

A Case Study of Program-type Diversity in Japanese Evening Television

by Goro OBA*

It has been long since the concept of “multichannel” came to the forefront. Resulting from new video distribution services with large channel capacity, the number of channels available to viewers has proliferated. For viewers, nonetheless, whether or not their favorite programming is offered on a large number of channels might be more significant than how many channels are available. If almost all channels provided quite similar content, most viewers would not reap the benefits of the proliferation of channels since favorite content possibly differs among viewers. Thus, in order to maximize the utility of a wider range of viewers, various types of programming should be offered. In other words, the efficiency of multichannel media might be evaluated by the degree to which the media can meet various viewers’ needs by providing diverse programming. In this paper, we discuss how much diverse programming is attained by Japan’s over-the-air broadcasting and multichannel cable television with comparative research of those evening programming schedules.

At present, nearly half of Japanese still choose to have only conventional over-the-air broadcasting. As of 2002, only 26.8 percent of Japan’s television households subscribed to multichannel cable television (Ministry of Public Management, Home Affairs, Posts and Telecommunications, 2002). Citing this low penetration, some media scholars assert that cable television is not well developed in Japan (Tokinoya, 1996; Cooper-Chen, 1997; Hasegawa, 1998).

Theories concerning Demands for Diverse Programming

In general, commercial mass media are interested in attracting as many viewers as possible. Webster and Phalen (1997, p.101) assume, “Given this overriding concern with maximizing audiences, ...They (the media) resort to formulas and themes that can easily be accepted by the broadest possible audience.” Among three U.S. networks (NBC, CBS, and ABC), for example, the general trend was toward more and more homogenization of content, as the schedule of one network increasingly resembled the schedules of the other networks, and the diver-

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sity of programming among the networks declined over the 30 years period (Dominick and Pearce, 1976; Litman, 1979; Wakshlag and Adams, 1985). Because of a propensity for programming aimed toward great middle ground of majority tastes, people who were not interested in the mass appeal programming were under-served (Baldwin and McVoy, 1988; Litman, 1992).

Whereas the limited number of channels predetermined the strategy of audience maximization in the case of the major broadcast networks, this is not a necessary result if the number of channels is unconstrained (Owen and Wildman, 1992; Waterman 1992). Although the availability of increased channel capacity does not necessarily guarantee diverse programming, relatively heterogeneous content has begun to appear in young, new media (Webster and Phalen, 1997). In this manner, cable television with the unlimited channels responded to people who did not conform to the interests of the mass audience in the U.S. In sharp contrast to Japan's cable television industry suffering from the low penetration rate, its American counterpart has expanded astoundingly and now reaches approximately 70 percent of households, described as "the most successful media enterprise of the past two decades" (Dizard, 1997, p.120).

Certainly, one of the positive sides of cablecasting is the program diversity that it can attain with a number of channels. According to Heeter and Greenberg (1988, p.35), "Because of the greater variety and fixed structure of available content with cable, program choice should better reflect viewers' content preferences, particularly among those viewers who take advantage of cable diversity and among those who have content preferences for which specialized channel exists." Cable television's formation and philosophical *raison d'être* are providing additional choices beyond the broadcasting realm (Litman, 1992).

Viewers have relatively consistent preferences for a program type (Webster and Wakshlag, 1983). The existence of such preference patterns would underscore policymakers' desire for a diversity of program types, given that such diversity would increase the likelihood of maximizing the satisfaction of a wider range of viewers (Napoli, 2001). Napoli (2001, p.139) asserts, "Greater diversity of choices likely promotes greater consumer satisfaction." Multichannel media, with a greater variety of available content, is well qualified to meet this desire.

Attitude toward and Change in Television Viewing

Referring to the research by Hamaoka (2000) with the National Association of Commercial Broadcasters in Japan, we will consider what Japanese actually watch under the environment where additional channels are available with cable services. Table 1 and 2 show the television viewing by individuals with a multichannel cable system that offers 6 over-the-air networks, 3 satellite broad-

casters, and 22 cable networks.¹ Respondents are 506 individuals of cable households chosen at random in a city of Japan.

We can see from Table 1 that Japan's cable subscribers watch over-the-air broadcast networks much more than non-over-the-air networks, such as cable networks. Since the total viewing time in Table 1, 3 hours 20 minutes, roughly conforms to the average time that Japanese spend each day watching television, 3 hours 34 minutes (NHK, 2001), it might be true that audiences with the cable system reduce the viewing of over-the-air networks and, instead, to watch cable networks. Yet, the proportion allocated for cable networks is quite small. Presumably, cable networks have yet to pose a great threat to broadcast networks in Japan.

Table 1: Television Viewing per Day by Individuals with Cable
(Averaged over A Week)

Over-the-air Networks	Non-over-the-air Networks
2h39min	41min

Source: Hamaoka (2000)

Table 2 illustrates the correlation between the length of subscription to the cable system and changes in television viewing over time, such as the number of programs and program types that subscribers watch, or the agreeability to program-type preferences. Subscription length greatly differs in respondents, ranging from a few months to maximum seven years. There is no significant correlation at .01 level between the length of subscription and substantial increases in variables above.

Table 2: Length of Cable Subscription and Changes in Television Viewing

<i>Variable</i>	<i>Correlation Coefficient (r)</i>
Increase in the number of programs	.010
Increase in program types	.015
More agreeable to my taste	.059
More variety available	.038

Source: Hamaoka (2000)

Judging from no positive and statistically significant correlation, Hamaoka (2000) assumes that Japan's cable subscribers do not necessarily feel the benefit associated with multicasting, such as the increase in program-type diversity or the availability of programs conforming to their specific preferences, even if they subscribe to cable television for certain length of time.

Program-type Diversity in Japanese Television

In respect of the program-type diversity in Japanese television, Straubhaar's observation (1988, p.321) deserves our careful attention. He points out, "With one noncommercial/educational and five commercial/entertainment television networks in Japan, there is considerable diversity in conventional broadcasting, and, therefore, cable may not also be perceived as adding significant diversity in video distribution." The remark was made in 1988 when a prototype of multi-channel cable systems was just launched in Japan. This observation, nonetheless, might still hold true under more advanced multichannel services today. Kahaner (1996) asserts that Japanese viewers are not encouraged to subscribe to cable television because of the widespread perception that the existing over-the-air networks already provide adequate programming on various topics. Indeed, by research on the international comparison of diversity in television programming, Ishikawa, Leggatt, Litman, Raboy, Rosemgren, and Kambara (1994) discover that the overall diversity of Japanese broadcasting in prime time is higher than that of the other countries included in the study, namely, the U.S., Britain, Canada, and Sweden.

If broadcast networks air a wide variety of programming, additional channels by cable subscription might not lead to the increase in the number of program types available. However, it is unclear whether or not Japan's over-the-air broadcasting, consisting of only six networks, can achieve such a considerable degree of program-type diversity as to meet most viewers' preferences.

On the cable networks' side, they might be able to meet the needs of viewers, who seek programs that more closely conform to their preferences, by offering narrowly targeted programming. Yet, given broadcast networks attaining a considerable degree of program-type diversity, the audiences left for cable networks to target might be very limited. If diverse programming is offered by broadcast networks, cable networks presumably have only two options: to develop further niche programming in order to attract audience groups whose needs have yet to be fulfilled by broadcasting, or to duplicate broadcast programming with much smaller production budgets.² Now that several multichannel cable services are available in Japan, what types of programming are offered in television deserves our careful attention.

Research Questions and Methodology

Based on what we have discussed so far, we propose three research questions related to program-type diversity.

RQ1: *How many different program-type options are offered by Japan's over-the-air broadcasting and cablecasting for each one-hour period?*

With this question, we will examine “horizontal diversity” in Litman’s phase (1992), that is, the number of different program types available at a given hour across all broadcast networks and then all networks/broadcasters included in a cable service. In addition, horizontal diversity in other optional combinations of media, such as over-the-air broadcasting plus satellite broadcasting, will be researched.³

RQ2: What is the degree of diversity in programming by a network/broadcaster? This research question is regarding “vertical diversity” to use Litman’s term (1992). We will research program-type diversity within an individual network/broadcaster. In other words, how much the programming by an individual network/broadcaster concentrates into a particular type will be examined.

RQ3: Which one, broadcasting or cablecasting, offers more diverse programming? As overall diversity, vertical diversity in broadcasting and cablecasting will be examined in order to make sure which offers more diverse programming. We will discuss the degree of diversity in aggregate programming by broadcasting and by cablecasting. Besides, as well as research question 1, vertical diversity in other optional combinations of media, such as over-the-air broadcasting plus satellite broadcasting, will be examined.

Research Method

On the days selected, coders observed the programming schedule of Japan’s over-the-air broadcast networks and cable television. A five-day composite week for August 2002 was constructed in order to ensure that each day of weekdays was represented and to examine a typical programming schedule during weekdays. The time frame was five hours a day, from 6 p.m. to 11 p.m.⁴

Program-type Categories

The outcome of program-type diversity measurements can be greatly influenced by the choice of the number of categories and their appropriateness (Litman, Hasegawa, Shrikhande, and Barbatsis, 1994). Nonetheless, researchers have seldom relied on the same typology of program categories. For instance, Wakshlag and Adams (1985) assign programming into 37 program-type categories, much more than the 14 in Dominick and Pearce’s study (1976). In the extreme, it could be argued that every program is unique in and of itself and hence should occupy its own program category (Litman, 1992, p.128).

We selected fourteen program types for our research shown in Table 3. These fourteen categories are mutually exclusive, and every program falls into one and only one of the categories.

Table 3: Program-type Categories

News	Reality Show
Sports	Music
Drama	Culture
Movie	Hobby/Practical Use
Entertainment/Variety	Education
Quiz/Game	Children
Comedy	Other

Clear definitions are required for all categories. The news category includes daily newscast, news shows, news documentary, and discussion and interview programs dealing with current affairs. The sports category contains sports events, sports documentary, and interview programs featuring athletes. The drama category involves all genres of drama originally produced for television, such as ordinary drama, the mini-series, the police series, costume drama, and so on. Similarly, the movie category basically contains all genres of movies that have origins in cinema.

The entertainment/variety category contains so-called variety shows. They are usually taped in studios and are composed of conversation among the hosts and entertainers or celebrities and light entertainment performances. The quiz/game category includes shows in which participants win or lose through quizzes or games. Some programs categorized into the entertainment/variety category might contain a game or quiz. The boundary line between them is whether or not the game or quiz comprises the heart of the program. The comedy category includes stand-up comedy or situation comedy. The only object is to get a laugh from the viewers. Specific difference between the entertainment/variety and the comedy category is that there is usually no host in programs contained in the latter category.

The reality show category involves programs filmed outside studios, and the stories usually comprise of introduction, development, turn, and conclusion although they are ostensibly nonfiction. The difference from authentic documentaries is that there exist characters premised on filming and various directions in reality shows. The music category includes live or taped music performances. Like the quiz or game in the quiz/game category, the heart of programs classified in the music category is music itself. This differentiates the music category from entertainment programs, which include music performance as a part of the composition.

The culture category includes travel, history, nature, or art. Nonfiction documentary films that deal with such topics are categorized into this area. The hobby/practical use category contains a wide range of programs in such areas as health, cooking, fashion, living information, or other personal instruction techniques. Compared to the culture category whose emphasis is usually put on introducing

an unknown or inaccessible world, the hobby/practical use category deals with viewers' near affairs. The education category involves academic, formal instructional programs. The children category includes programs specifically produced for and targeted at children. Movies and dramas for children and cartoons are contained in this category. Finally, the other category is the residual for programming that does not apply to any of the categories above.

It might be found that the categorization excludes two common genres: documentary and talk show. Because these programs have a wide application, it would be a stretch to identify them as their own categories. Rather, it is valid to segment them into the news, sports, culture, or hobby/practical use category according to their main themes.

Sample Networks

The diversity of program types offered by Japan's over-the-air broadcasting was compared with that offered by Japan's cablecasting. The networks/broadcasters included in cablecasting were listed in Table 4. They are all offered by Jupiter Telecommunications (J-COM Broadband), Japan's top MSO, at the service areas in Tokyo.⁵ The sample of 27 cable networks exhaustively covered all cable networks contained in the basic service as of August 1, 2002.⁶

Coding

In the research, two coders conducted the categorization of all programs into each program type. In a case that two coders categorized a program differently, full consensus was reached through the discussion between them, and a code was entered. Intercoder reliability for coding was 83.2 percent (1042 out of 1252 programs).

Measurement and Assessment

For the calculation of horizontal diversity, the number of different program-type options offered by broadcasting/cablecasting for each one-hour period was counted. The number of options available would vary from one where all networks/broadcasters offer same type of programming to fourteen where each type of programming is offered by at least a network/broadcaster. For the average number, the sum of program-type options on each hour was divided by 25 (five hours per day multiplied by five days).

In order to measure vertical diversity for an individual network/broadcaster and overall diversity for groups (e.g. over-the-air broadcast networks), the

period. As shown in the column under “Commercial Broadcast Networks” of Table 5, five commercial over-the-air broadcast networks provide 3.68 types of programming on average. Out of 25 hours for the observation, five different types of programming are provided in 6 hours and four types in 11 hours by those five broadcast networks.

Table 5: Horizontal Diversity

	<i>Commercial Broadcast Networks(5)</i>	<i>All Broadcast Networks(7)</i>	<i>Broadcast Network and Satellite(9)</i>	<i>All Total(41)</i>
<i>Mean</i>	3.68	4.98	6.12	9.88
<i>SD</i>	1.11	1.11	1.81	1.05

Two public broadcast channels of NHK increase the number of program-type options offered by over-the-air broadcast networks from 3.68 to 4.96. Viewers are provided more than four types of programming in 20 hours by over-the-air broadcasting. Note that in Japan, viewers are basically offered an average of five types of programming at each hour from 6 p.m. to 11 p.m. in weekdays even if they do not subscribe to other video distribution services.

Then, how different combinations of video services vary the number of program-type options should be considered. It is very common among Japanese to add NHK’s two satellite broadcast channels to over-the-air broadcasting. As shown in the column under “Broadcast Networks and Satellite” of Table 5, viewers subscribing to the satellite services have larger number of program-type options, an average of 6.1 types per hour, than do non-subscribers.

The center of the issue is how the number of program-type options varies by subscribing to a cable service. The column under “All Total” of Table 5 illustrates the number of different program types available on cablecasting. It is clear that cablecasting including 41 channels doubles the program-type options to 9.88 from 4.96 on broadcast networks alone. We can say with fair certainty that cablecasting increases program-type options. Nevertheless, we notice that the number of program-type options does not increase as much as the increase of the number of channels. While broadcasting with seven channels provides about five types of programming on average, cablecasting with 41 channels offers about 10 types. Presumably, this is mainly due to the duplication of programming by cable networks specializing similar content. For instance, 34 sample cable networks contain 6 networks specializing in sports programming. Given that they basically provide only sports programming, cable viewers are usually offered at least six kinds of sports content by them. In the same way, movies, dramas, culture programming, and children’s programming are basically provided by several cable networks at one time.

Vertical Diversity

We will now shift the emphasis away from horizontal diversity to vertical diversity in order to examine an answer to research question 2: “What is the degree of diversity in programming by a network/broadcaster?” Programming breakdowns by percentage are shown in Table 6.

Commercial Broadcast Networks

Each commercial over-the-air broadcast network offers well-balanced general programming, as their schedules are programmed with a broad variety of program types. On average, eight to ten types of programming are provided by each of the networks. At the same time, broadcast networks attempt channel differentiation by allocating more time to a particular program-type, for instances NTV to variety shows (24 percent), TBS to dramas (28 percent), CX to dramas (24 percent), ANB to news (40 percent), and TX to children’s programs (30 percent). In particular, TX, the perennial last place in audience ratings race, clearly has a different programming strategy from the other over-the-air commercial broadcast networks. Children’s programming is the highest category for the network at 30 percent, followed by movies and hobby/practical use programs, both of which account for 16 percent of the programming. Taking into consideration that neither the children, the movie nor the hobby/practical use category is ranked in the top three highest programming of the other over-the-air broadcasters, we can realize the unique programming by TX.

Public Broadcast Network

According to NHK’s former President Kawaguchi, (Nishino, 1994, p.119), “Even if a certain program could attract no more than 200,000 people, NHK should broadcast the program... The important role of a public broadcaster is to secure diversity in broadcast programming.”

As shown in Table 6, for the general channel, 63.6 percent of their programming is devoted to daily newscasts or news shows dealing with current affairs. What needs to be emphasized here is that NHK with the general channel almost constantly offers news during the evening although commercial broadcasters seldom provide news with the exception of a time slot between 6 p.m. and 7 p.m. Despite the name, NHK educational channel, programming classified into the educational category is not at all offered by the channel from 6 pm to 11 pm. It seems that their programming focus has shifted from educational programming-oriented to practical use programming-oriented, as 44.3 percent of the programming is allocated to hobby/practical use programs. NHK does not broadcast variety shows, reality shows, and only broadcasts a few dramas, all of

Table 6: Programming Breakdowns (Percentage)

	N	S	D	Mo	E/V	Q/G	Co	R	Mu	Cu	H/P	Ed	Ch	O	
NTV	20.0	16.0	16.0	8.0	24.0			4.0	4.0		4.0		4.0		100.0
TBS	20.0	16.0	28.0		16.0	4.0		8.0	4.0		4.0				100.0
CX	20.0	8.0	24.0		20.0	8.0		8.0	4.0	4.0	4.0				100.0
ANB	40.0	8.0	16.0		4.0			12.0	4.0	4.0	8.0		4.0		100.0
TX		4.0	8.0	16.0	4.0	8.0		6.0	4.0	4.0	16.0		30.0		100.0
NHK (General)	63.6		3.0						9.0	16.4	3.0			5.0	100.0
NHK (Edu.)	13.0	3.0		6.0						6.0	44.3		19.7	8.0	100.0
TVK	21.0	27.0	4.0						15.0	4.3	14.6		14.0		100.0
MX	24.0	24.0	8.0	10.0						12.0	12.0		6.0	4.0	100.0
Super Channel			96.0	4.0											100.0
FOX			68.0				8.0	4.0					20.0		100.0
AXN			60.0	40.0											100.0
Channel NECO			16.0	70.0									12.0	2.0	100.0
Jidaigeki Ch.			100.0												100.0
Nihon Eiga Ch.				100.0											100.0
CSN Movie			12.0	88.0											100.0
Space Shower									100.0						100.0
Viewsic									100.0						100.0
MTV							2.0	2.0	92.0				4.0		100.0
Sky A		100.0													100.0
Gaora		88.0		4.0			8.0								100.0
J Sky Sports 1		100.0													100.0
J Sky Sports 2		100.0													100.0
J Sky Sports 3		100.0													100.0
Golf Network		100.0													100.0
LaLa TV	3.0		26.0	7.0			10.0		6.0	8.0	36.0			4.0	100.0
Discovery	4.0									96.0					100.0
Animal Planet					2.0					96.0	2.0				100.0
History Ch.		2.0								96.0			2.0		100.0
Igosyogi Ch.											100.0				100.0
CNN Intl.	78.0	20.0							2.0						100.0
Nikkei CNBC	100.0														100.0
Family Gekijyo			60.0										40.0		100.0
Kids Station													100.0		100.0
Cartoon Net.													100.0		100.0
Animax													100.0		100.0
NHK BS1	13.0	66.0								18.7				2.3	100.0
NHK BS2	10.0	2.0		26.0					5.0	11.0	4.0		32.0	10.0	100.0
WOWOW		4.7		58.0					6.0				31.3		100.0
Star Channel				100.0											100.0
Eisei Gekijyo			1.0	90.0			4.0						4.0	1.0	100.0

N: News, S: Sports, D: Drama, Mo: Movie, E/V: Entertainment/Variety, Q/G: Quiz/Game, Co: Comedy, R: Reality Show, Mu: Music, Cu: Culture, H/P: Hobby/Practical Use, Ed: Education, Ch: Children, O: Other

which are popular among commercial broadcasters. These results lead us to the conclusion that NHK has a distinctive programming strategy apparently different from that of commercial broadcasters. We may say that NHK with the two channels plays a role as an alternative to commercial broadcasters.

Nishino (1994) claims that NHK offers more diverse programming than do commercial broadcasters. Yet, the programming of two NHK channels compared to that of commercial broadcast networks is more concentrated to particular program types, namely news for the general channel and hobby/practical use programs for the educational channel. As illustrated in Table 7, the Herfindahl-Hirschman Index (HHI) for commercial broadcast networks are, as a whole, lower than that for a public broadcast network. In particular, the index for the NHK general channel is relatively high, mainly because about 64 percent of their programming is allocated to news programs.

Basic Cable Networks

When we discuss the programming of Japan's cable networks, it is necessary to keep in mind that most cable networks have specialized formats, emphasizing one subject matter. As Table 6 clearly show, many cable networks devote almost all of their programming to one specific category. Accordingly, the HHI for each cable network is extremely high as shown in Table 7. We can see from their indices, 1.00, that many networks offer only a type of programming.

Nevertheless, the analysis of the program-type diversity attained by an individual basic cable network might be ineffective as far as each basic cable network is in principle bundled into a group called the basic tier. Rather, the program-type diversity of the tier should be evaluated aggregately.

Satellite Broadcasters

According to NHK (2002), BS1 features news and sports programs, while BS2 is dedicated to top entertainment, the arts, and culture in general. This differentiation in programming largely corresponds to the results shown in Table 6. BS1 has approximately two-thirds of their programming devoted to sports programs, followed by culture programs with 18.7 percent and news with 13 percent. On the other hand, the major categories on BS2 are children programs (32 percent), movies (26 percent), and culture programs (11 percent).

Interestingly, we might be able to interpret these channels as a complementary for NHK's broadcast services. For instance, although NHK with the general channel offers news at a very frequent rate, that type of programming is not so high on both BS1 and BS2. Hobby/practical use programming, which is common on the educational channel of NHK, is rarely offered by BS channels. On the other hand, BS channels often offer sports, movies, and children programs, all of which seldom appear on NHK's broadcast channels.

Table 7: Vertical Diversity

<i>Commercial Broadcast Networks</i>		<i>Basic Cable Networks</i>		<i>Satellite Broadcasters</i>	
NTV	0.16	Super Channel	0.92	NHK BS1	0.49
TBS	0.18	FOX	0.51	NHK BS2	0.21
CX	0.16	AXN	0.52		
ANB	0.22	Channel NEOC	0.53	<i>Premium Networks</i>	
TX	0.16	Jidaigeki Ch.	1.00	WOWOW	0.44
<i>Public Broadcast Network</i>		Nihon Eiga Ch.	1.00	Star Channel	1.00
NHK General	0.44	CSN Movie	0.79	Eisei Gekijyo	0.81
NHK Educational	0.27	Space Shower	1.00		
<i>Independent Stations</i>		Viewsic	1.00		
TVK	0.18	MTV	0.85		
MX	0.17	Sky A	1.00		
		Gaora	0.78		
		J Sky Sports 1	1.00		
		J Sky Sports 2	1.00		
		J Sky Sports 3	1.00		
		Golf Network	1.00		
		LaLa TV	0.22		
		Discovery	0.92		
		Animal Planet	0.92		
		History Ch.	0.92		
		Igosity Ch.	1.00		
		CNN Intl.	0.65		
		Nikkei CNBC	1.00		
		Family Gekijyo	0.52		
		Kids Station	1.00		
		Cartoon Net.	1.00		
		Animax	1.00		

Overall Diversity

We can see from Table 8 that the programming breakdown by all networks/broadcasters considerably differs from that by only over-the-air broadcast networks.

Among over-the-air broadcasters, the most highly presented program type during 6 p.m. and 11 p.m. is news (25.2 percent), followed by dramas (13.6 percent), hobby/practical use programs (11.9 percent), entertainment shows (9.7 percent), and children's programs (8.2 percent), as shown in the row next to "over-the-air networks" of Table 8. Top three and top five categories account for 50.7 percent and 68.6 percent of their programming, respectively.

If all networks and broadcasters are included, that is, in the case of cablecasting, the highest presentation is the sports category at 19.2 percent, which accounts for about 8 percent of the programming by broadcast networks (see the row next to "All Total" of Table 8). Sports programs are followed by movies (15.2 percent) and dramas (13.2 percent). Those three categories account for 47.6 percent of the programming offered by all networks, 3.1 percent lower than 50.7 percent occupied by the top three categories in over-the-air broadcasting networks. Then, children programs with 12.9 percent and news with 10.5 percent are the fourth and fifth highest categories. Summed up together, top five categories account for 71 percent of the programming by all networks/broad-

Table 8: Programming Breakdowns by Groups of Networks/Broadcasters (Percentage)

	News	Sports	Drama	Movie	Ent./Vrty	Qz./Gm.	Comedy	Real Shw.	Music	Culture	Hby./PU	Edu.	Children	Other	
A. Commercial Broadcasters	20.0	10.4	18.4	4.8	13.6	4.0		7.6	4.0	2.4	7.2		7.6		100.0
B. Public Broadcaster	38.3	1.5	1.5	3.0					4.5	11.2	23.7		9.8	6.5	100.0
<i>Over-the-air (A+B)</i>	25.2	7.9	13.6	4.3	9.7	2.9		5.4	4.1	4.9	11.9		8.2	1.9	100.0
C. Independent Stations	22.5	25.5	6.0	5.0					7.5	8.2	13.3		10.0	2.0	100.0
D. Basic Cable Networks	6.9	22.6	16.2	11.4	0.2		1.0	0.2	11.1	11.0	5.1		14.0	0.3	100.0
E. Satellite Broadcasters	11.5	34.0		13.0					2.5	14.8	2.0		16.0	6.2	100.0
<i>Over-the-air+Satellite (A+B+E)</i>	22.2	13.7	10.6	6.2	7.6	2.2		4.2	3.7	7.1	9.7		10.0	2.8	100.0
F. Premium Networks		1.6	0.3	82.7			1.3		2.0				11.8	0.3	100.0
<i>All Total(A+B+C+D+E+F)</i>	10.5	19.2	13.2	15.2	1.8	0.5	0.8	1.1	8.7	9.2	6.1		12.9	0.9	100.0

A(5). NTV, TBS, CX, ANB, TX

B(2). NHK General, NHK Educational

C(2). TVK, MX

D(27). Super Channel, FOX, AXN, Channel NECO, Jidaigeki Channel, Nihon Eiga Channel, CSN Movie, Space Shower, Viewsic, MTV, Sky A, Gaora, J Sky Sports 1, J Sky Sports 2, J Sky Sports 3, Golf Network, LaLa TV, Discovery, Animal Planet, History Channel, Igosyogi Channel, CNN International, Nikkei CNBC, Family Gekijyo, Kids Station, Cartoon Network, Animax

E(2). NHK BS1, NHK BS2

F(3). WOWOW, Star Channel, Eisei Gekijyo

casters, slightly higher than 68.6 percent accounted for by the top five categories in broadcast networks.

It is likely that overall diversity in cablecasting is greatly influenced by the programming of basic cable networks since they hold a majority in all networks/broadcasters offered by cablecasting. As a whole, the aggregate programming by cable networks is well-balanced. The highest category by basic cable networks is sports programming at 22.6 percent (see the row next to “Basic Cable Networks” in Table 8). Certainly, the percentage is correlated to the number of sports-oriented networks. Among 27 cable networks, six are specializing in sports programming. The sports category is followed by the drama category with 16.2 percent and the children category with 14 percent. This is because relatively many networks exhaustively devote their programming to dramas and children’s programming.

We will now take a look at the Herfindahl-Hirschman Index in order to analyze overall diversity (see Table 9). Note again that low values of the index denote less concentration of program types and hence greater program-type diversity. Examining intra-network/broadcaster concentration levels, we notice that the index for commercial broadcast networks is the lowest at 0.124. We can safely say that Japanese broadcast networks offer moderately diverse programming.

Table 9: Overall Diversity

A. Commercial Broadcast Networks	0.124
B. Public Broadcast Network	0.233
<i>Over-the-air Broadcast Networks (A+B)</i>	0.129
C. Independent Stations	0.162
D. Basic Cable Networks	0.142
E. Satellite Broadcasters	0.198
<i>Over-the-air + Satellite (A+B+E)</i>	0.118
F. Premium Networks	0.699
<i>All Total (A+B+C+D+E+F)</i>	0.125

It is significant here to note that the results obtained correspond to the fact found by Litman et al. (1994): the indices for the individual networks are higher than the index for a group of networks. Even if each network has a relatively narrow range of program offerings, overall diversity is attained collectively as a group of networks through a process of counterprogramming and product differentiation. This tendency is more clearly shown in the programming of basic cable networks. Their individual indices range from 0.22 to 1.00, most of which indicate high concentration on particular program types. Yet, calculated collectively, the aggregate index for all basic cable networks is 0.142.

The overall index across all networks/broadcasters, 0.125, is slightly lower than that for over-the-air broadcasting networks, 0.129. It is found from the results that the programming provided by a cablecaster is more diverse than that offered by only over-the-air broadcasters. This is an answer to research question 3: "Which one, broadcasting or cablecasting, offers more diverse programming?" Yet, the difference of both indices remains as a matter to be discussed further. If we consider the difference, 0.04, to be extremely small, it is no exaggeration to say that Japan's six over-the-air broadcast networks with seven channels offer almost as diverse programming as the 41 networks/broadcasters packed into cablecasting. From this viewpoint, we can say that there is still much validity in Straubhaar's assumption (1988, p.321), "With six broadcasting networks in Japan, there is considerable diversity in conventional broadcasting, and, therefore, cable may not also be perceived as adding significant diversity in video distribution."

As noted earlier in this paper, it is very common among Japanese to add NHK's satellite broadcasting channels to over-the-air broadcasting. Because this combination pattern of video distribution services penetrated among Japanese, it is appropriate to gauge how diverse programming the combination provides. The index for the combination is 0.118, lower than the index for all networks/broadcasters included, 0.125. That is to say, by only adding two satellite broadcasting channels, viewers can be provided program types as diverse as that offered by cablecasting. It is likely that this is accurately reflected in the popularity of satellite broadcasting. It was noted previously that those satellite channels, whose programming is highly focused on sports programs, children programs, and movies, play a complementary role for NHK over-the-air broadcasting, which rarely provides those types of programming. To be precise, however, the satellite channels supplement not only the programming of NHK but also that of commercial over-the-air broadcasting networks as well, especially with their high concentration on culture programs that are seldom offered by commercial broadcasters.

Conclusion and Discussion

This paper has analyzed program-type diversity in Japanese evening television. The program-type diversity has been discussed from two main perspectives: horizontal diversity and vertical diversity.

In terms of horizontal diversity, the number of different program-type options at a given hour, viewers subscribing to cable services have more options than do non-subscribers. In regard to this point, however, we need to pay our attention to the fact that in Japan the number of program-type options does not increase as much as the increase of the number of channels by cablecasting.

Whereas broadcasting with seven channels provides five types of programming on average, cablecasting with 41 channels offers ten types.

Vertical diversity, the degree of program-type diversity offered by a single network/broadcaster over its entire schedule, clearly reflects its programming strategy. While the programming schedules of broadcast networks consist of various program types and hence are well balanced, many cable networks are narrowly targeted and devote almost all of their programming to a specific category. Accordingly, the Herfindahl-Hirschman Index (HHI) for each cable network is high, indicating that less diverse programming is offered by an individual cable network compared to an individual broadcast network or independent station. In order to take into account a characteristic feature of cable networks whose programming is offered as a bundle, it seems to be more appropriate to examine overall diversity, program-type diversity attained collectively by a group of cable networks, rather than vertical diversity by an individual cable network.

By comparing the overall diversity of broadcasting with that of cablecasting over their entire schedules, we notice that Japan's six over-the-air broadcast networks with seven channels offer almost as diverse programming as the 41 networks/broadcasters included into cablecasting. Accordingly, we can conclude that Japanese over-the-air broadcasting offers moderate program-type diversity nearly equivalent to cablecasting. Given that diverse programming would increase the likelihood of maximizing the satisfaction of a wider range of viewers, broadcast networks whose presentations are nearly as diverse as cablecasting can possibly fulfill the utility of audiences as much as cablecasting.

The point, which needs to be discussed, is the duplication of programming by cable networks. Assuming that five different types of programming are available on seven broadcast channels at a given hour, cable networks are expected to provide programming other than the five types and broaden the number of program choices. This is because there might be viewers whose content preferences are not fulfilled with the five broadcast programs. To the contrary, if a cable network offers programming quite similar to that by a broadcast network, the cable network, duplicating broadcast programming with much smaller budgets, hinders the diversification of programming.

Whether or not the differentiation by cable networks becomes successful, however, might be greatly determined by the programming of broadcast networks. On time frames when broadcast networks simultaneously air six or seven different types of programming, as observed in our research, other program types left for cable networks to provide are limited. In addition, it is more important that the other program types should be fully demanded by viewers and commercially feasible. This is possibly a main reason why networks specializing in a particular religion or race are not available on Japan's cablecasting although those channels, if any, play an important role in diversification of programming. Many Japanese have no religious faith, and Japan is basically regarded as a ra-

cially homogeneous nation. Judging from considerable overlap of program types between broadcast and cable networks, it seems that Japan's cable networks generally offer programming that has frequently appeared on broadcasting, rather than unique programming unavailable on broadcasting.

We have analyzed program-type diversity in detail in this paper. Nevertheless, the question of how the diversity influences the penetration of multichannel media remains unsettled. There is no conclusive proof that due to moderate program-type diversity by Japan's broadcasting, nearly equivalent to cablecasting, many Japanese do not feel the necessity to subscribe to multichannel media. The correlation between program-type diversity and the penetration of multichannel media is still open to discussion.

A further direction of this study could be to examine how the diversity at the present will vary as multichannel media become more penetrated into Japanese homes. It is possible that further audience fragmentation will occur and trigger more unique cable programming, differentiated from broadcast programming, to be provided. At the same time, whether Japan's broadcast networks will eventually adopt to devote more of their programming schedules to mass appeal programming or continue to maintain considerable program-type diversity remains as a matter to be observed from now on.

NOTES

- 1 In Japan, cable networks are often called “CS networks” since their programming is distributed via communications satellite to cable systems or individual households with small dishes.
- 2 It is true that broadcast networks have ample production costs. For instance, one of Japan’s broadcast networks has production budgets ranging from 30 million to 50 million yen, from about 250,000 to 417,000 dollars per program broadcast during prime time. On the other hand, it is said that the production cost for a program on cable networks is an average of approximately 500,000 yen, around 4,200 dollars (Nishioka, 2000).
- 3 Satellite broadcasting by NHK is top-ranked by subscriber counts among Japan’s new video distribution services. Although those two channels are also available on multichannel cable systems, most Japanese have preferred to pay the stand-alone subscription fee to NHK.
- 4 There is considerable validity in choosing the time frame since it covers hours containing the largest number of audiences and hence the most critical daypart for networks. It is assumed that diverse audiences watch television during the time frame.
- 5 J-COM Broadband serves in 21 managed franchises, most of which are located around large cities, such as Tokyo, Osaka, Sapporo, and Fukuoka. It was established in January 1995, as a joint company of Sumitomo Corporation and Tele-Communications, Inc (TCI). The current principal shareholders are Sumitomo, Liberty Media, and Microsoft. As of the end of December 2002, the number of households subscribing to J-COM TV is 1,422,800 (Jupiter Telecommunications, 2003).
- 6 The sample, however, does not include Home Channel and Weather Channel because data on their programming schedules were not available.

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