INDUSTRY ANALYSIS - DTH INDUSTRY IN INDIA

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Introduction

With the Indian economy booming at a GDP growth rate of 9.4%, there is a sense of growth prevailing everywhere. The average Indian’s disposable income and purchasing power has risen to never before levels. The Indian Entertainment & Media industry is also not far behind. It is currently estimated at a worth of Rs. 450 billion with a CAGR of 18% over the next 5 years. Terms which were alien to Indians like DTH, Digital Cable, IPTV are suddenly finding presence in the country’s journals.

A report[1] predicts that India would overtake Japan as Asia’s largest DTH by next year and be the Asia's leading cable market by 2010 and the most profitable pay-TV market by 2015. This growth presents a lot of interesting scenarios. In this paper, we shall analyze the challenges and opportunities present for the DTH industry within the Indian context. We would look at the history of Indian broadcasting followed by looking at the current DTH market. An environment analysis would be done using the porter’s five forces model and the various challenges faced by the industry would be identified. Finally we would look at the possible suggestions taking a long term view.

History of Indian Broadcasting

The history of Indian Television dates back to the launch of Doordarshan, the country’s national television network in 1959. Television was then seen as a luxury item that could be afforded only by a chosen few. The transmission was in Black & White. The 9th Asian games which were held in 1982 in the country’s capital New Delhi heralded the mark of color television broadcast in India.

In 1991, Indian economy was liberalized from the License Raj and major initiatives like inviting foreign direct investment, deregulation of domestic businesses emerged. This lead to the influx of foreign channels like Star TV and creation of domestic satellite channels like Sun TV and Zee TV. This virtually destroyed the monopoly held by Doordarshan.

In 1992, the Cable TV industry started. If one could list down the revolutions that happened in Indian entertainment industry, Cable TV would top the list. It has literally changed the way the average Indian watches the Television. The number of channels increased suddenly from 2 and the real entertainment started. Every city in India had a complex web of co-axial cables running through the streets with a new breed of entrepreneurs called as *cablewallahs* or Local Cable Operator (LCO) taking in charge of distribution. The film industry was shocked by this sudden growth and there were even organized protests for calling off the Cable TV industry. The industry survived but the sudden onset of growth made it as a disorganized sector. There were simply too many cable operators in the country. Carrying new channels on the existing

[1] Aseambankers research report, Press Trust of India, Apr 20, 2007

infrastructure required new investments which the operators were reluctant to make. Also the Channels had a difficult time in getting its returns as the existing system was a non-addressable and the operators could simply give a reduced number of subscribers to amass profit.

This lead to the emergence of a new breed of firms called as Multi System Operators (MSO) who had heavy financial muscles to make capital investments. They liaised between the cable operator and the Channels. MSOs provide the feed to the local operators for a fee. Soon the industry consolidated with each city having one or two MSOs operating. Most of the channels are carried by all the MSOs but sometimes certain channels are shown only on a specific MSO network. The MSO industry has become highly monopolistic which warrants government participation[2] to ensure competition. Current estimates show that there are 6000 MSOs operating in the country feeding 60000 LCOs.

In 1995, Government felt the need of regulation in Cable TV and passed the Cable TV networks (Regulation) Act. This was also the time when the state owned Doordarshan and All India Radio came under a new holding called as Prasar Bharati to give them enough autonomy.

Even with the basic regulation in place, there were lots of distribution issues with Cable TV. The LCOs reported a lower number of connections where as the broadcasters demanded a higher rate. MSOs were finding it difficult to operate under these conditions. This lead to an amendment of the Cable TV networks (Regulation) Act in 2002 to provide Conditional Access System (CAS). With CAS, the last mile distribution could be addressable with accuracy and digitalization of broadcast was also possible. CAS was rolled out in 2003 starting from Chennai and later to parts of Delhi, Mumbai and Kolkata.

On the DTH front, the United Front government had issued a ban on use of Ku band transmission. After a change of government, the ban got lifted finally in 2001 and TRAI issued the guidelines for operating DTH. Country's first private DTH license was awarded to Dish TV in 2003 which started operations in 2004. Prasar Bharati also started its product DD-Direct+.

In 2007, TRAI proposed a new initiative by name "Headend-In-The-Sky (HITS)"[3] model as an alternative to the existing cable distribution. Instead of the MSOs providing the bundle, there will be a single HITS operator who will prepare the bundle of channels and beam it to the Headend in the satellite. The LCOs can receive this digitalized bundle and deliver to the individual homes. With HITS, country wide implementation of CAS becomes instantaneous and cost-effective. This benefits both the broadcasters and the customers by ensuring Addressability, Better quality of

[2] For example, Government of Tamilnadu has decided to float a state owned MSO to ensure competition.
[3] Consultation paper on Headend-In-The-Sky(HITS), TRAI, Jul 24 2007

service and increased number of channels. Another emerging trend is the IPTV which is yet to be regulated and one can expect lot of action in this sector.

Current Players

The current players in DTH industry are

1. DD-Direct+ of Prasar Bharati, comprising of 33 FTA channels and 12 All India Radio channels
2. Dish TV of ZEE group
3. Tata Sky – the Joint venture between Tata and Rupert murdoch's Sky TV

A recent survey done using the Television Audience Measurement (TAM) puts DD-Direct+ with 3.5 million homes at top with Dish TV having 2.1 million homes and Tata Sky capturing1 million homes.

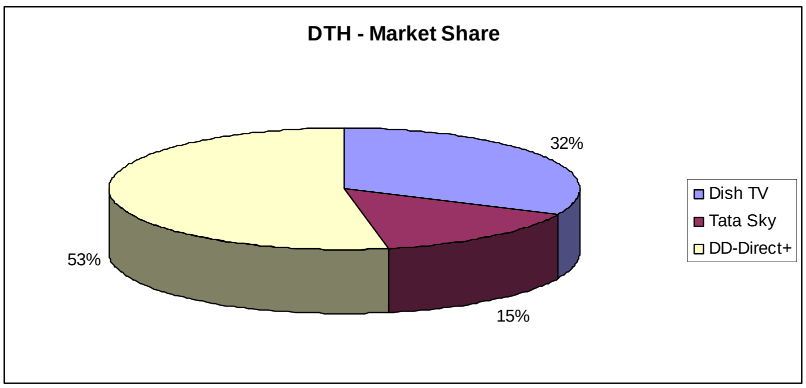

Figure 1 DTH Market Share. source: TAM Peoplemeter survey

The following companies have either the license/Letter of Intent or applied for the license to operate DTH services

1. Sun Direct of Sun Network
2. Reliance Blue Magic from Reliance ADAG
3. Bharti Telemedia
4. Videocon Industries

Environment Analysis – Porter's model

Let us apply the Porter's five forces model in the context of DTH industry. Our observations are categorized into the five forces as below.

Threat of Substitutes

DTH faces stiff competition from the Terrestrial, Cable and IPTV. As per the industry estimates, there are 120 million TV homes, of which 71 million are served by cable and around 6 million served by DTH with the remaining taken by terrestrial transmission. As IPTV is a new entrant, there is not much data on its subscriber base.

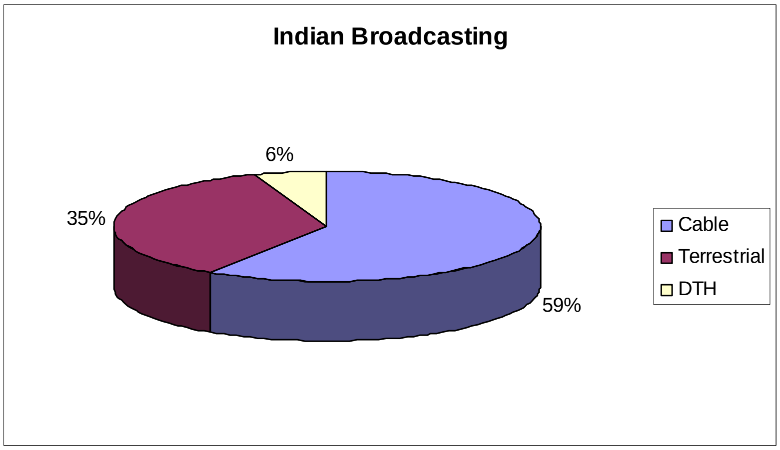

Figure 2 Indian Broadcasting Pie

Terrestrial Television

Doordarshan is the world's largest terrestrial broadcaster with over 1400 terrestrial TV transmitters. The reach provided by this route is phenomenal with Doordarshan covering 88% of India's geographical area. Covering the remaining 12% area required substantial capital investments which does not outweigh the benefits. The transmission was done originally in Analog mode but beginning from 2002, Doordarshan has partnered with BBC resources – the consulting wing of BBC, in offering digital terrestrial television. The transmission could be received using a low cost Yagi antenna.

Even with the wide reach and low cost approach that is possible with this technology, due to the lack of attractive content, we do not see it as a formidable threat.

Cable TV

Cable TV currently operates in 2 modes viz. Through CAS covering cities such as Chennai, Parts of Delhi, Mumbai and Kolkata, and through Non-addressable system in the rest of the country. As seen in Fig 2, Cable TV enjoys a big share in comparison with other mediums.

In case of CAS controlled areas, the subscriber has to either buy or rent the Set Top Box (STB) to see the pay channels. Of course, he can also do without that and see the

70 odd Free-to-Air (FTA) Channels. On the other hand, in areas where non-addressable system is used, all the channels are available without the necessity of any separate receiver. Irrespective of whether CAS or not, the subscriber can comfortably see the channels by paying anywhere between Rs.100 to Rs.300 per month depending on the place where he lives.

Due to the phenomenal reach of the Cable TV, it poses a serious threat to the growth of DTH industry. Also there would be resistance from the LCOs lobby as DTH totally displaces them.

Internet Protocol Television (IPTV)

IPTV is a service where television signals are digitally sent over the telecommunications line. It is often presented as a bouquet of Video (IPTV), Audio (Telephone) and Data (Broadband Internet) services. With widespread adoption of Broadband in the country and the growing techno savvy population, IPTV has a potential to become a huge success. Telecom companies such as BSNL and MTNL have spotted these earnings potential and have already started with trial implementation in cities like Bangalore and Kolkata. Companies like Reliance Communications and Bharti Airtel are also planning to follow soon.

IPTV takes the interactivity to a newer level. In regular mediums, all the channels are pushed to the consumer regardless of his preference. IPTV encourages a two-way request-response model where the consumer chooses the program he wants to view. Right now this medium is totally unregulated and hence there is a chance for customers being taken for a ride. Cable companies are urging the TRAI to issue a consultation paper process to include IPTV under the aegis of Cable TV act.

Even if strict regulations are enforced on, we see IPTV as a considerable threat to DTH in Urban and Semi Urban areas where broadband has made its mark.

Bargaining Power of Suppliers

DTH industry relies on three major supplies: Customer premise equipment (CPE) comprising of the Satellite Dish, Set Top Box with the necessary Access Card, the Ku[4] band transponders in the orbiting satellites and content. With India set to overtake Japan as Asia's largest DTH by next year[5], the bargaining power of Indian DTH operators with CPE suppliers have been steadily increasing.

However, the availability of transponders is increasingly becoming difficult. The KU band transponder is generally provided by Astrix, the commercial wing of ISRO

[4] Kurtz-under band, Electromagnetic spectrum in the Microwave frequencies ranging from 12 to 18 GHz
[5] Aseambankers research report, Press Trust of India, Apr 20, 2007

either through its own satellites or by leasing transponders from suppliers like Panamsat, LMI ABS and Singapore's ST1. With only two domestic satellite launches between 2007 and 2010 and increasing DTH players, Astrix is in a better position to use DTH as its cash cow for the next 5 to 10 years[6]. Also the crash of INSAT 4C[7] last year and Dutch SES New skies' NSS-8[8] in the beginning of this year has worsened the situation of DTH players.

As there is not much of regulation particularly in terms of channel pricing, acquiring content from the broadcasters is also difficult. DTH vendors are at the mercy of the broadcasters.

Bargaining Power of Buyers

We would take the entire broadcasting industry for analyzing the bargaining power of the buyers. With enough options to choose both from the point of alternate mediums like Cable, IPTV and Terrestrial broadcast and from the point of increasing DTH operators, the consumer is at his will to decide.

Customers will continue to have a high bargaining power until DTH platforms try to differentiate them as superior players with better content and clarity.

Inter Firm Rivalry

With 3 operational players and 4 players in the queue, the Inter firm rivalry is quite high. The competition from state owned DD-Direct to private players is negligible from the content point of view as the number of channels offered by DD-Direct is very limited. However, DD-Direct does not charge any monthly subscription fee which poses a threat to the private players who charge monthly subscription charges.

Between Dish TV and Tata Sky there is an intense rivalry exhibited by price wars and discount schemes offered to new connections. Being the First mover, Dish TV had price advantage in both the STB as well as in procuring the transponders. On the other hand, Tata Sky claims its STB offers superior DVD quality video due to its advanced STB.

While Dish TV is planning to spend Rs. 850 crores[9] over the next 3 years, the rival Tata Sky is willing to spend Rs.2000 crores[10] over the medium term. The companies have also set ambitious targets with Dish TV aiming to reach 4.5 million subscribers in the next 18 to 20 months while Tata Sky aiming for 8 million subscribers by 2012.

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[6] Transponder shortage looms over DTH biz, Hindu Business Line, Jul 27, 2007
[7] INSAT-4C LOSS, Hindu Business Line, Jul 12, 2006
[8] Satellite crash hits DTH Rollout, Financial Express. Feb 24, 2007
[9] Dish TV to invest Rs 800 Crore in 3 Years, Economic Times. Aug 13, 2007
[10] Tatas aim for sky in DTH war, plan Rs 2,000 cr spend, Hindustan Times, Aug 08, 2007

Tata Sky has been quite aggressive in the past by giving 1 million connections within 12 months where as Dish TV nearly took 20 months to reach the same.

Table 1 DTH vendors - Prices charged[11]

#	Provider	Initial Charges (In Rs)	Monthly Charges (In Rs.)	Number of Channels
1	DD-Direct+	3000	0	33 TV + 12 Radio
2	Dish TV	3150	100	85 TV
3	Tata Sky	3999	160	41 TV + 8 Radio

Other than the price wars and intense competition in increasing customer base, there is also a competition at acquiring the content. Dish TV, Tata Sky and Sun Direct are part of big groups that also have popular bouquet of channels like Zee, Star and Sun respectively. The current set of litigations can be grouped into two categories: The channels indirectly refuse content for DTH operators by charging exorbitantly or mandating that all the channels of their bouquet to be transmitted when the vendor is already capacity constrained.

The Telecom Disputes Settlement and Appellate Tribunal (TDSAT) is the legal body which administers such claims. Some of the interesting litigations are presented in the below table.

Table 2 Litigations before TDSAT[12]

Parties	Verdict
M/s ASC Enterprises Vs. M/s Star India Pvt Limited (Dish TV Vs Tata Sky)	50 % of the rates being charged for cable platform be made applicable to DTH platform
M/S Tata Sky Ltd Vs Zee Turner Ltd (Tata Sky Vs Dish TV)	Same as above; But subsequent failure in payment by Tata Sky may lead to potential blackout[13] of Zee channels in Tata Sky platform
M/s Tata Sky Ltd Vs Sun TV Ltd (Tata Sky Vs Sun Direct)	Out of court settlement where Star and Sun channels would be traded for each other's DTH platform

These kind of interconnection issues affect the expansion plans of DTH providers. For example, while Tata Sky acquires 2,600 subscribers per day, the contribution from South India accounts only for 200 subscribers. This is mainly attributed to the non availability of popular regional content of Sun TV channels under Tata Sky platform.

Unfortunately TRAI neither regulates the pricing of channels nor the channels that must be carried for DTH platform. However, TRAI has recently started a consultation process which would address these concerns in the near future.

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[11] Prices and Channels have been taken only for Basic package from vendor's website.
[12] Consultation Paper on Issues relating to DTH, TRAI, Mar 02, 2007
[13] Zee TV may be blacked out for Tata Sky subscribers, Business Standard, Jul 28, 2007

Threat of New entrants

With already 7 players in the DTH space, threat of new entrants is relatively low. There is already enough competition which will discourage new firms to enter this business. While getting a license is relatively easy, the barriers to entry are high when it comes to pricing of CPE and getting the required transponders. There is a definite First mover advantage which can be inferred from Table 1, by comparing prices of Dish TV vs. Tata Sky. So any new entrant will face a high cost when it comes to equipment and transponders.

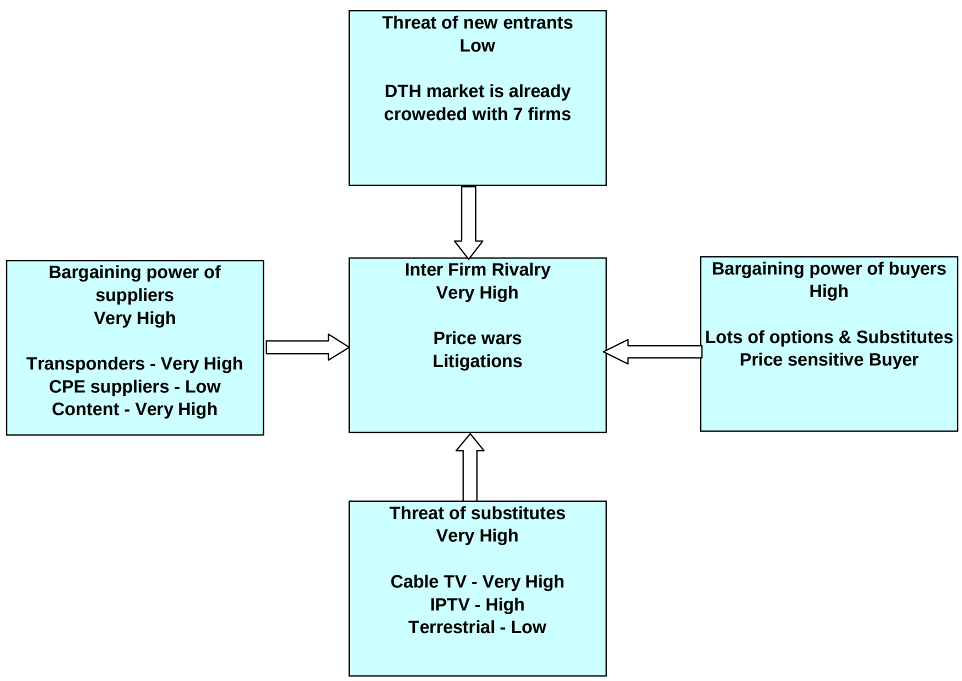

Figure 3 DTH Industry – Five Forces Model

Challenges Faced by the Industry

Policy and Regulation

Being a nascent industry, there are lots of teething issues with the current policy framework and the way it is regulated in reality. Some of the notable challenges faced are as below:

Lack of exclusive content

In the global DTH market, competition is mostly on providing niche content. In India, TRAI does not allow a broadcaster to offer content exclusively to a specific player. Hence content differentiation as a USP is not possible currently in the Indian scenario. TRAI has clearly indicated that exclusivity can be provided only when DTH market matures and there is perfect competition in the market place. But DTH operators are feeling that without content differentiation, the competition can only be on price which may even cannibalize the industry.

The rule of "Must Carry"

DTH operator is obliged to carry all the channels provided by every broadcaster on a non-discriminatory basis. However, with the capacity constraints in place, this is not feasible. So in cases, where the operator is willing to broadcast only the popular channels, the broadcasters either deny giving the entire bouquet or charge prices for the complete bouquet. The litigations showed in Table 2 shows the extent of problems cropping up due to this clause.

Operators like Dish who have more transponders and operators who have a cable company backing like Sun Direct are supporting the "Must carry" clause where as transponder-scarce new entrants like Bharti Airtel are against this clause[14].

Cap on Foreign Investment

As per the current policy, the total foreign equity including FDI/NRI/OCB/FII cannot exceed 49% and within that FDI component cannot exceed 20%. This would reduce the interest of foreign investors as they cannot get a controlling stake in the company in spite of a heavy investment. On the contrary, up to 74% of foreign equity, with no limit on FDI, is allowed in the Cable industry.

With DTH being a capital intensive industry, these limitations hurt the expansion plans of the cash constrained operators.

Cap on Cable Company/Broadcaster Investment

In order to ensure a fair competition, the current regulations restrict the cap on Broadcasting/Cable company investment in the DTH venture to 20% and also prevent the DTH firm to hold more than 20% in a Broadcasting/Cable company. As one can see, DTH operators are able to overcome this challenge by spinning of new companies. But removing this rule would reduce the bureaucracy involved and also reduce the content cost for an operator due to the synergies created between him and the Broadcaster.

Interoperability issues

[14] TRAI spanner in DTH content exclusivity plan, Economic Times, Aug 15, 2007

TRAI mandates an open architecture for STBs to ensure technical interoperability but in reality this is not being implemented. However, with increasing consumer awareness, the dilution of this rule would soon be corrected. In addition, in the recent consultation paper, TRAI also wants to try out the commercial interoperability (The ability to return a purchased STB or lease a STB) route. Although this is good from the consumer point of view, DTH operators cannot build a switching cost for the end user.

Non-availability of Transponders

A Ku transponder can be used for 12 to 20 channels depending on the compression (MPEG 2 or MPEG 4) technology used in the satellite. A DTH operator will at least need 5 to 8 transponders to compete in the market.

Right now, ISRO has INSAT 4A and INSAT 4B in the orbit with 12 Ku transponders each. The next in the line is INSAT 4CR due in September 2007[15], which will open up another 12 Ku transponders. INSAT 4G will be launched in 2009-10 with a capacity of 18 Ku transponders. Also with the launch of INSAT 4G, ISRO would have used up the entire spectrum that was allotted to it by WARC, ITU[16].

Even with 54 transponders by 2010, with 7 operators, the demand-supply gap is huge with each operator getting approximately 150 channels. Also if any of these launches fail like INSAT 4C, it may spoil the plans of DTH operators.

Current regulations stipulate a DTH operator to use only Indian satellites or in case of foreign satellites, they have to be approved and leased by ISRO.

Weak Financials

Dish TV is the only listed DTH operator and we have used it to analyze the industry financials.

By looking at the P&L account, we can infer that Dish TV is a loss making unit as of now.

Table 3 Profit & Loss account of Dish TV[17] (Rs. In Million)

Dish TV		
Year Ended	**Mar-07**	**Mar-06**
Total Income	1943.34	314.62
Total Expenses	4454.16	1189.48

[15] Five Communications Satellites will be launched by 2010-11, Voice and Data, May 03, 2007
[16] World Administration Radio Conference (WARC), International Telecommunications Union (ITU)
[17] Dish TV Annual Report 2006-07

Tax and Exceptional Item	2.5	1203.75
Profit/(Loss) for the year	**(2,513.32)**	**(2,078.61)**

Operating costs contribute to 50% of the total expenses and the cost to acquire the content forms 69% of this entire operating cost. Broadcasters are not willing to accept a lower cost for their content. The situation would be worse for companies that do not have a backing of a broadcaster.

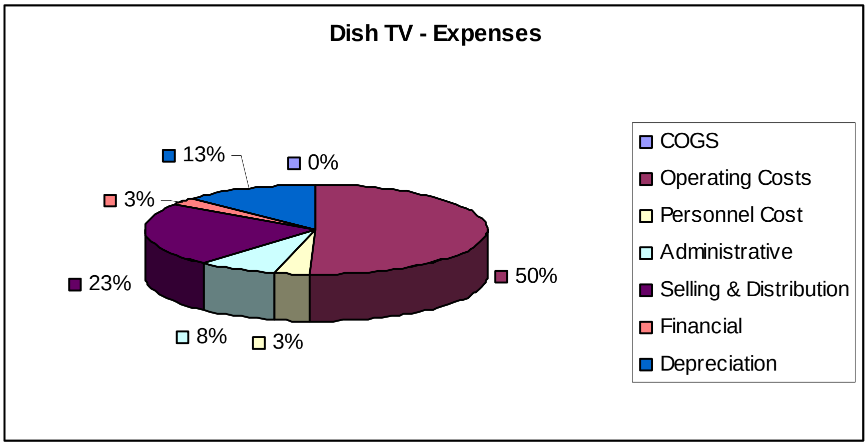

Figure 4 Distribution of Total Expenses, P&L, Mar 2007

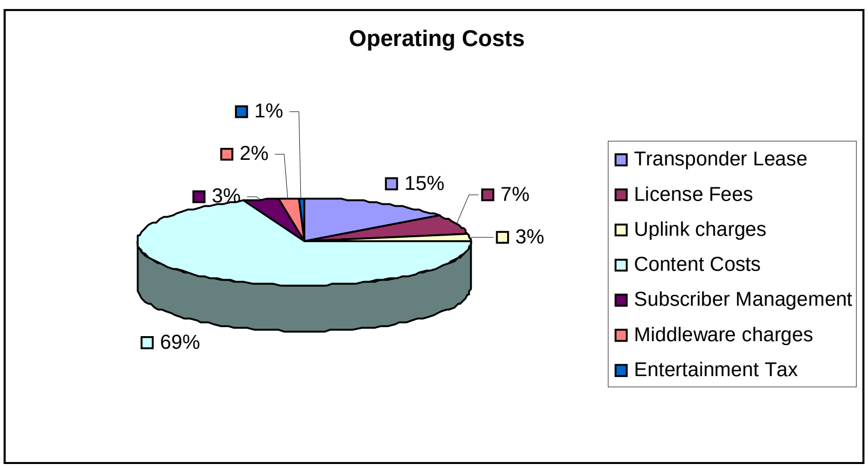

Figure 5 Distribution of Operating Costs, P&L, Mar 2007

Another interesting perspective is to look is the Average Revenue Per User (ARPU). While reports state the ARPU of significant players in Asia-Pacific[18] at $21, Dish TV currently has an ARPU of $2.7[19] (Rs. 111). To become profitable, Dish TV has to increase the subscriber base and make them pay more for the services.

[18] Malaysia TV flying high, but will new media take off?, Television Asia, 01 Jun 2007
[19] India Daily April 19, 2007, Kotak Institutional Equities

Analysts[20] predict that the firm should be able to breakeven by 2009-10. To be more precise, EBITDA is supposed to become positive in FY2009E and net income in FY2010E. Even when operating in such a negative margin, as per the lease conditions, the firms have to part away 10% of the gross revenue with the government.

Quality of Service Issues

There are couple of QoS issues which currently affect the DTH operators. They are

Technical Glitch - Rain Fade

By definition, Ku band signals get weakened by rain and snow. This results in reduced image clarity and sometimes total cutoff. This is a fundamental problem with the design of the transmission frequency. In India, people are glued to their TV soaps and sports events like Cricket matches. So even a tiny service disruption, during these events is seen as a major weakness of the DTH platform.

Poor Levels of Service

A search on India's popular consumer forum Mouthshut.com reports that only 28% recommend Dish TV [21]and 57% recommend Tata Sky[22]. Even with the skew for errors and incorrect data, this shows the low satisfaction levels of consumers. Some of the glaring complaints are Poor after-sales support, Removal of channels off air without notification, Open-ended contractual agreements favoring the operators and Lack of grievance cells.

Recommendations

Friendlier policy

The DTH operators along with consumer forums should participate in the consultation process undertaken by TRAI on DTH to work out an amicable solution that favors the entire industry. The key things to put forward are

- Enabling content exclusivity
- Allowing niche contents such as International channels and Adult content

[20] Dish TV: Buy, Hindu Business Line, Aug 12, 2007
[21] http://www.mouthshut.com/product-reviews/Dish_TV-925047392.html accessed on Aug 24, 2007
[22] http://www.mouthshut.com/product-reviews/Tata_Sky_TV-925065500.html accessed on Aug 24, 2007

- Raising the cap on foreign investments in parity with Cable TV industry
- Revisiting the implications of "Must-carry" clause
- Reduction of the existing revenue sharing %

This may not be easily possible since there are conflicting interests between the operators. TRAI may also reiterate that existing frameworks helps in curbing monopoly.

Accelerated Subscriber and Revenue Growth

From the Dish TV financials, it is very clear, that only volumes will help to break-even and see profitability. Hence, DTH operators should continue to acquire new subscribers at a faster rate. The industry should aim to achieve a higher ARPU from the current values. To reach these goals, Operators can employ techniques such as

Subsidization

The initial entry cost should be reduced by subsidizing the CPE. Although this would negatively affect the profitability in the short run, it is a good move to acquire formidable market share. With content differentiation out of the question, only cost leadership will help the firms to operate in the long run.

Value Added Services

While an operator could not differentiate content, it is possible to differentiate in terms of the add-on services like Movie-on-Demand, Interactive program guides and Good quality of Built-in games. With increasing disposable incomes, people would be willing to pay more for any value addition.

DTH operators can also acts as a convergence provider bundling services of voice, fax, data, communication and Internet on the same. Telecom companies are using this route to penetrate via the IPTV model.

Aggressive Marketing & Partnering

Consumers should be educated on the DTH platform and how it addresses their entertainment needs. DTH should be marketed more as a lifestyle product rather than a utility. Having presence in the retail store chains and in the web media would also help.

Operators should also capitalize the real estate boom by partnering with builders. Tata Sky's Multi Dwelling Unit (MDU)[23] model where one dish is shared by every home is a good way to win customers easily. When the infrastructure is already created by an operator, people would naturally opt to go with him.

[23] http://www.tatasky.com/multiroom.htm accessed on Aug 24, 2007

Partnering with Hotels and Restaurants could also create a huge business opportunity.

Tapping niche markets

With the mobile STBs, DTH operators can tap the markets such as Luxury cars, Flights, Tourist buses and Trains. Dish TV is already in tie up with King Fisher Airlines and in talks[24] with luxury bus manufacturers like Volvo.

Also in areas where terrestrial or Cable TV is not feasible like hilly areas or Line-of-Control, DTH has a huge potential to acquire customer base.

Better Quality of Service

Service level is a key differentiator in DTH. Although technical glitches such as rain fade cannot be fully solved, they can however be reduced by providing a better antenna with water proof coating and by increasing the transmission power.

The majority of the issues raised right now are regarding customer experience. While increasing the customer base is important for growth, retaining the existing customers is of paramount importance. With increasing consumer awareness and easy access to information, bad news spreads rapidly. A negative feedback in a consumer forum is something to be really worried.

Customer service representatives should be equipped to handle disgruntled customer calls with a faster and valid response. Grievance redressal mechanisms should be established with service level guarantees. Investment in a Subscriber Management System (SMS) for an efficient and accurate billing system should be made. The overall focus of the industry should be customer centric. Customer and Content must be the king which would drive the firms towards profit.

Conclusion

With the existing regulatory restrictions, Increasing content costs and lack of transponders, DTH terrain appears too steep to climb. With content differentiation not happening in the near future, companies have to differentiate only at the service and cost levels. The increasing consumer awareness and expectations also make it difficult to satisfy the consumer. Today's customer is sensitive to price as well as to quality.

From the global experience, one can see that only 2 key players emerge in DTH industry. The trend is expected to continue here as even the massive Indian volumes

[24] Dish TV plans DTH services in cars, trains, Business Standard, Jul 30, 2007

may not be enough to guarantee a fair share of the pie for 7 players. So we can expect to see some consolidation happening in the next 3 to 4 years.

On a deeper look, things are not as bad as they appear. 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 rate.

Apart from the volume business, a prudent DTH operator should also take a serious look at the substitutes and complements. He should diversify and create 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.