulation related to information technology and electronic transaction which is known as *Undang-undang Informasi Transaksi Elektronik(UU ITE)*. The law has clearly regulate detail violation related Internet such as violates decency, involves gambling, libelous, threatening, lies and hate speech over the Internet. Furthermore, the most recent cases related to Information technology is about conflict of *BlackBerry maker Research in Motion (RIM) Ltd.* with the Indonesian government regarding BlackBerry technology with BlackBerry Message Encryption that enables consumer to have free access of internet content via BlackBerry without having to pass by the government censorship. This case has become controversy since RIM Ltd. initially refused to make censorship in the Blackberry. However, as news reported in *The Wall Street Journal,* after having pressure from the Government, RIM Ltd finally agrees to implement an internet content filtering on its smartphones in Indonesia (Ismar, 2011). This of course raises another controversy among Blackberry consumers, particularly those who are not agree of internet censorship.

Analyzing the technical perspective of how the negative side can be eliminated during the internet filter implementation should be a primary concern by the government. This technical perspective will be covered more in the next sections.

IMPLEMENTING INTERNET FILTERING

It is not difficult to implement internet filtering as it has been supported by various software that are already available in the market. The big question that commonly arises from internet censorship discussion is that who will be the actor that is responsible for filtering the internet content? To answer this question let's look at some level of the internet filtering actor. According to Hamad (2008, p. 1083) the internet filtering is categorized into four levels: government level, the internet service provider level, organization level, and parents' level. Filtering in the government level is mainly done by the ministry of Information and Communication which

purpose is to protect the national security and basic principle of the country. In the internet service providers (ISPs) level, the software is already installed by the ISPs and filters the restricted content by showing blocked pages for the content. Filtering by ISPs level is usually from the recommendation of the government. In term of organization level, the internet filter is set up on their local area networks, intranets, and internet access which purpose is mainly to improve the staffs' productivity. Filtering in the parents' level is used to be for protecting children, which is done by installing special software in their home computers (Hamad, 2008).

There are several ways and techniques in implementing internet filtering from the software such as Net Nanny, cyber sitter, Cyber patrol, Max protect, Filter pack, Net-map, etc. It is ranging from low to strict level depend on what kind of content that users intend to block. Varadharajan (2010, p. 62) identifies three major techniques that commonly used to block the access to the Internet:

- IP-level packet filtering
  This technique uses two layer packet filtering: layer 3 which examine IP address and block traffic to and from particular sites; and layer 4 which use the destination port number to block a particular site without bothering other activity such as chat and email.
- Domain Name System (DNS) poisoning
  This technique use three form: name hijacking which return a different IP address for the blocking site; name subversion which returning illegal IP address, and silence which is filtering by refusing to provide any answer.
- Content Filtering at higher protocol layers, such as URL blocking, this technique blocking the entire website including a single image when users request a restricted URL.

All the technique enable users to decide which packet filter would be appropriate for their purposes. Therefore, the availability of various internet filters seems to be a better reason to let people and organization provide protection, particularly for children in accessing illegal and harmful internet content. Indeed, the role of parents in a family or teacher in public school would be very important as guardians for children accessing the Internet. Figure 1 below shows

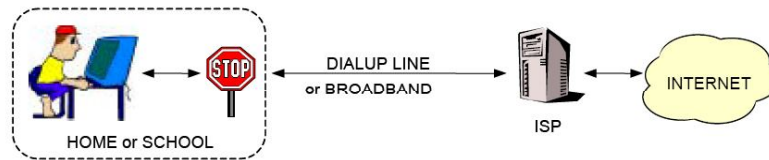how the internet contents are filtered on the user's computer both at home or at school.

Figure 1: Content Filtering on the user's computer (CSIRO, 2010)

Additionally, organization such as public library can implement the internet filter by cooperating with the Internet Service Providers to facilitate internet filter that enable to differentiate two lines which is available for children and adult. So, children can still be protected without blocking the adult line.

Figure 2 below presents another alternative solution for internet filtering that can differentiate which lines should be filtered and which should not to be filtered.
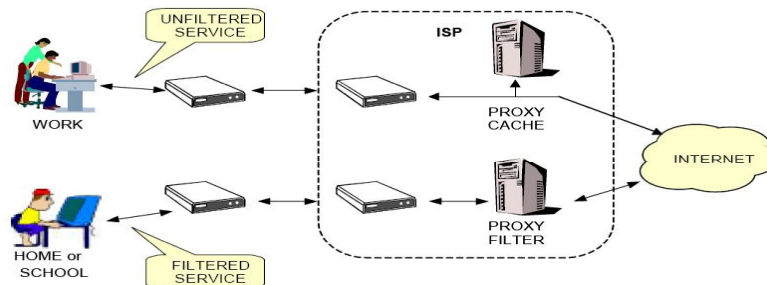

Figure 2: Differentiated services provided by an ISPs using different dial in lines (CSIRO, 2010).

NETWORK MANAGEMENT IN THE AGE OF INTERNET CENSORSHIP

The internet has a characteristic in connecting together computers from any places in the world with a seamless network. It is sometimes difficult to distinguish which content provide benefits or risk for the users. Consequently, the idea of internet filtering is considered very important for all, including government, ISPs, users and especially for network managers.

It is likely that the implementation of internet censorship will bring more duties for network managers in any organization since they are responsible for managing the clean traffic in their institution's network. However, the availability of software and alternative techniques from different ISPs provide them easier tasks to implement the internet filtering.

What is more, the development of web 2.0 has created more challenging work for network managers with the popularity of social networking sites. This technology facilitates interactive communication via the Internet. Although it provides many benefits for some users, it also has created many security problems, such as privacy, internet abuse, fraud, etc. The network managers should be more aware of this matter as it has been turning to the more interactive service of web 3.0.

CONCLUSION

Depend on the culture and policy in some countries, internet filtering exists to provide people protection from irresponsible and malicious contents. Moreover, protecting children from the harmful content on the Internet is a necessity action to be done since the overload content from the internet may influence their immature psychology. Several internet filtering techniques have been offered to provide users freedom and enable family and education institution to protect the children without having to bother public internet access. Therefore, the implementation of the Internet filtering should not be a massive problem. In the next future, due to the vast development of internet technology, managers who are responsible for the internet censorship should be ready to catch up and make an action for the development of future interactive media such as social networking sites that have become a trend in several levels of internet users. Indeed, the dynamic of internet development will create new opportunity as well as new threat for people. Hijackers or any other internet predator will be finding a new way to attack internet users for their purposes. Therefore, it is the time for network managers in every institution to show an action and create a safety environment in online access.

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