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More Channels: More Choices? More Quality?

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Since we have distinguished speakers from various parts of Asia and Europe, let me concentrate my discussion on Japan based upon our experiences in recent years. The television scene is changing year by year in Japan and the landscape of the previous year is not quite the same as the coming year.

Digitalization is in the center of this revolution. It is possible to carry 3 to 4 digital channels on the same bandwidth as one analogue channel. It is also possible to have new access to satellite channels, which may eventually offer as many as 300 digitalized channels.

CS – Communication Satellite

There are two CS operators in Japan.

	Sky-Perfect TV	DirectTV
Started	October, 1996	December, 1997
Channels	194	102
Station	JC SAT4, E 124°	Superbird-C, E144°

These satellites use the ku-band which can be received directly through an 18 inch dish. For terrestrial TV, TV stations have transmitters of their own, but CS operators are not necessarily broadcasters in the traditional sense. They are transmitter operators and they come mostly from outside the traditional broadcasting business. On the other hand, there are some 300 broadcasting houses that do not have transmitters. They borrow CS channels to transmit their programmes. They are also different from traditional broadcasters in that they do not have transmitters of their own.

CS channels are specialized channels in contrast to terrestrial channels, which have pursued comprehensive or balanced programming traditionally. More than 50% of CS channels specialize in movies, entertainment or sports. We must admit that competition has made television more attractive to viewers in various parts of the world. Programmes on commercial stations are more interesting in comparison with sober programmes from nationalized stations or semi-nationalized stations, especially in the entertainment field. There is going to be keener competition with the coming of CS.

Genre of contents in CS channels

1. movies	20%	8. education	5%
2. entertainment	16	9. hobby, travel	2
3. sport	12	10. shopping	2
4. lifestyle, gourmet	10	11. Korean, Spanish, etc.	2
5. news	10	12. non-fiction	2
6. music	6	13. others	7
7. horseracing, cycling	6		

It is said, though, that ordinary people choose from 6 or 8 familiar channels in daily life.

Sky-Perfect TV has 1 million subscribers but DirecTV, being a late comer, has only about 230,000 subscribers. This is not very impressive compared to 46 million households with terrestrial television. Sky-Perfect TV and DirecTV are now in keen competition to get more subscribers and to reach the bottom-line as fast as possible. The bottom-line is said to be 2 million subscribers.

Penetration is the key factor in the broadcasting business, whether the income is coming from subscription fees or from commercials. It will take 7 to 10 years for the CS operators to break even. This means that they must sustain a big investment during that period. They desperately need attractive programmes but attractive programmes are usually expensive to buy and even more expensive to produce.

BS - Broadcasting Satellite

The wave of digitalization will come first from the latest comer, CS, then to BS and at last to terrestrial television. MPT, the Ministry of Posts and Telecommunications, has decided to introduce digital BS service at the end of 2000 by using BS-4 B which is to be launched in the autumn of 2000. We have been in BS operation since the 1970's using the analogue system but the scene will look quite different after 2000.

	As of now (analogue)	2000 (digital)
CH1	Not in use	HDTV (Asahi) + HDTV (TBS)
CH3	Not in use	HDTV (Pay TV) + HDTV (TV Tokyo)
CH5	Pay TV	Out of service
CH7	NHK-BS1	Out of service
CH9	HDTV (experimental)	HDTV (NHK)
CH11	NHK-BS2	Out of service
CH13	Not in use	HDTV (NTV) + HDTV (Fuji)
CH15	Not in use	NTS (Star TV) + NHK-BS (1&2, simulcast) *

*NTSC

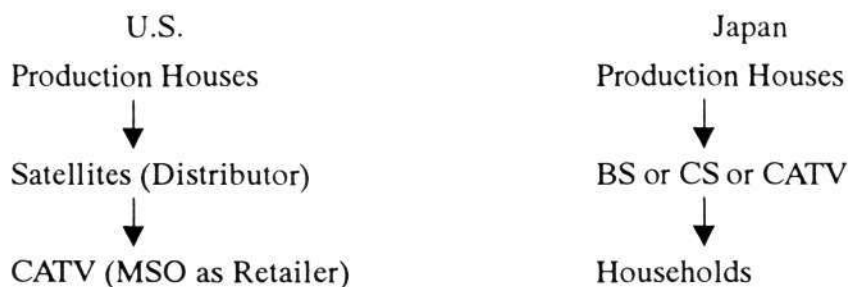
Most of the BS operators are, in some way or other, connected with terrestrial broadcasters. CS has specialized channels whereas BS is supposed to maintain balanced programming or comprehensive programming, even after 2000. On BS there is going to be analogue simulcast for the convenience of those viewers who have a television set in analogue mode, but the simulcast will be terminated in the year 2010.

HDTV (Hi-Definition Television)

Digitalization brings about the availability of more channels. The real question is, do we need so many TV channels for daily life? Should we rather use the bandwidth to upgrade the quality of the picture by using a wider bandwidth? NHK started a daily HDTV broadcast in 1989. HDTV has 1125 scanning lines in contrast to 525 in NTSC or 625 in Pal. HDTV has an aspect ratio of 9 to 16 in contrast to 3 to 4 in NTSC or PAL. HDTV receiving sets have been sold to 1.5 million households as of 1998, but it is expected that HDTV will be accepted as the standard system because BS channels are to be converted to HDTV system in 2000.

CATV

CATV penetration in Japan is not high at 12% of households. CATV is in competition with CS and BS. In the U.S., CATV developed in conjunction with satellite distributors.



In Japan, the development of DBS preceded the development of CATV. DBS has now reached 10 million households. CATV has only about 4.6 million subscribers in Japan. The problem now with CATV is that normal CATV can carry only 30 channels whereas CS can distribute almost 300 channels.

Terrestrial Broadcasting

MPT, the Ministry of Posts and Telecommunications, has decided to change the transmission mode of terrestrial TV from analogue to digital, but terrestrial TV now reaches almost 100% of households. It will cost a tremendous amount of money to replace analogue television sets or to distribute set-top converters to so many households. And it will cost broadcasting stations to change all the transmitters. We must also take transition time into consideration. During the transition period, there will have to be simultaneous broadcasting of analogue programmes along with digital programmes. The digitalization will occur in the following sequence.

CS → BS → Terrestrial (and perhaps CATV)

One of the shortcomings of CS, despite cost effectiveness, is that it is not suitable for regional broadcast, so terrestrial television is likely to remain the mainstream carrier of television programmes for some time to come.

Tri-lateral Relationship of Technological Development, Financial Feasibility and Social Needs

Transmission cost is the lowest in CS.

Transmission cost per channel:

Terrestrial TV > BS > CB

Spending per channel on content is the highest on terrestrial TV:

Terrestrial TV > BS > CS

The estimated amount of money each medium can spend per channel per annum is as follows.

Terrestrial TV (per channel)	60-100 billion yen/year
BS	8-10 billion yen/year
CS	0.4-0.6 billion yen/year

Most broadcasting houses (program suppliers) are in the red. Only two or three houses are above the bottom line after 8 to 12 years in the analogue business. Asahi News Star, CNN and Space Network (music channel) have been supplying programmes to CATV using the analogue CS system. Now they are using digital CS system. Their annual income is between 3 and 5 billion yen, which is not impressive compared to terrestrial stations, and they are barely above the bottom-line. All other broadcasting houses are in the red, but it is expected that CS subscribers will increase in the coming years. It is said that the break-even point for broadcasting houses is subscription by 500,000 households.

	TERR	BS	CS	CATV
Since	1952	1988	1996	1955
Penetration (as of 12/98, in millions)	46	13	1.23	4.6
Programming	Comprehensive	Comprehensive (plus 2 movie channels)	Specialized	

For digital BS stations, it will take 7 to 9 years to break even financially. During that time, 40 to 100 billion yen has to be invested for each channel.

The cost of new media has to be borne either by viewers as subscription fees or by commercial sponsors.

Cost for viewers

NHK (Terrestrial + BS)	2000yen
Wowow (Pay BS)	2000yen
Sky-Perfect (basic 12 channels)	1900yen
DirecTV (basic 20 channels)	2000yen

We must solve a three-dimensional puzzle, that is, technological advancement, financial feasibility and social needs. Various factors differ depending upon country or region, but we must keep in mind that, when television arrived as a newcomer, we already had good movies, newspapers and radio. It must have seemed to movie or newspaper people that there was no chance for the television industry to grow. We are poised at the turn of the century, at the height of the prosperity of analogue, terrestrial television. The 21st century, which will undoubtedly be the century of digital media, will bring about more choices and more quality if we succeed in inspiring new energy in an old media.