Diversification Strategies within the Emerging Broadband Television Industry: Leading Cable Television and Telephone Firms in the USA.

This manuscript submitted to Korean Social Science Journal, November 15, 2004.
Revised on December 30, 2004

Abstract

The purpose of my study was to compare the differences in the strategic p artnerships between leading cable and telephone companies, and to reveal the current trends of the leading cable firms by way of a proposed strategic architecture that depicts the roles of various channel members and the interrelationships between them in the emerging broadband television industry. For the study, strategic partnerships that occurred among eight firms after the 1996 Telecommunication Act (from 1996 to 2001) were traced; AT&T Broadband & Internet Service, Comcast Communications, Time Warner Cable, Charter Communications, Verizon Communications, Southern Bell Communications, BellSouth, and WorldCom. My data source is the SDC Platinum database compiled by Thompson Financial Securities Data and Kagan and Associates, Inc.

A comparison of two sectors (i.e., leading cable and telephone firms) provided some meaningful insights into identifying the differences in the trends behind their respective diversification strategies to compete in the broadband television industry. For instance, my study found that the leading cable firms preferred a relatively less "related" partnership mode to diversify into the broadband television industry in comparison with the leading telcos. Additionally, the leading cable firms' partnerships took place more frequently at the level of traditional television programming production. These trends clearly demonstrate the interest of leading cable firms in acquiring content necessary for enhanced or interactive television through "unrelated" partnerships with traditional television programming production companies.

Introduction

The deployment of hybrid optical fiber and coax (HFC) network structures, together with video signal-compression and multiplexing technologies, has enabled cable and telephone companies to compete in an emerging broadband market. HFC allows for the enhancement of traditional television with richer graphics, the linking of programs to web sites via the Internet, electronic mail, chat room activities and online commerce through a back channel (Arlen, 2000; Baldwin et al., 1996; Chan-Olmsted and Kang, 2003). Two advanced video distribution systems, i.e., the cable television company approach and the telephone company (telco) approach, play leading roles in this newly emerging market (Chan-Olmsted and Kang, 2003; Minoli, 1995).

Traditionally, cable companies employed a coaxial-based system with a trunk-and-branch, one-to-many broadcast tree topology (Minoli, 1995). Now they utilize high-capacity coaxial or fiber-optic systems operating at 1 GHz, and provide some digitally compressed video through two-way communication facilities (Anonymous, 2000). In addition, Internet Protocol (IP) telephony services over HFC networks are available with services linked to the public switched telephone network (PSTN). The telcos' systems (i.e., local exchange carriers and inter-exchange carriers) are also mostly digitalized, and thus video transmission can occur either over digital T1 feeder copper-based systems or fiber-based feeder systems (Minoli, 1995; Anonymous, 2000). In other words, the telcos can accept an analog broadcast TV feed, digitize and compress it for delivery to end-users or viewers. Furthermore, they can sometimes split a signal from a central office by feeding video contents over a coaxial or fiber-optic cable and telephone components over a traditional twisted pair cable.

The advanced video distribution systems have obviously advanced to the deployment of broadband into the residential local loop (Anonymous, 2000; Choe, 2001; Minoli, 1995). The cable and telephone firms' competitive strategies up to this point have been based on survival in expanding the two trajectories toward connecting a broadband local loop to "last miles."

Especially since 1996, several significant merger and acquisition activities have occurred, such as those between AOL & Time Warner, AT&T Corporation & MediaOne (formerly U.S. West),

Comcast Communications & Lenfest Cable, and so on (Choe, 2001). Also, a number of digitally driven alliances among media, carrier, and computer companies have been observed (Srivastava, 2002). However, two focal concerns or tasks instrumental in gaining sustainable competitive advantages in the emerging market continue to be a challenge for both cable and telephone firms. First, from a "systems" point of view, the concern raised is how well video and information networks (i.e., Internet) can converge into a two-way broadband communications network (Chan-Olmsted and Kang, 2003; Minoli, 1995). Second, from a "services" or content perspective, both kinds of firms are concerned about how to continuously select profitable formats among a variety of programming or service options available on the digitalized broadband systems.

My study will compare the differences in the strategic partnerships of leading cable and telephone companies, and reveal the current trends of the leading cable firms with a proposed strategic architecture that depicts the roles of various channel members and the interrelationships between them in the emerging broadband television market. In order to do this, some leading firms' strategic partnerships occurring after the 1996 Telecommunication Act will be traced within the context of the pursuit of broadband video distribution systems and a variety of content/services. Most previous research has concentrated on mergers and acquisitions (Tseng and Litman, 1998; Whalen and Litman; 1997), but much less is known about other strategic partnerships (ex, joint venture, non-equity alliances etc.) occurring since 1996. Thus, this study is justified in that it will furnish new insight into those companies, which are now taking the lead in developing the broadband industry. The following research questions will be addressed.

RQ1: *What are the differences in the diversification patterns within the strategic partnerships between the leading cable television and telephone firms under the proposed broadband television market architecture?*

RQ2: *How have the leading cable television and telephone firms strategically approached the new construction of video distribution systems and content/service diversity?*

The Broadband Television Industry

The boundaries among telecommunication business areas are blurred, leading to "a single integrated multimedia industry" (Tseng and Litman, 1998: 48), herein referred to as the broadband television industry. The broadband television industry is defined as an existing and potential market that provides all types of digitized video, audio, and data content, with which an integrated broadband system connected to an Internet backbone can serve TV households (Kang, 2002). The broadband television services offer end users or viewers' control over the programs they receive, as well as online services such as electronic program guides, e-mail, e-commerce, games, interactive advertising, video on demand, and Web browsing (Srivastava, 2002).

In the broadband television industry, the most visible players are the distributors such as multiple system operators (MSOs), telephone companies (telcos), and access service providers (Chan-Olmsted and Kang, 2003). MSOs and telcos, especially, are two key players because they have their own closed network of upgraded conduit (cable and telephone line), which is an absolute necessity for digital video dialtone, digital cable, IP telephony, (near) video on demand, and interactive television services. These cable and telephone companies, building upon their broadband infrastructure, have each been deploying different strategies to expand their product base into the broadband television market.

For instance, Time Warner Cable began offering broadband television services such as AOLTV after its merger with AOL. AT&T Corporation also merged with MediaOne and TCI in order to establishing its own stable broadband distribution network channel. At a later time, as a unit of AT&T Corp., AT&T Broadband & Internet Service began to provide its high-speed Internet access via cable modem and then its interactive television service for the few who had enhanced

technologies such as Web TV . At a later time, as a unit of AT&T Corp., AT&T Broadband & Internet Service began to provide its high-speed Internet access via cable modem and then its interactive television services brought by enhanced-TV such as WebTV. In contrast, some telcos set up their broadband service through digital subscriber line (DSL) internally and then initiated Intercast service programming through a licensing agreement with ITV and Intel.

Diversification Strategy Mode

Booz, Allen and Hamilton (1985) define diversification as a means of spreading the base of a business to achieve improved growth and/or reduce overall risk. Diversification (1) includes all investments except those aimed directly at supporting the competitiveness of existing businesses; (2) may take the form of investments that address new products, services, customer segments, or geographic markets; and, (3) may be accomplished by different methods including internal development, acquisitions, joint ventures, licensing agreements, etc. Ramanujam and Varadarazan (1989) consider diversification as the entry of a firm or business unit into new lines of activity. Hagedoorn and Sadowski (1999) identify market entry-based and technology-based motives for strategic partnerships and corporate diversification. Whereas market-entry incentives relate to an effort to create new markets and international expansion, technology-based motives relate to the need for technological partnerships in order to reduce and share uncertainty due to the ever increasing complexity and inter-sectoral nature of new technologies (Li, 2001). A telecommunication firm is more likely to choose strategic partnership as a diversification mode, based on its technology-based motive (Kang, 2002).

As indicated above, cable firms and telcos pursued different growth or diversification strategies. Some firms adopted either merger/acquisition or strategic partnership, while others did both as a part of their implementation of a diversification mode. A cable or telephone company's diversification decision to enter new markets results in the implementation of one of three modes: internal development, merger & acquisition, and strategic partnership (Hitt et al.,

2001). Indeed, while the broadband television industry is still in its infancy, key players have to generate new markets and a critical mass of early adopters while limiting their risks by placing stakes in various cross-markets. To do this, they prefer to engage in strategic partnerships rather than merger & acquisition or internal development, which are high-risk investments (Chan-Olmsted and Kang, 2003). In addition, the need for a number of players to provide networks, content, commercials, billing systems, and customer services has led to many strategic partnerships (Srivastava, 2002). My study is primarily concerned with the interrelationships among firms deploying their diversification strategies through joint ventures and alliances, rather than through merger/acquisition and internal development.

Broadband Television Industry Architecture

The broadband television industry has been developed as a converged type of Internet business and multi-channel media industry (Arlen, 2000; Baldwin et al., 1996) with interactive or enhanced television features to improve the viewing experience of TV viewers (Ha and Chan-Olmsted, 2001; Kang, 2003; Kontzer, 2001). For clarifying the mixed structure present in the broadband television industry, a new illustrative, conceptual framework is needed.

A previous study has proposed a strategic architecture that depicts the roles of and the relationships between different participants in a broadband television value chain (Chan-Olmsted and Kang, 2003) (see Figure 1). According to its authors, the creation stage of the value chain involves value creators such as television program, Web video, and film producers whose core activities are to create video content for end users. The next stage of the value-adding process is packaging, which involves content aggregators whose core activities are to assemble content into packages that appeal to different segments of the customer base. Examples of packagers are Web TV, Discovery Channels, and Broadcast.com. The following value chain component, the value-adding services, basically performs a supporting function to the rest of the value providers (especially packagers and

distributors). These services may include online billing/marketing specialists, hosting companies, and IT consulting firms, whose core activities in the value chain are to support and thus enhance the operations and marketing of television content packages.

The next stage in the broadband TV value chain, i.e., the focus of this study, is distribution, which involves infrastructure providers such as cable system operators and telephone/IP network/access providers. Examples of a distributor would be AT&T Broadband, Time Warner Cable, and BellSouth. The distributors provide a broadband infrastructure for the delivery of enhanced/interactive TV content/services and/or manage the access to these content/services. This model proposes that access to a mass consumer base for scale and scope economies, relationships with the navigating/interfacing facilitators, and the ability to provide seamless, efficient network/infrastructure are crucial to the participants in this segment of the value chain. The facilitators, which include software developers and hardware manufacturers such as Microsoft and Motorola, add value to the product by providing navigation and interfacing equipment and software programs that allow easy access to broadband television content (Chan-Olmsted and Kang, 2003). Based on this architecture, my study examines the relationships among key players by identifying at which stage at which stage each of the various joint ventures and alliances occurred.

Methodology

This case study traces some leading telecommunication companies' strategic activities in the broadband television industry. To this end, the study only dealt with those strategic partnership activities which engage in a variety of strategic partnerships with other firms (i.e., joint ventures and alliances, excluding mergers & acquisitions) and which are primarily related to eight leading firms in the broadband television industry: AT&T Broadband & Internet Services, Comcast Communications, Time Warner Cable, Charter Communications, Verizon Communications, Southern Bell Communications, BellSouth, and WorldCom. The criterion used to select these participants was a top

2 or 4 ranking according to 2001 market share in three subset markets such as cable, local exchange carrier, and long-distance telephone. Those sample firms are categorized into two industry groups, i.e., a cable sector (i.e., the first four firms mentioned) and a telephone sector (i.e., the last four firms mentioned), which are used as units of analysis for this study.

The case study focuses on those strategic partnerships formed subsequent to 1996, a time when firms could take advantage of broadband properties offered thanks to advancements in technology, i.e., fiber optics, digital compression, etc., as well as a time when "consolidation and system clustering" (Vogel, 2001. p. 202) was taking place. This period was also when the 1996 Telecommunication Act was enacted, which was one of the stimuli for firms to expand into the newly emerging market. For instance, it created new opportunities for telephone companies to provide cable television services by largely eliminating cross-ownership restrictions in the same field.

Data Source and Criteria of Selection

The procedure of collecting and clarifying strategic partnership cases consisted of the following steps: (1) Information on strategic partnerships, which occurred in the sectors identified in the proposed industry strategic architecture from 9/16/1996 to 9/15/2001, was collected from a database. The source of data was the SDC Platinum database compiled by *Thompson Financial Securities Data* and *Kagan and Associates, Inc*. (2) Selection criteria were designed to screen the collected data in order to examine the strategic activities of leading cable and telephone companies in the broadband television industry. The criteria are as follows.

Strategic partnership should entail an agreement where two or more entities have combined resources to form a new, mutually advantageous business arrangement to achieve predetermined objectives. Hence, the strategic partnerships selected for examination consisted of partnerships like joint ventures, research and development agreements, sales and marketing agreements, manufacturing agreements, supply/procurement agreements, and licensing, service and distribution pacts. The partnerships, in turn, were split into two categories, joint venture and alliance (non-joint-venture, i.e., all alliances except for joint ventures), for the convenience of this study.

All strategic partnerships occurring during the five year period had to match the following filter conditions. Firstly, the main activity of the strategic partnership had to be based in the U.S. Secondly, the partnership and at least one of its participants must be classified in one of the identified broadband SIC codes (see Table 4ab). Thirdly, the description/synopsis of each partnership should contain at least one of the broadband-service-related keywords such as television, cable, broadband, online, web, Internet, video, broadcast, satellite, interactive, or digital subscriber line (DSL). The broadband services are made up of high-speed Internet access, digital and interactive/enhanced television (including high-definition television), IP telephony, (near) video on demand, and so on.

Overall Descriptive Data

Based on these criteria of selection, the following results were obtained from the data. As shown in Table 1, the total number of joint ventures formed by AT&T Broadband & Internet Service, Comcast Communications, Time Warner Cable, and Charter Communications during the five year period is 36, whereas their alliances came to 90. In the case of the leading telephone companies, such as Verizon, SBC, BellSouth, and WorldCom, the total number of joint ventures was 17 while their alliances came to 67.

Table 1: Descriptive Data for Leading Cable and Telephone Companies' Strategic Partnerships 1996-2001

	Cable Television (4841)	
	Joint Venture	**Alliance**
AT&T Broadband & Internet Service	28	73
Comcast Communications	2	8
Time Warner Cable	2	6
Charter Communications	4	3
Total	*34*	*90*

	Telephone (4813)	
	Joint Venture	**Alliance**
Verizon Communications	1	3
Southern Bell Communications	1	12
BellSouth	2	18
WorldCom	13	34
Total	*17*	*67*

Variables and Operational Definitions

The following variables were used in investigating the identified strategic partnerships to assess strategic patterns and show differentiation between cable and telco companies (see Table 2).

Participant(s)/Strategic Partnership SIC Sameness. The participant primary SIC code refers to an industry related to the participants' primary business activities, that is to say, where an alliance's participant is primarily operating. Standard Industry Classification code (SIC) is a four-digit code assigned by analysts to classify several hundred different basic types of industries. Up to three participants' primary SIC codes are recorded for each alliance. The primary partnershipSIC Code is one in which the industry partnership' primary business activity is involved at the announced date. The study compares the primary partnership SIC codes with the participants' primary SIC codes and then identifies the association between the two codes. The primary partnership SIC code may be different from the participant primary SIC code, depending on whether or not the alliance activities are one of the participants' primary businesses. The "sameness" and "relatedness" variables are necessary to distinguish between the product or market extension and its internal development. This makes it feasible to reveal the 'real' business fields or industries that are primarily operated by the leading cable and telephone companies' strategic partnership.

Relatedness. The "relatedness" variable is deemed as a diversification type. Diversification is a corporate-level strategy, incorporated when a firm chooses to diversify its operations beyond a single industry and operates businesses in several industries (Hitt, et. al., 2001). A firm may have two types of diversification strategy: related and unrelated. If two or more firms are in the same two-digit

industry, they are "related" with each other. Otherwise, they are "unrelated" in terms of diversification type. This variable contributes to partially answering the question of whether the eight leading cable and telephone companies prefer to diversify into related business activities or unrelated ones.

Strategic Partnership Stage Category. The strategic alliance partnership stage refers to where firms strategically position themselves under a given broadband operation (see Figure 1), such as (1) Internet/TV facilitator (hardware), (2) Internet/TV facilitator (software), (3) telco, (4) MSOs (5) access service provider (e.g., Internet service providers), (6) web-based video & other content packager (including e-commerce/online interactive services), (7) film/cable/broadcasting programming packager, (8) cable-based interactive TV application packager, (9) traditional TV programming production, online content production, and hybrid content production. Only two main participants' primary SIC codes are considered for identifying the stage number (1~9). In the case of the SIC codes with multiple stages, deal texts are used to classify participants into their appropriate stages. This strategic partnership stage category allows for identifying between which stages leading cable or telephone companies' alliances most often occurred.

General & Specific Strategic Partnership Type. This study first classifies strategic partnerships under a general type. There are two general types of concern: joint venture and alliance (non joint venture), as mentioned above. Joint venture refers to an independent firm newly created by combining parts of two or more firms' assets. Alliance is made possible when several partners own differing percentages of equity in a new venture, or have a relative loose degree of alliance through contractual agreement without any transfer of equity, such as licensing/franchise agreement and marketing partnerships. Two specific types of strategic partnership are then identified. The first is a hardware/infrastructure type that involves joint ventures or agreements associated with distribution (Internet, broadcasting and satellite infrastructure services), manufacturing/production, supply/procurement, broadband services, consulting/small business services, and t-commerce. The second is a software/application type, which consists of strategic partnerships concerning research

and development (R&D), sales/marketing, or licensing activities. The general/specific types of strategic partnerships enable us to determine what kind of strategic partnerships the leading cable and telephone companies have formed in the broadband television industry. It also makes it possible to compare the differences in the general and/or specific types of strategic partnerships between the cable and telephone companies.

Table 2: Operationalization of Constructs

Variables	Operational definitions
Participant Primary SIC Code	Participant(s)' primary business activity. This means an industry in which an joint venture's participant is primarily operating. Standard Industry Classification code (SIC) is a four-digit code assigned by analysts to classify several hundred different basic types of industries. Up to three participants' primary SIC codes are recorded for each alliance.
Strategic Partnership Primary SIC Code	Strategic partnership's primary business activities at the announced date. It may make a difference with the participant primary SIC codes, depending on whether or not the partnership activities are one of the participants' primary businesses.
Participants/Alliance SIC Sameness	This is a dummy variable that compares the SIC code of the alliance and its participants. "1" is coded, if at least one of the participants' SIC code is the same as the alliance SIC code and "0" is coded, otherwise.
Strategic PartnershipStage Category	Strategic partnership stage refers to where firms strategically position themselves under a given broadband operation, such as (1) Internet/TV facilitator (hardware), (2) Internet/TV facilitator (software), (3) telco, (4) MSOs (5) access service provider (e.g., Internet service providers), (6) web-based video & other content packager (including e-commerce/online interactive services), (7) film/cable/broadcasting programming packager, (8) cable-based interactive TV application packager, (9) traditional TV programming production, online content production, and hybrid content production. Only the two main participants' primary SIC codes are considered for identifying the stage number (1~9). In the case of SIC codes with multiple stages, the deal texts are used to classify them into the appropriate stages.
Relatedness	If two or more firms are in the same industry, they are related with each other. Otherwise, they are unrelated. "Relatedness" is used as a dummy variable that compares the participants' SIC codes. If the first two digits of a participants' SIC code is the same as one of the other partner(s)' SIC codes, "1" is coded; otherwise "0" is coded.

General Strategic Partnership Type	There are two types of partnership of concern in this study: joint ventures and alliance (non joint venture). Joint venture is defined as an independent firm newly created by combining parts of two or more firms' assets. Alliance is formed when several partners own differing percentages of equity in a new venture, or have a relative loose degree of alliance through contractual agreement without any transfer of equity.
Specific Strategic Partnership Type 대문자	There are two specific types of strategic partnership. First, the hardware/infrastructure type involves distribution (Internet, broadcasting and satellite infrastructure services), manufacturing/production, supply/procurement, broadband service, consulting/small business service, and t-commerce. Second, the software/application type consists of research and development (R&D), sales/marketing, licensing.

Results

This case study failed to uncover interesting or consistent patterns using a chronicle of data on the eight leading cable and telephone companies. The linear patterns of their alliances are not found in chronological order (see Table 3). However, the comparison of two sectors, i.e., leading cable and telephone firms, provides some meaningful insights into identifying the differences in the trend behind their strategies to compete in the broadband television industry. This case study finds that the comparison of two sectors, i.e., leading cable and telephone firms, provides some meaningful insights into identifying the differences in the trend behind their strategies to compete in the broadband television industry. However, the study fails to uncover distinctive or consistent patterns using a chronicle of data on the eight leading cable and telephone companies. The linear patterns of their strategic partnerships are not found in chronological order (see Table 3)

Table 3: Leading Cable and Telephone Companies' Broadband Strategic Partnership in the Broadband Television Industry 1996-2001

Year	Joint Venture	Alliance	Total (%)
2000-2001	10	25	35 (16.7)
1999-2000	9	33	42 (20.0)
1998-1999	14	40	54 (25.7)
1997-1998	6	30	36 (17.1)
1996-1997	14	29	43 (20.5)
Total	*53*	*157*	*210 (100.0)*

Both firms were more actively engaged in their strategic partnerships with companies operating in the same industry than with those in a different industry. But the partners, with whom each of two sector companies preferred to make alliances, were different from each other. In the case of the leading cable companies, prepackage software firms (SIC code 7372) amounted to 14% out of all partnerships (See Table 4a). For example, Comcast deployed the interactive television service in Baltimore, through its service agreement with Intertainer Inc., an application packagers/service provider. (Simon Applebaum, et. al., 2000). On the other hand, the leading telcos tended to form strategic partnerships with information retrieval service firms (SIC code 7375) operating either as service providers or web-based video and other online content packagers (See Table 4a). For instance, Verizon Information Services, a unit of Verizon Communications, and Infospace Inc. formed a strategic alliance to provide software-consulting services in 2001. Verizon also partnered with Microsoft Network that same year in order to offer Internet content services such as MSN's online Yellow Pages. Furthermore, MCI WorldCom and Digital City formed a joint venture to provide Internet content services in the United States in 1999 (SDC Platinum, 2001).

Table 4a (left box), 4b (right box): Strategic Stages and Industry Sectors of the Leading Cable and Telephone Companies' Formed Strategic Partnerships_ 1996-2001

	Formed Strategic Partnership (%)			**Formed Strategic Partnership (%)**	
	Primary SIC Code			**Primary SIC Code**	
SIC	**4841**	**4813**	**Strategic Stages**	**4841**	**4813**
3661	8 (6.3%)	4 (4.7%)	1	9 (7.1%)	4 (4.8%)
3663	4 (3.2)	0	2	8 (6.3)	5 (5.9)
4813	9 (7.1)	**19 (22.5%)**	3	**34 (27.0%)**	**22 (26.2%)**
4833	7 (5.5)	0	4	**19 (15.1%)**	1 (1.2)
4841	**15(11.9%)**	2 (2.4)	5	15 (11.9)	**35 (41.7%)**
7372	**14 (11.1%)**	6 (7.4)	6	9 (7.1)	5 (5.9)
7375	11 (8.7)	**16 (19.0%)**	7	7 (5.5)	0
7379	1 (0.8)	1 (1.2)	8	3 (2.4)	0
3651	0	0	9	**22 (17.5)**	12 (14.3)
7812	2 (1.6)	0	Total	126 (100)	84 (100)
Others	55 (43.6)	36 (42.8)			
Total	126 (100)	84 (100)			

The strategic partnership stage shown in Table 4b indicates that the leading cable companies' alliances occurred mostly (27%) at the telco stage. The telco stage represents a 'real' business field or industry primarily operated by the leading cable companies through their strategic partnerships. In other words, the leading cable firms attempted to expand their products and services into a new line of broadband activities, i.e., cable telephony.

In fact, some leading cable companies have entered into the phone business (see Table 5). For instance, AT&T Broadband & Internet Service and InterMedia partners formed a joint venture to provide communication services to cable customers. The joint venture provided customers with multiple phone lines per household, conference call, call waiting, call forwarding, and individual messaging (SDC Platinum, 2001). Despite the new phone business requiring a great deal of integrity and discipline, these leading cable firms have anticipated positive EBITDA and free cash flow in the coming years. This is because they can take advantage of capitalizing on their infrastructure to introduce residential telephony (Anonymous, 2001, November).

Table 5: Cable Telephony Subscribers n the U.S.[1]

Subscribers	January 2001
ATT Broadband & Internet Service	560,000
Cox	210,000
Cablevision	12,000
Others	15,000
Total U.S. subscribers	797,000

The leading cable firms' strategic partnerships occurred predominantly at the stage of (9) traditional television programming production, in comparison with those formed by leading telcos. If a firm had a network, or it was a media company that owned a network, it certainly would be interested in some sort of alliance, or investment, or even a merger that would allow it to have some

[1] Michael L. 2001. "Cable Telephony Sending Mixed Signals." *Broadband Telephony*, 22, April 1, 2001.

influence on the cable company. This tendency reflects that some sort of cross-investment between content companies and cable system operators is certainly likely (Reid, 2001). Likewise, the tendency suits the interests of leading cable firms in preparing the contents necessary for enhanced or interactive television by forming strategic partnerships with traditional television programming production companies. In contrast to the cable firms, the leading telcos' alliances occurred mostly (41.7%) at the stage (5) of service provider (see Table 4b). Telcos seem to have a tendency to consolidate their relationship with service providers, which can potentially function as a gateway to traditional television programming as well as interactive television services, because telcos do not have a basis of existing television services.

The occurrence of "related" partnerships, i.e. with the firms operating in the same industry, is higher than "unrelated" in the case of both leading cable companies and telephone companies (see Table 6). An interesting finding is that the leading telcos have relatively more "related" partnerships than the leading cable companies. This can be interpreted as being because the telcos tended to develop their products and services internally, within the same industry, rather than to cross borders into industries associated with interactive television services.

When it comes to a general type of strategic partnerships, the leading cable and telephone companies preferred alliances to joint ventures in order to diversify into the broadband television industry (see Table 6). With regard to the 'sameness' variable, although related partnerships 로] occurred more than unrelated ones, more than half of those partnerships were formed within a different business field to their primary operating area. For example, Time Warner Cable and US West Media, a unit of US West Inc. (both have the SIC code 4841), formed a joint venture to operate a broadband online business (SIC code 7375). The joint venture was to merge Time Warner's MediaOne and US West's Road Runner services in order to develop and provide online services and infrastructure that would facilitate high-speed access to the Internet in 1997 (SDC Platinum, 2001).

Table 6: Relatedness and Types of Strategic Partnerships for Leading Cable Television and Telephone Sectors

	Primary SIC Code	
	Cable Television 4841 (%)	**Telephone 4813 (%)**
Relatedness	70 (55.5)	51(61.4)
Sameness	54 (42.8)	27 (32.1)
Joint Ventures	36 (28.6)	17 (20.2)

The mainstream of the strategic broadband activities centered on hardware/infrastructure partnerships in terms of a specific type of strategic partnership (see Table 7). Moreover, most joint ventures took place in the scope of hardware/infrastructure partnerships, regardless of the sectors they occurred in. The leading cable companies had a tendency to choose joint venture as a strategic move designed to expand or gain broadband services, built upon broadband distribution or infrastructure. For example, WorldGate Communications, Adelphia Communications Corp. Charter Communications Inc. Comcast Cable Communications Inc. and Cox Communications Inc. formed a joint venture called TVGateway to provide interactive programming and advertising for digital cable in 2000 (SDC Platinum, 2001).

In the case of software/application partnership types, 90% or more of all partnerships in the leading cable and telephone companies involved alliance rather than joint venture. It is certain that alliance was preferred over joint venture for strategic partnerships involving R&D, sales/marketing, and licensing activities. For instance, the Liberty Media Group formed a 5-year strategic alliance with Net2Phone, wherein Net2Phone granted the Liberty Media Group the right to use Net2Phone's Internet protocol or VoIP telephony in the United States in 2001 (SDC Platinum, 2001).

Table 7: Leading Cable and Telephone Companies' General and Specific Types of Broadband Strategic Partnership Activities 1996-2001

Year	**Cable Television Sector (4841)**	
	Specific Type *Software/Application*	*Hardware/Infrastructure**
2000-2001	4	20
1999-2000	11	19
1998-1999	5	26
1997-1998	6	12
1996-1997	7	18
Total 126 (100%)	*33 (JV =3, A=30) (26.2%)*	*93 (JV=33, A=60) (73.8%)*

*This specific type of partnership contains distribution, manufacturing/production, supply/procurement, and service/consulting/small business activities, whereas the software/application type includes R&D, sales/marketing, and licensing activities.

Year	**Telephone Company Sector (4813)**	
	Specific Type *Software/Application*	*Hardware/Infrastructure*
2000-2001	2	9
1999-2000	2	12
1998-1999	2	21
1997-1998	1	12
1996-1997	12	11
Total 84 (100%)	*19 (JV=1, A=18) (22.6%)*	*65 (JV=16, A=49) (77.4%)*

Discussions and Limitations

The broadband television industry is now in a state of flux. DBS has been acquiring three out of four new video customers (Choe, 2001), and most recently EchoStar and DirectTV merged to form a highly effective competitor for cable companies. As indicated above, telcos jumped into the video distribution system business beginning in 1996; and most cable companies launched their telephony and interactive services, by taking advantage of high-speed data networks (Cablevision, 2001,

November). In the current situation, cable companies should seek to understand as much as possible about real and potential competitors and their competitive strategies. It will be instructive to investigate how the leading cable firms and telecos have formed joint ventures and alliances and incorporated diversification strategies to enter into the emerging, unsettled broadband television industry.

In order to construct a new infrastructure, both leading cable and telephone companies have been more active in forming joint ventures than alliances. In particular, the leading cable companies (i.e., MSOs) have, to a much greater extent than the leading telcos, upgraded their systems to carry more channels and support interactivity by forming joint ventures. They have also been expanding into cable telephony services by forming alliances primarily with the same cable system operators. On the other hand, the telcos have entered the residential television distribution business by means of their alliances with access service providers.

An interesting finding is that, for the leading MSOs, a relatively less "related" alliance mode was preferred for diversifying into the broadband television market in comparison with the leading telcos. Additionally, the leading cable firms' alliances took place more frequently at the stage of traditional television programming production. These practices by the leading cable firms reveal their interest in acquiring the content necessary for enhanced or interactive television through "unrelated" alliances with traditional television programming production companies.

In sum, the cable and telephone firms continued to supply individual core products, but, through their strategic alliances, the introduction of cable telephony or telephone video-on-demand added value to their existing products (Chan-Olmsted and Kang, 2003; Dowling et al., 1998). In other words, a "complementary convergence" (Chan-Olmsted and Kang, 2003) occurred especially when resources and competencies from two leading cable and telephone sectors were combined to form new functions that complemented the existing ones. Due to their

uniqueness, the existing products or services of those leading cable and telephone firms were enhanced as a result of convergence.

My study does have some limitations. First, it does not consider the regulatory environment. For instance, the FCC continues to uphold the 10-year ban on exclusive contracts between vertically integrated programmers and cable operators (Anonymous, 2001, December). This regulation should be taken into account in explaining the strategic alliances of leading cable companies in the broadband television industry. Secondly, it is a controversial supposition to classify AT&T Corporation's strategic activities as the sector of a leading cable system operator. It is taken for granted that AT&T Broadband & Internet Services' activities were categorized in that way. However, data derived from its parent company prior to the AT&T Corporations merger with TCI in 1999 may add bias to my results. Last but at least, for convenience, my study is limited to guided or wireline video delivery systems. But the wireless video distribution field should not be ruled out in making assessment of the broadband television industry. Further studies may be conducted by using a general study approach to examine all firms from both the telco and cable sectors, by expanding the comparisons of alliance patterns for firms at different stages of the strategic architecture, or by including wireless broadband distributors.

Appendix

Table 1: Descriptive Data for Leading Cable and Telephone Companies' Strategic Partnerships 1996-2001

	Cable Television (4841)	
	Joint Venture	**Alliance**
AT&T Broadband & Internet Service	28	73
Comcast Communications	2	8
Time Warner Cable	2	6
Charter Communications	4	3
Total	*34*	*90*

	Telephone (4813)	
	Joint Venture	**Alliance**
Verizon Communications	1	3
Southern Bell Communications	1	12
BellSouth	2	18
WorldCom	13	34
Total	*17*	*67*

Table 2: Operationalization of Constructs

Variables	**Operational definitions**
Participant Primary SIC Code	Participant(s)' primary business activity. This means an industry in which a joint venture's participant is primarily operating. Standard Industry Classification code (SIC) is a four-digit code assigned by analysts to classify several hundred different basic types of industries. Up to three participants' primary SIC codes are recorded for each alliance.
Strategic Partnership Primary SIC Code	Strategic partnership's primary business activities at the announced date. It may make a difference with the participant primary SIC codes, depending on whether or not the partnership activities are one of the participants' primary businesses.
Participants/Alliance SIC Sameness	This is a dummy variable that compares the SIC code of the alliance and its participants. "1" is coded, if at least one of the participants' SIC code is the same as the alliance SIC code and "0" is coded, otherwise.
Strategic Partnership Stage Category	Strategic partnership stage refers to where firms strategically position themselves under a given broadband operation, such as (1) Internet/TV facilitator (hardware), (2) Internet/TV facilitator (software), (3) telco, (4) MSOs (5) access service provider (e.g., Internet service providers), (6) web-based video & other content packager (including e-commerce/online interactive services), (7) film/cable/broadcasting programming packager, (8) cable-based interactive TV application packager, (9) traditional TV programming production, online content production, and hybrid content production. Only the two main participants' primary SIC codes are considered for identifying the stage number (1~9). In the case of SIC codes with multiple stages, the deal texts are used to classify them into the appropriate stages.

Relatedness	If two or more firms are in the same industry, they are related with each other. Otherwise, they are unrelated. "Relatedness" is used as a dummy variable that compares the participants' SIC codes. If the first two digits of a participants' SIC code is the same as one of the other partner(s)' SIC codes, "1" is coded; otherwise "0" is coded.
General Strategic Partnership Type	There are two types of partnershipof concern in this study: joint ventures and alliance (non joint venture). Joint venture is defined as an independent firm newly created by combining parts of two or more firms' assets. Aliance is formed when several partners own differing percentages of equity in a new venture, or have a relative loose degree of alliance through contractual agreement without any transfer of equity.
Specific Strategic Partnership Type	There are two specific types of strategic partnership. First, the hardware/infrastructure type involves distribution (Internet, broadcasting and satellite infrastructure services), manufacturing/production, supply/procurement, broadband service, consulting/small business service, and t-commerce. Second, the software/application type consists of research and development (R&D), sales/marketing, licensing.

Table 3: Leading Cable and Telephone Companies' Broadband Strategic Partnership in the Broadband Television Industry 1996-2001

Year	Joint Venture	Alliance	Total (%)
2000-2001	10	25	35 (16.7)
1999-2000	9	33	42 (20.0)
1998-1999	14	40	54 (25.7)
1997-1998	6	30	36 (17.1)
1996-1997	14	29	43 (20.5)
Total	*53*	*157*	*210 (100.0)*

Table 4a (left box), 4b (right box): Strategic Stages and Industry Sectors of the Leading Cable and Telephone Companies' Formed Strategic Partnerships 1996-2001

	Formed Strategic Partnership (%)	
	Primary SIC Code	
SIC	**4841**	**4813**
3661	8 (6.3%)	4 (4.7%)
3663	4 (3.2)	0
4813	9 (7.1)	**19 (22.5%)**
4833	7 (5.5)	0
4841	**15(11.9%)**	2 (2.4)
7372	**14 (11.1%)**	6 (7.4)
7375	11 (8.7)	**16 (19.0%)**
7379	1 (0.8)	1 (1.2)
3651	0	0
7812	2 (1.6)	0
Others	55 (43.6)	36 (42.8)
Total	126 (100)	84 (100)

	Formed Strategic Partnership (%)	
	Primary SIC Code	
Strategic Stages	**4841**	**4813**
1	9 (7.1%)	4 (4.8%)
2	8 (6.3)	5 (5.9)
3	**34 (27.0%)**	**22 (26.2%)**
4	**19 (15.1%)**	1 (1.2)
5	15 (11.9)	**35 (41.7%)**
6	9 (7.1)	5 (5.9)
7	7 (5.5)	0
8	3 (2.4)	0
9	**22 (17.5)**	12 (14.3)
Total	126 (100)	84 (100)

Table 5: Cable Telephony Subscribers n the U.S.[2]

Subscribers	January 2001
ATT Broadband & Internet Service	560,000
Cox	210,000
Cablevision	12,000
Others	15,000
Total U.S. subscribers	797,000

Table 6: Relatedness and Types of Strategic Partnerships for Leading Cable Television and Telephone Sectors

	Primary SIC Code	
	Cable Television 4841 (%)	**Telephone 4813 (%)**
Relatedness	70 (55.5)	51(61.4)
Sameness	54 (42.8)	27 (32.1)
Joint Ventures	36 (28.6)	17 (20.2)

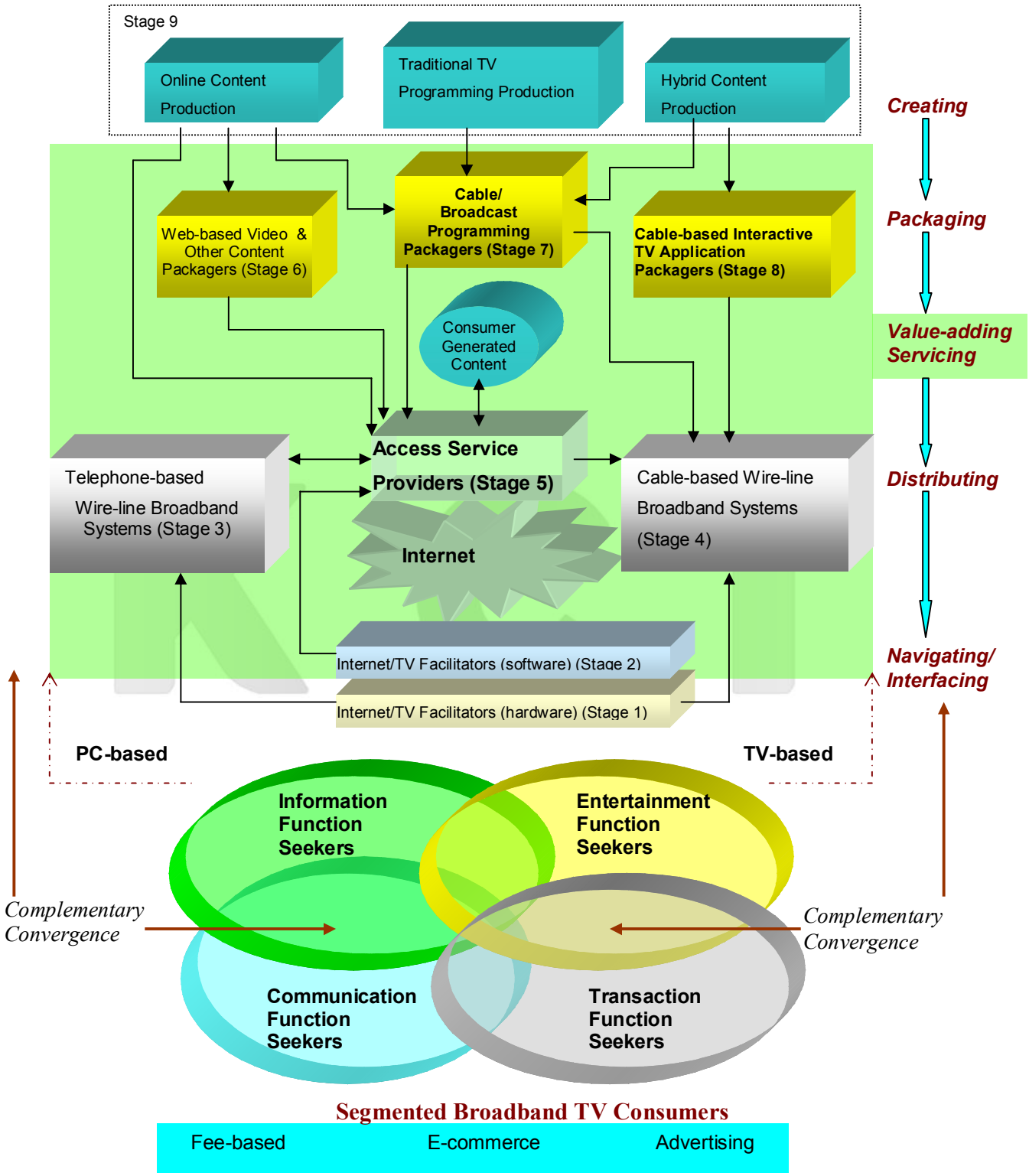
Table 7: Leading Cable and Telephone Companies' General and Specific Types of Broadband Strategic Partnership Activities 1996-2001

Year	Cable Television Sector (4841)	
	Specific Type *Software/Application*	*Hardware/Infrastructure**
2000-2001	4	20
1999-2000	11	19
1998-1999	5	26
1997-1998	6	12
1996-1997	7	18
Total 126 (100%)	*33 (JV =3, A=30) (26.2%)*	*93 (JV=33, A=60) (73.8%)*
Year	**Telephone Company Sector (4813)**	
	Specific Type *Software/Application*	*Hardware/Infrastructure*
2000-2001	2	9
1999-2000	2	12
1998-1999	2	21
1997-1998	1	12

*This specific type of strategic partnership contains distribution, manufacturing/production, supply/procurement, and service/consulting/small business activities, whereas the software/application type includes R&D, sales/marketing, and licensing activities.

[2] Michael L. 2001. "Cable Telephony Sending Mixed Signals." *Broadband Telephony*, 22, April 1, 2001.

Figure 1: Strategic Architecture of the Proposed Broadband Television Industry



*All three production stages were combined in my analysis as stage 9 because of the difficulty of differentiating the firms from the three sectors.

References

Arlen, G. 2000. "Hybrid Content Meets Broadband Convergence." *Interactive Week*, E-26.

Anonymous. 2000. *Broadband!* A Joint Industry Study by Sanford C. Bernstein & Co & Mckinsy & Company, Inc., January 2000.

Anonymous. 2001, November. "What's Next for Cable?" *Cablevision,* Nov. 12, 2001.

Anonymous. 2001, December. "What's Next for Cable?" *Cablevision,* Dec. 10, 2001.

Baldwin, T. F., McVoy, D. S., and Steinfeld, C. 1996. *Convergence: Integrating Media, Information & Communication*. Thousand Oaks, CA: Sage Publications.

Booz, Alllen and Hamilton. 1985. *Diversification: A Survey of European Chief Executives.* Booz, Allen and Hamilton, Inc.: New York, NY.

Chan-Olmsted, Sylvia M. and Kang, J. 2003. "Theorizing the Strategic Architecture of a Broadband Television Industry." *Journal of Media Economics*, 16(1), 3-21

Choe, Howard. 2001. *Broadcasting & Cable*. Industry Surveys reported by Standard & Poor's, Retrieved on March, 19, 2002, from http://businessbrowser.onesource.com/text/SP_INDSURVEYS/brc/brc_index.htm

Dowling, M., Lechner, C., and Thielmann, B. 1998. "Convergence: Innovation and Change of Market Structures between Televisions and Online Services." *Media Management Journal,* 8(4), 31-35. Retrieved on May 28, 2001, from http://www.electronicmarkets.org/netacademy/publications.nsf/all_pk/1124

Ha, L., and Chan-Olmsted, S.M. 2001. "Enhanced TV as Brand Extension: TV Viewers' Perception of Enhanced TV Features and TV Commerce on Broadcast Networks' Web Sites." *Journal of Media Management, 3*(4), 202-213.

Hagedoorn, J. and Sadowski, B. 1999. "The Future for Multimedia – The Battle for World Dominance." *Long Range Planning,* 29, 643-651.

Hitt, A. M., Ireland, R. D., and Hoskisson, E. R. 2001. *Strategic Management: Competitiveness and Globalization* (4th Ed.). Cincinnati, OH: South-Western College Publishing.

Kang, J. 2002. *Difference in Resource Allocation Patterns and Strategic Choice: Diversification Mode in the Broadband Television Industry.* Paper presented to the Mid-Winter Conference of the Association for Education in Journalism and Mass Communication, Athens, GA.

Kang, J. 2003. *Predicting "Prototype" Interactive Television Use in a Contemporary Media Environment: An Innovation-Adoption Model*. Unpublished Doctoral Dissertation, University of Florida, Gainesville.

Kontzer, T. 2001. "Interactive TV Takes Conference by Storm." *Infoweek,* January 24.

Li, C. C. 2001. *A Longitudinal and Comparative Study of Merger and Acquisition Patterns of Cable Systems and Telephone Companies in the Multimedia Context 1984-1999.* Unpublished Doctoral Dissertation, University of Florida, Gainesville.

Michael L. 2001. "Cable Telephony Sending Mixed Signals." *Broadband Telephony*, 22, April 1, 2001.

Minoli, Daniel 1995. *Video Dialtone Technology: Digital Video over ADSL, HFC, FTTC, and ATM.* McGrw-Hill, Inc., New York.

Ramanujam, V., and Varadarajan, P. 1989. "Research on Corporate Diversification: A Synthesis." *Strategic Management Journal,* 10, 523-551.

Reid, Kanaley 2001. "Second Tier of Cable TV Firms Faces Dim Future." *The San Diego Union-Tribune*, Dec. 22, 2001.

SDC Platinum. 2001. A Database compiled by *Thompson Financial Securities Data Corporation*. [Paid access to the database].

Simon A., Michael G., and Ignazio M. 2000. "The Interactive-TV Universe." *Cablevision,* June 5, 2000.

Srivastava, H. 2002. *Interactive TV: Technology and Markets*. Artech House, Inc., Boston, London.

Tseng, K., and Litman, B. 1998. "The Impact of the Telecommunications Act of 1996 on the Merger of RBOCs and MSOs: Case Study: The Merger of US West and Continental Cablevision." *Journal of Media Economics,* 11(3), 47-64.

Vogel, Harold L. 2001. *Entertainment Industry Economics: A Guide for Financial Analysis* (5th Ed.). Cambridge University Press, UK.

Whalen, P. T., and Litman, B. 1997. "Short-Circuited Mergers in the Mass Media: Credible and Incredible Evidence." pp. 65-90 in their *Media management review* edited by C. Warner. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.