

An Exploratory Study of the IPTV Business in Korea: Issues and Suggestions for the Success*

Kim, Hee-Woong** · Jung, Gi-Youn,*** · Lee, Ji-Eun****

<목 차>

I. Introduction	4.2 Strategic Road Map and Business Performance of Qook TV
II. Conceptual Background	4.3 Analysis and Results
2.1 IPTV and Its Global Market	V. Discussion and Implications
2.2 IPTV in Korea	5.1 Discussion of Findings
2.3 Previous Research on IPTV	5.2 Implications for Research and Practice
III. Research Methodology	5.3 Concluding Remarks
IV. Case Study	<Abstract>
4.1 Qook TV Business and Services	

I. Introduction

Internet protocol television (IPTV) delivers digital television service using Internet technology rather than traditional channels, such as over-the-air broadcast, satellite, and cable television. IPTV has been growing globally, and many businesses in various nations have pushed IPTV as their main business model. The United States, Italy, France, England, and many other nations have made efforts in recent years to

expand broadband infrastructure and to adopt IPTV. IPTV has become the new business model of many telecom providers, allowing them to join the market for television content distribution and become threats to competitors in the broadcasting industry. The number of IPTV subscribers has grown substantially each year (Broadband Forum 2009). Since market competition took off in 2005, it is expected that the number of subscribers will grow by over 100 million globally by 2014 (MRG 2010).

South Korea is an interesting region in the

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** Yonsei Universtiy, kimhw@yonsei.ac.kr

*** Giosis Gmarket, harryjung@giosis.net

**** Yonsei Universtiy, jieunlee@yonsei.ac.kr

context of introducing IPTV. Korea boasts some of the fastest broadband Internet connections in the world, and its advanced Internet infrastructure provides an ideal environment for IPTV to be adopted. The three largest telecom providers in South Korea were granted licenses to retransmit terrestrial channels by the Korea Communication Commission in late 2008. This event empowered IPTV providers and allowed them to compete with cable TV providers at highly competitive levels by providing multiple channels, Video on Demand (VoD) capability, and terrestrial contents.

IPTV is a promising new business platform that could benefit many parties. The Korean government and an Electronics and Telecommunications Research Institute (ETRI) research study predict that IPTV could benefit the national economy by creating more jobs and contributing several billion dollars of added value and effects on production inducement (Kim 2008; Koh and Park 2008). On a smaller scope, IPTV is expected to become a major source of revenue for telecom providers (Kim 2008) and to aid in the mass conversion from analog to digital television services, with analog TV service ending in 2011. As a result, telecom providers are expanding and investing in network infrastructure in order to meet the future demands for IPTV as well as Internet services (Kim 2007).

Although IPTV is considered to have great potential for growth, it has not lived up to expectations in Korea. From 2004 to 2008,

government regulations and market conditions did not allow fast adoption of IPTV in Korea. Even after a competitive IPTV market was formed in 2009, total subscription levels of IPTV are still far below those of cable TV operators in what may seem like a zero sum competitive environment (Seong 2010). In addition, IPTV providers have not discovered a strong IPTV business model that could become a growth engine. Therefore, the causes of this lack of growth must be investigated in order to guide IPTV operators in the right direction.

The objective of this study is to identify issues that prevent IPTV from quickly growing and gaining significant market share in a television distribution market currently dominated by cable TV providers. We then aim to provide suggestions for success of IPTV in the future. In order to achieve this goal, we apply the systems thinking method (Sterman 2000; 2001) as well as the case study approach. We selected the Korea Telecom (KT) IPTV service, Qook TV, as the case for the study. Qook TV currently has the most subscribers of all IPTV services in South Korea (Cho 2010; KT 2011). The systems thinking approach identifies main factors and influential relationships among factors over time that are related to the IPTV business.

II. CONCEPTUAL BACKGROUND

2.1 IPTV and Its Global Market

IPTV is the delivery of TV content by transmitting a series of IP packets over the Internet in a network infrastructure. The network in which IPTV operates has certain characteristics. Although IPTV uses a network infrastructure similar to the Internet, it is distributed over a closed network controlled by the network provider. Such network providers of IPTV are typically telecom providers, while cable TV is usually provided by cable providers. One innovative feature of IPTV is its two-way communications capability. This is how the IPTV user experience differs from the traditional television experience. More interactive services can be offered using two-way communications that connect the service provider and the user.

9 percent of the world's broadband homes now subscribe to an IPTV service, an increase from 7.8% in June 2010. Europe is still the leading IPTV region with strong growth in France, Romania, Russia and Belarus. The competitive and regulatory environment coupled with a relatively high broadband penetration mean that all these markets show good prospects for future growth. Asia has increased its market share by almost 5% in the last 12 months and shows signs of accelerating in a number of markets. Asia is

likely to overtake Europe in 2012 in terms of IPTV subscribers.

France still leads the IPTV market with 11.05M subscribers, representing over 50% of French broadband lines. In contrast, China's 10.5M subscribers are equivalent to around 7.6% of lines in the market. Many IPTV subscribers are in Hong Kong and Shanghai, so there is considerable room for expansion, as Hong Kong on its own has one of the highest IPTV penetrations anywhere in the world. Growth in the remainder of the Top 10 IPTV nations is healthy with all markets apart from Spain reporting significant double digit growth in the year to end June 2011(Digital TV News 2011).

The number of global IPTV subscribers is expected to grow from 41.2 million at the end of 2010 to 101.7 million by 2014 (MRG 2010). There were over 10 million subscribers in Western Europe by the end of 2008, while other regions, such as North America, Southeast Asia, and Asia Pacific, each has between 3 and 4 million users. The relatively high subscription levels for Western Europe may have two explanations. First, Western European IPTV players were the first to enter the market and become popular, especially in France (Das 2008). Second,

<Table 1> IPTV Global Growth

	2010 Q2	2010 Q3	2010 Q4	2011 Q1	2011 Q2
Total subscribers	39,122,079	41,889,291	45,390,335	48,371,238	51,172,273
Net adds(qtr)	3,147,379	2,767,212	3,501,044	2,980,903	2,801,035

<Table 2> Top 10 IPTV Territories

Country	2010 Q2	2011 Q1	2011 Q2
France	9,400,750	10,615,000	11,046,000
China(all territories)	7,458,000	9,829,000	10,503,000
USA	6,485,374	7,743,080	8,163,918
South Korea	2,909,136	3,983,348	4,281,113
Japan	2,220,743	2,869,816	3,086,257
Germany	1,280,200	1,592,000	1,640,500
Belgium	868,000	1,029,000	1,087,000
Taiwan	720,000	850,000	900,000
Netherlands	560,000	810,000	866,000
Spain	832,116	855,400	852,600

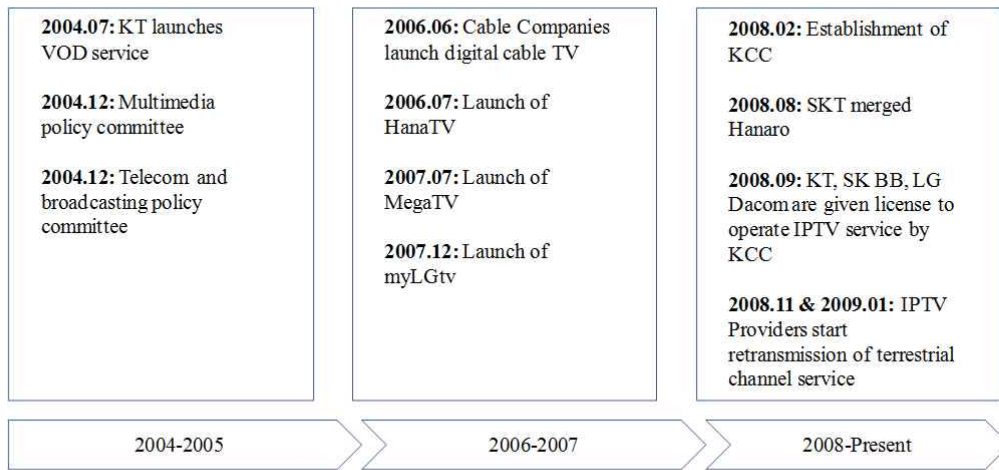
European IPTV had less competition with cable companies and subsidies that reduce the total cost paid by the consumers.

In 2009, global IPTV revenue was \$6.7 billion and is expected to grow to \$19.9 billion by 2013 (International Television Expert Group 2009). Europe and North America generated much more revenue compared to India and China due to the low average revenue per user (ARPU) of the latter regions. However, India and China are expected to take a larger share of the market in the future because of their fast-growing economies.

IPTV was first introduced into the market with Italy's FastWeb service in March 2001. Several other players in Hong Kong and Japan followed suit. The market started to become competitive only after 2005. Globally, the IPTV market is growing fast, with many nations adopting IPTV. The market has been led by Germany, France, South Korea, the United States, Hong Kong,

Japan, and Italy. With Western Europe having the most subscribers, it is unsurprising that European telecom providers were 7 of the top 10 IPTV providers in number of subscriptions in 2008 (LightReading 2008).

France leads worldwide in number of subscribers with Iliad and France Telecom. France Telecom offers IPTV service under the brand name Orange TV, which provides home networking solutions to allow PC, telephone, and television integration (Fierce Wireless 2008). In terms of channel services, France Telecom offers both live channels and VoD contents. Spain's Telefonica launched an IPTV service called Imagenico, and about half of its customers are subscribed to both broadband and IPTV as a dual play subscription. Italy's FastWeb started in 2003, and provides Triple-Play Service (TPS) by offering telephone, Internet, and TV as a single package.



<Figure 1> Korean IPTV Business History

In the Asian market, PCCW of Hong Kong provides the most successful IPTV service, boasting the third highest subscription rate worldwide. However, the Asian market is still small compared to the European market. PCCW's NowTV was released in 2003 and differentiates itself by having a variety of subscription plans with customizable channel selections (Hagiu and Lo 2010).

In North America, the IPTV market started when Verizon and AT&T launched IPTV services in 2005 and 2006, respectively. AT&T's Uverse has both live channels and VoD, but in 2007 it also released Uverse OnTheGo, which allows TV to be watched on the PC. Uverse also started releasing interactive services, including games, phonebook search, and picture sharing between PC and TV. Verizon started its service in 2005, providing local information about automobile and furniture sales and restaurants.

2.1 IPTV in Korea

The Korean IPTV market has been stagnant due to regulatory constraints during the first several years. IPTV providers, such as SK Broadband and KT Broadband, previously only offered VoD services without terrestrial live programming. However, IPTV adoption has the potential for very fast growth in Korea, as Korea's Internet infrastructure boasts one of the fastest average Internet speeds in the world.

The regulatory constraints were relaxed after several years. Regulatory barriers divided Korea's IPTV history into three developmental stages, as shown in Figure 1. The first stage spans 2004 to 2005, when KT started their first IPTV service. IPTV was technologically ready for the consumer market. However, the regulations and market conditions were not ready for the widespread adoption of IPTV. In 2006, the beginning of the second stage is marked with the

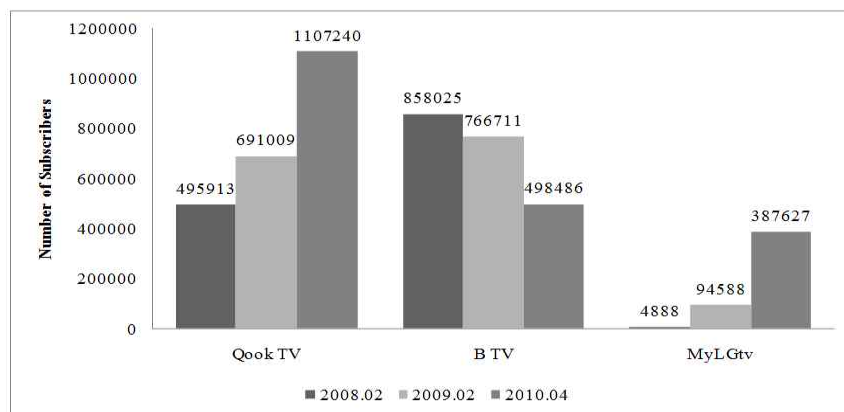
establishment of the Korea Communications Commission. In 2006, HanaTV launched BroadN TV. Following its competitor's move, KT launched MegaTV in 2007. From 2008 to 2010, the establishment and solidification of IPTV regulations allowed the IPTV market to grow faster. Deregulation also allowed customers to enjoy live terrestrial channels to be viewed on IPTV. During this stage, the IPTV market embarked on a growth stage.

South Korea's IPTV providers are SK Broadband, KT Broadband, and LG Dacom. These companies obtained licenses from the Korea Communications Commission to operate as IPTV providers in late 2008. Before the license was issued, all three providers offered VoD as their main service. Currently, all three provide retransmissions of terrestrial TV programs and VoD.

In July 2006, Hanaro Telecom launched Hana TV, and the market for IPTV VoD service started to grow. However, in early 2008, SK Group

acquired Hanaro Telecom. It was first renamed SK Broadband and then BroadN TV later that year. In 2010, it again changed its name to BTv. SK's IPTV service was the first to introduce triple-play service in 2007. LG Dacom launched its IPTV service, myLGtv, in December 2007 and started live terrestrial programming in January 2009. myLGtv's service strategy mainly revolves around Triple Play Service (TPS) or Quadruple Play Service (QPS) and targets users of analog cable and lower income users by offering services at competitive prices in its initial phase. KT's IPTV service was launched under the name MegaTV in July 2007. It started with a base of 65,211 users who were already subscribed to KT's HomeN VoD service, which originally launched in 2004 (Choi 2007). In 2009, it changed its brand from MegaTV to Qook TV.

There were major changes to the numbers of subscribers of the three Korean IPTV providers. First, Qook TV had 495,913 subscriptions in February 2008 (see Figure 2). It more than



<Figure 2> Korea's Top Three IPTV Providers (Source: Cho, 2010)

doubled its subscriptions by April of 2010 with 1,107,240 subscribers. On the other hand, BTV displayed decreasing tendencies, with its subscription level falling from 858,025 to 498,486 in the same time period. MyLGtv only had 4,888 subscribers in February 2008, but the low subscription level was due to the fact that myLGtv launched its service relatively late, in December 2007. As of June 2011, there are 2.5 million subscribers in Korea. 60.9% of them are KT Qook TV subscribers (KT 2011).

South Korea digital media employer's organization issue a statement and claim South Korea move operator and the intersection of fixed net and based on Internet TV set that operator offer serve IPTV December 20 have put out and already attracted 3 million multi-users in South Korea in two years. Three the intersection of South Korea and local the intersection of IPTV and the intersection of service provider and the intersection of South Korean and telecommunication, the intersection of SK and broadband and user of LGU+ count the digital display, South Korean IPTV number of users is up to the milestone of 3 million on December 17. This shows, in about 50 million users in the market of South Korea local TV, IPTV users account for 6%. The broadband network popularity of South Korea has already accounted for 90% of the South Korean family. The service provider utilizes their broadband network to serve offering television channel and the third party developer's content. Goal of service provider to want, they have to retract

network of them and make the investment, because growth that IPTV serve promote advertising expansion of market, increase the subscription charge and other and pay the content. An officer of the South Korea Carrier is speaking of IPTV of Company these says while serving, though " Qook " TV a business of South Korea telecommunications Lagging behind cable televisioning to serve, but have gratifying growth trend IPTV user. User's speedup is very fast mainly because IPTV has two-way service functions, such as request service of the video and other functions. (Wimax and Mobile 2011)

2.3 Previous Research on IPTV

There have been several researches on IPTV. Much research in the IS discipline has devoted to the technical issues of IPTV (Kim et al. 2010; Maisonneuve et al. 2009), the adoption of IPTV (Caiser et al. 2008; Shin 2009; Weniger 2010), the IPTV services (Lee and Yang 2003; Song et al. 2009), and general issues of IPTV (Singh et al. 2008; Thompson and Chen 2009). Because IPTV is relatively a new service, there have been several technical issues. For this reason, previous research (Kim et al. 2010; Maisonneuve et al. 2009) examined technical elements supporting IPTV and discussed technical standard for IPTV as well as the technical trends. In addition to the technical issues, previous research (Singh et al. 2008; Thompson and Chen 2009) also discussed the general challenges of IPTV over wireless

LAN such as business model and service development. Previous research (Lee and Yang 2003; Song et al. 2009) also examined IPTV services and tried to analyze the characteristics. As a repeating issue, previous research (Caiser et al. 2008; Shin 2009; Weniger 2010) also examined user adoption of IPTV by identifying the key antecedents. However, relatively little attention is being paid to the study of IPTV business success. Although previous research examined the issue of IPTV adoption, the real IPTV business shows the importance of customer switching to IPTV services from the existing TV services (e.g., cable TV) or substitutes and revenue generation (Caiser et al. 2008; She et al. 2007; Thompson and Chen 2009). These issues would directly affect the business success of IPTV. For this reason, this study analyzes IPTV business and explores factors affecting the business performance of IPTV, especially related to IPTV subscribers and revenue generation.

III. Research Methodology

We adopted a case study approach for the exploratory study (Yin 2003). An exploratory case study methodology was considered appropriate for this study for several reasons. First, because the phenomenon is complex and needs to be examined within its context, a case study approach is appropriate. Because IPTV business involves multiple business partners and

competitors and a large number of users, it is intertwined with the environment in which the business takes place. Second, as the existing body of knowledge is not sufficient to test or confirm causal questions, an exploratory case study is more appropriate than a confirmatory or explanatory case study. To ensure rigor, we closely followed the suggested guidelines for exploratory case study research (Yin 2003).

For the case study, we selected KT Qook TV, the most successful of the three Korean IPTV providers, as the case for the study. We gathered data from different sources. First, for the primary data collection, we conducted in-depth interviews with five IPTV industry experts, six employees working at a telecom company, and five IPTV users over a period of three months. Four of the two industry experts were IT industry analysts, and the other was an executive manager at a telecom company. The six employees were working in the digital media business division, including the IPTV business. For secondary data collection, we used diverse sources, such as IPTV news, websites, and IPTV service providers' investor relations reports.

The target case and collected data were analyzed using a causal-loop diagram (CLD), which is a main component of the systems-thinking approach (Sterman 2000; 2001). CLD can be used to analyze important factors and the influential relationships among them. Previous research used CLD for case analysis in different contexts, such as change management in

interorganizational systems for the public (Sutarno et al. 2008-9), a case study of interactions between critical factors (Akkermans and Helden 2002), and an information systems project (Kim and Pan 2006). For the development of CLD, we identified main factors and the relationships among them using the collected data analysis. Further, we checked the validity of our CLD based on discussions with interviewees. The final CLD was proposed based on the consensus from the researchers and interviewees. From the CLD, we identify issues affecting the business growth of IPTV and then discuss recommendations for the facilitation of IPTV business.

As a tool for case analysis, a CLD consists of variables connected by arrows denoting causal influences. Each causal link is assigned a polarity, either positive (+) or negative (-), to indicate how the dependent variable changes when the independent variable changes. A positive link means that if the cause (i.e., independent variable) increases, then the effect (i.e., dependent variable) increases above what it would otherwise have been. A negative link means that if the cause increases, then the effect decreases below what it would otherwise have been.

IV. Case Study

In 1981, KT spun off from the Ministry of Communications with 4.5 million telephone land lines. It increased its number to 20 million in

1993. KT also successfully diversified into an advanced broadband network. In 1997, the company became a government-funded corporation, and this led to changes in its business portfolio to focus more on wireless and Internet services. A merger with KTF in 2009 and acquisition of Hansol M.com allowed them to diversify. Currently, KT is a media company providing telephone, Internet, and television services to the public.

4.1 Qook TV Business and Services

KT, from late 2007 to October 2008, offered VoD services without live terrestrial channels. It also offered minor interactive services. However, in December 2007, it acquired the license to provide terrestrial live programming. KT renamed the former Mega TV to Qook TV and launched a new brand on November 17, 2008. A major service feature difference is the new brand's inclusion of live terrestrial programming. In 2009, the IPTV service expanded nationwide and increased the number of live channels it offered. Until then, the main service provided by Qook TV was live television programming as well as VoD. However, the service strategy of Qook TV is now directed toward inclusion of two-way interactive services.

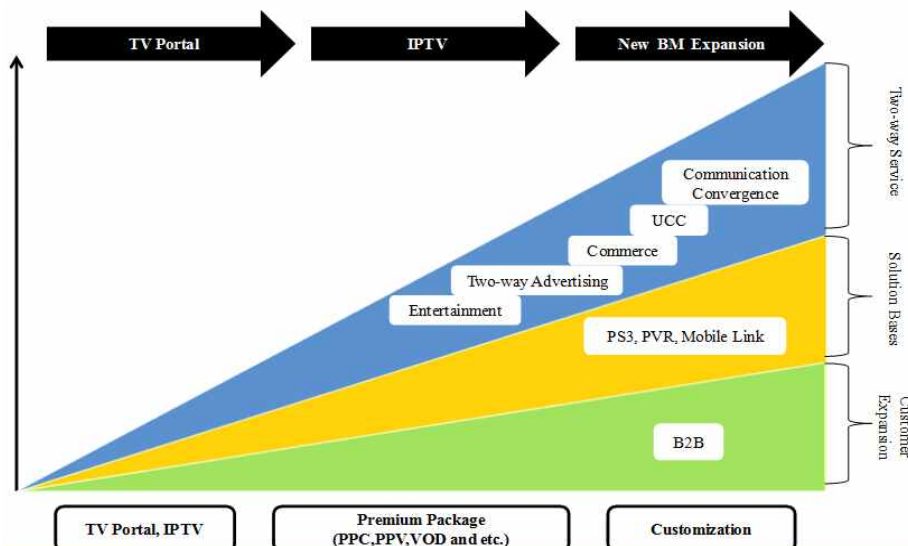
Currently, KT's IPTV offers three types of services: live programming, VoD, and two-way interactive services. There are 89 live channels offered. For VoD, users can choose from 70,000 videos to watch on demand. It also offers 62

different two-way interactive services (KT Website 2010). Although KT's IPTV service is currently successful in emulating broadcast TV, it intends to move away from TV to linking with the Internet. This is evident from the former brand Mega TV slogan, "TV finally meets the Internet" (MegaTV 2009). Accordingly, there is a clear shift away from a VoD-driven business model to developing more two-way interactive services. By 2012, KT's IPTV service is projected to maintain its current VoD levels and to increase the number of two-way interactive services it offers from 62 to over 80. Its live program channels are expected to increase as well to over 100.

The two-way interactive service that Qook TV offers is called Fun & Life, and it includes games, karaoke, a Web portal, magazines, weather, family community, education, finance, commerce, communications, and other services.

Of these services, there are two main services that let users upload user-created content (UCC). Paran Photo allows users to upload photos online and view them on TV. Channel U allows UCC to be viewed by other Qook TV users. Qook TV has also partnered with Pandora TV to provide UCC content.

Qook TV's HomeSchool service offers educational services to provide video lectures online. Currently, its main educational service is English learning for children (Qook 2010). Parents can monitor their children's learning progress and customize the program for their needs. Other educational contents include business management, certification preparation, a second foreign language, public education, and other contents.



<Figure 3> Qook TV Road Map (Source: KT)

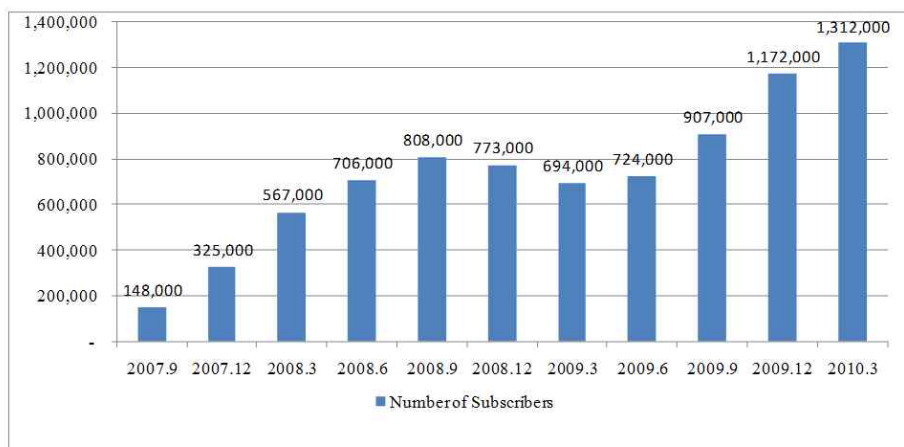
4.2 Strategic Road Map and Business Performance of Qook TV

KT's IPTV service is increasing the two-way services it offers (see Figure 3). Although it currently offers mainly entertainment content, KT envisions increasing the use of two-way advertising and introducing new business models to increase commerce activities within the IPTV service. Another aspect of KT's strategy is to increase user participation. Through user participation, polls, surveys, and quizzes can be integrated into TV programs to improve the quality of television content. Users also can upload UCC to add value to the amount and variety of content available. Furthermore, KT expects to provide seamless linkages with mobile phones and game consoles to make IPTV more available from various media.

KT was already behind the competition as MegaTV launched in mid-2007 while HanaTV

was released one year earlier in mid-2006. MegaTV launched with 65,000 existing subscribers and had approximately 691,000 subscribers as of early 2009. Starting in 2008, the customer defection has occurred due to the discontinuance of its initial promotions (see Figure 4). At the same time, the rebranding of HanaTV into BroadN TV was followed by aggressive marketing campaigns that could have contributed to defections between September 2008 and May 2009. By ending the free subscriptions, MegaTV allowed some users to move to paid subscriptions to boost the revenue growth. The revenue growth rate at 2008 1Q was 161.4% and decreased to 23.40% by 2008 4Q to show stability.

Although KT is growing, with an increasing number of subscribers, it is still far from commanding a large portion of the television-viewing market. Even when all IPTV providers are combined, IPTV is still a small



<Figure 4> Qook TV Number of Subscribers (Source: KT)>

player compared to its main competition, cable TV. There are approximately 15 million cable TV subscribers in Korea as of April 2010. Among them, 12 million (80%) are still using cable analog service, and the rest, 3 million (20%), are using digital TV service (Seong 2010). IPTV services had a total of 1.96 million subscribers by April 2010; this number accounts for only around 13% of all cable TV subscribers. It is clear that IPTV has room for improvement in terms of its subscriptions.

In the following section, we analyze why the number of IPTV subscribers is smaller than the number of cable TV subscribers and identify relevant issues. We will then suggest recommendations for the facilitation of IPTV business.

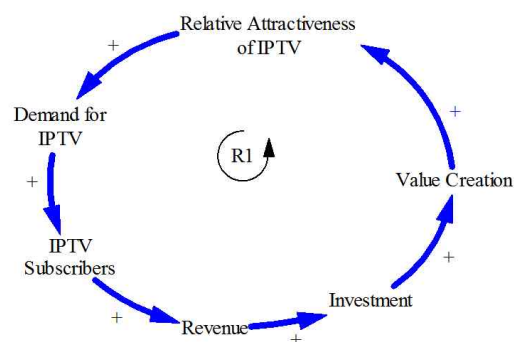
4.3 Analysis and Results

As we discussed before, customer adoption and switching to IPTV services from the existing TV services (e.g., cable TV) or substitutes and revenue generation (Caiser et al. 2008; She et al. 2007; Thompson and Chen 2009) directly affect the business success of IPTV. For this reason, we need to analyze the IPTV business by exploring factors affecting the business performance of IPTV, especially related to IPTV subscribers and revenue generation. By focusing on the business performance of IPTV and the two related issues, this study thus analyzes the domains of IPTV attractiveness (section 4.3.1), IPTV paid services

(section 4.3.2), KT's marketing plan (section 4.3.3), and competitor reaction (section 4.3.4). While the domain of IPTV paid services is directly related to revenue generation, the other three domains are directly related to IPTV subscribers.

4.3.1 IPTV Attractiveness

The loop (R1) in the CLD of Figure 5 represents a cycle of events that reinforces the attractiveness of IPTV. The initial event that starts off this loop coincides with the first rollout of the IPTV product. During the first rollout of the IPTV product, initial product innovation adds to IPTV's attractiveness. The higher the level of innovation, the higher the attractiveness of IPTV. The relative attractiveness of IPTV represents attractiveness in comparison with other services, including cable TV. As the relative attractiveness of IPTV increases, the number of IPTV subscribers increases. Revenue then is invested in value-creating services that will further increase IPTV attractiveness.



<Figure 5> IPTV Attractiveness Loop

The current television market is saturated. One marketing manager noted that “In order to attract customers, IPTV providers need to steal customers away from cable TV operators. This is likely to occur when IPTV attractiveness is higher than cable TV attractiveness.” In other words, customers should be willing to switch over to IPTV once IPTV offers a better overall product than cable TV (Relative attractiveness \rightarrow Demand for IPTV). One important point is this: stealing customers away from substitutes is a crucial part of IPTV success.

The switching over of customers from cable TV naturally increases the number IPTV subscriptions for an IPTV provider (Demand for IPTV \rightarrow IPTV subscribers). One of the major objectives of IPTV in the target case is to increase the number of subscriptions. One employee noted that “IPTV providers have focused on heavy marketing and promotions to draw customers.”

An increase in the number of subscriptions means an increase in revenue (IPTV subscribers \rightarrow Revenue). As the IPTV provider gains revenue, it will have more money for investment (Revenue \rightarrow Investment). With more money for investment, IPTV providers can pursue more value-creating activities to increase the value of IPTV services (Investment \rightarrow Value creation).

A manager noted that “Value-creating activities include many activities that ultimately draw more revenue and profit.” An important way to do this is to increase the value of IPTV services and make them more attractive to customers

(Value creation \rightarrow Relative attractiveness of IPTV). IPTV’s attractiveness will determine whether customers will buy services or not. Thus, it is logical to direct value-creation activities toward improving the IPTV services.

Issue 1: Low Attractiveness of IPTV

In this CLD (Figure 6), the initial increase in IPTV’s product attractiveness is positively reinforced by additional revenue that is reinvested to further increase IPTV attractiveness. However, in the current state, interviewed users and experts commonly noted that that “the relative attractiveness of IPTV is not much higher than cable TV’s attractiveness.” One user went so far as to show an inability to distinguish between cable TV and IPTV in their service capabilities. Both services provide Voice on Demand (VoD) and terrestrial television, which the users viewed as the critical service.

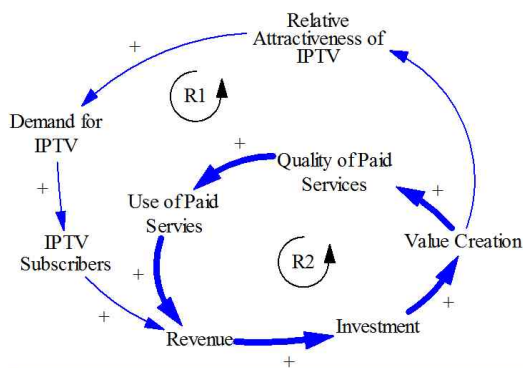
As a result, the relative attractiveness of IPTV is not high enough to drive a fast rise in customer switching from cable TV to IPTV. According to the CLD, there are two reasons for this: IPTV’s low attractiveness or the high level of cable TV’s attractiveness, which ultimately results in low relative attractiveness of IPTV services.

IPTV first rolled out VoD service capabilities as its main feature without terrestrial channels. During this stage, it was difficult to catch up to cable TV and other substitutes since live terrestrial channels were viewed by users as “required channels” for TV viewing.

Interviewees all responded similarly that “IPTV’s attractiveness was low.” In addition, IPTV providers added content by using data service capabilities to offer services, such as games, karaoke, news, and banking. However, these additional services did not attract enough attention to overcome the low attractiveness of IPTV.

4.3.2 Paid Services

This CLD (see R2 in Figure 6) delves deeper into the features of IPTV services. One objective that IPTV tries to achieve is to increase revenue by growing paid service uses. One manager noted that “a key success element is to have interactive data service that users are willing to pay for to enhance the television experience.” Current paid services include VoD and personalized services or additional services that usually require two-way communication channels, such as the Internet.



<Figure 6> Paid Services Loop

By enabling more activities on value creation, the quality level of the IPTV services will increase

(Value Creation -> Quality of Paid Services). One vital aspect of IPTV is two-way interaction and its related interactive services. As the IPTV services quality increases, interactive services will improve as well. Many two-way services, such as karaoke and VoD, are paid services. As the quality level increases, more users will choose to pay to use the service (Quality of Paid Services -> User of Paid Services -> Revenue). Also, a new type of interactive data services that is more enticing to the user could be introduced.

Issue 2: Customers Not Willing to Pay for Services.

The use of paid services has not proliferated, and the growth is not rapid enough to affect overall IPTV revenue. One manager noted that “most of the revenue is from subscriptions, although VoD use has been rising, according to industry experts.” From interviews with the IPTV users and experts, we conclude that users are not willing to spend much extra on top of the IPTV subscription they have already paid for. Therefore, the Paid Services Loop (R2) is not positively reinforced as much as it should be in order to increase revenue.

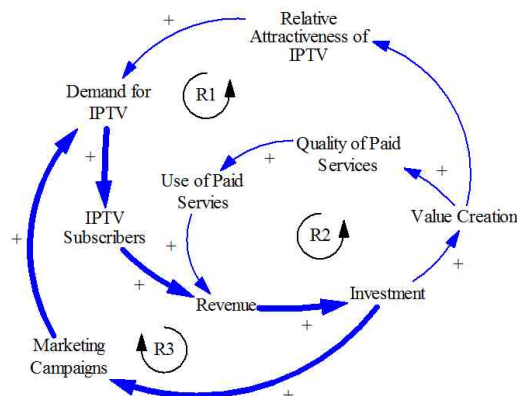
From this CLD, it is speculated that the quality of interactive service is not high enough to drive up the demand for paid services. In turn, the IPTV provider is making less profit, resulting in a reduced budget for value-creating activities to improve the overall services of IPTV.

The problem with the paid services is the low

quality of interactive data services. The industry experts were asked why it is difficult to increase the quality of interactive data services. One industry expert noted that “Set-top boxes must be upgraded to provide an increased variety of services. However, set-top boxes become expensive when advanced interaction is required.”

4.3.3 KT’s Marketing Plan

Starting in 2009, KT rebranded its IPTV service to Qook TV and embarked on a large-scale promotional campaign. Although KT envisions improving its interactive services, the focus of last two years has been on heavy marketing (see R3 in Figure 7).



<Figure 7> Marketing Campaign

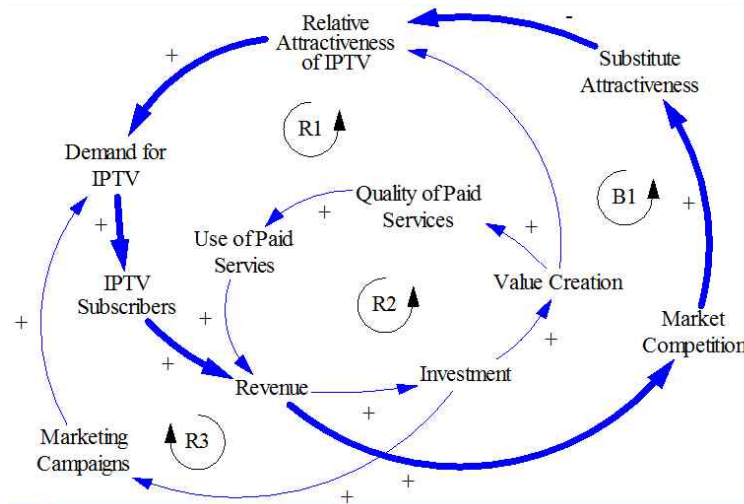
This IPTV provider’s strategy has been twofold. First, KT has so far offered promotions to give customers cost benefits. However, cable TV’s price is already low. One industry expert noted that “IPTV needs something more than

price competition to steal customers from cable TV.” IPTV providers were able to capture some customers initially by combining heavy marketing campaigns with price discounts for long-term contracts (Investment -> Marketing campaigns). Most large IPTV providers have modified their service name several times over the last four years in order to change their brand image in the hopes of increasing marketing effectiveness. Changing service names and images was intended to give customers the notion that providers were offering new, fresh services that customers should purchase (Marketing Campaigns -> Demand for IPTV -> IPTV Subscribers).

Issue 3: Weak Benefits of Marketing

Marketing campaigns are often needed to increase sales as well as to build the initial brand image. Once word of mouth takes effect, it replaces the need for heavy marketing campaigns. One industry expert noted that “Companies like KT have made a heavy investment in marketing campaigns by renaming services and advertising to refresh the service image.”

One employee of target company noted that “the company has yet to reap full benefits from marketing campaigns. IPTV customers are increasing, but at a slow pace.” A major problem is that the market is already saturated. A large portion of potential customers already subscribes to cable TV. In an already saturated market, marketing effectiveness is weak unless the



<Figure 8> Competitor Reaction Loop

service is highly differentiated. However, the differentiation between IPTV and substitutes (e.g., cable TV) is not very large. In other words, the relative marketing cost is high, and the relative profit resulting from marketing may be too low to be considered effective as of mid-2010.

4.3.4 Competitor Reactions

The CLD (B1) in Figure 8 represents cable TV's competitive counter-response to IPTV. IPTV's entrance into the broadcasting market signaled competitors to improve their competitive edge. In the CLD, IPTV's rise in attractiveness through value creation eventually leads to more competition and lowers the attractiveness of IPTV relative to cable TV.

When an IPTV provider introduces a new IPTV service, competitors, such as satellite TV and cable TV, become aware of the new entrant. An increase in the quality of IPTV service

encourages competitors to deter IPTV sales either by using strategic obstacles or by improving their service quality. As a result, the level of competition in the industry increases (Demand for IPTV -> IPTV Subscribers -> Revenue -> Market Competition).

One industry expert noted that "among competitors, cable TV subscribers purchase the vast majority of paid television services." Thus, in this analysis, the scope has been narrowed to compare competitive dynamics between cable TV and IPTV. If cable TV's attractiveness rises, fewer subscribers will be inclined to drop existing cable TV service to subscribe to IPTV (Market Competition -> Substitute Attractiveness). On the other hand, increasing the attractiveness of IPTV will draw more customers from cable TV. This indicates that cable TV's attractiveness and IPTV's attractiveness are interdependent variables. If cable TV attractiveness rises, the

<Table 3> Issues and Suggestions

Issues	Suggestions
Issue 1: Low attractiveness of IPTV	S1: Increase spending on value creation activities for IPTV product development
Issue 4: Rising competitiveness of cable TV	
Issue 2: Customers not willing to pay for services.	S2: Focus more on development of high quality interactive data service contents
Issue 3: Weak benefits of marketing	S3: Expand market segment by differentiating data service

relative attractiveness of IPTV will drop as a result (Substitute Attractiveness -> Relative Attractiveness of IPTV).

Issue 4: Rising Competitiveness of Cable TV

Cable TV’s attractiveness is perceived to be similar to IPTV’s attractiveness, according to interviews conducted in this study. Some users commonly noted that “ there is little difference between cable TV and IPTV.” Although IPTV was initially believed to be superior to cable TV for its two-way communications capability, cable TV soon offered similar services since cable TV providers also took advantage of their broadband Internet capabilities. Current cable TV offers two-way data services, like news, games, karaoke, and VoD. For this reason, cable TV has the ability to catch up to any new services that IPTV brings. Cable TV’s attractiveness can increase rather easily.

V. Discussion and Implications

5.1 Discussion of Findings

From the case analysis, we have identified four issues affecting the business success of IPTV in the Korean context. Based on the identified issues, this study offers three suggestions for facilitating the success of the Korean IPTV business, as summarized in Table 3. Figure 9 further shows how the three suggestions affect the business success of IPTV based on the analyzed CLD.

Suggestion 1 (S1): Increase spending on activities for product development.

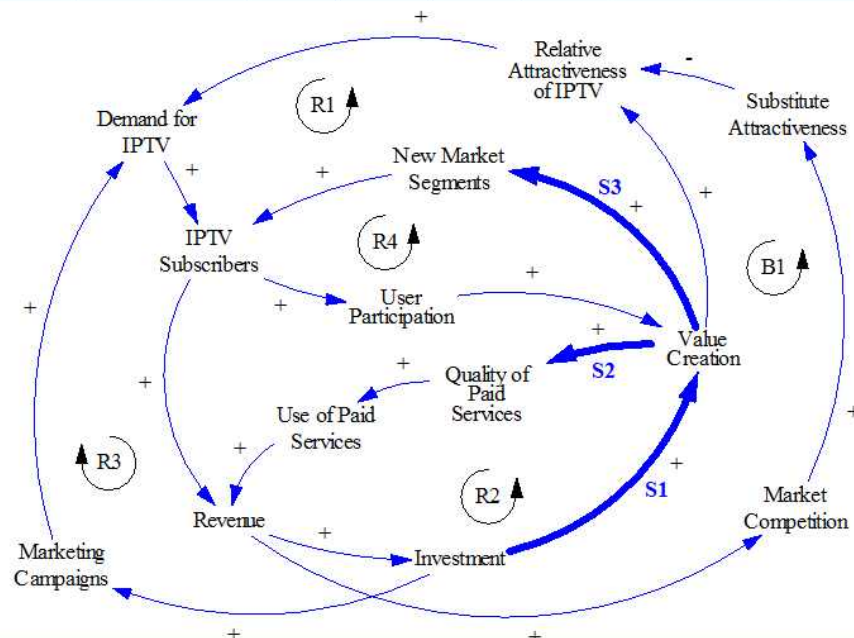
Issue 1 and Issue 4 indicate that the relative attractiveness of IPTV service is rather low. Issue 1 suggests that IPTV service was not innovative from the start and that its potentials have not yet been realized. Issue 4 suggests that the low attractiveness of IPTV is caused by speedy responses by cable TV (i.e., substitute) service upgrades.

In order to address issues 1 and 4, it is essential for IPTV to keep innovating to stay on top of the competition. This requires IPTV providers to spend more on research and development (R&D) to come up with a differentiated product that

provides attractive services and content. This means that IPTV providers need to pay more attention to the software platform as well as hardware, such as set-top boxes. Instead of adopting a generic set-top box, they might offer high-end set-top boxes with advanced remote controllers. A critical user requirement for IPTV service is that the set-top box should be easily to use and that customers should spend as little time as possible navigating through searching for desired contents (Brownson et al. 2009). Thus, the set-top box menus should be made of user customizable. If users can customize their lists, they will find it much more comfortable and quicker to get around an IPTV service. This will help to keep customers to the service which will switch increased revenue for the IPTV provider.

Suggestion 2 (S2): Focus more on development of high-quality interactive data service.

This issue regards increasing additional profit from already subscribed users. Through interviews it was found that users are accustomed to using paid content. With time, paid service use can increase, and building a high-quality service can accelerate this process. This should be a high-priority objective for IPTV providers since paid service brings in extra revenue. For this reason, the focus of product R&D should be geared toward tying interactive data services to a viable novel business model that generates extra cash. In order to convince users to pay for additional services, the added services must be of high quality and offered at competitive prices.



<Figure 9> Suggestions

Taking existing IPTV service in Korea, as an example, presently, customers can only enjoy contents that have been listed by their IPTV service provider (Brownson et al. 2009). To survive in this market, IPTV providers would have to be more proactive and aggressive. IPTV providers do not provide Korean movies with other languages subtitles except those who speak fluently in English. This acting brings some loss of revenue both to the service producer and provider. Subtitles are merely text files and so they come in very small size, which should add no significant load to the content being uploaded to the customers.

Suggestion 3 (S3): Expand market segment by differentiating data service.

Two-way communication allows vastly different ways of experiencing television. It would be reasonable to say that active interaction with the TV (i.e., user participation in the open model of IPTV) could be defined as something other than a traditional television viewing experience. The collapse of traditional TV viewing and its transformation into a more interactive viewership would have subsequent side effects. Those who are Internet surfers as well as those who show no interest in passive viewership could now be new customers to the new TV experience of interactive data services. By attempting to diversify into new market segments, IPTV can break away from the saturated market for TV and potentially open up a

new market by creating a new definition of television watching.

If novel IPTV data service succeeds in creating a new market, then marketing effectiveness will be greatly boosted since the product is no longer targeting a long-established TV market. In order to achieve this, IPTV providers need to focus on differentiating their service to set it apart from regular television user experience. When combined with recent developments in cell phone technologies for e-wallet or payments, the TV is also an entry into the retail world. For example in the US Amazon already has an agreement with TiVo for one-click purchases. (Marie-Jose Montpetit 2011) One way of differentiating its service is to bring features of the Internet to television. However, ease of navigating and hardware performance levels have been issues, and IPTV providers have difficulty in finding a set-top box at a lower price with high performance.

5.2 Implications for Research and Practice

This study has implications for research. This study demonstrates how systems thinking approach with CLD can be applied for case study, especially in analyzing the business structure of target case and identifying key issues and suggestions. Most case studies, especially with the interpretivist approach, are lack of supporting tools in interpreting target case. This study thus shows how systems thinking approach with CLD

can complement an interpretivist approach in case research. The systems thinking approach with CLD has another implication in transforming tacit knowledge to explicit knowledge, i.e., externalization (Yim et al. 2004), and combining explicit knowledge, i.e., combination (Yim et al. 2004). Especially, use of CLD with a form of graphical representation of factors and interrelationships among them helps identify important factors and analyze relationships of interest in target case, which facilitates externalization and combination of knowledge that resides in mental models of interviewees.

This research also has implications for practice. Based on our analysis, suggestions 1 and 2 are recommendations to focus more attention on the development of interactive services. Interestingly, if a new interactive service is innovative, it will also rewrite the definition of what television is and naturally fulfill the objectives of suggestion 3. All three suggestions address one goal: to develop a differentiated interactive service. Answering the question of what specific type of service it may have to be is a more difficult task. However, there are hints at what type of service is required.

The answer may lie in understanding what Smart TV is. Currently, there are new entrants in the TV market, including Google TV and Apple TV. These services are examples of Smart TV with capabilities beyond two-way interactive service capabilities. It is suggested that Smart TV must be customizable as well as social

network-enabled (Han 2010). Smart TV is differentiated by allowing users to install various applications and also connect to social networks to look at a variety of contents and share their own contents.

Currently, IPTV services lack these service features and mainly focus on bringing traditional television content for a traditional customer television experience. The IPTV providers should see what Apple TV and Google TV are aiming for and figure out which directions may be right for the future of IPTV.

However, user customization and content sharing can deteriorate the traditional value chain of television content distribution (Han 2010). Content distributors will no longer deliver to TV channels, but will deliver on demand through Internet. Such shifts in the distribution value chain have already been witnessed with the introduction of Hulu.com in the US. Therefore, IPTV providers must take caution and be aware of the dynamic changes in value chain, if they do a successful job in creating a Smart TV.

5.3 Concluding Remarks

Although IPTV services were introduced in Korea in 2009, their business performance has been far below expectations. This study analyzed the main factors and the relationships among them related to the business performance of IPTV by adopting a case study approach. Our results indicate that there are three main issues lowering

the business performance of IPTV in Korea. Managing these issues is a first step toward the business success of IPTV. This study identified and discussed three suggestions for improvement. The core suggestion is to enhance value creation of IPTV for customers. Currently, customers do not perceive differentiated value from IPTV services in comparison to other substitutes. Such value creation, through investment in R&D, would enhance revenue generation by creating new market segments and providing value-added services. This study advances our understanding of IPTV business in Korea and offers IPTV operators suggestions to ensure the success of IPTV businesses.

Reference

- Akkerman, H., and Helden, K., "Vicious and Virtuous Cycles in ERP Implementation: A Case Study of Interrelations between Critical Success Factors," *European Journal of Information Systems*, Vol.11, No.1, 2002, pp.35-46.
- Broadband Forum, IPTV Industry Overview, 2009.4.
- Brownson, O. O., Han, S., Choi, J., and Kang, M., "On Building a Successful IPTV Business Model Based on Personalized IPTV Content & Services," *ISCIT*, 9th International Symposium on 2009, 2009.
- Casier, K., Lannoo, B., Ooteghem, J., Verbrugge, S., Colle, D., Pickavet, M., and Demeester, P., "Adoption and Pricing: The Underestimated Elements of a Realistic IPTV Business Case," *IEEE Communications Magazine*, Vol.46, No.8 2008, pp.112-118.
- Cho, H., "2 Million Subscribers of Internet TV," *Munhwa Daily News*, <http://www.munhwa.com/news/view.html?no=2010042001031524160002>, 2010.04.20.
- Choi, Y., "KT Mega TV vs. Hanaro Hana TV," *Seoul Daily News*, <http://www.seoul.co.kr/news/newsview.php?id=20070731022009>, 2007.07.30.
- Das, K., "Internet Protocol TV or IPTV," *IPv6.com*, <http://www.ipv6.com/articles/iptv/iptv-internet-protocol-tv.html>, 2008.
- DigitalTVNews. NET, "IPTV Now Serve More Than 50 Million Customers Worldwide," *Digital TV News*, <http://www.digitaltvnews.net/content/?p=20307>, 2011.09.27.
- FierceW., "Orange, Thomson and Sagem Communications are Creating Soft At Home, a Joint Venture Publisher of Software for The Digital Home," *fiercewireless*, <http://www.fiercewireless.com/pressrelease/orange-thomson-and-sagem-communications-are-creating-soft-home-joint-venture-publishe>

- 2008.
- Hagiu, A. and Lo, W., "PCCW Now," *Harvard Business Review Case* (9-709-405), 2010.
- Han, Y., "Competition in the Smart TV Market," LG Business Insight, 2010, pp.2-15.
- International Television Expert Group, "IPTV Global Forecast (2008-2013)," <http://www.internationaltelevision.org/tv-market-data/global-iptv-forecast-2009-2013.html>, 2009.
- KCC, "A Research on The Convergence Service," Korea Communications Commission, May 2008.
- Kim, H. W., and Pan, S.L., "Towards a Process Model of Information Systems Implementation: The Case of Customer Relationship Management," *The DATA BASE for Advances in Information Systems*, Vol.37, No.1, 2006, pp.59-76.
- Kim, T., "IPTV Services," KyungHyang Daily News, http://news.khan.co.kr/kh_news/khan_art_view.html?artid=200704191753111&code=930100, 2007.04.19.
- Kim, T., "A Source of National Growth, IPTV," Digital Daily, <http://www.ddaily.co.kr/news/news-view.php?uid=41322>, 2008.08.27
- Koh, S., and Park, Y., "Media Convergence, IPTV Policy and Market," *ETRI Report*, Vol.23, No.2, 2008, pp.98-107.
- KT, IR Report, www.kt.co.kr, 2011.
- LightReading, "IPTV Industry and Business Overview," 2008.
- Lee, W. P., Yang, T. H., "Personalizing Information Appliances: A Multi-Agent Framework for TV Programme Recommendations," *Expert Systems with Applications*, Vol.25, No.3, 2003, pp.331-341.
- Marie, J., and Klym, N., "The Future of IPTV: Connected, Mobile, Personal and Social," *Multimedia Tools and Applications*, Vol.53, No.3, 2011, pp.519-532.
- Maisonneuve, J., Deschanel, M., Heiles, J., Li, W., Liu, H., Sharpe, R., and Wu, Y., "An Overview of IPTV Standards Development," *IEEE Transactions on Broadcasting*, Vol.55, No.2, 2009, pp.315-328.
- Mega TV, Company Website, www.tv.olleh.com, 2009.
- MRG, "IPTV Global Forecast - 2010 to 2014," 2010.
- O'Brien T., "Why South Korea is Winning the Broadband War," Switched, <http://www.switched.com/2010/04/02/why-south-korea-is-winning-the-broadband-war/>, 2010.04.22.
- Qook, Company Website, www.olleh.com, 2010.
- She, J., Hou, F., Ho, P. H., and Xie, L. L., "IPTV over WiMAX: Key Success Factors, Challenges, and Solutions," *IEEE Communications Magazine*, Vol.45,

- No.8, 2007, pp.87-93.
- Shin, D. H., "An Empirical Investigation of a Modified Technology Acceptance Model of IPTV," *Behaviour and Information Technology*, Vol.28, No.4, 2009, pp.361-372.
- Singh, H., Kwon, C.Y., Kim, S.S., Ngo, C., and Jose, S.E.S., "IPTV over WirelessLAN: Promises and Challenges," *Consumer Communications and Networking Conference*, 2008.
- Song, J., Jang, T., and Sohn, S.Y., "Conjoint Analysis for IPTV Service," *Expert Systems with Applications*, Vol.36, No.4, 2009, pp.7860-7864.
- Sterman, J.D., *Business Dynamics: Systems Thinking and Modeling of a Complex World*, New York: McGraw-Hill, 2000.
- Sterman, J.D., "System Dynamics Modeling: Tools for Learning in a Complex World," *California Management Review*, Vol.43, No.4, 2001, pp.8-25.
- Sutarno, J., Kankanhalli, A., Tay, J., Raman, K.S., and Tan, B., "Change Management in Interorganizational Systems for the Public," *Journal of Management Information Systems*, Vol.25, No.3, 2008-9, pp.133-175.
- Seong, H., "Growth in IPTV Business and Decrease in Cable TV," Chosun Daily News, <http://www.noew.chosun.com/site/data/html-dir/2010/04/08/2010040801933.html>, 2010.
- Thompson, G., and Chen, Y.-F.R., "IPTV: Reinventing Television in the Internet Age," *IEEE Internet Computing*, Vol.13, No.3, 2009, pp.11-14.
- Weniger, S., "User Adoption of IPTV: A Research Model." 23rd Bled eConference Trust: Implications for the Individual, *Enterprises and Society*, June 20-23, Bled, Slovenia, 2010.
- Wimax and Mobile, "South Korea Put out IPTV Here to Attract 3 Million Multi-Users in Two Years," Wimax and Mobile, <http://www.wimaxmobile.us/archives/872>. 2011.06.11.
- Yim, N. H., Kim, S. H., Kim, H. W., and Kwahk, K.Y., "Knowledge Based Decision Making on Higher Level Strategic Concerns: System Dynamics Approach," *Expert Systems with Applications*, Vol.27, No.1, 2004, pp.143-158.
- Yin, R.K., *Case Study Research Design and Methods*. London: Sage, 2003.

김희웅(Kim, Hee-Woong)



National University of Singapore에서 근무 후, 현재 연세대학교 정보 대학원에 재직 중이다. 주요 연구분야는 디지털 비즈니스와 정보시스템관리 및 활용이다. ISR, MIS Quarterly, Journal of Retailing, JAIS, JMIS, EJOR, IEEE TOEM 등에 논문이 게재되었다.

정지윤(Jung, Gi-Youn)



University of Toronto에서 학사학위 취득 후 연세대학교 국제대학원을 졸업하였다. 현재 지오시스 지마켓에서 근무 중이다. 연구 관심분야는 로열티프로그램, 전자상거래, 정보시스템, 공급망관리이다.

이지은(Lee, Ji-Eun)



(주)세정 마케팅팀 근무 후 연세대학교 정보대학원에 재학 중이다. 연구 관심분야는 소셜미디어마케팅, 온라인구전, 디지털서비스이다. International Conference of Decision Sciences Institute 2011, 한국비즈니스리뷰에 논문이 게재되었다.

<초록>

성공적인 국내 IPTV 비즈니스를 위한 탐색적 연구: 이슈 진단 및 제안

김희용 · 정지윤 · 이지은

인터넷 프로토콜 텔레비전(IPTV)은 통신 사업자에게 방송 및 TV콘텐츠 배급을 위한 새로운 시장을 진입하게 하였다. IPTV는 통신사업자의 주요 수익원이 될 것으로 예상하였으나, 실제 2009년 국내에 IPTV서비스가 도입된 이후 실제 성과는 기대에 부응하지 못하고 있는 실정이다. 본 연구에서는 사례연구방법을 적용하여 IPTV 비즈니스 수행과 관련된 요인들을 분석하고, 국내 IPTV 비즈니스 수행에 영향을 미치는 4가지 이슈를 진단하였다. 연구된 요인들을 바탕으로, 성공적인 IPTV의 비즈니스 성공을 증진시키기 위한 세가지 전략을 제시하였다. 본 연구에서는 IPTV 비즈니스의 이해를 진보시키고, 국내의 IPTV비즈니스를 향상시키기 위해 타 지역의 운영자들에게도 참고가 될 수 있는 IPTV 운영자들을 위한 전략을 제안하였다.

키워드: IPTV, IPTV 비즈니스 이슈, IPTV 성공 전략, 인과관계도

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