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### Determinants of Webcasting Business Models: A Comparative Study of South Korean and United States Leading Webcasters

Louisa Ha, Bowling Green State University, United States

Richard Ganahl, Bloomsburg University, United States

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*This paper proposes a framework for studying business models for webcasting based on its examination of factors influencing the business models of leading webcasters in the United States and South Korea. The proposed business models of leading webcasters are the virtual cable network model, and the virtual cable system model. Further, Korean webcasters are more likely to use a pay-per-view model than American webcasters.*

#### Introduction

The World Wide Web (Web) has become an important medium for entertainment and leisure use. Streaming technology developments, which compress the digital signal and enable almost immediate reception and play has transformed the Web into an entertainment medium.

Webcasting refers to the delivery of media content on the Web, and represents the convergence of electronic media and print media. The Web's multimedia capacity facilitates both traditional media and online-only media potential to provide information and entertainment services to Internet users (Miles & Sakai, 2001). While webcasting has multiple uses for both businesses and consumers, this study focuses on the webcasting services that supply either prepared audio or video content targeting consumers. These services potentially threaten existing mass media. How existing electronic media make use of webcasting to consolidate its audience base or enlarge its audience reach and the dynamics of online-only webcasters will define the media industry's future.

This study compares the business models used by leading webcasters in the United States and South Korea and examines the factors influencing the business models. It seeks to create a theoretical

framework to study business models for emerging media such as webcasting. Bandwidth requirement for transmitting video and audio files over the Internet are an important requisite for webcasting success. The increasing broadband penetration in these markets makes them ideal for exploring webcasting's business viability.

The U.S. has the largest number of Internet users with 165.7 million (The World Factbook, 2002). It has the world's most successful entertainment industry with eight broadcast TV networks, over 250 cable networks, 12,300 radio stations, and numerous movie studios. It is also the largest advertising market in the world. Both manufacturing and service industries are well developed. Americans generally work a five-day week and enjoy family activities and outdoor life. In general, Americans have moderate disposable income with federal and local taxes, sales taxes, and usually a mandatory retirement contribution and social security tax.

South Korea is Asia's largest Internet user with 25.6 million (The World Factbook, 2002), and its second largest advertising market. While broadband penetration rate vary by source, South Korea ranks as the world leader in broadband Internet penetration rate (57% according to Yankee and 70% according to *Wired* magazine). The U.S. has the highest in broadband Internet penetration rate in the western hemisphere (13% according to Pew Internet Life project to 34% according to Media Metrix). The South Korean government formerly controlled the media with its state-owned monopoly of television. Nevertheless, Kim Dae-Jung's market liberalization reforms in the mid-1990s, have transformed South Korean's media industry to a commercial-based industry with many newcomers such as cable television striving for dominance. Currently, South Korea is largely a manufacturing-based country. South Koreans are famous for their long working hours: 2600 hour per year per person versus the 2000 hours in the United States. In addition, the Korean consumer has the world's highest disposable income with low income taxes and no sales tax (Chang, Palasthira & Kim, 1995).

## Literature Review

### *Online Media Business Model Controversies*

Business models represent a business' operation, including potential benefits for its various participants and revenue sources (Picard, 2000). Two aspects of webcasting are important to understanding its business model: first is the webcast's content and revenue source; second is its technical requirements. Both represent barriers to consumption.

A major question regarding the online media business model is consumers willingness to pay for online content. Market research such as Cyberatlas (2003), and critics such as Rojas (2001) both document consumers' resistance to pay for content online. Consumer content purchases represent only eight percent of all online revenue (Crosbie, 2002). Consumers are accustomed to the Web's free content, and see little reason to pay extra for content they consider similar. Certain skeptics view webcasting's paid online content business model doomed. Following the dot.com bust, the press repeatedly reported the webcasting failures such as NBCi.com, Netradio.com, Digital Entertainment Network, and Pseudo Networks (e.g., Lee, 2000; Lefton, 2001; Rich 2000). Nevertheless, the broadband penetration rate increases, and several notable webcaster successes including America Online, RealNetworks, and Yahoo suggest a more stable future for the webcasting business model (Gough, 2003; Sloan, 2003).

Baird (2003) and Bartussek (2003) argue it is a misconception that consumers will never pay for online content. Consumers will not pay for content perceived low in value or available for free. But they will pay for online content perceived as highly valuable such as *Consumer Reports* and the *Wall Street Journal*. Baird (2003) suggests online content can be highly profitable if online publishers use a tiered model. This tiered model provides some free content as bait and then uses a subscription model for access to exclusive content and features such as archives and database search.

Thus, the essence of the controversy is whether online media content creates value to consumers that is so compelling that they will be glad to pay for it. Among the handful of successful webcasters such as sports leader ESPN and Real Networks that offers cooperative deals with leading TV networks,

most other profitable consumer webcast examples are pornographic sites (Lubove, 2002). Consumers are accustomed to pay for pornographic content because it's never been offered free by offline media.

Some established media see their online counterpart as a repurposing platform, or another exhibiting "window" for existing content. The value of such repurposed content depends on the attractiveness of the content to viewers for repeated viewing or to non-viewers who missed the show's premiere. Stand-alone online media without their own production facilities, may adopt the aired content in a syndication mode, and use its past audience ratings as the indicator for the content's potential attractiveness.

Viewing business models as evolutionary, Picard (2000) proposes that the emergence of one business model represents dominance over previous business models. This study's authors, however, contend that business models can co-exist, and that no model is intrinsically better. The business model itself does not guarantee success, but it can provide the operational framework and assist in the achievement of company's business goals.

For the purpose of this study, we examine five major business models for webcasters: 1) Advertising/sponsorship, 2) E-commerce, 3) content syndication, 4) subscription, 5) pay-per-use/view/download (Chan-Olmsted & Ha, 2003; Ha, 2003). The first three models assume the audience will not pay for the content, or that the payment will be minimal. The advertising/sponsorship model assumes audiences will tolerate advertising as long as it subsidizes the content. Even if they pay, the amount may be too little to support the online media. The audience for the content is large enough to attract advertisers as a cost-efficient audience delivery vehicle.

The E-commerce model assumes the audience will not pay for the content. The e-commerce model uses the revenue generated from selling merchandise to make a profit instead of relying on advertisers. The free content is the bait; the business transactions are the ends. The content syndication model uses the web site as the showcase of content that can be readily transferable or adapted to other sites. The assumption of this model is that consumers will not pay for the content, but there are many sites that need the content but can not produce it. The profit comes from syndicating the content to other sites.

The subscription model and the pay per use model assume audiences are willing to pay for the webcast content. The subscription model is the most commonly used online content model because it avoids the trouble of charging for every content use. The content is bundled as a package and is available to all subscribers. The pay-per-use model is particularly effective if individual content items are so attractive that audiences will pay to own a copy (download) or view it on demand. A few attractive items may generate sufficient profit for the webcaster.

These business models are not mutually exclusive. Webcasters can choose one or a combination of models. Webcasters that appeal to a broad audience can choose models that do not need an audience to pay directly for the content to survive. Webcasters that appeal to niche audiences may have fewer choices because the audience size may not support advertising. Despite the promise of customized online advertising, the online advertising spending patterns reflect the golden rule of cost-efficiency: the highest traffic sites generate the highest online advertising dollars. Specialized sites with small audiences have little advertising (Ha, 2003).

### ***Cannibalization of Media Consumption***

Many question whether webcasting will cannibalize offline media consumption. Some view webcasting as competition to broadcast and see it as a cannibalizing force. They argue webcasting will steal audiences from the broadcast media. Webcasting is perceived as a better medium than the broadcast media and popular music record labels because it has the advantages of interactivity, 24-hour on-demand access, and easy storage and retrieval (e.g., Cho, Byun & Sung, 2001; Fox & Wrenn, 2001; Waterman, 2001).

Others view webcasting as a complement or a companion to the broadcast media (Stacy, 2001). For those at work, webcasting is an important substitute for TV viewing and radio listening. eMarketer (2003) reports more than one-third of Americans go online at work, 84 percent of workers have broadband access, and 60 percent of consumer online dollars are spent targeting the work place. At-home,

audiences prefer the home-based television experience from their couch or listening to radio in their cars. The broadcast source's geographical distance also impacts watching or listening to a webcast. In fact, Arbitron/Edison's study reports 55 percent of U.S. Web radio listeners listen to stations outside their local market (Rose & Lenski, 2003).

### ***Technical Requirements and Barriers to Webcast Consumption***

Technical requirements are importantly related to webcasting, and can pose barriers to consumption apart from the content's perceived value. Web access and applications are not standardized. First, webcasting of video and audio files requires the provider's high bandwidth and user's broadband Internet connection. The Internet connection speed can determine the quality of the user's webcast experience. If the Internet connection is slow (telephone dial-up connection) the transmission becomes garbled and incomprehensible. Broadband Internet users are much more likely than narrowband users to consume webcasts (Rao, 2001; Cho, Byun & Sung, 2003). Nevertheless, South Korea's high broadband connection penetration but relatively low success in online paid content suggests broadband connection is not a determinant of willingness to pay for online content. (Crosbie, 2003).

Second, there are three types of multimedia file transmission method: 1) Live Streaming, 2) On-Demand, and 3) Push. Recent advancement of live streaming technology allows instant transmission of video files in streams by compression and decompression techniques. Web users can enjoy video and audio content in real-time through the live streaming method. In live-streaming, users must follow the webcast schedule. The second transmission method is on consumer's demand. Users can retrieve the video or audio files at any time. When the video displays instantly at retrieval but the user cannot store the content, it is using the streaming technology. But when it plays back after the file is fully downloaded on the user's computer, then the webcast is transmitted on-demand by downloading files. The files are stored on the user's computer system. The last transmission method is push, which is the automatic transmission of files displayed on the user's computer without their explicit request. In another words, the webcast comes to the user. Microsoft's Windows update and many other software companies use the push technology to remind users to upgrade or download patches of their products. Because of the high bandwidth requirement for video and audio files, push is seldom used for webcasting of video and audio.

In addition to transmission method differences, the compatibility of media players is another issue. Whether the user can view or listen to the webcast depends on the media player used by the provider and the visitor. For example, if the webcaster uses the Windows Media Player file format and the user only has a Quicktime player, the user cannot open the webcast. To be a regular user of webcasting, consumers need to own several media players. In addition, some webcasts require additional software such as Macromedia Flash in order to view the page and the webcast. A national U.S. study by Ha and Chan-Olmsted (2002) found that over half of the Internet users did not download additional software to view specific features of a web site. For webcasting to capture the largest audiences, it must be highly usable. The webcast should accommodate different Internet connection speeds, and provide both live streaming and on-demand services to be highly usable.

### **Research Questions**

This study examines the leading webcasters in the U.S. and South Korea to understand the business practices of webcasters. Both countries have high broadband penetration rates, governmental support and a vibrant commercial interest in the Internet industry. Specifically, this study attempts to answer the following five research questions.

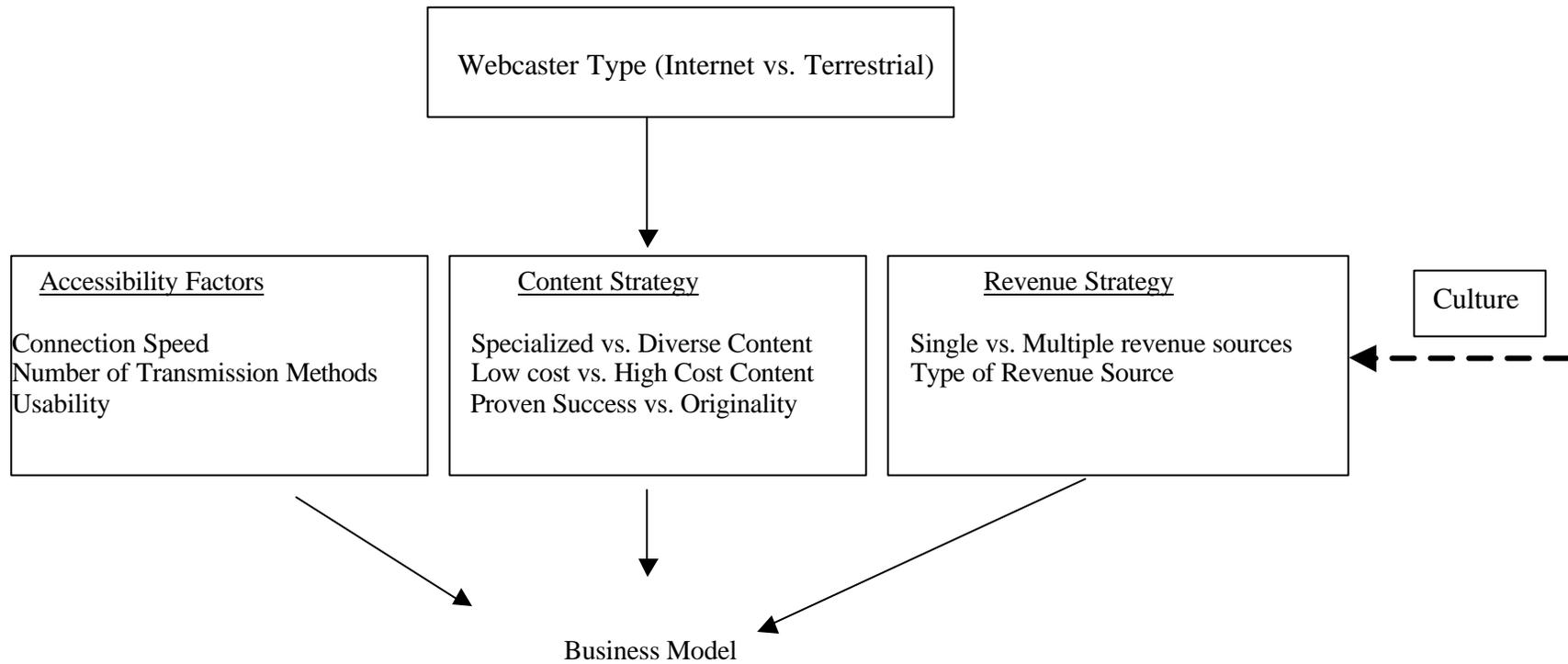
1. What are the business models used by the leading webcasters in South Korea and the U.S.?
2. What are the content sources and program genres provided by the leading webcasters in South Korea and the U.S.?
3. What are the file transmission methods used by the leading webcasters in South Korea and the U.S. and are they related to the business model?

4. Are there differences in business models, content sources, program genres and file transmission method between those with offline counterparts such as radio stations and those that only webcast on the Internet?
5. If there are differences in the business models and content, can those differences be attributed to cultural differences?

### **Method**

The content analysis method was employed to examine leading webcaster practices in the U.S and South Korea. Because the webcasting industry is still in its infancy, a random sample of sites will not help illuminate the direction of webcasting business models. Only a handful of large, commercial webcasters are of considerable importance in this regard. In addition, these leading webcasters will set the trend for other webcasters who are learning how to make webcasting a profitable business. Hence we selected 12 leading video webcasting services and 12 leading radio webcasting services for analysis in each country. After consultation with the International Association of Webcasters and the Webcasting-Digest listserv, the researchers found there is no authoritative list of webcasting services with audience information in both countries. The researchers consulted various sources to compile a list of the countries' leading webcasters.

In the U.S., only web radio sites are regularly monitored by commercial audience research services such as Measurecast (now part of Arbitron), while audience traffic for video sites is not regularly reported. To identify leading video webcasting services, the researchers first reviewed trade magazines such as *Streaming Magazine* and the *PC magazine* for the sites being recommended to their readers. The top 12 video sites came from the "Video prime-time players" article in the January 2002 issue of *PC Magazine*. Leading web radio sites were identified from the top 10 list in the March 2003 list of Measurecast and the top three Web radio services reported in Arbitron/Edison Media Research's Internet 8 (2002) report. Because Musicmatch was listed twice for its two different services, only one was selected. It must be noted that some video sites also provide audio services such as Windows Media and ESPN.com.

**Figure 1****A Framework for Analyzing Viability of Webcasting Business Models**

Internet use in South Korea is primarily concentrated among younger Koreans (Ko, 2001). The Korea Network Information Center (KNIC) estimates more than 90% of those between 6-19 years old use the Internet, 86% of those between 20-29 and more than 66% of those between 30-31 years old. Only 9.6% of those over fifty use the Internet. This concentration of Internet use among younger South Koreans is reflected in the 2002 election of President Roh and his 2% margin of victory. The campaign web site received more than 500,000 daily visits to its chat rooms, video clips and audio broadcasts. It received 7,000 daily emails offering policy ideas and campaign suggestions. On Election Day, the campaign sent 800,000 midday text messages reminding younger voters to cast their ballots.

Selection of South Korea's leading webcasting sites reflects this emphasis on younger users. We consulted primary sources including government statistics and industry rankings, and also informally surveyed college students at leading universities in Seoul, regarding the popularity of various webcasting sites. Consequently we came up with 12 video and 12 audio webcasting services that are most popular among the college student population (Please refer to Appendix 1 for the list of leading webcasters chosen for this study).

The coding scheme was designed to identify the business model and content characteristics of the webcast. The coders recorded information about the content of the webcast and the amount of money it charged to users if any. They also recorded the various revenue sources found on the site. The coding scheme was originally in English. The Korean version was a translation of the English coding scheme. To assure accuracy of the translation, the back translation technique was used: a Korean translated the Korean version back to English and the discrepancies were identified and resolved.

In the U.S., coders were senior undergraduate students at a midwestern state university who were taking a new media course with a focus on webcasting. In South Korea, coders were native Korean graduates students in a communication program at a university located in Seoul. Coders in both countries were trained with a demonstration session on how to use the coding sheet and coded sites. The coding was conducted from late March to early April 2003. Coder reliability was calculated through double-coding 20 percent of the services by the researchers. To ensure the double coding was coding the same site, the second coders used the same printout of the site coded by the first coder in entering the information. Perreault and Leigh's (1989) Reliability Index was used to compute the inter-coder reliability because it is an estimate of the true population level of agreement (Neuendorf, 2002). Taking into account the multiple coders involved in this study, the average reliability of items across all pairs of coders ranged from 0.81 (such as type of program genres) to 1.0 (such as webcaster type) with an overall average reliability of 0.88.

## Results

Although the authors had no intention to have an equal number of stand-alone webcasting stations (Internet only) and terrestrial stations' webcasting services for both South Korea and the U.S., the resultant sample in both countries has slightly more Internet-only stations (54.2%) than terrestrial stations. Because of the study's small sample size, the significance tests presented are for reference purposes. Among the 14 webcasters that charge a monthly subscription fees, the subscription fee ranged from US\$3 to US\$21 a month with an average of US\$9. The monthly subscription fees for U.S. webcasters (average= US\$13) are significantly higher than their Korean counterparts who on average charge \$6 ( $t = 2.53, p = 0.02$ ). For pay per view charges, it is between \$1 to \$2 per view.

### *Business models used by the leading webcasters in South Korea and the United States*

Advertising and sponsorship is the most commonly used business model by leading webcasters in both South Korea and the U.S., with E-commerce a far distant second (Table 1). Nevertheless, there are quite a number of significant differences between the business models used by South Korean webcasters and American webcasters. In South Korea, there are many more webcasters using the advertising/sponsorship model than the United States. Almost all of the sites (except one) have some forms of advertisements or sponsor logos. Moreover, Korea's webcasters are much more likely to

employ several business models than their American counterparts ( $t=-3.01$ ,  $df = 46$ ,  $p < 0.01$ ). For example, on average, Korea's webcasters have 2.85 revenue sources, while American webcasters only have 1.7 revenue sources. In the U.S., about 80 percent of the leading webcasters employ the advertising sponsorship model, but this might be their only source of income. In Korea, both advertising and e-commerce can be easily found on the same site. Another significant difference is the use of pay per view and content syndication. Although pay-per-view and content syndication are not as popular as the other revenue sources, South Korean webcasters' use of pay-per-view is much more than their American counterparts. Nine South Korean webcasters use pay-per-view, only one U.S. webcaster uses pay per view ( $p = 0.004$ ). Seven South Korean leading webcasters syndicate their content to other sites, but only two leading American webcasters syndicate their content. ( $p=0.06$ ).

**Table 1**  
**Business Models of Leading Webcasters**

	US (n=24)	S.Korea (n=24)	Total (n=48)
Advertising/Sponsorship	19 (79.2%)	23 (95.8%)	42
E-Commerce	8 (33.3%)	12 (50%)	20
Subscription	7 (29.2%)	6 (25%)	13
Pay Per View***	1 (4.2%)	9 (37.5%)	10
Content Syndication**	2 (8.3%)	7 (29.2%)	9
Other (Tip Jar, Donation)	4(16.7%)	5 (20.8%)	9

\*\* Significantly different at  $p < 0.05$

\*\*\*Significantly different at  $p < 0.01$

To understand the causes of the differences in the business models, we then examine the content sources and program genres offered by the webcasters.

### *Content sources and program genres of leading webcasters*

U.S. and South Korean webcasters have similar proportions of original content, repurposed content, and simulcast their offline counterparts' content in their webcasts (Table 2). Hence the difference in business models cannot be attributed to the content originality or sources. When we further examine the program genres offered in the webcasts, there are also very few significant differences between the two countries. As shown in Table 3, there are a wide variety of program genres offered by the leading video webcasters with very few dominating program genres. Among video content, music videos are just slightly more popular than news. Leading South Korean webcasters are significantly more likely to carry TV programs, general news and educational content than their American counterparts.

**Table 2**  
**Media Content Sources of Leading Webcasters in the U.S. and South Korea**

	<u>U.S.</u> (n=24)	<u>S. Korea</u> (n=24)	<u>Total</u> (n=48)
Original	11(45.8%)	13(54.2%)	24(50%)
Repurposed	13(54.2%)	11(45.8%)	24(50%)
Simulcast	13(54.2%)	11(45.8%)	24(50%)

**Table 3**  
**Program Genres of Leading Webcasters in the U.S. and S. Korea**

	<u>U.S.</u> (n=24)	<u>S. Korea</u> (n=24)	<u>Total</u> (n=48)
<u>Video</u>			
Blockbuster movies	2 (8.3%)	4 (16.7%)	6 (12.5%)
TV commercials	2 (8.3%)	4 (16.7%)	6 (12.5%)
TV programs (entertainment)	1 (4.2%)	5 (20.8%)	6 (12.5%)
Education/instruction**	2 (8.3%)	9 (37.5%)	11 (22.9%)
Trailers/highlights	5 (20.8%)	6 (25.0%)	11 (22.9%)
Business (business news/speech/conference)	4 (16.7%)	8 (33.3%)	12 (25.0%)
News clips/interviews (non-business)**	6 (25.0%)	13(54.2%)	19 (39.6%)
Talk shows	2 (8.3%)	6(25.0%)	8 (16.7%)
Music videos	7 (29.2%)	14(58.3%)	21 (43.8%)
Documentaries	3 (12.5%)	6 (25%)	9 (18.8%)
Cartoons/animation	5 (20.8%)	7 (29.2%)	12 (25.0%)
Sports	6 (25.0%)	7 (29.2%)	13 (27.1%)
Other	4 (16.7%)	4 (16.7%)	8 (16.7%)
<u>Audio</u>			
Music	15 (65.2%)	17(70.8%)	32 (66.7%)
News*	10 (43.5%)	5(20.8%)	15 (31.3%)
Talk/Speech/Interview	7 (30.4%)	10(41.7%)	17 (35.4%)
Sports	4 (13.0%)	4(16.7%)	8 (16.7%)
Other	3 (13.0%)	1(4.2%)	4 (8.3%)

\*\* Significantly different at  $p < 0.05$

\*\*\* Significantly different at  $p < 0.01$

Among audio content, music is undisputedly the most commonly available content for webcasters. Talk shows, speech or interviews are the second most common audio program genres features by webcasters. The only significant difference between American and South Korean leading

webcasters is the presence of news. American webcasters are much more likely to carry news audio than their South Korean counterparts.

### *File transmission methods used by the leading webcasters*

As Korean and American webcasters offer generally similar content sources and program genres, we continue to explore if the file transmission method employed by the webcasters may be the cause of the differences in business models. First it is interesting to find that South Korean webcasters are much more likely to use on-demand transmission than American webcasters. All except two leading South Korean webcasters offer on-demand webcasts to consumers so that consumers can access the service any time they want. In contrast, slightly less than half of the American webcasters offer their webcast on-demand. Yet, South Korean webcasters are almost as likely as U.S. webcasters to provide live streaming to their consumers. As only two webcasters offer push technology in webcasting their content, we focus our comparison on live streaming and on-demand streaming.

In analyzing the transmission method, it is important to remember that webcasters can use several transmission methods at the same time. Table 4 compares the file transmission method and the corresponding business models. Among the leading webcasters, only 14 exclusively provide on-demand transmission and 14 exclusively provide live streaming transmission. There are even slightly more leading webcasters (n=18) that offer both live streaming and on-demand transmission. Because South Korean webcasters are more likely to use on-demand transmission than American webcasters, we examine the relationship between business model and on-demand transmission. Among the five most common business models, pay-per-view is the only business model that can be attributed directly to the on-demand transmission method. Other business models have no significant differences among transmission methods.

**Table 4**  
**File Transmission Method and Business Model**

	OD Only (n=14)	Live Only (n=14)	Both Live & OD (n=18)
Advertising/Sponsorship	92.9%	71.4%	94.4%
E-Commerce	42.9%	29.6%	55.6%
Subscription	28.6%	28.6%	27.8%
Pay Per View	21.4%	0	38.9%
Content Syndication	7.1%	7.1%	30.3%
Other (Tip Jar, Donation)	21.4%	14.3%	22.2%

OD=On Demand

Remarkably, the transmission method seems to have an impact on the variety of business models being used. Webcasters using live-streaming transmission have a much more limited choice of business models than those using on-demand or both live and on-demand. They use a significantly lower number of business models (mean=1.5) than webcasters using on-demand only (mean=2.14) and both live and on-demand (mean=2.7).

### *Comparison between Internet only and Terrestrial webcasters*

A study of webcasters (Ren & Chan-Olmsted, 2003) reported no difference in business models of Internet webcasters versus terrestrial webcasters. But among leading webcasters who are serious in making webcasting a profitable business, would the same pattern hold? After examining the leading

webcasters, we find that terrestrial webcasters are not significantly different from Internet-only webcasters in their choice of business models. As shown in Table 5, both terrestrial and Internet-only webcasters rely primarily on advertising and sponsorship as their revenue source supplemented with e-commerce. Although terrestrial webcasters are more likely than Internet-only webcasters to use the subscription business model, the difference is not statistically significant as there are slightly fewer terrestrial webcasters than Internet-only webcasters in the sample.

**Table 5**  
**Business Model by Webcaster Type**

	<u>Terrestrial</u> (n=22)	<u>Internet-only</u> (n=26)	<u>Significance</u>
Advertising/Sponsorship	20 (90.9%)	22 (84.6%)	n.s.
E-Commerce	9 (40.9%)	11 (42.3%)	n.s.
Subscription	4 (18.2%)	9 (34.6%)	n.s.
Pay Per View	6 (27.3%)	4 (15.4%)	n.s.
Content Syndication	6 (27.3%)	3 (11.5%)	n.s.
Other (Tip Jar, Donation)	4 (18.2%)	5 (19.2%)	n.s.

Although the type of webcasters do not differ much in their business models, it is an important factor in determining their content sources. As shown in Table 6, terrestrial webcasters, with their advantage of possessing readily available content from their off-air counterparts, are much more likely than Internet-only webcasters to use repurposed content or simulcast. Internet-only webcasters, to compete with terrestrial webcasters, are much more likely to offer original content. The cost of repurposed content to them can be much higher because Internet-only webcasters do not own any of the content. Real Networks, for example, share revenue sources with its program content suppliers to pay for the cost of non-original content featured in its RealOne SuperPass.

**Table 6**  
**Content Sources By Webcaster Type**

	<u>Terrestrial</u> (n=22)	<u>Internet-only</u> (n=26)	<u>Total</u> (n=48)
Original***	3(13.6%)	21(80.8%)	24 (50.0%)
Repurposed***	17(77.3%)	7(26.9%)	24 (50.0%)
Simulcast***	18(81.8%)	6(23.1%)	24 (50.0%)

Each webcaster can have more than one content sources.

\*\*\* Significantly different at  $p < 0.01$

To examine if the webcaster type may cause the difference in program genres, we also compare the webcast program genres offered by terrestrial stations and Internet-only stations. Indeed, as shown in Table 7, terrestrial stations are more likely than Internet stations to offer education, business, talk shows and sports, which are costly to produce and obtain the broadcast rights. Internet-only stations commonly feature music videos, which are low cost and supplied to the station for free.

**Table 7**

**Program Genres Comparison by Webcaster Types**

	<u>Terrestrial</u> (n=22)	<u>Internet only</u> (n=26)	<u>Total</u> (n=48)
<u>Video</u>			
Blockbuster movies	1 (4.5%)	5(19.2%)	6 (12.5%)
TV commercials	4 (18.2%)	2(7.7%)	6 (12.5%)
TV programs (entertainment)	5 (22.7%)	1(3.8%)	6 (12.5%)
Education/instruction**	8(36.4%)	3(11.5%)	11 (22.9%)
Trailers/highlights	5(22.7%)	6(23.6%)	11 (22.9%)
Business (business news/speech/conference)**	9(40.9%)	3(11.5%)	12 (25.0%)
News clips/interviews (non-business)	11(50.0%)	8(30.8%)	19 (39.6%)
Talk shows	6(27.3%)	2(7.7%)	8 (16.7%)
Music videos***	4(18.2%)	17(65.4%)	21 (43.8%)
Documentaries	6(27.3%)	3(11.5%)	9 (18.8%)
Cartoons/animation	4(18.2)	8(30.8%)	12 (25.0%)
Sports***	10(45.5%)	3(11.5%)	13 (27.1%)
Other**	1(4.5%)	7(26.9%)	8 (16.7%)
<u>Audio</u>			
Music	12(57.1%)	20(76.9%)	32 (66.7%)
News***	11(52.4%)	4(15.4%)	15 (31.3%)
Talk/Speech/Interview**	11(52.4%)	6(23.1%)	17 (35.4%)
Sports	6(27.3%)	2( 7.7%)	8 (16.7%)
Other	2(9.1%)	2 (7.7%)	4 (8.3%)

\*\* Significantly different at  $p < 0.05$

\*\*\* Significantly different at  $p < 0.01$

**Discussion and Conclusion**

This analysis of leading webcasters in both U.S. and Korea indicates most sites acknowledge the free-ride online consumption culture and the users' reluctance to pay for online webcast. Advertising and e-commerce are the most commonly used models that do not require users to directly pay for the content. Subscription is used by only seven and six webcasters in the United States and Korea respectively. Yet in Korea where broadband connection is much more prevalent, it seems pay-per-view is considered a viable model for more than one-third of the leading Korean webcasters. When broadband connection is readily available, probably consumers are more willing to pay for private consumption of quality webcasts.

Culture may play a role in the relatively higher presence of paying for media content as a viable webcast business model in South Korea. As stated before, because Koreans have higher disposable income than Americans and they have longer working hours, the need for entertainment after work may

be higher. It may be more acceptable for the nine leading Korean webcasters' to charge for content in a pay-per-view format because the content of most consumer webcasts is entertainment; consumers are offered a wider variety of programs than regularly broadcast on TV. Because these pay-per-view webcasts are available on demand, it is more convenient for the busy Korean consumers to access the content when they want. When we further examine those leading Korean webcasters that offered pay-per-view, the program genres are indeed highly diversified with no particular type of program genre dominating the service.

Concurring with the findings of Ren and Chan-Olmsted (2003), this study finds no significant differences between natures of the webcasters (whether it's Internet only or terrestrial stations) and their business models. The file transmission method chosen by the webcaster is a better predictor of the business model. A wider variety of transmission methods or access to the content must be used provided if the webcaster want to charge consumers for the content. All leading webcasters that use dual transmission methods can command more revenue sources than those who only use one single transmission method.

### *Two Viable Webcasting Business Models*

Based on the findings of this study, we can deduce two viable webcasting business models using the metaphors from the cable industry: 1) the virtual cable system model and 2) the virtual cable network model. The virtual cable system model refers to the operation of the webcaster as an entertainment portal or a content aggregator. The webcaster serves as a one-stop entertainment source to provide consumers convenient service. Like a cable system, the webcaster packages content from a number of different sources. Consumers use the webcasting service for a wide selection of content. In addition, the webcasting service offers multiple transmission methods and maximizes usability with easy to use interface and navigation design. Webcasters operating under a virtual cable system model are likely to employ multiple revenue sources. They will also select either repurposed programs with proven success such as high-rating reality shows or low-cost programs such as music videos as their content strategy.

In contrast, webcasters employing the virtual cable network model build their business success upon specialized content. The specialized content can be original content if they have no offline media partners or the webcaster can arrange exclusive deals on repurposed/simulcast content from partners or offline media counterparts. Just as cable networks, many virtual cable-network webcasters cannot afford high quality original content to fill their line-up. Much of their content offering will be a mix of original content and repurposed/simulcast content. But their reputation and popularity depends on the original content that they offered. Because of their special focus, they should expect a smaller number of audiences. They are likely to focus on one revenue source and one transmission method. If their transmission method is live streaming, they have to rely on indirect consumer payment such as advertising and e-commerce. If they can provide the content on-demand and the content is of high-value to consumers, then they can charge users by subscription or pay-per view.

Can webcasters really make money out of their webcasts? Among the handful of leading webcasters we examined in this study, there is no single formula. But at least no one is giving a completely free lunch. Advertising is the primary indirect payment business model relied by most leading webcasters examined in this study because they seem successful in drawing audience traffic that advertisers value. However, only a few webcasters really command high enough traffic to generate sufficient advertising revenue. For those webcasters who are not leading webcasters, relying on advertising only is definitely not a viable business model. Such harsh reality applies to both Korean and American webcasters. For webcasters who do not plan to assume leadership roles in audience traffic or in a particular audience segment, the other business models should be pursued, particularly pay-per-view and subscription that offer consumers much more flexibility in consuming the content.

What will be the implications of webcasting to the business of offline media? This study shows no advantage of terrestrial stations over Internet-only stations in being ranked as successful webcasters in either South Korea or the United States. In addition, the study shows little signs of cannibalization of

offline media by webcasters. Rather, we see lots of offline media content emerged in a new form online, similar to how Hollywood movies become part of the staple of television. This is especially true to webcasters who have offline counterparts. When webcasters simulcast offline content, they are actually reaching a group of audience who otherwise would not be able to use the content. The audience who are able to use the content in traditional media will not take the extra effort to use the webcast. When webcasters repurpose the content previously shown in offline media, they are entertaining fans that cannot have enough of the content or making up for those who missed the show on air. Indeed the fact that almost one half of the leading webcasters in this study are established television networks or radio stations shows that some offline media succeed in extending their media brand online.

It may take several decades for webcasting to be as common as television broadcast today. But the versatility of webcasting in content diversity, transmission method, and display devices will eventually give it a prominent role in the media diet of consumers. At this nascent stage, webcasters must promote of their content offering, the exclusivity of the content, and the benefits of the webcasts to the consumers to create a compelling demand for their webcasting service.

## Appendix

### List of leading U.S. and South Korean Webcasters in the study

#### VIDEO/TELEVISION

##### **United States**

1. FMiTV
2. Bloomberg TV
3. CNN
4. iFILM
5. LikeTelevision
6. ESPN Video Highlights
7. Adventure TV
8. Windows Media
9. Yahoo Music Videos
10. Live Music Channels
11. CBS SportsLine.com
12. Real Guide

##### **South Korea**

- www.gembc.com (gaming)
- www.sdn.com (fashion)
- www.ytn.co.kr (news)
- www.sportal.sbs.co.kr (sports)
- www.clubwow.com (film)
- www.sbs.co.kr (TV network)
- www.kbs.co.kr (TV network)
- www.imbc.com (TV network)
- www.naver.com (portal)
- www.daum.net (portal)
- www.freechal.com (portal)
- www.cbs.co.kr (Christian)

#### AUDIO/RADIO

##### **United States**

- 1 WXPn.org
2. Yahoo!Broadcast
3. MSN Music
4. AOL Radio
5. Radio IO Eclectic
6. Musicmatch - Artist Match
7. WQXR-FM 96.3
8. KLOVE Radio
9. KPLU-FM 88.5
10. KING-FM 98.1
11. KFI640.com
12. KNAC.com

##### **South Korea**

- www.zihasil.com
- www.letsacast.com
- www.click2dj.com
- www.tubemusic.com
- www.nine4u.asiamusic.com
- www.sbs.co.kr (radio network)
- www.imbc.com (radio network)
- www.stoneradio.com
- www.letsmusic.com
- www.24cast.net
- www.doobob.com
- www.kbs.co.kr (radio network)

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