



DTH & Digital Cable TV: Leading Distribution Platforms of TV Content

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ABSTRACT *In India, television has been around for quite a long time and has become an integral part of everybody's lives as people depend on it for entertainment, knowledge, and communication. The world of television has seen phenomenal changes due to constantly evolving technology. The advent of digital TV has given people the option of selecting a platform of their choice for viewing the television to get the best viewing experience. The two predominant digital TV broadcast platforms existing today in India are digital cable TV and direct to home (DTH). Cable TV is one of the earliest systems to be deployed worldwide against the conventional terrestrial system, which started with the analog system. Signals from various satellites are received at the end of multi-system operators (MSOs) through multiple dish antennae. These signals are transmitted to subscriber homes via coaxial cables through authorized distributors and local cable operators (LCOs) according to area divisions. With digital cable TV, the user all needs to do are install a set top box (STB) at home in order to enjoy the luxury of choosing from a host of channels.*

Introduction

Direct to home technology refers to the satellite television broadcasting process, which is actually intended for home reception. This technology is originally referred to as direct broadcast satellite (DBS) technology. The technology was developed for competing with the local cable TV distribution services by providing higher quality satellite signals with more number of channels.

In short, DTH refers to the reception of satellite signals on a TV with a personal dish in an individual home. The satellites that are used for this purpose is geostationary satellites. The satellites compress the signals digitally, encrypt them and then are beamed from high-powered geostationary satellites. They are received by dishes that are given to the DTH consumers by DTH providers.

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 in size. When it comes to commercial use, DBS is known for its service providing a group of free channels that are allowed for its targeted country.

DTH in India

India is one of the biggest DTH service providers in the world. The requirement is very high because of the high population and the increased number of viewers. The low cost of DTH when compared to other local cable providers is also one main reason for this substantial growth.

The idea of DTH was first provided to India in 1996. But it was not approved then, as there were concerns about national security. But the laws were changed by the year 2000 and thus DTH was allowed. According to the new rule, DTH providers are required to set up new stations within 12 months of getting the license. The cost of the license is almost \$2.15 million in India with a validity of 10 years for renewal. The latest reports suggest that almost 25% of the total Indian population use this facility while others use local TV connections.

Some of the common DTH providers in India are:

1. TATA Sky
2. BIG TV
3. Sun Direct DTH
4. Dish TV
5. Airtel DTH
6. Videocon DTH

How DTH (Direct to Home) Technology Works?

For a DTH network to be transmitted and received, the following components are needed. Broadcasting Centre, Satellites, Encoders, Multiplexers Modulators, DTH receivers. It must be noted the channels that are broadcasted from the broadcasting center have not created by the DTH providers. The DTH providers pay other companies like HBO, Sony MAX and so on for the right to broadcast their channel to the DTH consumers through satellite. Thus the DTH provider acts as a mediator or broker between the consumers and the programed channels.

The broadcast center is the main part of the whole system. It is from the broadcast station that the signals are sent to the satellites to be broadcasted. The broadcast station receives the signals from various program channels. The satellite receives the signal from the broadcast center and compresses the signals and makes them suitable for re-transmission to the ground.

The DTH providers give dish receivers for the viewers to receive the signal from the satellites. There may be one or multiple satellites that send the signals at the same time.

The receiver receives the signal from them and is passed on to the Set Top Box [STB] receiver in the viewer's house.

The STB receiver changes the signal in a form suitable for our television and then passes it on to our TV

Digital Cable Television (CATV)

Cable TV is also known as CATV (community antenna television). In addition to bringing television programs to those millions of people throughout the world who are connected to a community antenna, cable TV will likely become a popular way to interact with the World Wide Web and other new forms of multimedia information and entertainment services.

How Cable TV (CATV) Work?

TV Network companies beam their TV shows via satellites. Cable operators (or *multi-system operators (MSO)*) install head-ends (control centers for cable network) for aggregation of TV channels received from different satellites. They can mix this with content received from other sources such as broadband connections, local channels, etc., to form a bouquet of channels and then distribute to homes using coaxial cable network installed either underground or hung over utility poles. To access the cable television services, one needs to subscribe to a cable company, which will then connect a simple coaxial cable from the wall outlet to the television sets. One has to then program his cable ready television sets to receive the cable channels.

In CATV, the signals are sent through cables and not through the air, thus doing away with "line of sight" requirement and enabling much better quality of reception. Trees, buildings, or other hindrances do not disturb the television signals that come via cable.

India now has over 500 TV channels covering all the main languages spoken in the nation. Dig cable Networks (India), Hathway Cable and Data Com, InusInd Media and Communications (InCable), and DEN Networks are some of the notable cable service providers in India.

The two key terms in the cable digitization mandate are digitization and addressability. Digitization will solve the problem of capacity constraint and will enable introduction of value added services (viz., pay per view, time shifted video, personal video recorder, near video on demand, radio services, broadband, etc.) Addressability will ensure choice of channels to the consumer and transparency in business transactions and will build stakeholder confidence in the sector. It will also effectively address the issue of piracy.

DTH & Digital Cable TV Strengths:

1.Superb video quality and stereo-like audio: In DTH, the signal is received using a dish antenna installed in the user's premises and transferred to an STB inside viewers home that is connected to the TV. In DTH, the broadcaster directly controls the content and the viewer can pay and watch the channels/bouquets of his choice. The perks of DVD-quality signal and stereo sound are implicitly available to the viewer on this platform. The most remarkable advantage of DTH is that a particular service provider is available to the viewer anywhere across India, unlike in the case of digital cable TV.

2.Availability of local channels: Viewers have the option to catch up live on local events and programs. It is an expensive proposition for DTH.

3.Geographical mobility: If a DTH subscriber is relocating, he will just pick up his dish and STB to re-install in the new house. In case of cable TV, the subscriber will have to check the availability of service of the same digital cable TV service provider in that particular area. Interoperability can be offered among DTH service providers, whereas it is very difficult to do so in case of cable TV.

4.Ease of installation: Since cable TV does not involve a dish antenna set-up, but just an STB, the installation is easier as compared to DTH. The installation cost of DTH is much higher as compared to that of digital cable TV.

5.Personalized service: Cable TV service has been traditionally personal since the LCOs and customer know each other for years and reside in the same locality. Hence, the response time is very little. In the case of DTH, the service is call center-based and process-driven and mostly outsourced thereby taking its own time. Digital cable TV also uses call centers for registering service complaints, but the service provision is still being routed through LCOs and will continue to remain so, giving an edge over DTH.

6.Number of video channels: In case of digital cable TV, the availability of bandwidth (capacity) is huge; hence, the number of video channels that can be carried and added is more. On the other hand, DTH has a capacity constraint due to which it is not easy for it to add more video channels. More HD and 3D video channels can be accommodated easily by digital cable TV than by DTH.

7.Real-time interactivity: Digital cable TV can offer real-time interactivity to its subscribers, while in case of DTH it is not possible, thus allowing cable TV to provide many more services than DTH.

8.Broadband Internet services: It is possible to provide broadband Internet services along with digital cable TV but difficult in case of DTH.

9.Sensitivity to weather: DTH is prone to service disruptions in rainy season, whereas cable TV is resilient in the same situation.

No. of subscribers



DTH & Digital Cable Subscribers in India Source: FICCI-KPMG Indian Media and Entertainment Report 2015.

The Ministry of Information and Broadcasting (MIB) extended the deadlines for Phases III and IV of Digital Addressable System (DAS) implementation to 31 December 2015 and 31 December 2016, respectively. DAS rollout in Phases III and IV is expected to be more challenging on account of the larger geographical spread, funding requirements and low potential for ARPU. DTH is expected to take the larger share of analog subscribers in Phases III

and IV than they did in Phases I and II given the advantage of DTH in sparsely populated areas and also due to their finances being healthier than those of MSOs. We expect a delay of 12 months in the rollout of STBs in Phases III and IV each and expect rollout in Phase IV to be largely complete by December 2017. We believe that the government to be intolerant of any further delay; however, we will not be surprised, if this gets pushed further to December 2018. The benefits of digitization in these phases in terms of improved addressability and ARPU is expected to take much longer. At the end of 2019, we expect Digital cable subs and DTH subscribers to be in the ratio of 55:45, with 94 million digital cable subscribers and 76 million DTH subscribers by 2019.

Conclusion

This paper described how DTH & Digital Cable TV works and explains some background on who is involved and what is currently happening in bringing DTH in India. DTH has made the hopes of the people of rural areas to come true. DTH or digital cable TV. The choice will ultimately depend on practical requirement of an individual subscriber. The fight will continue and boil down to value-added services provided by respective service providers. While both have their own advantages and disadvantages, digital cable TV will certainly rule the roost.

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