DIRECT TO HOME TELEVISION SCOPE IN PAKISTAN

Cable TV & Direct to Home Television Scope in Pakistan

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Abstract

We are breathing in the age of technology, where it is getting advance by every clock mark. Direct to home (DTH) is also most emergent technology of the era. The Direct to Home (DTH) is replacing the Digital cable network system rapidly. This paper is theoretical and giving scope of DTH in Pakistan along with short analysis of DTH in neighbor countries. The DTH has a lot of advantages over conventional digital cable network. We also conduct a survey to know the interest of Pakistani population in DTH TV or pay TV.

*Index Terms*—CATV, PTV, MUX, DVB, NTM, STM, and PEMRA

Objective

The main objective of this document is to make acknowledged the user about quality and standardized entertainment of the DTH TV and recognized about the DTH TV market constraint in Pakistan, And also to motivate the investors to put in Pakistan for this industry.
Introduction
As it name refers “Direct to Home” is for end user without any association of cable operators. It directly relates end user to a service provider like mobile operators in Pakistan. Many valuable services like internet, Multimedia TV and E-commerce can be provided through DTH. The services pack is totally customized as per user demand. The main mark of DTH is Multimedia/TV, to provide high quality TV to the customer.

History Of Television In Pakistan
In Pakistan the Government television channel Pakistan Television (PTV) started its first black & white transmission in 26 November 1964, and make an advancement to color transmission in 1976. In 1991-92 PTV takes a valuable step and started its satellite transmission. In 1999 this satellite transmission converts into digital satellite broadcasting technology. Now PTV has 6 on-air channels. [1]

The private broadcasting era starts in 1990 when Network Television Marketing (NTM) starts its transmission and former name of its channel was Shalimar Television Network (STN). It was a joint project of government and private sector, in which government holds 45% share. [2] Pakistan Electronics Media Regularity Authority (PEMRA) came into being in 2002, and resulting the revolutionary change in broadcast domain of the country.

History of CATV
The history of community Antenna Television is very interesting. Johan Walson was the man who introduces the CATV first time in 1948. Walson have a sale store of TV sets in Mahanoy city, Pennsylvania where he sale the TV sets. This is a hilly area where reception of TV signals
was poor. So he was facing a lot of problem regarding the sale of TV set. One day he installs an antenna on a mountain near the city and lays a coaxial cable from antenna to his shop. Now he got good picture on his TV set. That day, in June 1948 was first CATV setup displayed on the shop of Johan Walson. He also laid a cable from shop to the home of his costumer to satisfy about reception of TV set. To provide good quality reception of TV signal to his costumer he added an amplifier in cable and charged 100$ for installation and 2$ per month. [3]

_History of Cable TV in Pakistan_

The Cable TV CATV introduced in Karachi in early 80’s. This was a small scale network in basement of a building, providing only 3 to 5 channels including PTV. In 1990 many broadcast channels started Satellite transmission which made the cable TV more attractive for the viewers. With the passage of time cable TV spreads to many cities, but all these cable operators were not registered by the government of Pakistan. [4]

_Cable TV Network_

There are two types of CATV networks are providing services in Pakistan. One is analog CATV network and other is Digital CATV network. Both are discussed below.

A. _Analog CATV network_

In this network operators obtain the channels from different sources like satellite TV, terrestrial TV and from CD/DVD VCR player in form of AV signal and feed these signals to the modulators. Modulator provides RF modulated signal at its output. The RF output of all modulators is combined in RF mixer and provide to an amplifier which transmit this signal on a coaxial cable.
This is a very simple type of network. This network can expend within a limited area. If the expansion of network is increased the quality will be low and cost will be increase. The main problem of this network is maintenance of quality.

Fig-1: Analog Cable Network

B. Digital CATV

In digital CATV network all setup is same like in analog CATV setup. The block diagram is shown (figure 2). The operator collects programs from different sources like Satellite Channels
live local TV channels, or CD/DVD player. They achieve the signals through Digital satellite Receiver or cameras or CD/DVD player in Audio Video form. This AV signal is then provided to the MPEG-Encoders which converts these signals in MPEG-2 format, these encoders are also called MPEG encoders. All encoder’s outputs are combined in a MUX, this multiplexer single output is provided to Modulator and then one amplifier/converter is used to transmit this signal on optical fiber. All these encoders Multiplexer and Modulators are controlled and monitored through a NMS (Network Management System).

At user end a set top box is used to convert this signal in RF form to view the signal on television set. This set top box has some important functions like online recording video games and request for VOD.
Fig-2: Digital Cable Network [5]

C. DTH Network

The DTH service provider collects the TV programs from different sources for example: satellite news, entertainment and sport channels or terrestrial channels, combine these channels to make a package and transmits this channel package to their user via satellite link. This transmission is digital and encrypted so user receives superb video result. This is a conditional access transmission. There is another option for user and that is video on demand. The main difference in this setup is Program monitoring system. This is system where contents of programs, coming from different sources are checked according to policy of that organization.

This transmission is DVB-S transmission in MPEG-2/4 compression format so user can get a DVD quality video. The service provider takes the satellite transponder on lease for different type of packages. The uplinks station is like DVB-S earth station, as shown in figure-3. The NMS is used for monitoring, network controlling, encryption and link management purpose. At user end a small dish antenna and set top box is used to receive the signal. This set top box has some important functions like online recording video games and request for VOD.
Advantages of DTH over CATV

- The core advantage of the DTH is that you will pay only for those channels which you have subscribed; it is not like CATV that you are getting bulk of unwanted channels.
- The second advantage of DTH is picture and audio quality of a channel,
- DTH provides program recording options for subscriber.
• DTH is not much expensive as compared to CATV because it costs according to the number of channels subscribe by the user.
• For live matches DTH provides selectivity option to view matches from different camera angle.
• Coverage on remote areas where wired transmission is not possible.
• Main and big advantage of DTH-TV entertainment is for whole family. All the programs which are for viewers, fully sensored.

II. DTH In Asian Countries

In India there are 110 million TV viewer in which 68 million has the facility of cable and satellite systems. The penetration of DTH subscriber is 5% of total cable and satellite user. In 2010 the DTH subscriber was 10 million.

According to a research report of Barat Book, “India DTH market forecast of 2012” the numbers of DTH subscriber is forecasted to grow at a CAGR around 29% during 2009 to 2012. [7] Same as in other Asian countries like Indonesia, Vietnam, Philippine are also big markets of DTH-TV.

Emerging markets-
per capita GDP Growth [8].

![Graph showing DTH penetration in Asian Countries](image)
According to this report the currently market size is 3.5 million and Compound average growth rate is 29%. In 2011 this is now 5.915 million and in 2012 it will be 7.7 million. The graph of DTH connection in India per year in million is shown below.

There is a couple of DTH provider in Nepal along with Multimedia/TV service they are providing online banking, online shopping and video on demand. In Sri Lanka and Bangladesh DTH services are also available. Bangladesh is also moving toward DTH-TV.

**III. Reasons to preference of DTH in Pakistan**

There is one immense reason of selecting the DTH TV in Pakistan is censoring of channel contents. In Pakistan the peoples are more religious than any other reign of word. In Pakistan the family setup is very typical and peoples like to watch TV with their families for entertainment, and in cable TV there is no arrangement of program censoring, While DTH service provider block vulgar contents of the program and viewer can watch decent program. Another aspect of DTH preference for Pakistani which is Distance Learning Education through TV and this would be the most approachable way to literate the nation even to the remote areas.
In Pakistan only Virtual University is using this mode of education. The university has 4 TV channels but there are very small numbers of cable operator who are providing these channels to their user.

We conduct a survey through [9] website to evaluate the attention of local population. We put some question and following results.

What is most important for you?
1-Optimum features, justified cost
2-limited features, high cost
3-limited features, low cost
4-variety features, high cost
What type of population involve in this survey?

![Occupation Chart]

IV. DTH market in Pakistan

At this time cable TV network is a big revenue generating market. DTH would be a threat for this market. PEMRA and other government regulatory authorities facing problem to standardize the cable operators due to their monopoly, as there is no DTH service provider in Pakistan. Investor can capture the market as a pioneer of this industry in Pakistan.

V. Jobs and Revenue Estimation for Pakistan

Any technical services providing company required two types of staff one is management and other is technical. In DTH services providing first of all required investment which will be available by involving the banks and other financing company. So first of all management staff
is required in which some departments will involved like human resources department, administration department, account and finance department, marketing department, planning department. For these departments the man power will be the peoples of that country where this project will be implemented. On technical side some technical man power will be required under technical management like installation engineers, civil engineers, electrical engineers, network engineers, satellite engineers, RF engineers, uplink and downlink engineers, recording engineers, programs managers, transmission program planners, and a lot of technicians, electrician, and helpers etc. When company will start its services then in market a number of dealers and sellers will be required across the country.

In India with the increment in sale of DTH the manufacture industry of STB is also increase. The growth of this industry also has a great impact on counter economy.
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