Abstract

DTH is a new technology and it has matured to its full potential in different parts of the world. There are many application has been found every day for exploitation of benefits of DTH. The word DTH is synonymous with transmission of digital video channel to home subscribers using a small dish antenna. The DTH utilizes a technology which enables a home to receive high speed internet broadband access data communication, voice over internet protocol (IP) telephony and much more using an open standard Digital Video Broadcasting (DVB) technology. In this paper we discuss that how DTH is related with the cable and also about the role of DTH in rural and urban areas. DTH platforms worldwide are focusing on increasing ARPU (Average Revenue Per User) by pushing premium services, the NSR report predicts that global DTH industry revenues will grow from $70 billion in July 2010 just $100 billion in 10 years, i.e., by 2018.

Keywords

DTH Industry in India, Relationship Between DTH and Cable, DTH Future

I. Introduction

DTH is defined as the reception of satellite programs with a personal dish in an individual home. And an individual Set Top Box (STB) empowering you to pick & choose you bundles of choice and pay for what you watch. Direct to home connects urban, rural and remote areas of the country and provides desire information communication, education and entertainment at the click of a button.

There are five major components involved in a Direct To Home (DTH) satellite system: the programming source, the broadcast center, the satellite, the satellite dish and the receiver. This technology is originally referred to as Direct Broadcast Satellite (DBS) technology and India is one of the biggest DTH service providers in the world. Though DBS and DTH present the same services to the consumers, there are some differences in the technical specifications. While DBS is used for transmitting signals from satellites at a particular frequency band [the band differs in each country], DTH is used for transmitting signals over a wide range of frequencies [normal frequencies including the KU and KA band]. The satellites used for the transmission of the DTH signals are not part of any international planned frequency band. DBS has changed its plans over the past few years so as to include new countries and also modify their mode of transmission from analog to digital. But DTH is more famous for its services in both the analog and digital services which includes both audio and video signals. The dishes used for this service is also very small and view numerous channels. On the user’s end, receiving dishes can be as small as 45 cm in diameter [9].

II. How Does DTH Work?

DTH network consists of a broadcasting center, satellites, encoders, multiplexers, modulators and DTH receivers. A DTH service provider has to lease Ku-band transponders from the satellite. The encoder converts the audio, video and data signals into the digital format and the multiplexer mixes these signals. At the user end, there will be a small dish antenna and set-top boxes to decode and view numerous channels. On the user’s end, receiving dishes can be as small as 45 cm in diameter [9].

Fig. 1: Main Parameter of DTH

III. DTH Features and Technology

A. MPEG-2 v/s MPEG-4

Old players use MPEG-2 technology while new players are using MPEG-4 technology which enables players to broadcast high quality video content along with more channels in the same bandwidth. MPEG4 offers a better compression/quality ratio for transmitted videos than MPEG2.

B. DVB-S v/s DVB-S2

DVB-S is the original Digital Video broadcasting forward error coding and modulation standard for satellite television. Digital Video Broadcasting - Satellite - Second Generation (DVBS2) is an enhanced specification to replace the DVB-S standard; this development of DVB-S2 coincided with the introduction of HDTV and H.264 (MPEG-4 AVC) video codecs. The DVD-S2 system allows transmission of one or more MPEG-2 or MPEG-4 audio and video streams whereas DVD-S was designed for MPEG-2.

Airtel Digital, Tata Sky D2H and Videocon D2H support DVB-S2 technology. Channel publish content in High Definition (HD) or Standard Definition - HD content might not be captured by DTH if they do not support DVB-S2.

C. IPTV and Recording

IPTV (Internet Protocol Television) is TV service which is delivered using IP (Internet Protocol) technology, which is the same technology used in Internet Services. In this service the TV channels are encoded in IP format and delivered to TV using a Set Top Box. The IP TV Service also includes Video on Demand

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Services which is is similar to watching Video CD’s / DVD’s using a VCD / DVD player. Movies, Instructional Videos and other content shall be available to customers in the IP TV Services. If you are unable to watch a daily soap for a week because you are busy, you see all five episodes back-to-back on the weekend with the recordings available. All this requires enormous amounts of bandwidth. IPTV is currently available in India mainly through BSNL and MTNL. These companies are providing a cross between cable and DTH.

D. Pause and Record
Tata Sky Plus gives facility of pausing, rewinding and recording features in their service. This costs more than their regular DTH service for setup box and installation.

E. Movies on Demand
Movies are available on what is called Video-On-Demand (VOD), some new movie releases can be bought and watched at the comfort of your home.

F. Interactive TV
Interactive TV provides additional features and services like Tuitions, Shopping, and Stories for your child, cooking shows, astrology and more. You should check these out for anything that might be useful.

G. Multilingual User Interface
Most DTH offer user interfaces in multiple languages which enable anyone non-conversant in English also to easily browse and use the services. DTH services provide multiple users to select and store channels of their interest for ease in viewing and shuffling channels.

H. Channel Lock, Parental Lock, Channel Hide
There are features by which you can lock or hide the channels that you do not want. You can also use parental locks to prevent children from viewing unwanted channels.

I. Services Centre’s
This is a very important factor especially if you do not want to go through any pain during the installation or any issue process. The service should be reasonable and you should check with neighbors’ or acquaintances for a feedback of the service provider [11].

IV. DTH industry in India
India is very popular emerging market for DTH services with a large television viewing population. Specially, the number of DTH subscribers in India is forecasted to grow at a compound annual growth rate of 38.9 percent from 2007 to 2012. Today, DTH services are getting popularity in India because of direct to home technology, which is emerging as the leading digital TV transmission platform in India. **DTH services in India are very flexible and on time.** DTH providers here are listed here:- Airtel, Videocon, Tata sky, Sun direct, Dish TV. These are few service providers in India [1].

A. DTH Scenario in India
Direct-to-Home (DTH) companies are busy seeking for innovative VAS (value-added services)-based model to fetch the demands of the new target audience consisting of social networking freaks, housewives, students, farmers, kids and businessmen. So, while Tata Sky has introduced a device to turn the iPhone and iPad into a universal remote for television to help the subscriber network and watch TV at the same time, Airtel Digital has made the offering to farmers in rural areas. Most of these services are free of cost -- for now. The industry analysts feel that designing a new VAS-based innovation model is the need of the hour for the service providers, to stay a step ahead of their competitors. The DTH subscriber base in India increased by 134.44% in a period of two years. As on March, 35.56 million DTH subscribers are registered with private service providers. December 2010 encountered a 21.21% increase in terms of subscriber base which is the maximum for the given time period. The average growth rate has been 12.99%. Major DTH service providers include Dish TV, Airtel, Reliance, Tata Sky, Videocon and Sun Direct TV.

**Fig. 2: Market Share of DTH [14]**

<table>
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<tr>
<th>Market share of DTH players</th>
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<tr>
<td>Dish TV</td>
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**B. Recent Developments**
1. Dish TV added 725,000 new subscribers in the quarter ended June 30, 2011, taking the total number of gross subscribers to 11.2 million and net subscribers to 8.9 million.
2. At the end of Q1FY12, Reliance Digital TV has 3.7 million subscribers, with an 11% market share in the Indian DTH market.
3. Videocon d2h claims to have reached a subscriber base of 4 million.
4. Tata Sky claims a subscriber base of over 75 lakh or 7.5 million users (as of August).
5. Airtel Digital TV reported a subscriber base of 6.26 million, at the end of Q1FY12 [3-4].

**Fig. 3: Growth of DTH Subscribers’ Base Per Annum**

V. Relationship Between DTH and Cable
DTH, TV channels will be transmitted from the satellite to a small dish antenna mounted on the window or rooftop of the subscriber’s home. So the broadcaster directly connects to the user DTH can also reach the remotest of areas since it does away with the intermediate step of cable and wires (cables) that come to your home. DTH offer digital superior quality picture against cable TV...
today which is most analog. DTH is an encrypted transmission that travels to the consumer directly through a satellite. DTH transmission is received directly by the consumer at his end through a small dish antenna. The encrypted transmission is decoded by an individual STB at your home. The other advantage of DTH is the availability of satellite broadcast in rural and semi-urban areas lying of cable is difficult. Due to digital compression techniques, many more niche channels are available than cannot be provided by cable operators. DTH also offers digital quality signals which do not degrade the picture or sound quality. It also offers interactive channels and program guides with customers having the choice to block out programming which they consider undesirable [5].

According to the ‘TAM Annual Universe Update –2010’ study, the pay-DTH has almost doubled in rural India, as compared to 2008. As per a study known as. Digital connection involves reception of TV signals through a set-top-box, (STB), either through DTH or through cable. The DTH service is growing fastest and has been higher across platforms, whether it is metros or even smaller towns. Both urban and rural digital growth is mainly coming from pay-DTH; the growth rate of the same is specifically higher in rural areas. The share of pay-DTH among all DTH households has been 86% for urban compared to 64% for rural areas. But if we compare the statistics in 2008, the growth in the digital segment in the rural sector was 34%, in 2009 it was 49% and in 2010 it was 64%. What prevails over everything else is that DTH has been observed as the growth provider for digital TV in both strata, whereas cable STB. The rural market has been responding fantastically compared to the urban one,” said the TAM spokesperson. According to the statistics provided by the report, Maharashtra, Gujarat, Uttar Pradesh, Madhya Pradesh, and Delhi have performed better with a higher growth rate than the all-India figures for TV and C&S (cable and satellite). According to the demographic composition studied by TAM on the digital platform, non-metros have seen a significant digital growth, considering that all-India digital growth has been around 11%. TV, C&S and digital segments grew by 9%, 11% and 54% respectively per year, as per the TAM report, where growth has been primarily driven by non-metro markets. TAM’s spokesperson added, “What the Indian landscape is seeing is the co-existence of C&S and digital on the same platform, which is marvelous.” According to industry sources, the DTH story has been fairly optimistic, as the industry added about 12 million customers in the first five years but in the last one year the industry has added 10 million more customers. Therefore, today the total DTH market is around 22 million. Airtel, which has around 2.5 million customers for its DTH service, said that rural India is an important market, “It (the rural market) has played a substantial role in our growth in DTH services in the last one year or so. Increasingly, we find that over 60% of our customers come from outside the top 300 towns in India [7].

VI. DTH in Rural and Urban Area

Direct-to-Home (DTH) is penetrating rural India in greater measure as the share of pay-DTH has almost doubled in rural India, as compared to 2008. As per a study known as. Digital connection involves reception of TV signals through a set-top-box, (STB), either through DTH or through cable. The DTH service is growing fastest and has been higher across platforms, whether it is metros or even smaller towns. Both urban and rural digital growth is mainly coming from pay-DTH; the growth rate of the same is specifically higher in rural areas. The share of pay-DTH among all DTH households has been 86% for urban compared to 64% for rural areas. But if we compare the statistics in 2008, the growth in the digital segment in the rural sector was 34%, in 2009 it was 49% and in 2010 it was 64%. What prevails over everything else is that DTH has been observed as the growth provider for digital TV in both strata, whereas cable STB. The rural market has been responding fantastically compared to the urban one,” said the TAM spokesperson. According to the statistics provided by the report, Maharashtra, Gujarat, Uttar Pradesh, Madhya Pradesh, and Delhi have performed better with a higher growth rate than the all-India figures for TV and C&S (cable and satellite). According to the demographic composition studied by TAM on the digital platform, non-metros have seen a significant digital growth, considering that all-India digital growth has been around 11%. TV, C&S and digital segments grew by 9%, 11% and 54% respectively per year, as per the TAM report, where growth has been primarily driven by non-metro markets. TAM’s spokesperson added, “What the Indian landscape is seeing is the co-existence of C&S and digital on the same platform, which is marvelous.” According to industry sources, the DTH story has been fairly optimistic, as the industry added about 12 million customers in the first five years but in the last one year the industry has added 10 million more customers. Therefore, today the total DTH market is around 22 million. Airtel, which has around 2.5 million customers for its DTH service, said that rural India is an important market, “It (the rural market) has played a substantial role in our growth in DTH services in the last one year or so. Increasingly, we find that over 60% of our customers come from outside the top 300 towns in India [7].
VII. DTH Future

The most significant and disturbing prediction is financial. Even though DTH platforms worldwide are focusing on increasing ARPU (Average Revenue Per User) by pushing premium services, the NSR report predicts that global DTH industry revenues will grow from $70 billion in July 2010 just $100 billion in 10 years, i.e., by 2018. The reports point towards market fragmentation, and increased competition, from other sectors such as Cable TV, but also IPTV, and the internet particularly in advanced markets such as the USA and France. However, while, 99 DTH operators were beaming over 13,800 channels at the July of 2010, it is predicted that more than 21,000 channels will be beamed from DTH platforms, by end 2018.

A. Sunny Side up for DTH Firms

1. DTH Subscriptions Grow by Million, Every Month

Government policy is also expected to favor further DTH growth. Digitization will lead to hefty rise in revenues for broadcasters as it will eliminate carriage fees they pay to cable TV operators, substantially cutting cost of operations of running channels. At present, carriage and placement fees corner nearly 20% of the total cost of running a channel. The government is also pushing for a hike in FDI limit in DTH from 49% to 74%. For DTH, the growth was even faster between July and September 2010 with 5.6 million additions in three months [12].

2. DTH and Digital Cable Will Co-Exist

Most viewers seem to prefer Direct-To-Home (DTH) to view television. However, cable (digital) will still be an important broadcast mode. This observation has been made by a FICCI-KPMG report on media and entertainment. The number of DTH households in the country is set to go up from 37 million in 2011 to 86 million by 2016. Digital cable, on the other hand, would see its subscriber base explode from 6 million to 75 million over the same period [13].

B. Challenges Faced by the Industry

- Policy and Regulation
- Lack of Exclusive Content
- Cap on Foreign Investment
- Cap on Cable Company/ Broadcaster Investment
- The Rule of “Must Carry”
- Interoperability issues.
- Non-availability of Transponders

C. Environment Analysis- Porter’s Model

Let us apply the porter’s five forces model in the context of DTH industry. Our observations are categorized in to the five forces as below:

- Threat of Substitutes
- Terrestrial Television
- Cable TV
- Internet Protocol Television (IPTV)
- Bargaining Power of Suppliers [8, 10]

VIII. Conclusion

With the existing regulatory restrictions, increasing content cost and lack of transponders, DTH terrain appears too steep to climb. With content differentiations not happenings in the near future, companies have to differentiate only at the services and cost levels. The increasing consumer awareness and expectations also make it difficult to satisfy the consumer. India being the home of entertainment hungry populace, volumes play the role of a growth driver. Attractively priced and feature rich package targeted at the critical mass is the mantra for sustaining the growth. Today’s customer is sensitive to price as well as to quality. A prudent DTH operator should also take a serious look at the substitutes and complements. There should diversity and creates his presence in the entire spectrum of broadcasting and telecommunication services. The final winner cannot be a pure DTH player but a convergent player who offers all in one to the value-conscious, price sensitive Indian consumer. The DTH industry is very bright in the future years.

References


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