

## A Study of Media Business Innovation of Korea Telecom

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### **Abstract**

*The aim of this paper is to analyze Korea Telecom's media business. For this, a theoretical logic is approached and it analyzes KT's media business activities chronologically in conjunction with the related type of the business model innovation. KT's first stage of business model innovation is the launch of satellite TV, but it suffers from fierce competition, even if KT tries media activities like pseudo-interactivity and HD quality. KT's second stage of business innovation is IPTV. As KT has the problem of key channel sourcing, KT's third stage of business model innovation is the launch of hybrid platform focusing on analog cable TV market, which results in its earnings and pay TV "monopsony" in Korea. During this time, KT plans to prepare for new competition with global players like Google, Apple, and Netflix. In order to utilize external resources like User Generated Content (UGC), in fourth stage of business model innovation KT launches 'Open store' on VOD section of IPTV and gives software development toolkits (SDKs) to long tail content creators. Based on the hybrid platform, KT utilizes not only the technical advantages of digital TV, but also invests in UHD quality content and channels. It is the fifth stage of integrated business model. Lastly, KT utilizes its previous business models and leverages its strong bundling power in front door to maintain the co-competition (cooperation + competition) relationship with Over-The-Tops (OTTs).*

**Keywords:** *pay TV, IPTV, satellite TV, OTT*

### **1. Introduction**

Korean TV audiences remain relatively secure, as long as TV consumer inertia and the reliance on relationships with pay TV. However, rapid development of alternative distributions and the entry of new players is attracting the pay TV subscribers regardless of demographics. TV consumers begin to exercise more choices in the configuration of their TV and VODs, which will inevitably involve some cord-cutting or -shaving. As content is commoditized, competition is increasingly focusing on enhancements to the user experience (UX) and the content. Despite of such challenges, pay TV has a number of attributes working in its favor in Korea including the ability to optimize the TV UX with traditional value added services (VASs) like VOD, high & ultra-high definition (HD & UHD), personal video recorders (PVR), and multi-room access. However, pay TV operators find it difficult to adapt to rapidly evolving media landscape. Satellite TV lacks interactive TV equity, while IPTV struggles to achieve the critical mass of subscribers required to justify new investment in service development in competing with cable TVs.

In this TV industry landscape, the aim of this paper is to analyze Korea Telecom (KT)'s media business model innovation, because KT currently enjoys its media business performance with satellite TV launch in 2002, IPTV launch in 2008, new offering of hybrid, and open store market initiatives. For the analysis, a theoretical logic is the business model innovation framework. Based on this, this study will analyze KT's media

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business activities in conjunction with the related stages of the business model innovation framework.

## **2. Theoretical Background, Research Questions, and Methods**

### **2.1. Theoretical Background**

#### **1) Previous Literature Reviews about Media Business Innovation**

Today's media competition has gone beyond a single network and become a battle between traditional and new media services like OTT video. That means that the media network itself no longer has a crucial role in providing media services. Competitiveness in the media industry is more complicated in this market landscape. Moreover, the service provided to the end user is determined by the effectiveness and efficiency of the available media technologies and the cooperation of all related media companies in the value chain.

Theoretical and empirical evidence of life cycles indicates that the shake-out stage is a common phenomenon in the evolution of industry [1]. New theories have been proposed to explain the extent of the shake-out stage, one of which emphasized the role of precipitating events such as technological changes [2], because the new technology can offer low unit costs at a higher output level. Firms implementing new large-scale technologies can increase their output and produce more efficiently. Another group interprets shake-outs as a part of a gradual evolutionary process [3-4]. These theorists have emphasized the differences in firms' innovative capabilities and the importance of firm size in appropriating the return from innovation to explain how entry, exit, growth, and market structure evolve over an industry's life cycle.

Business innovations are related to products, services, and processes. The majority of product innovations are introduced in the expansion phase of the industry life cycle by all firms, whereas process innovations occurring in later phases, are more likely to originate from large size firms. Over the industry life cycle, the increase in competition forces firms to be more conscious of prices and costs, and the firms' innovative activities gradually shift from products to business process innovations. Process innovations increase firms' optimal scale and reduce production costs. The technological improvement compresses the profits of less efficient firms. In general, smaller firms that cannot imitate the new innovations will exit, generating a shake-out [5].

The premise that the nature of business models must be dynamic, as the current level of competition puts pressure on shifting from sales markets to customer markets [6] as a response to changing market environments, requires shifting from legacy to new innovative business models. In practice, companies have opted to use some levels of business model innovations as alternative approaches. It is a strategic change from product management to business process management.

In terms of the convergence business between broadcasting and telecommunications, Chan-Olmsted and Guo [7] surveys the practice of triple play strategy and examines the role of the industry environment and firm resources in influencing the adoption of bundling strategies. This study reveals that cable TV MSO and telcos engage in "mixed product bundling." There appears to be a relationship between having a more "focused" portfolio and succeeding when venturing outside of the core product area. Another study in mobile service research supports this result, suggesting that consumers are more likely to value a product that would enhance their consumption of the core product. In a bundling offering, services that reinforce the functionality of the core service are often regarded as more relevant [8].

Korean literature [9-10] have been found in the media business. Lee and Kim examined the sources of competitiveness in the Educational Broadcasting System (EBS) based on the resource-based view by conducting in-depth interviews with senior officials and

experts at EBS, and they found several unique resources including public character, long-term investment, and content that allow EBS to maintain its competitiveness among Korean broadcasting networks. Shin *et al.*, investigated the effects of perceived interactivity on the motivations and attitudes towards smart TV in Korea. This study supported the mediating role of perceived interactivity.

## 2. The Theory of Business Model Innovation

A business model innovation framework initiated by Henry Chesbrough was chosen to analyze the use case of KT's media business activities. It is a theoretical background for reasoning that sequences business models from basic to far more advanced models, and it is expected that through using it, companies can assess where their current business model stands in relation to its potential and take the appropriate next steps for advancement with regard to environmental factors such as the technology and regulations.

Chesbrough [11] introduced a six stage business model innovation process based on the sequence from the basic to the advanced. The first refers to the "undifferentiated" business model from other companies in the same market. In most static market, the vast majority of companies don't articulate a distinct business model. They compete on price and availability, and serve customers who buy on those criteria. Those utilizing the type 1 are selling commodities, and are doing so in ways that are no different from many other firms. They are caught in the "commodity trap."

The second stage refers to the "some differentiated" business model. Those companies using this have created some degree of differentiation in their products or services. This differentiation can lead to a different business model that allows a company to target customers other than those that buy simply in accordance with price and availability. This allows them to serve a different and less congested market segment from that served by the first stage counterpart. They may lack the resources and staying power to invest in the supporting innovations to sustain its differentiated position, which gives rise to the pattern of so-called "one hit wonders," where a company has a successful first product but is unable to follow up this success with additional, similarly successful products.

The third stage is a "segmented" business model where the company can compete in different segments simultaneously. More of the market is served and thus more profit is extracted from the market. The price-sensitive segment provides the volume base for high volume, low cost production, while the performance segment supplies high margins for the business. The firm's business model is more distinctive and profitable, which supports its ability to plan for its future via technology roadmaps. While its greater level of planning helps a third stage firm avoid one-hit wonder syndrome, problems still remain; this firm remains vulnerable to both any major new technical shift beyond the scope of their current business and innovation activities and to major shifts in the market. A mature, vertically integrated industrial company is an example of this type.

The fourth is the "externally aware" business model. A company starts to open itself to external ideas and technologies in the development and execution of its business. This makes a significantly greater set of resources available to such a company. The roadmaps of a type 4 firm provide a shopping list of needs within the firm for external ideas and technologies, and relationships with outsiders help identify external projects that fulfill some of these needs. This reduces the cost of serving the business, reduces the time it takes to get new offerings to market, and shares the risks of new products and processes with external parties. Internal roadmaps are shared frequently with suppliers and customers, which enables the firm to make much more systematic use of innovative ideas and technologies from suppliers and customers and allows them to plan their activities in concert with the innovative activities of the fourth stage firm. Companies that make a practice of sharing real-time information with their suppliers exemplify this approach.

The fifth refers to an “integrated” business model in which the company’s business model plays a key integrative role within the company. Suppliers and customers enjoy formalized institutional access to a fifth stage firm’s innovation process, and this access is reciprocated by suppliers and customers. They share their own roadmaps with the fifth stage firm, providing much better visibility for the customers’ future requirements. This type takes the time to understand the supply chain all the way back to the basic raw materials as it looks for technical shifts. This stage invests substantial resources into studying “the customer’s customer” to learn about deeper unmet needs. Some experimentation is conducted on alternative distribution channels, and companies that move from offering products to offering services and bring in external technologies to support this new approach are examples of stage five models.

Lastly, the sixth refers to the “platform leadership” business model, which is a more open and adaptive model than stage 5. This ability requires commitment to experimentation with more business model variants. This experimentation can take a number of different forms; some companies utilize corporate venture capital as a means of explore business models in small startup companies. Some utilize spin-offs and joint ventures as a means to commercialize technologies outside of their own business model. Some have created internal incubators to cultivate promising ideas that are not yet ready for high volume commercialization.

In stage 6 firms, key suppliers and customers become business partners and enter into relationships in which both technical and business risks can be shared. The business models of suppliers are integrated into the planning processes of the stage 6 firm. In turn, the firm integrates its business model into that of its key customers. Intel, Microsoft, and Wal-Mart are examples who lead the business ecosystem. One important capability that enables this business model throughout a value chain is a company’s ability to establish its technologies as the basis for a platform of innovation for that whole value chain. In this way, this company can attract other companies to invest resources, expanding the value of the platform without the platform maker having to provide extra investment.

## **2.2. Research Questions and mMethods**

### **1. Research Questions**

In the Korean pay TV market, KT is the clear leader with its own Satellite TV and IPTV success, having signed up almost 7 million subscribers by the end of November 2015. SK broadband was next with ca. 3 million, followed by LGU+. The technology evolution has promoted KT’s transformative and disruptive innovations that have significantly affected the future competitiveness of KT as a media company. KT launched its satellite TV in 2002 and IPTV in 2008. In particular, hybrid set top box technology suddenly made KT the leading media company that offers digital satellite TV and IPTV together. This study focuses on analyzing KT’s media business activities after each business model innovation process based on the business model innovation framework, and six research questions are generated as follows:

Question I. What are KT’s activities in an undifferentiated business model?

Question II. What are KT’s activities in a slightly differentiated business model?

Question III. What are KT’s activities in a segmented business model?

Question IV. What are KT’s activities in an externally aware business model?

Question V. What are KT’s activities in an integrated business model?

Question VI. What are KT’s activities in a platform leadership business model?

## **2) Research Methods**

First, the business model innovation framework initiated by Chesbrough is selected to analyze KT's media business innovation activities related to each of the six stages mentioned above. Then, the performance of KT's media business is analyzed. For that, this study searches through KT's financial information, company yearbook, press releases, analysis report by domestic research institutions such as FnGuide, Strabase, etc. For some media trends and Korean policies, it will search government sector research centers such as Korea Information Society Development Institute (KISDI) and KOrea Creative Content Agency (KOCCA). This paper also searches foreign research reports such as IDC, OVUM, and Gartner; lastly, it selects academic papers on the related site of Taylor & Francis ([www.tandfonline.com](http://www.tandfonline.com)) and papers from management schools such as Harvard, MIT, and Stanford.

## **3. Research Results**

### **3.1. Undifferentiated Business Model (2002~ )**

Skylife was selected as a satellite broadcaster in December 2000 and it started the commercial service in 2002 as a sole satellite TV, but its monopoly status has only been legally protected, for cable TV had already existed in the Korean market since 1995. At the end of 2008, before the coalition with KT, SkyLife claimed only 3.3% of the pay TV market share, as measured by sales. SkyLife's major sources of revenue were subscription, advertising, and channel offerings including transmission commissions from licensed home shopping channels. As of 2010, SkyLife generated 69.1%, 3.6%, and 11.1% of sales and KT, the largest shareholder, had expanded its ownership in SkyLife from 26.6% to 32.1%. Following its stake build-up in December, KT acquired redeemable, convertible preferred stocks (5.6 million) and convertible bonds (5.6 million common stocks when converted) from Dutch Savings Holdings, the second-largest shareholder at that time. KT converted all shares and CB bought into common stocks on March 14, 2012. SkyLife plans to issue 2.5 million new shares at its IPO and accordingly, KT's interest in SkyLife amounts to 50.2%. SkyLife went public on June 3, 2011.

During the first year after its launch in March 2002, SkyLife's total number of subscribers exceeded 500,000 in December 24, 2002 and in May 21, 2003, the first Dolby 5.1 surround sound capabilities were provided. In September 2003, HDTV services and the SkyHD channel were launched. This effort aimed to overcome the fierce competition with cable TV. It was undifferentiated business model innovation. SkyLife focused on screen quality and pseudo-interactivity, even if satellite TV has no return path. For that purpose, it launched a TV SMS service in October 28, 2003, the T-commerce service in November 1, 2003, and the total number of subscribers exceeded one million by the end of 2003. For the first time in Korea, SkyLife tried to provide interactive content such as interactive election broadcasting services in March 24, 2004, a TV ordering service in April 11, 2005, a TV Banking service in May 3, 2005, and a SkyPVR personal video recording service in November 20, 2006. SkyLife's total number of subscribers amounted to 1.96 million, resulting in a yearly profit of 3.6 billion won as of 2006. Despite its endless efforts, SkyLife has been caught in a "commodity trap" of not being able to find differentiation in content.

### **3.2. Some Differentiated Business Model (2005~)**

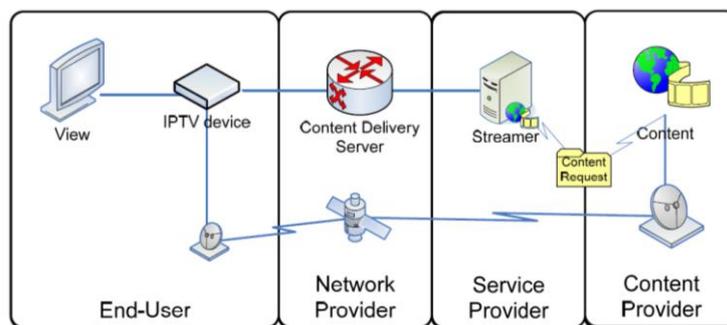
KT brought fixed-broadband-delivered IPTV to market in 2008. Before it, KT developed the network design for live streaming in 2005. With this, IPTV could pursue a "some differentiated" business model, but KT could not use this and launched iCOD in 2005 because of the regulatory vacuum. KT officially launched live channels in 2008.

IPTV is a “some differentiated” business model with this technological event with introducing Multicast for IPTV to distribute information to large audiences over an IP network. IP multicast refers to “a bandwidth-conserving technology that reduces traffic by simultaneously delivering a single stream of information to thousands of corporate recipients and homes, applications that take advantage of multicast include videoconferencing, corporate communications, distance learning, and distribution of software, stock quotes, and news” [12]. The multicast reduces the required number of servers, whereas unicast uses many servers that must process individual requests for streaming media content from thousands of users and send duplicated streams. KT can use this multicast for the channel. However, KT first launched an interactive content on demand (iCOD) in 2005. Therefore, “one hit wonder” effect was not fully utilized until KT launched live channels in Sep. 2008.

Even if KT were legally allowed to launch a channel service in 2008, it could not gain many of the popular channels from the leading program providers (PPs) in cable TV’s “monopsony” [13]. The main reason for this is that the PPs had strong relationships with cable TV Multiple System Operators (MSOs) that they fear they would be jeopardized if they supplied their channels to OllehTV, which left the IPTV at a crucial competitive disadvantage. Although KT could not build a substantial subscriber base, the service’s monthly average revenue per user (ARPU) is half that of the rival MSOs’ digital cable TV, because OllehTV could not offer anything like the channel lineup offered by the cable MSOs. KT confronted the same situation like SkyLife. As a result of the content blockage of the main PPs like CJ and Onmedia, KT had to think about how it could continue its endless fight with the cable TV MSOs. After deregulation, the cable TV operators started entering into the channel, data, and VoIP markets. Telecommunication and cable providers has almost the same position for triple and quadruple play, combining traditional services with new offerings such as TV, mobile TV, cloud based Digital Video Recorder services, and home entertainment.

### 3.3. Segmented Business Model (2009~)

As the TV competition applies pressure to shift from a network technology focused sales market to a more segmented “customer” market, a response to the changing market landscape requires shifting from legacy to innovative business models. In fact, it is an alternative approach to the delivery of linear TV accepted by ITU-T as of 2008, as Figure 2, shows.

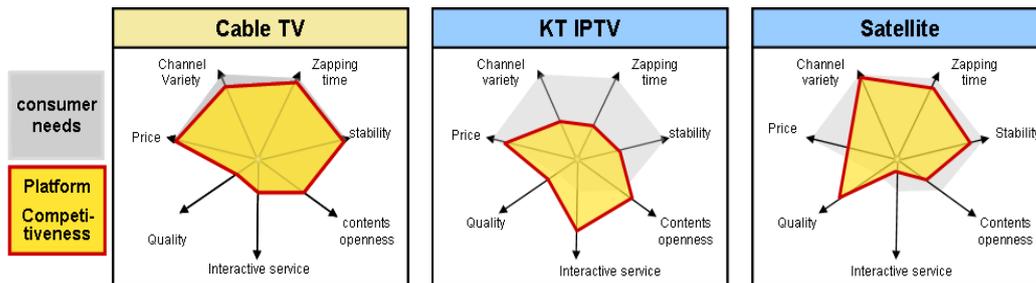


**Figure 1. Hybrid IPTV Concept (Online and off-Air TV Delivery)**

After the “one hit wonder” of multicasting, KT tried to find its next in service rather than in technology. KT views SkyLife as a valuable tool, for it has a much broader range of content than OllehTV. It can be used to sign up far more of the leading cable channels, as cable TV MSOs did not consider satellite TV to be such a big threat. Therefore, KT embarked on a hybrid approach to its pay TV business, using SkyLife as its provider of

live-broadcast channels via satellite TV and using OllehTV to provide its powerful VOD content and interactive applications via the residential broadband connection. The hybrid offering, “OllehTVSkylife (OTS)” was launched in late 2009.

It is based on consumer demand research. Channel variety and monthly subscription price were the top priorities when people select pay TV, and quality like HD and interactive services are important in the future. KT recognized that cable TV satisfied the current TV consumers’ needs best by serving more channels in a shorter zapping time than IPTV’s services. However, IPTV has its own strengths in interactive service and satellite TV has various live channels including HD. Since people focused on the number of channels with the cheapest price, cable TV had a 73.8% market share in pay TV, and KT considered combining the strengths of Satellite TV and IPTV. In late 2009, KT founded OTS.



**Figure 2. Competence Analysis of Pay TV Platforms as of Mid-2009**

By combining the advantages of IPTV and satellite TV, the coalition created a segmented market that cable TV could not deliver. In late 2009, Skylife had 163 channels, the largest channel volume in Korea, but could not offer real interactive services, whereas OllehTV had 85,000 VODs and had channel supply trouble. OTS took channels from satellite TV and VOD and interactivity services from IPTV. Figure 2, shows the competence analysis of the three pay TV platforms as of mid 2009.

For offering OTS, KT developed new STB delivery through the satellite and IP network simultaneously. With this, OTS subscribers can watch live channels delivered through satellite and use VODs with a dedicated broadband network. A bundled service of OTS with broadband and telephone service costs KRW32,000~40,000 with a three-year contract that excluded surtax. It provided VODs and a range of channels for KRW 35,000 per month with the standard package, in comparison to the lowest price cable TV, C&M’s KRW 33,900 per month with the same level package.

By the end of 2009, there were one million OTS subscribers and almost one year after the launch of OTS, the cable TV operators reported a 71,000 net decrease in subscriptions during the first quarter of 2011. However, Skylife posted a 124,000 net growth of OTS subscribers to 971,000 in the second quarter of 2011, raising the portion of OTS in the total subscribers to 32% by the end of 2011. With OTS, KT had taken a proactive stance to capture analog cable TV subscribers who were switching to digital, which helped boost its market share to approximately 15.4% at the end of 2011. In result, KT’s share in the IPTV market skyrocketed to 60% in nine months, one million new subscribers chose KT’s IPTV, and 30% of new subscribers chose OTS. The number of subscribers skyrocketed 878% from 87,000 at the end of 2009 to 848,000 by the first quarter of 2011.

Two years after the OTS launch, OllehTV and Skylife experienced growth and profitability enhancement, as the number of its OTS subscribers expanded. Skylife had plenty of room to improve its margin, since joint marketing with KT could reduce the subscriber acquisition cost (SAC). Although the OTS ARPU is less than that of Skylife, it can be offset by subscriber growth. OTS also helps lure broadband subscribers. Sales of OTS, jointly offered with KT’s OllehTV, seem to maximize the synergy between the two

pay TV platforms, and Skylife has had a beneficial effect on its own business. First, Skylife has an operating synergy with its own Skylife business. Even if Skylife's own subscribers had increased 9.4% from 2008 to 2009, its home shopping transmission revenue reflected its profits. It rose from KRW 19 billion in 2010 to KRW 30 billion in 2011. Before OTS, the per-subscriber home shopping transmission revenue for Skylife amounted to KRW 7,200 in comparison to KRW 25,000 for cable TV. Skylife's home shopping revenue per subscriber also increased with the total subscriber number increase. Second, the program cost and SAC respectively account for 27% and 17.8% of the total cost in 2010, but they are related to subscription growth. The program cost in 2010 represented 27% of the total sales in comparison to 27.8% in 2009. Third, Skylife could save on advertising and marketing and share the subscriber acquisition cost thanks to joint promotion with KT. Skylife could better control sales commissions and promotion costs per new subscriber. It spent KRW84,603 on sales commissions and KRW28,251 on promotions in 2010 to acquire each new subscriber, but these figures had dropped to KRW63,452 and KRW17,233 respectively by the end of 2011.

Prior to OTS, Skylife struggled against subscriber stagnation with 1 million subscribers and cost increases due to the oversaturated pay TV market. Even in fierce competition, it couldn't offer real interactive services because of the technological limitation of there being no return path network. The coalition made Skylife upgrade technologically with a bundling package that included broadband and VoIP. In joint marketing with KT, Skylife extended to serve more of the market and more subscribers by adopting the third stage. In this stage, KT and Skylife developed a synergistic effect to serve niche market segments. Skylife went public on June 2011, and had plenty of room to improve its margins. The coalition made KT a new powerful player in the pay TV market after the adoption of OTS. The number of the coalition's subscribers stands at 4.98 million, which amounted to 23% of the pay TV subscribers in the third quarter of 2011. Skylife's subscribers have grown to 3.19 million in the same period and the coalition enjoyed the largest market share in the pay TV market [14-15]. Even Skylife alone boasts the third largest subscriber number after CJ HelloVision and T-broad. OTS' break-even point (BEP) is 5.5 months in comparison to the 'satellite-only' BEP of 9.4 months, thanks to the marketing expense savings of joint marketing. OTS enjoys both earnings contributions such as a shorter time to BEP and broadband subscriber growth, revenue expansion, net subscriber market share growth, and lower cancellations, *etc.*

The switch from analog to digital broadcasting has thrown millions of analog cable TV homes into play, since cable TV MSOs have transferred approximately 4.2 million of their cable TV subscribers to digital services. Although larger MSOs have been able to throw significant resources at their digital services and are moving subscribers across from their core analog services, many other smaller cable TV operators lack the funding to move their subscribers into the digital era. The looming analog switch-off and the failure of cable TV MSOs to move their subscribers to digital services has created something of a perfect storm for KT in the pay TV market, providing it with the ability to migrate a substantial number of analog cable TV subscribers to its OTS service.

Moreover, KT has been working hard to widen the availability of Skylife to expand the availability of OTS, as Skylife is blocked from many apartment buildings because residents are either not allowed to install satellite dishes or the building's position does not enable it to receive satellite signals. KT has deployed new satellite-reception equipment into problem buildings to counteract this problem, enabling subscribers to receive Skylife without having to install their own dish. These business activities help expand the OTS service to segmented markets like analog subscribers and inhabitants of multi-dwelling units.

It was possible because KCC announced collective cable TV contract guidelines for apartment complexes to better protect consumer rights on 10 July, 2012. KCC recommended individual contracts and these new guidelines were positive for Skylife.

Therefore, the coalition began Intermediate Frequency (IF) installation for 7,200 apartment complexes (3.5 million households) nationwide in partnership with the KBS Digital 100% Foundation. Approximately 50% of those households agreed to have both terrestrial and satellite IF installed. As a result, Skylife gained 20% of the target households within a month after IF installation.

With the launch of OTS, KT enjoyed the doubling of its net broadband subscriber additions. KT's share of net additions reached 56% in 2010. Signups to fixed-line telephone services (PSTN + VoIP) posted positive growth from 2011 thanks to a falling churn rate. As a bundling effect, broadband and IPTV sales can offset shrinking fixed-line telephone service sales. Thanks to the remarkable market performance and operating synergy with the OTS, KT reached a leading position in the pay TV market and Skylife has experienced large growth potential, especially in home shopping and advertising sales, backed by the increase in Skylife's total subscriber base.

However, despite of such efforts, in the already saturated market structure of Korean pay TV industry, operators are confronting the limitations of segmentation and striving to provide various service portfolios such as premium video packages, interactive services, and UHD content. Market saturation is the point in the life cycle of a product where the maximum sales volume is reached for the product under the current level of demand. It has reached a maturity stage in the life cycle of the product.

### **3.4. Externally Aware Business Model (2010~)**

Although OTS is making good progress, there are still some clouds on the horizon, most notably the growing number of connected TVs being purchased in the country since 2010. According to Korean Communications Commission (KCC), smart media starts from OTT and is diversified with ICT convergence. The actual booming market of connected TVs, which are called smart TVs in Korea, presents a major challenge for the company because Korean bandwidth-rich broadband networks present a perfect delivery platform for global OTT providers. In Korea, smart TV refers to a TV set with integrated interactive Internet capabilities [16]. KT is worried that the arrival of smart TVs could lessen the prospects for its pay TV by allowing connected TV buyers to maintain a cheap Internet connection and access SVOD or TVOD services via OTT players. In fact, while Skylife fully enjoys the pay TV market performance, KT should think of the much bigger picture of an ICT convergence strategy based on a stabilized TV business backdrop with OTS.

In front of the drastic evolution into smart media driven by global Internet players such as Apple, Google, and Netflix, KT announced "OPEN IPTV" in February 2010. Unlike conventional IPTV, it makes all the resources available to content and program providers. This is the fourth stage of the business model innovation. KT opens its application programming interface (API) to content and application developers and supports them with a software development kit (SDK), because it is expected that the decline of pay TV subscriptions will accelerate as the new market of competitors diffuses. New competitors are entering the TV market and the net increase in cable TV subscribers turned negative in the third quarter of 2009. In 2010 alone, the coalition's pay TV subscribers enjoyed a net increase of 726,000. This surge in net growth is expected to continue, as KT further beats rivals on multiple fronts including pricing, bundling, content competitiveness, bandwidth, multi-screen, and personalized "OPEN IPTV". It is an appropriate approach and KT has acquired a video service provider, *Ustream* enabling the global distribution of video content provided by KT's media family like Skylife, OllehTV, Genie (music application), and Sidus FNH (movie production). KT also built a global application marketplace named OASIS in collaboration with China Mobile and NTT Docomo after acquiring the video search engine, *Enswers*, which is embedded in smart devices.

However, such efforts were not fully successful, because it was not related to the "open business model." This refers to the use of both internal and external sources to create

value and use both internal and external sources to capture a piece of that value. KT opened a market place rather than an open ecosystem in terms of an open business model. KT should invest in content to share risks and rewards with content providers.

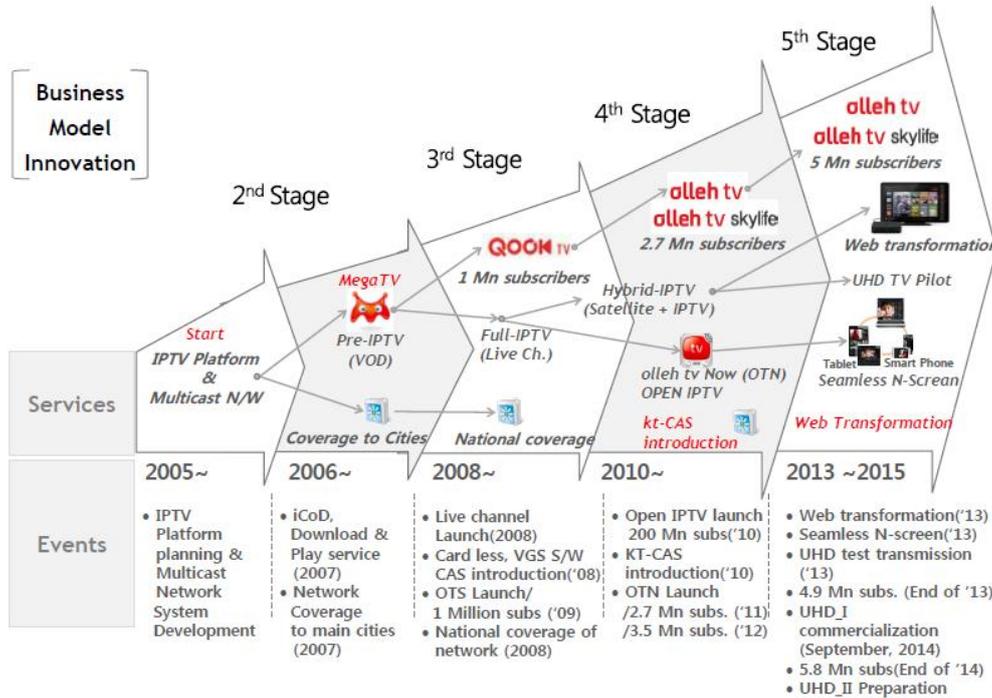
### **3.5. Integrated Business Model (2014~)**

Netflix launched SVOD in Korea in Jan. 2016, because Korea's high-bandwidth and high-ARPU market is a logical and attractive OTT marketplace. Meanwhile, KT imported the first original OTT drama content of Netflix, "House of Cards" to its IPTV VOD section to see the market response in 2014. This is "integrated" business model. External sources can be utilized to fuel KT's media business. KT considers that the next important external sources will be UHD content. Netflix also launched series three of "House of Cards" in UHD. This improvement in TV will gain momentum because price and technology are not real differentiation factors. Skylife has already offered the best HD quality, but this is not the real innovation factor.

There are some driving factors to make this offering a real innovation. First, sustaining the reputation of the best channel offerings is very important because digital broadcasting means, standard definition (SD) has a 704x480 or 640x480 resolution. HD broadcasting that offers 1,280x720 and 1,920x1,080 resolutions provides a 5x higher resolution than analog and a 3x higher resolution than DVD (SD digital). In that sense, Skylife has already a good reputation for offering HD (58% of its 160 channels are available in HD) [17]. Second, it is important to sustain this reputation by operating 3D channels. In 2012, Skylife already offered 150 hours of 3D content, which was increased from 70 hours in 2010. It is the only activity in Korea that provides 24 hour 3D channels. Third, co-marketing with 3DTV vendors is a good option to expand to the Internet market, because TV set purchasers will prefer connected TV devices. This helps Skylife expand to the broad Internet market in new relationships with non-traditional players such as consumer electronics (CE) and global OS, and many of whom may be future competitors. Lastly, the collaboration with HD/3D/UHD content production companies is the best "integrated" business activity. The content is the decision criteria for most customers when choosing a TV platform. As premium content owners become more powerful with alternative distribution channels, content differentiation becomes more difficult to maintain. KT and Skylife consider their portfolio through creative packaging and quality initiatives to offset the homogeneity of TV offerings. External sources could be utilized routinely to fuel the main 3D, HD, and UHD channel offerings, and it can allow internal resources for channel packaging to flow outside to production companies' value creation. Furthermore, KT can also be a system integrator (SI) for internal network knowhow and external content to accommodate consumers' increasingly personalized preferences. With SI, KT can offer cloud and content delivery network services to content providers.

### **3.6. Platform Leadership Business Model (2016~)**

KT offers the highest-quality bundling in Korea to protect and expand its share of the fixed, broadband, and mobile telephony markets. KT has steadily expanded the percentage of its subscribers who take bundled services in recent years by focusing on providing better quality bundled offerings. The proportion of subscribers taking bundles rose from 56.6% in the third quarter of 2010 to 62.2% in the same period of 2011 by starting the OTS. KT's performance from the second to fifth stage of business innovation is explicated in Figure 3.



**Figure 3. KT's Business Model Innovation Process in its Media Service (Second to Fifth Stages)**

A key part of KT's current media strategy is its multi-screen offering, through which it makes its content available on the move. KT has deployed considerable resources to stay ahead of SK Broadband and LGU+ in the multi-screen market and launched "OllehTVNow" (OTN; previous Olleh Media Player) on November 2010, which enabled KT subscribers to access video and music services. All of these can be stored in KT's "U-cloud" storage center. This platform is one of the best ways that KT can utilize the huge amount of fixed and mobile broadband bandwidth. At that time, KT had a 31% share of mobile subscriptions and had become the latest mobile operator to launch an LTE service in Korea. KT was the first to launch promotional LTE data-rollover plans, with a view to stimulating growth in LTE subscriptions in Korea.

The bundling had been the most important part of KT's strategies for many years, since the launch of IPTV. It brings a number of advantages from revenue and churn perspectives [18-19]. Ovum analyzed the churn rates of single services and bundles in 2014, and showed that the respective average churn rates of mobile, fixed voice, and broadband were 30, 26, 18% for single service, but those of dual-play, triple-play, quadruple-play were 15, 11, and 8% respectively in bundles. The lowest rate was all service bundling. The existing triple-play bundles only got the telecommunication service providers so far, but the number of people wishing to take a bundle will be saturated in the near future. At this point, KT considers creating new services to bundle. Adding mobile to the triple mix increases both the number of bundling options and the complexity, and is thus not an option for all players. Many telecom operators are therefore exploring smart media, home, and car as potential new elements to add into the bundle.

The notion of a smart home covers a variety of different opportunities within a range of industries. However, establishing multiple platforms within a single home is impractical, and no single player can control everything. This makes for a complicated ecosystem because players with different strategies and drivers have to learn to work together. KT has already developed a machine to machine (M2M)-based home networking service and now tries to be a platform player in an IoT-based home by offering "IoTmakers," which is

a product platform that invites developers with SDKs. IoT is a type of OTT for M2M services and OTT players understand that individual smart home solutions are difficult to sell. Most of these companies are start-up companies. KT considers working together with them to create more complete smart home solutions so they can help each other to stimulate home consumer demand. Google's acquisition of Nest for \$3.2 billion in January 2014 and the quick establishment of the "Work with Nest" developer program is a good lesson. This program has already attracted a range of companies including Mercedes, LIFX, Chamberlain, Logitech, Jawbone, Control4, and Crestron.

OTT players are in a similar situation to IoT ventures entering the home market. OTT at home refer to the delivery of home entertainment content over the Internet, and it can be offered by current booth of telecom and broadcasting players and new third-party players as well. Easier access to the Internet has served to boost demand for such services that are cheap and that let users access the home entertainment content of their choice. In terms of revenue sources, OTT can be categorized as SVODs (Netflix, Hulu) and advertising-based VODs (AVOD) (YouTube, Youku-Tudou). In Korea, OTT market is in its initial phase and the current players are Tving of CJ E&M (launched in 2010), Pooq of the coalition of terrestrial broadcasters (launched in 2011), and TVcast (launched in 2012) of Naver. Traffic to Naver's TVcast began to rise from 2015, which is attributable to terrestrial broadcasters ceasing to stream their content via YouTube (from the end of 2014) and TVcast's efforts to secure a greater supply of exclusive new content. In terms of page views (PVs) and video viewing hours, TVcast ranks number 2 (after YouTube) in Korea in the online video streaming segment. It began streaming web dramas in 2013, but some of its web dramas have become killer content since 2015. As OTT providers offer a favorable ad revenue percentage to producers, OTTs have the potential to be a major revenue source for content companies. In Korea, the average video ad cost per millennium (CPM) is KRW3,000~4,000, rising to more than KRW20,000 for killer content. Besides that, digital content has the potential to generate revenue from product placement (PPL) and license exports.

As the media revenue structure is shaken up by growing demand for killer TV content and the establishment of OTTs, content competitiveness has been more important. Therefore, KT considers trying OTT partnership in video, music, and social media areas to maintain platform leadership. In fact, according to Ovum report at the end of 2014, new deals are being made about messaging, but to a far more limited extent than in 2013, when they were the second-most-common form of agreement. The type of partnership that has seen the biggest growth is around video services, which went from only 8% of deals recorded in 2013 to 29% in 2014, making it the most popular category. The two most common areas in 2013 were social media and messaging, even if social messaging remains a key area, both categories saw a drop in the number of deals in 2014 when compared to 2013. Social networking dropped from 29% to 17% of deals, and messaging from 21% to 9%. The areas that saw the most new partnerships agreed in 2014 were related to content. Deals on music and video accounted for 55% of all the telecommunication operator and OTT partnerships recorded. The most influential OTTs were Netflix (14% of all deals in 2014), Deezer (13%), and Spotify (7%). This shift to OTT media illustrates the growing importance of content and the KT's acceptance of OTT is an opportunity rather than a threat. Older deals often focused on attracting consumers, but the emphasis is now on trying to monetize them better. This has led to more strategic types of partnership in which both partners hope to drive new revenue growth.

Netflix, the leading player with the platform leadership entered Korean market in 2016 and it is likely to deploy a strategy of competing with its peers based on content and services rather than price, and to partner with telecoms to ensure stable network access and home households. Recently, it teamed up with cable TV operator, C&M. KT has started to invest in content distribution solutions. KTH (67.1% owned by KT) specializes

in OTT, “Playy”, real time bidding solutions for advertiser and T-commerce. T-commerce allows TV watchers to browse through product information and complete purchase transactions using their remote control. Content-linked T-commerce gives TV viewers access to different products through channels, and KTH can have considerable synergy with the KT’s IPTV. KTH has teamed up with KBS-N to provide content-linked T-commerce since November 2015 and transmits it channel, KShopping, through most pay TV platforms including KT’s platform. KTH also provides its own OTT, “Playy” to the Samsung TV and VOD movies account for 80% of KTH’s content distribution sales. The stage of the “platform” is ideal, but KT has already started to benefit from the investments of its own subsidiaries in the platform. KT can not only induce investment internally, but also externally in suppliers, third parties, and customers.

#### 4. Summary and Conclusion

In summary, the bottom line of each of KT’s business model innovations is “more subscribers and better profitability” until the third stage, but each stage has its limitations such as commodity risks, technological challenges, and market saturation. From the fourth stage, KT’s strategy is more open business and focused on partnerships, but still has content leadership limitations (Figure 4).

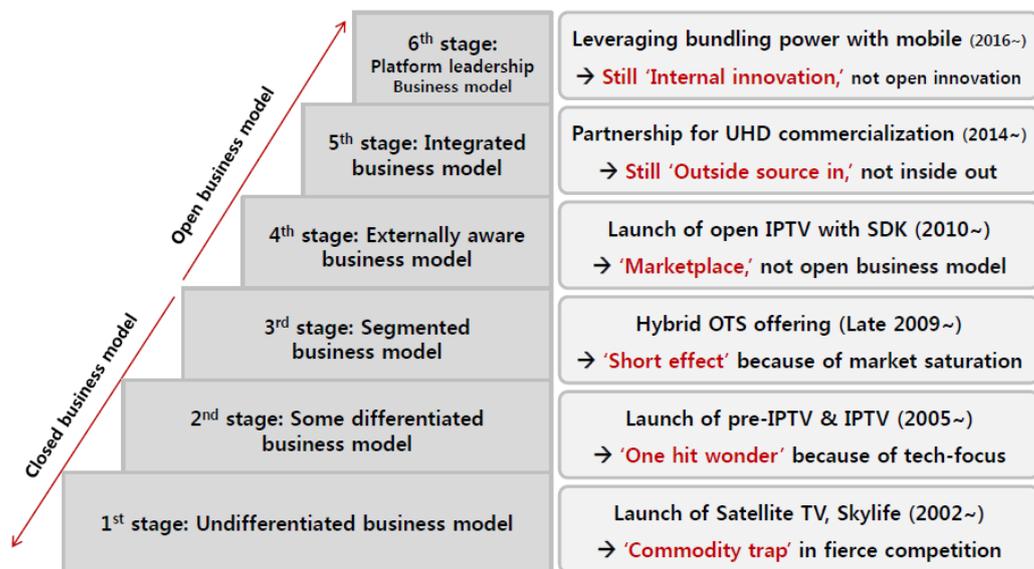


Figure 4. Summary of Research Results

With this study, it is known that KT’s business model innovation tends to be a mix of one and another with a collaboration method to beat the same enemy. However, the real limitation is that this mix is mostly related to the internal products and processes within the same corporate governance. KT’s business activities with Skylife are hybrid STB, IF offering, and digital TV, thanks to the OTS success, the coalition changed the pay TV market order and industry structure. It is helpful to take a collaboration model to extend the scope of consumers, even though the partner would become a competitor in the future, such as in offering UHD channels via Internet connected smart TVs. However, the reasoning behind being open to current and potential competitors is very rational, because the conventional pay TV market is saturated and it could be cord-cut by new emerging operators such as global OTT and smart TV platforms.

In conclusion, all circumstances imply that the growth potential of related services is somewhat limited, and that the next favorable business contexts arrive at each stage of

business model innovation is emphasized. In particular, thanks to the 3rd business model innovation of hybrid platforms, Skylife has remarkable market performance and operating synergy with the parent company, KT. Skylife is now well-positioned to lead the pay TV market with growth potential in home shopping commissions and advertising rates, backed by the steady increase in its total subscriber base.

This paper's primary value is that it analyzes a pay TV operator's competitive situation and the business model development based on the business model innovation. Furthermore, this case study provides a unique sequence view of several types of business model innovation from basic, not actually differentiated, to more valuable business models in recent business ecosystems.

The success of OTS is a neat demonstration to the telecoms and media industries that subscribers really do not care how they get their fix of pay TV. The coalition is not interested in the benefits of IPTV over satellite TV, it just wants good quality service at an attractive price. Skylife enables KT to drive far deeper and more effectively into the pay TV market than it ever could with its underpowered IPTV platform because of its greater content lineup, though it does provide an effective partner for Skylife with its 100,000 title VOD library, which is unmatched by its rivals. As result, the OTS service is causing a major headache for cable TV operators, and the result is that leading cable TV MSO affiliated PPs (MPP: Multiple PP) revert to their tried-and-trusted tactic of denying content rights to Skylife if the company continues to be a major thorn in cable TV MSOs' sides in their heartland urban markets.

However, this paper has the limitation of not mentioning the sixth stage business model in KT's business activities. At least in the Korean pay TV market with its very low subscription fees, pay TV STBs still remain the primary way of delivering TV services to households and this is unlikely to change within the next few years. Therefore, KT's current trials offering OPEN IPTV, OllehTV mobile, UHD partnership, and integration efforts in home entertainment businesses are not really using both sides of internal and external sources to create value and capture a piece of that value. It is expected that OTT delivery will be growing significantly faster than expected now, and it is assumed that new hybrid OTT STBs such as the previous alliance of Google TV and the Dish Network will take a large share of the consumer market for the delivery of OTT content to households with compatible broadband connections such as Wireless Fidelity (WiFi). It is recommended that further case studies should be performed on the business model innovation of hybrid OTT STBs.

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