

# The Transformation of Telecommunication Regulatory Structure in Japan: Vertical and Horizontal Perspectives

by Minoru SUGAYA\*

## Introduction

In June 2008, the Investigation Committee for the Comprehensive Legal Structure of Information and Communication in the Ministry of Internal Affairs and Communications (MIC) presented an interim report. This committee is an exploratory committee founded in January 2008 to concretize a final report of the Investigation Committee for the Comprehensive Legal Structure of Information and Communication organized in September 2006.

This investigation committee was initially organized by the former MIC minister Takenaka in January 2006. After more than ten meetings within six months, this committee published the final report in June, and then the MIC minister and ruling parties announced the concession just after publishing the final report. Among the proposals in this report was the construction of an information and communication policy appropriate to the era of media convergence. The discussion on the policy revolution was initially proposed during the Investigation Committee for the Comprehensive Legal Structure of Information and Communication started in September 2006 and was further brought forward with regard to the detailed policy planning.

This paper discusses from two perspectives, the policy's economic rationality and the media's social role (securing the freedom of speech), based on the direction of the policy reform—while its detailed regulatory framework has not been made clear—that is, from the vertical system of various existing media and to the horizontal system across media. Furthermore, the paper examines both the meaning and the limitation of the draft revisions of the policy (from now on, called the 'Information and Communication Law (ICL)').

\* Dr. Minoru SUGAYA is a professor of media economics and policy in the Institute for Media and Communications Research, Keio university. This paper is based on the following article in Japanese, Minoru SUGAYA, 'Transformation of the Information and Communication System in Japan — Meaning of Horizontal Layer Regulation (Joho Tsushin Seido no Henyo — Layer-Kata Kisei no Igi), *Hogaku Kenkyu*, Vol. 81, No. 12, 2009.

## The Transformation of Telecommunication Regulations

The history of telecommunication regulations, which has progressed alongside with the development of the information and communication technologies, is considered around 100 years. Broadcasting was born as “the transmission of radio communication intended to direct reception for the public” as their original wireless telecommunication system, and broadcasting and telephone have developed in separate policy frames.

In the developmental period for telecommunication, telephone industry was regulated as a decreasing-cost industry, and telecommunication carriers that receive rate regulation as a natural monopoly. In addition, in the broadcasting field, the entry to market has been regulated based on the principle of the scarce spectrum, and those who obtained broadcast licenses were regulated for broadcasting content as information providers with social influences.

### *The Transformation of Telecommunication Regulations*

The change of developments in informational and communication technologies caused the collapse of the traditional regulatory framework.

Without the introduction of the technology developments, the regulations for entry would not have been fallen apart. An example of a new entrant due to the collapse of strict regulations can be found in the United States. Figure 1 illustrates the transformation of network structure of that period. In the telephone industry at that time, the local market and long-distance market were split. A telephone company named the MCI attempted to enter the long-distance market with microwave communication as a transmission tool.

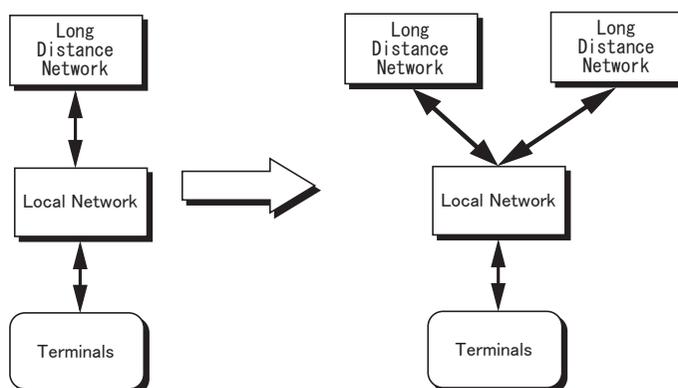


Figure 1: Network Structure in the Transition Period to Competition

The Federal Communications Commission (FCC) allowed new entrants, and in the 1970s strict regulations against entrants at the federal level no longer existed, and afterwards the regulatory barriers were broken at the state level as well (TEMIN 1987).

In Japan, the barriers to entrants were broken in 1985 when the NTT Public Corporation became privatized. At that time, three new entrants—the Japan National Railways and the Japan Highway Corporation which could maintain telecommunication infrastructures on their own, and the DDI which utilized microwave transmission—entered the long-distance telephone market. Furthermore, while limited, in the local market cable television company like LCV started private-line communication by using unused capacities in the cable lines (<http://www.lcv.jp/index.html>).

The new policy regarding entry into a regulated natural monopoly market has two meanings. One meaning is activating the market with new entrants. With entry, the market price of long-distance communication fell, producing consumer benefits. This also means to decrease internal reserves of NTT that was privatized, but NTT was given the freedom to invest in any market without broadcasting. This is the second meaning of the new policy, and it helped NTT move into various field outside of telephone.

The flow of deregulation has progressed, and NTT, which had maintained market power after the introduction of competition, was eventually divided in 1999. This was the change in the fixed-line communication, illustrated in Figure 2.

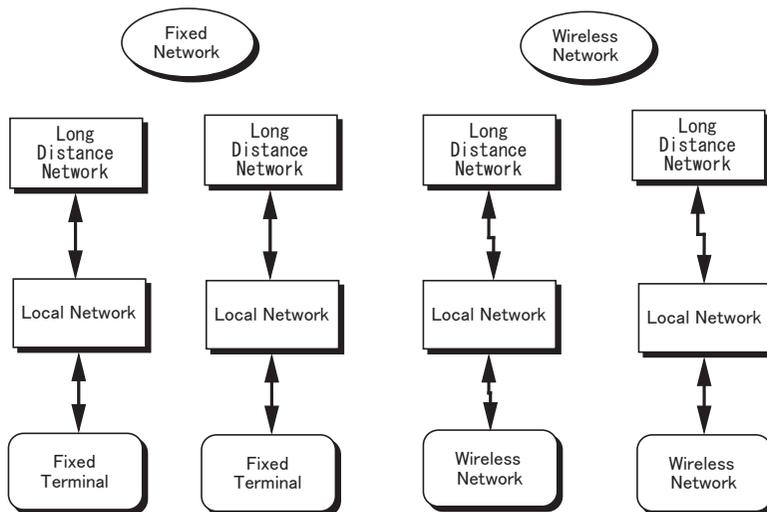


Figure 2: The Co-existing Age of Wired and Wireless Network

In the telecommunication field, with the advent of mobile phones in the wireless telecommunication industry, a new market emerged that was separable from the fixed-line communication. Unlike the fixed-line market, the wireless market is the one with new services that emerged after the introduction of competitive policy. In addition, the diversification of wireless communication services has constructed a new industry arena called the mobile phone business, which now includes commercial Internet services originally based on fixed-line communication.

The Internet was initially invented for military use in the United States, and later, it was adapted for academic use. In the 1990s, it was commercialized, and rapidly penetrated the entire society. While IP technology had been used among computers connected to fixed-line telecommunication networks, it could also be used for mobile phones. The latter is unique to the Japanese market; the Internet became influential to the entire society, not just a change in the information and telecommunication industry, but because of its connection to widely-adapted mobile phones.

With the emergence of the Internet, a role of platform became more important. Until then, in voice or recorded telecommunication, the relationship between a sender and receiver of information was usually one-to-one or one-to-many, and two-way or one-way informational transmission was done. With the Internet, it became possible for a receiver to actively search information, and the business for information search became influential.

The best example of this type of business is Google. A user (a receiver) of communication can access various information stored in computers connected to the Internet with the aid of Google's search engine and actively obtain information necessary to them. Furthermore, a new function was added: a user creates information and stores it in memory provided by an Internet service provider, becoming an information sender. The typical example of this function is blogging.

Before the Internet, telecommunication platforms provided services like videotext (CAPTAIN in Japan) or "off-talk" communication. Also, while it is a print medium, the Yellow Pages, which date back to the early phone era, could be considered to function as a platform as well. However, unlike a network business, Google, a non-network business, gained tremendous influence on society with its platform function, making the network and platform separate. This is illustrated in Figure 3.

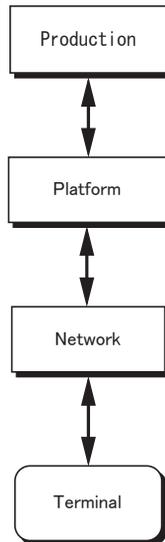


Figure 3: Telecommunication Structure after the Separation of Platform and Network

Strictly speaking, the idea of platform concept is not fully considered in the current telecommunication regulatory system. Therefore, correctly positioning this idea and what regulation should be applied to it will become an important issue in the transformation from vertical regulation to horizontal regulation, as described later in this paper.

#### *The Transformation of Broadcasting Regulations*

Broadcasting was initially an information service that emerged as a special system in wireless telecommunication. Due to the limited spectrum available for broadcast, new entry was regulated, which led to the formation of an oligopolistic market. Entry required a license from the government that managed spectrum. At the license renewal, a new entrant could technically enter the market in place of an existing one. However, in reality, almost all of the cases have been the existing ones renewing their licenses. Therefore, competition only worked in a limited sense.

Although there have been technological change in broadcasting, no major change in regulation has occurred during the transformational process. In the case of broadcasting, unlike telecommunication, the regulations have various differences among countries. In Japan and the United States, businesses have been managed under the principle of integration of the content division and the network division. This means that the owner of a network to transmit a program (wireless license

holder) equals to the provider of the program that produces and edits it.

Content regulation is also important. There are four key rules listed under “the general standard for programming” in Article 3-2 (1) of the Broadcast Law (<http://law.e-gov.go.jp/htmldata/S25/S25HO132.html>). In addition, Article 3-2 (2) states that any broadcaster has editorial control of the content over the channel, including reports, educational and cultural programs. Article 3-4 rules that any broadcaster has to set up a broadcast programming council to examine broadcast programs. However, they are both not direct but indirect regulation on program content.

These regulations have been applied to the Cable Television Broadcast Law as well as “trusted broadcasting” and “entrusted broadcasting business.” The Cable Television Broadcast Law in particular has garnered attention because the original concept that broadcasting is a special system of telecommunication was extended to the area of wired telecommunication (<http://law.e-gov.go.jp/htmldata/S47/S47HO114.html>). There is a regulation to separate a facility-based business (cable television broadcasting facility) from services (cable television broadcasting business), which was not seen in the terrestrial broadcasting business.

On the other hand, two new concepts which had not been used for existing broadcasting regulations were introduced to satellite broadcasting, especially the one with a communication satellite. The first one is the concept of “trusted broadcasting” and “entrusted broadcasting”. The “entrusted broadcasting” is a communication satellite business (network business), and the “trusted broadcasting” borrows a communication satellite from the “entrusted broadcasting” and provides programs originally edited by themselves (program business).

Until then, there was the principle of the integration of the content division and the network division in terrestrial broadcasting, but the introduction of this new regulation means the separation of the network division and the content division has been accomplished. However, a system was simultaneously introduced by the government that certified the contract between the two in order to guarantee the relationship between the network division and the content division that are in fact separated.

The separation of the content division and the network division allowed satellite broadcasters to provide services directly to consumers via communication satellites while maintaining their broadcasting services. This situation had existed in the cable television business as an exception, and it is the first time that the system was introduced in the center of the regulation.

In addition, SkyperfecTV, a platform business, emerged, although there is no regulation like this (<http://www.skyperfecTV.co.jp/en/>). As the paper already discussed the importance of the platform function of the Internet, SkyperfecTV compiles several “trusted broadcasting” businesses and sells these channels to customers. This function resembles the element of restructuring channels in the cable television business. From the perspective of advertising to end-users and

marketing, it resembles the element of compiling programs in the terrestrial broadcasting business. In this sense, these three functions can be categorized as the platform function.

As Figure 4 illustrates, these three different platforms have differences in terms of who is responsible for the function. Among them, the terrestrial broadcaster applies the most advanced vertical integration, and the communication satellite broadcaster (CS broadcaster) tends toward vertical disintegration. In other words, the ownership and management of both the platform and network have been integrated, as seen in the integration of the content division and the network division, in the case of the terrestrial broadcaster, while the “trusted broadcasting” business, “entrusted broadcasting”, and platform business have been completely independent in the case of the CS broadcaster.

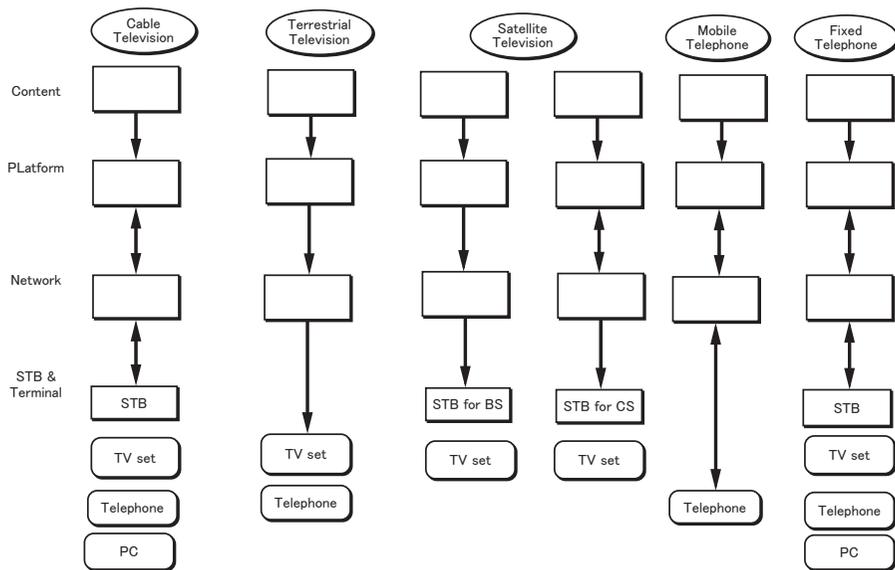


Figure 4: Telecommunication Industry Structure in the age of Convergence

Furthermore, the Law Concerning Broadcast on Telecommunications Services, established in 2001, amended the regulation in order to allow broadcasters to provide services over cable and wireless telecommunication networks (<http://law.e-gov.go.jp/htmldata/H13/H13HO085.html>).

## Horizontally-Layered Regulation

This paper has provided an overview of the transformation of telecommunication and broadcasting regulations, which shapes the industry structure as illustrated in Figure 5. While telecommunication and broadcasting have similar vertical structures, many differences can be seen in the relationships among departments and different types of integration apply to them.

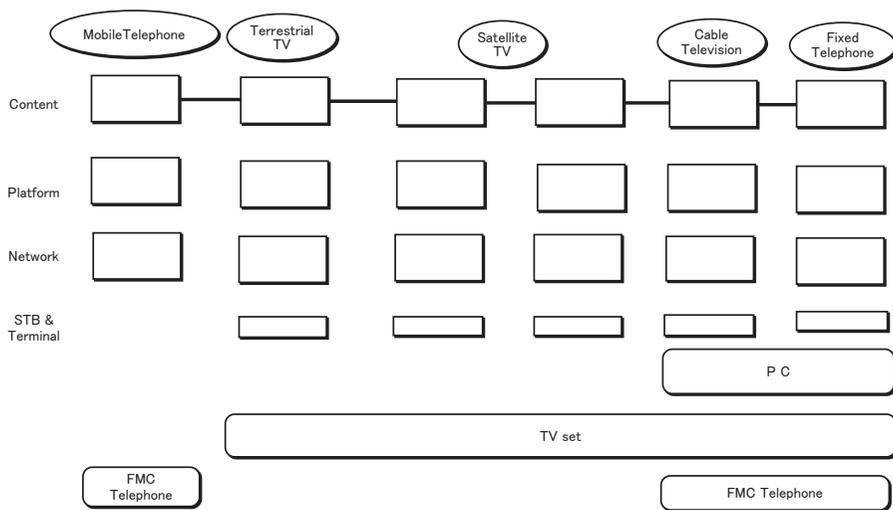


Figure 5: Horizontal Layer Model in Telecommunication Industry

The Investigation Committee for the Comprehensive Legal Structure of Information and Communication introduced in the first section has investigated a regulation that applies to the telecommunication and broadcasting industry horizontally, not vertically.

The industry had been categorized as two big systems—telecommunication and broadcasting—but now it has been divided into content, platform and network, followed by terminals and set top boxes (STB) with which consumers obtain information. The regulation that separates the business horizontally is considered to be a regulatory framework that will integrate two different services, telecommunication and broadcasting, which had developed independently for 100 years.

The concept of the horizontally-layered regulation that has been provided as of September 2008 is as follows:

(1) Content Layer

The content layer includes broadcasting, movies, online information, all of which is provided through various networks and are regulated under systems. Aside from such after-the-fact regulation as indecency regulation, the content layer includes information that has never been regulated at all. Thus, the ICL introduces three concepts: “special media service”, “other media content”, and “open media content.”

(2) Platform Layer

There has been no system that directly regulates the platform layer. It will become critical for the ICL to decide which regulation to be introduced and for what purpose.

(3) Network Layer

The network layer is divided into the transmission service and the transmission facility. Under the current system, the fixed telecommunication network embodies the most-advanced state of deregulation. Access fees are regulated, as well as information disclosure regulation, equal access to facilities. In the process of making the horizontal regulation, the regulations for the fixed telecommunication networks will be applied to other kinds of networks. In addition, the deregulation for radio spectrum usage is also discussed in relation to the network layer.

(4) Terminals Layer

The terminals layer is not referred in the ICL, but the discussion at the technological level will occur when telecommunications and broadcasting will be converged, which will occur in parallel with the integration of wired and wireless terminals.

In 2011, digital terrestrial broadcasting will be accomplished in Japan, and all networks shown in Figure 5 will be digitized. This will allow the information stored in the content layer to be shared via any network. However, in reality, the copyright and related rights regarding information services are handled differently between existing telecommunication and broadcasting networks and services. In particular, licensing regulation over copyright and related rights prevents the promotion of information distribution. In other words, the technological integration is not directly connected to the promotion of content distribution.

In order to achieve the smooth distribution of content over any network, it is required that the system and customs concerning the information distribution should be reviewed, in accordance with regulatory reforms, as stated in the ICL.

## The Meaning and Issues of the Introduction of the Horizontally-Layered Regulation

Some argue that it is too early to discuss the meaning and issues of the introduction of the horizontally-layered regulation even before the introduction of the ICL, but this paper examines this meaning and the issues based on the regulatory framework which is currently indicated.

The telecommunication and broadcasting markets, which used to be oligopoly, have been changed by the technological developments. As a result, the end-users have received various benefits, including decreasing prices, choice of payment package, and more service options. Furthermore, as the Internet is commercialized, the information and telecommunication market has been transformed. The ICL, which is currently proposed, is positioned in the extension of this flow. Several disagreements within the transition to the layered regulation can be seen in the comments of this proposal.

In the following discussions, the meaning of the ICL firstly examines, and secondly, the disagreements will be referred.

### *The Meaning of the Information and Communication Law*

For the author, who has studied the integration of telecommunication and broadcasting, the proposal is considered to be a natural result of the developments of the integration phenomenon (SUGAYA 1989). The meaning of the proposal is as follows:

#### (1) Open Network

The ICL gets rid of barriers between telecommunication and broadcasting in any layer from the content layer to the network layer. In addition, there are attempts in the network layer to apply the concept of an open market to other media services using a role model of fixed telecommunications networks which are most advanced with regard to openness.

If the facility-based competition functioned completely, there would be no need for a policy of an open market for networks. However, in reality, buried costs, switching costs, and branding power of existing facility providers become a barrier to new entrants, and therefore, facility competition has not been fully realized. In other words, the network open policy will promote competition among transmission service providers that compensate for the insufficient competition among transmission facility providers.

The wireless telecommunication market, which was formed after the introduction of competition policies, can related to the situation in which mobile virtual network operators (MVNO) are encouraged to enter the market in addition to mobile network operators (MNO) to promote the competition.

Within the network layer, terrestrial broadcast networks are the least open. The ICL includes the liberalization of the spectrum use even it is not fully discussed yet. In the last few years, terrestrial broadcasters have invested a tremendous amount of money for digitizing their broadcasting antennas in each service area. Although some public money has been provided to encourage digital conversion, the businesses are responsible for covering most of the cost. Therefore, additional income is required to cover the investment so that they can maintain the healthy business.

In the developing period of broadcast industry, each key network stations have subsidized its affiliated stations, but in the future digital era, they will not afford to continue such subsidies. In other words, both key and its affiliated stations have to face difficulties in their business operation.

The public broadcaster, NHK, on the other hand, has started the IPTV service called “NHK On Demand (NOD)” in December 2008. The NOD service includes previously shown contents or missed programs.

However, commercial broadcasters in local areas, both affiliated and independent stations, do not have enough contents to gain additional income outside of broadcasting operation. In addition, the portion of the national advertising income from the key stations has continued to decline.

While it is unknown how the concept of the spectrum use in the ICL will emerge new revenue sources for local broadcasters. However, it is important to note that the open market policy in the network layer could provide the chance to local broadcasters to diversify their income streams.

## (2) The Promotion of Content Distribution

One of the reasons for promoting the horizontally-layered regulation is to encourage the distribution of content. Specifically, this relates to the promotion of content distribution via fiber-to-the-home (FTTH) that has been laid down in the major cities. Just like the investments made by key commercial stations for digital conversion, NTT has made tremendous investments in optical fibers. Yet, there is no prospect for the company to gain additional income to cover these investments. In order to make it happen, NTT needs to undertake one of the following methods: increasing the number of subscribers, or increasing the average revenue per unit (ARPU). As for the former, it is not easy for NTT, a former monopoly, to increase the number of subscribers, while it is possible for the company to lose the subscribers. Realistically speaking, it is more plausible to increase the ARPU by new information services like IPTV.

Telecommunication carriers, including NTT have built companies that provide IPTV and VOD services and started the services, yet they have not achieved any substantive results.

Some argue that the introduction of the horizontally-layered regulation will

not directly promote distribution of content used through fixed transmission. In other words, they argue that without dealing with the issue of copyright and related rights, or the trade practices of broadcasters, the reformation of the ICL alone would not promote the distribution of content.

In this context, what one could expect from the ICL is the promotion of consciousness in the information and telecommunication industry due to fundamental policy reformation. While Japanese business society tends to be fully prepared to move into a new business area, businesses in other countries may not be as prepared. It is not easy to change tradition, structure, or corporate culture from inside. It is certain that the introduction of the ICL will push forward these changes.

### (3) The Promotion of Competition in the Information and Telecommunication Market

Competition in the realm of information and telecommunication has been intra-modal competition, or insider competition, more so than inter-modal competition, or competitions among media. It is certain that the introduction of the ICL will accelerate the competition among various media. If the upgraded network that corresponds to local needs is realized, it will encourage the dissolution of the digital divide in the broadband era. This will be benefit in introducing the ICL, although it is indirect benefit.

Currently, universal service fund is working to maintain universal service targeted for analogue phones in the telecommunication realm. For the next-generation network, universal service will become universal access, and the analogue phones are expected to be replaced by IP phones in the vocal telecommunication arena. Analogue phones are based on the network built during the era of the NTT monopoly, but IP phones are new services after the introduction of competitive policies. NTT management will have a hard time penetrating IP phones nationwide, just like the introduction of analogue phones. In spite of this, the transition to the new policy based on the premise of increased competition among various media is required in order to realize universal service, including as cable television facilities, when one assumes next-generation universal access applies.

### *The Issues Surrounding the Information and Communication Law*

As described in the beginning of this paper, the details of the new policy are not clear yet. Therefore, this paper will discuss the two issues that would be considered most critical in building the new policy as of this writing.

#### (1) Securing Major Broadcasting Service

The term “major broadcasting service (Kikan Hoso)” can be seen in the agreement of the ruling party published in June 2006. This paper defines major

broadcasting service as broadcasting media that provide service necessary to daily life. The service necessary to daily life comes from the definition used in the public utilities regulation, such as energy, transportation and telecommunication. As for broadcasting, strictly speaking, it is information necessary to daily life. It includes news, weather forecasts, and mass-appealed sports and entertainment information (HASEBE 1992 and SUZUKI 2000).

In 1950, when the Broadcasting Law became law, NHK radio was the sole broadcasting service, and it was unclear whether commercial broadcasting could be established in Japan. As described above, however, Japanese commercial broadcasting has grown steadily in the form of terrestrial broadcasting, cable television, and satellite broadcasting. Currently all of these services are considered to fall under the definition of broadcasting as defined by the Broadcasting Law.

This definition includes broadcasters that are categorized as key broadcasters, but there are specialized channels, among which include more than 20 channels providing adult-only content. In other words, under the current regulation, the key broadcasters that should be protected as “merit goods” (MUSGRAVE 1989 and SUGAYA 1997), and entertainment broadcasters exist together under the same category as “broadcasters.”

In the era of scarce spectrum, it is crucial that the key broadcasters are categorized as specified media in order to maintain the trustworthiness regarding free speech rather than increasing economic efficiency.

## (2) Audiovisual Information and Non-Audiovisual Information

The ICL is often compared with the Audiovisual Directive in the European Union ([http://ec.europa.eu/avpolicy/index\\_en.htm](http://ec.europa.eu/avpolicy/index_en.htm)). However, the two have fundamental differences. The EU’s policy focuses on audiovisual information, or footage service, while the ICL does not define its focus clearly. At this moment, a number of online information can originate from sources, such as individuals, corporations, and mass media. Among them, there are media restricted by the current Broadcasting Law, but the majority is not subject to this law. Aside from protecting youngsters and assuring privacy or restricting slander, it is not recommended to create a policy that further restricts online information content. In this sense, there is room for discussion that non-audiovisual information online will not be restricted under the ICL.

## Conclusion

This paper has discussed the transformation of Japanese information and telecommunication policies, and the meaning and the issues affecting the ICL that extends this transformation. As described above, there will be twists and turns until the establishment of the ICL that will come into an effect in 2010, and it is

unclear what the final format the law would be. Whatever the form the law takes, it will be the fundamental element in policy reform since 1950, and therefore, it is meaningful to discuss it at this moment.

The discussion here has focused on two key policy perspectives: the economic rationality and the social role of the media. That is to say, the discussion excluded the political relationships among such players as the government, the diet, or the telecommunication and broadcasting enterprises.

The ICL depends on a proposal agreed upon by the ruling party, based on the report by the Study Group on the Comprehensive Legal Structure of Communication and Broadcasting written during the period of the Koizumi administration in which Dr. Takenaka was the Minister of MIC. The author participated in this study group as a member of the council, witnessing the discussion that differed from discussions from previous administration. Although the opinions about value of the discussion may be debatable, no one would disagree with the fact that the council chairperson mainly led the discussion.

The ICL may well undergo major revisions as political and industrial interests weigh in. This process will play out over next two year at which point the Law goes into effect. Once it becomes law, a positive economic and social rationality assessment can be conducted. However, it remains to be seen what the result of the analysis will be.

## REFERENCES

- HASEBE Yasuo, *Constitution Theory of Television (Telebi no Kepo Riron)*, Koubun Dou.
- MUSGRAVE Richard A. and Peggy B. Musgrave (1989), *Public Finance in Theory and Practice (Fifth Edition)*, McGraw-Hill Book.
- SUGAYA Minoru (1989) *Telecommunication Policy in the United States (America no Denki Tushin Seisaku)*, Nihon Hyoron Sha.
- SUGAYA Minoru (1997) *Media Industry Policy in the United States (America no Media Sangyo Seisaku)*, Chouoh Keizai Sha.
- SUZUKI Hidemi (2000) *Freedom in Broadcasting (Hoso no Jiyuu)*, Shinzan Dou.
- TEMIN Peter (1987) *The Fall of the BELL System*, Cambridge University Press.