



USINDIA
Business Council

Bollywood-Hollywood Initiative

ERNST & YOUNG
Quality In Everything We Do

The Effects of Counterfeiting and Piracy on India's Entertainment Industry

March 2008

Table of Contents

1. Business Ecosystem: Key Drivers of Piracy 8

2. Business Ecosystem: Key drivers of Piracy in Relation to Each Industry Segment 11

 2.1. *Film Industry*..... 11

 2.2. *Music Industry*..... 13

 2.3. *Television Industry*:..... 15

 2.4. *Gaming Industry*..... 17

3. Financial Estimates and Methodology.....19

 3.1. *Summary of Revenue Streams Impacted by Piracy*:..... 19

 3.2. *Summary of Methodologies Adopted for Piracy Estimation*: 20

 3.3. *Optical Disc Piracy*:..... 21

 3.4. *Cassette Piracy*: 24

 3.5. *Internet Piracy*: 24

 3.6. *Cable Piracy*: 25

 3.7. *Loss Due to Under Declaration*:..... 30

4. Employment Loss Estimates 32

5. The Way Forward..... 37

6. Annexure: List of Company and Association meetings 39

© 2008 US India Business Council

Note: Information in this publication is intended to provide an overview of the estimated loss due to piracy in chosen segments of the Media & Entertainment industry. It should neither be regarded as comprehensive nor sufficient for making decisions, nor should it be used in place of professional advice. Ernst & Young Pvt. Ltd. accepts no responsibility for any loss arising from any action taken or not taken by anyone using this material.

FOREWORD

The US-India Business Council (USIBC), together with the U.S. Chamber's Global Intellectual Property Center, is pleased to present this report on "The Effects of Counterfeiting and Piracy on India's Entertainment Industry." This report is a part of the "Bollywood-Hollywood Anti-Piracy Initiative" – a multifaceted initiative aimed at the scourge of piracy and counterfeiting that plagues both the US and Indian media and entertainment industries.

This report estimates that the Indian media and entertainment industry loses some 820,000 jobs and revenue equivalent to \$4 billion each year to piracy and counterfeiting.

Bollywood makes more feature films than any film industry on earth and yet has only about 2% of the revenues of Hollywood. Hollywood is the largest film industry by revenue in the world and yet India with a sixth of the world's population and fourth largest economy is only a marginal market for Hollywood. The story is much the same for music, television, electronic games and across the media and entertainment sectors. Counterfeiting and piracy are chief causes of this situation.

For this reason, USIBC in cooperation with the Federation of Indian Chambers of Commerce and Industry (FICCI) launched the "Bollywood-Hollywood Anti-Piracy Initiative." This report is only a part of this initiative. USIBC commissioned Ernst & Young Pvt. Ltd. to carry out the study for this report.

The USIBC is delighted that we will be working with FICCI and the World Intellectual Property Organization (WIPO) to spread the word that piracy hurts everyone in the long run. We are pushing for optical disc legislation to help regulate piracy-facilitating technology and to use technology to frustrate pirates and counterfeiters. We are working with governments internationally to stop piracy.

The optical disc legislation prepared by the FICCI committee and presented to the Ministry of Information and Broadcasting should be adopted quickly, as it provides an important opportunity to safeguard investments in intellectual property and will empower law enforcement officials to strike at the heart of counterfeiting and piracy. It would also cement India's status as an early adopter of international best practices, joining at least 16 other nations that have already adopted this critical legislation such as Hong Kong, China, Taiwan, Malaysia, Indonesia, and Thailand. Four other nations are currently reviewing drafts of such legislation. In joining this group of early adopters, India will be able to credibly argue for similar protections in other key markets, which will aid India's firms looking to expand globally.

The USIBC looks forward to continuing to work with our Indian colleagues to stop piracy and build jobs and prosperity through the growth of the Indian and US media and entertainment industries.



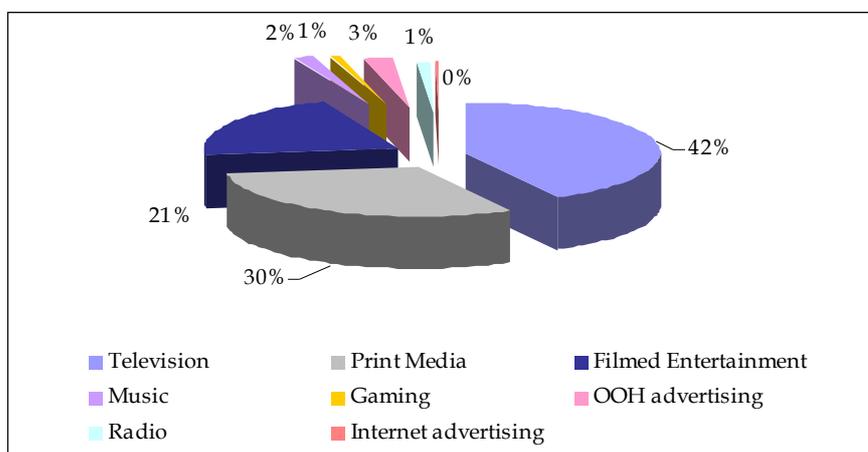
Ronald S. Somers
President
US-India Business Council

The US-India Business Council is the premier business advocacy organization representing America's top companies investing in India, joined by global Indian companies, promoting economic reforms with an aim to deepen trade and strengthen commercial ties.

Executive Summary

The Media and Entertainment (M&E) business in India is one of the fastest growing segments of the economy. It is a US\$ 11 bn industry growing at a CAGR of 18%. The segment-wise revenue share of the M&E industry in India is depicted below.

Segment wise revenue share of the M&E Industry



Source: SSKI Media Research, June 2007

However the M&E industry in India has been plagued by widespread piracy. Piracy clearly has struck deep roots in India and elsewhere. It is difficult to contain piracy until there are comprehensive measures adopted by all stakeholders in step with the government and the law enforcement agencies. The efforts have so far been a mix of some creative initiatives and old conventional methods. However, these have been limited in their impact due to the fragmented nature of the effort undertaken by various industry bodies and individual players. The underground nature of piracy itself and the fact that it lurks in almost every sector of the M&E industry makes it imperative to quantify and assess where the key revenue leakages are and where the loss really lies. It is only then that there can be cogent policy initiatives with global cooperation to assist the industry in tackling this menace. This study endeavors to address this issue and attempts to estimate the loss due to piracy with special focus on films, television, music and gaming segments.

Corporate India has always acted against piracy in support of the M&E industry. This study hopes to bring together all strands of the M&E business and assess & quantify the direct loss due to the piracy rampant across the M&E industry.

Revenue Loss Due To Piracy:

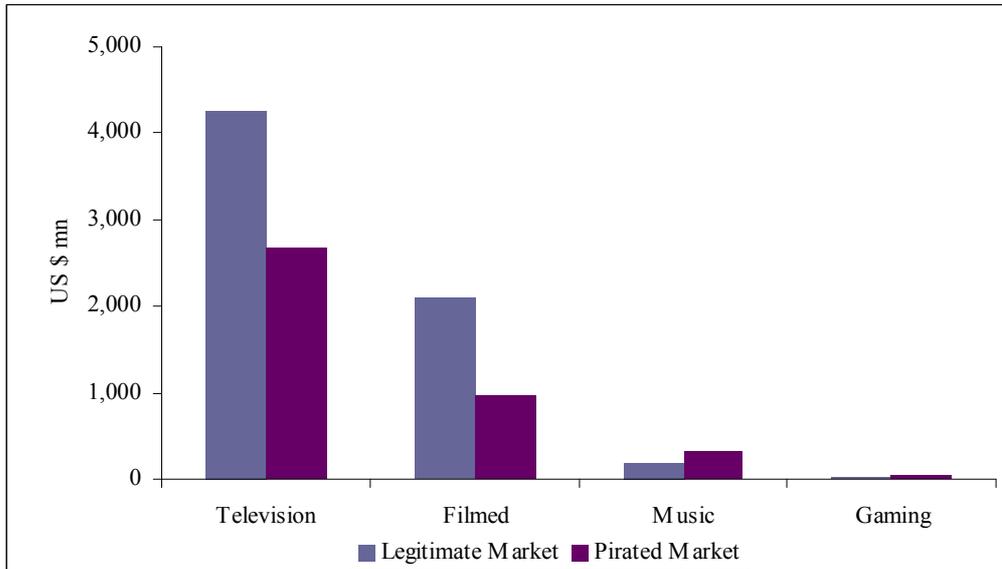
The current losses to the industry due to piracy are estimated to be US\$ 4 billion per year. The segment-wise losses are depicted below.

Loss due to piracy for the M&E industry in India:

Industry	Size of the Industry US\$ mn	Value Loss due to Piracy US\$ mn	Estimated Piracy % of Total Market ¹
Film ²	2,095	959	31%
Music	183	325	64%
Gaming	24	40	63%
Television	4,263	2,682	39%
	6,565	4,005	38%

Note¹: The total market includes the legitimate and the pirated business

Comparative estimates of sector-wise revenue losses



The revenue losses have been estimated based on extensive primary research (industry players, visits to the grey market and meetings with entities engaged in piracy), anecdotal evidence gathered through industry interviews, and trusted secondary sources.

As the first stage, the market size and value chain have been estimated for each of the four business segments (films, television, music and gaming segments).

As the next stage, the key factors resulting in loss of revenues through piracy have been determined and the revenue loss has been estimated for the same across the value chain. This has been done through interviews with key companies representing each businesses segment, individuals engaged in piracy, legal experts and independent industry experts.

The industry loss estimates have been validated and revised using surrogates, assessment of market consumption capacities and by reconciling the loss estimates with inputs from a different set of experts and media companies in each of the business segments.

Employment Loss Due To Piracy:

Piracy also has a direct impact on employment. The employment loss due to piracy comprises of direct loss due to decrease in volumes of sales and loss of employment due to impact on production itself i.e. fewer records, movies, games etc. being produced.

The total estimated loss of employment to the M&E industry is estimated to be 819,712.

Employment loss due to piracy for the M&E industry in India:

Market	Total Size of the Market (US\$ mn)	Total people employed (Nos)	Revenue Per Employee (US\$ mn)	Total Loss to the market (US\$ mn)	Factor of Loss	Loss of Employment	% Loss
Gaming	24	3,500	0.0068	40	50%	2,927	84%
Television	4,263	506,290	0.0084	2,683	35%	111,530	22%
Films	2,095	5,000,000	0.0004	959	25%	571,896	11%
Music Industry	183	150,000	0.0012	325	50%	133,434	89%
5,659,790						819,786	14%

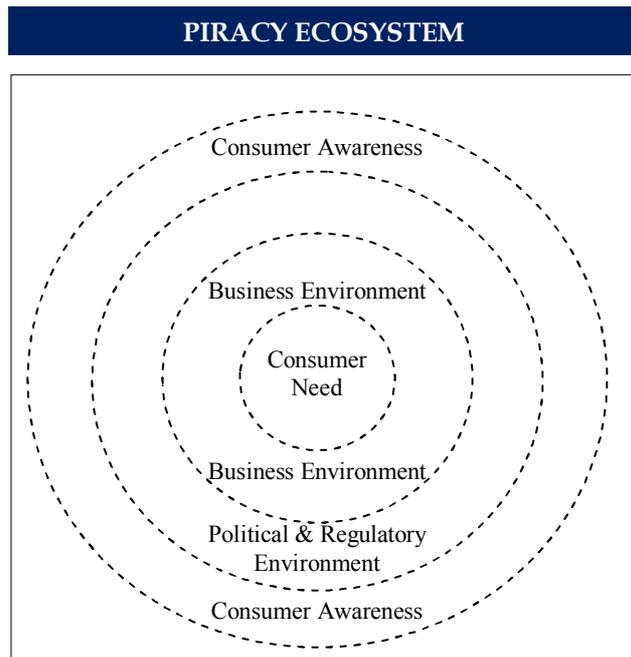
The loss of employment has been estimated by assuming labour to be a semi variable expense and then by extrapolating possible loss of jobs based on current levels of employment in the assessed media segments.

The methodology employed by the Ernst & Young team has used the current employment to revenue levels as the basis for loss estimation. As employment has been assumed to be a semi variable component, the losses have been discounted by a factor before applying the derived revenue to employment ratio for estimating the total loss of employment. This factor has been calculated based on the Ernst & Young team analysis while evaluating key employment drivers such as current capacity utilization, part of the value chain that have been impacted and technologies deployed amongst other factors.

Piracy Ecosystem:

The principal factors impacting piracy are:

- I. *Market Need:*
 - o Accessibility
 - o Product Pricing
- II. *Business Environment:*
 - o Profitability
 - o Technology
 - o Ease of Content Acquisition
 - o Industry Support
- III. *Political & Regulatory*
 - o Legal Framework
 - o Law Enforcement
- IV. *Lack of Consumer Awareness*



Impact of Technology:

The Indian M&E industry has been going through a significant transition over the past decade with the advent of new technologies and changing entertainment consumption patterns.

However, it is only now that the industry is witnessing significant investments in infrastructure across all segments throughout the value chain. These investments have happened predominantly in the distribution and delivery segments for setting up multiplexes, digital film distribution, DTH, digitization of cable, and the roll-out of IP TV among other infrastructure needs.

Introduction and comprehensive application of these technologies will hopefully help to mitigate piracy, in tandem with efforts by the government and the judiciary. These investments will enable the industry to plug the losses incurred due to piracy by making content more accessible to wider audiences and creating differential pricing across platforms. This would cater to the needs of different target segments and also allow closer monitoring. What is therefore required is that the industry is able to innovatively utilize and exploit new technology platforms to continue to earn more and more revenues while making the product more accessible to the consumer. This would effectively take the advantage away from the piracy business and take over the market that it tries to create and cater to.

Drivers of Change:

It is also apparent from the anecdotal evidence collected from the market that the crackdown on piracy due to concerted efforts by the industry at all levels coupled with state government initiatives and proactive legal enforcement, has seriously impacted the hitherto unbridled growth of piracy.

The key drivers of change for the industry therefore are

- The State; and
- The Industry

Role of the State:

A stringent law framework to protect copyright and tackle infringement supported by judicial infrastructure is imperative to minimize damage to and secure the future growth of the industry. The law makers need to create a robust legal ecosystem with comprehensive laws spanning across all forms of piracy supported by a speedy, low cost judicial infrastructure. As an illustrative, The Tamil Nadu State Government has successfully employed a holistic initiative, which adopts a multi-pronged strategy mobilized through the cohesive involvement of the state legislation, judicial sensitization, speedy, effective and deterrent enforcement has been a significant towards curbing piracy within the state.

Role of the Industry:

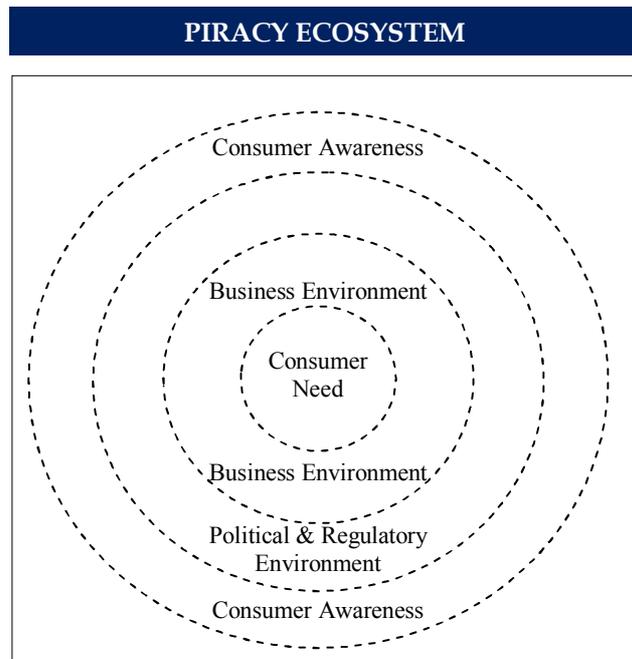
The Industry needs to act as a facilitator and coordinator of anti-piracy efforts. The industry associations therefore would play an important role in collating information, channelizing isolated initiatives and creating a common platform to assist the state in policy formulation and expedite the establishment of effective enforcement mechanisms. Further, sharing of information between various players in the industry would go a long way in consolidating and replicating successful initiatives, which would benefit all players in the long run. As an illustrative, the Andhra Pradesh Film Chamber of Commerce has created an Anti-Video Piracy (AVP) cell since May 2005. This dedicated cell led by a retired SP of the state (currently led by Mr. Keshava Reddy) along with 59 other retired police officers works in tandem with the Government and the law enforcement agencies to fight piracy.

1. Business Ecosystem: Key Drivers of Piracy

The objective of the piracy business is to cater to the consumer need for easy access to the product at prices that do not take into account real production costs plus a reasonable profit. However there are other critical factors propelling the proliferation of this phenomenon across segments. In this section we have charted out the ecosystem of this business and how each element contributes to piracy.

The principal factors impacting piracy are:

- I. *Market Need:*
 - Accessibility
 - Product Pricing
- II. *Business Environment:*
 - Profitability
 - Technology
 - Ease of Content Acquisition
 - Industry Support
- III. *Political & Regulatory*
 - Legal Framework
 - Law Enforcement
- IV. *Lack of Consumer Awareness*



- I. *Market Need:*
 - ACCESSIBILITY:
In some cases, especially with films and gaming products in certain geographies consumers have less than ideal access to content.
 - PRICE TO CONSUMER:
The low product pricing and the wide variety of content makes pirated products attractive to consumers. The price to consumers of pirated content varies from US\$ 0.5–US\$ 3.6 across platforms, including internet and optical discs compared to the price of original content ranging from US\$ 1.2 –US\$ 32. This unrealistic product pricing of pirated content is made possible by the evasion of legitimate costs of content production, acquisition, compliance with regulatory and self-regulatory obligations and other related taxes by pirates.

II. Business Environment:

o PROFITABILITY:

Piracy is a volume driven business with one of the most favorable profitability ratios in the world as the business bears no production, royalty or tax costs.

The business of optical disc piracy has 200–800% profitability - higher than many sunrise industries in the country.

Optical disc piracy: A highly profitable business

Bouquets	Amount (US \$)	
	Regional Film & Music Content	Premium Content: Foreign Films and Games
Cost of Optical Disc & Stamping	0.24	0.24
Packaging Cost	0.07	0.15
Distribution Cost	0.02	0.02
Total Cost to Retailer	0.34	0.41
Retail Price	0.73	2.44
Profit	214%	588%

o TECHNOLOGY

The innovations in hardware technologies have changed the face of the piracy industry completely. The primary drivers of change have been internet and optical discs.

The adoption of optical disc as a storage media has been the most important inflexion point for the industry. The low cost of replication and easy access to technology to both industry and consumers have caused the maximum impact.

Further innovation of new file compression formats like MP3 & MPEG II and the new storage formats like HD DVD and Blue Ray make it easier to manage high volumes of data making piracy control very difficult.

At the consumer end, increased access to low-cost high-speed internet and high-capacity media storage devices has made piracy rampant.

o EASE OF CONTENT ACQUISITION

Involvement of the industry players across the value chain or trusted third parties with the pirating agencies enables ease of content acquisition. The content leakage from the system happens at various levels including distributors, courier agencies, retailers and exhibitors.

o INDUSTRY INITIATIVES

There have been some organized industry-wide initiatives to fight piracy. The efforts are predominantly reactive in nature, mostly in the form of physical raids etc. However, the industry has not been able to put together any holistic common program to fight piracy on a proactive basis along with the consumers, judiciary and policy makers.

Further, the industry suffers from the lack of a united anti-piracy effort across industry segments. While there have been some commendable efforts by various segments of the industry to protect their copyrights, their indifference towards content of other language or entertainment segments has been counter productive and has led to proliferation of piracy. For example, while the Andhra Pradesh Film Chamber of Commerce aggressively fights piracy against local Telugu films, there is no effort made to curb piracy of other language films in the State. This has made Andhra a breeding ground for pirated content manufacturing for non-Telugu films.

III. Political & Regulatory

○ LEGAL FRAMEWORK

Little work has been done to create robust legal frameworks to fight piracy across media such as TV broadcast, optical discs, and internet. While some significant initiatives have been taken at the State Government levels, these laws are limited in application by either an industry segment or by language. For instance, the State of Tamil Nadu has successfully put into place the Goondas Act for fighting piracy; however the Act is limited to film video piracy of Tamil language only. This leaves all films of all other languages and other entertainment segments like music and gaming totally vulnerable to piracy.

○ LAW ENFORCEMENT

A cumbersome and time consuming judicial process coupled with limited support from the enforcement agencies acts as a huge impediment in the fight against piracy. The key issues relating to law enforcement are:

- Lack of sensitization of the judiciary.
- Time consuming and expensive legal process.
- Problems with enforcement agencies including the customs and police.
- A strong organized crime nexus backing the piracy industry.

IV. Consumer Awareness

Technology innovations in the past few years have placed the consumer in the driver's seat. The lack of consumer awareness about implications of copyright infringement is crippling the industry.

The consumers are not only consumers of pirated products but have in fact become pirates of products themselves. The tech savvy consumers have often been found to be the key segments indulging in optical disc and internet piracy.

Piracy by the consumer is prevalent through various forms including replicating optical discs (commonly known as ripping), uploading content on the internet, file sharing sites, and P2P networks amongst others.

2. Business Ecosystem: Key Drivers of Piracy in Relation to Each Industry Segment

In this section we have highlighted each industry segment and how some of the key drivers of piracy (discussed above) impact them more specifically.

2.1. Film Industry

I. Market Need:

The regional film industry in India is the primary source of entertainment in India. Especially for the lower income groups and communities in small towns and rural areas, it is the only source of entertainment due to limited urban development. However, access to film content has always been an issue in these very areas. The film industry today is suffering a loss of US\$ 959 mn.

Film Piracy	US\$ mn
Optical Disc	171
Internet Piracy	0
Cable Piracy	326
Loss Due to Under-Declaration	462
Total	959

The film entertainment market in India is dominated by the regional film market (includes Hindi, Telugu, Tamil, Bengali, Kannada, Malayalam, Bhojpuri, Punjabi, Gujarati, Marathi and other regional language films as well). The share of foreign films in the legal market is only 3%.

However, in the pirated market, the share of regional films is only 62% while the balance is shared between foreign films (23%) and other films (15%). This is attributed to limited access to legitimate content.

The theatrical release of the films is limited to Tier I and Tier II cities due to high costs of prints (US\$ 1,500 per print). It takes anywhere between 3 months to 1 year for the film to be released in all Tier II, Tier III cities and rural areas. Further, the films are released on television and home video only after 2–12 months of the theatrical release of the film. This creates a vacuum in the market, which is currently being catered to by pirated optical discs manufactured and distributed to the most remote areas within 2–20 days of the movie's theatrical release.

Audiences access the pirated content through purchase of pirated optical discs, hiring these discs through unauthorized film libraries, illegal broadcast of films on local cable channels, and unauthorized screenings of movies in remote areas using basic quality projectors.

A combination of these factors mentioned above has almost wiped out revenues for certain film genres in some markets.

There are also issues of restriction in some markets due to political disturbances like the north-eastern states of India where Hindi films have been banned by the rebels. Therefore the people of the region have access to pirated content only. The same holds true for countries like Pakistan, where Hindi films are very popular, however due to a ban by the government on Hindi films, there is rampant piracy.

II. Business Environment:

o Profitability:

There are estimated to be around 30,000 unauthorized video rental stores in the country. It is estimated that on average an approximate of three local cable channels reach every cable & satellite

home. These channels air about 60% pirated content reaching 65 million C&S homes in the country. Over 80% of the pirated content is regional films, film music videos or clips of the same.

The rental revenues per disc vary from US\$ 1.2–2.4 per day, while the cable operators in India are estimated to be earning US\$ 129 mn in advertising revenue from the broadcast of pirated content.

Illustration: Revenue projection of one new movie title across its shelf life

Bouquets	Units	
Number of video libraries	nos	30,000
ShelfLife of the film	days	40
Number of packs of the title	nos	1
Total un-authorized screenings of one film	nos	40
Average Value per screening	US\$	1.2
Rental Revenue of one movie title	US\$ mn	1.5

o Ease of Content Acquisition:

Currently the key source of content is optical discs (VCDs and DVDs) made available across cities and remote towns of the country, within days of the movie being released.

It is understood that there are three primary leakage points:

- Theft before Release: Most of the regional movie print leakage happens before the film release itself. These leakages are attributed to theft in transit from processing labs to theaters or from the theaters themselves prior to screening. This is the primary mode of piracy for regional films. ‘Tele-Cine’ machines are used which convert these prints into digital formats and create select master copies of the print.
- Camera Print Piracy: This refers to the prints made out of filming the movie using an amateur camera in a movie theater. This has been recognized as the main cause of piracy of foreign films and also prevalent for regional films.
- Illegal Imports: Differential release dates of theatrical or home entertainment release in different countries gives an opportunity for pirates to acquire content from international territories and circulate it in the Indian territories. Both the regional and the foreign film industries are impacted by this issue. As per industry interviews, the most frequently cited hubs for illegal trade imports of regional films are Malaysia, Hong Kong and Singapore. Regional films like Tamil and Telugu films are worst hit due to this phenomenon.

The master copies (also known as silvers) are sold to key vendors who then replicate these in factories through the stamping process (known as pressed products) or CD burners (known as burnt products). Within one week, thousands of VCDs and DVDs of the pirated prints hit the key metro markets. It takes an additional 7–14 days for it to reach all remote territories. As per the industry interviews, the most frequently cited hubs for international mass production (pressed products) are Pakistan and Bangladesh. Burnt products are entirely produced locally. There are known to be large CD burning units in small cities bordering metros. Each of these units hosts at-least 100–120 CD burners.

These VCDs and DVDs are sold for US\$ 1.2–2.4 in the market to home users, cable operators, and film libraries across the country vis-à-vis an original title, which could cost US\$ 4–15. The piracy of the titles usually is reduced once the original edition is released in the market, especially in the regional film segment. In any event, the impact of piracy is felt since at least some demand for the legitimate product has been satisfied by the pirated content.

Once the DVDs have hit the market, the problem is further aggravated by the phenomenon of consumers copying the discs (commonly known as ripping) and either uploading the content on the internet or making unauthorised copies of the same and selling them or sharing them amongst friends and family.

- Industry Initiatives

The Indian film industry has made multiple efforts to fight piracy at different levels. While the industry has been able to conduct some successful film specific operations, it has met with limited success in curbing the piracy business at large.

The main causes for this are:

- Lack of a common organized front to fight piracy (industry initiatives are strong only at regional level i.e. with language focus);
- Lack of sustained activity to fight piracy.
- Insufficient allocation of funds from the industry for fighting piracy.

The primary issue according to regional stakeholders is the apathy of the industry to other language industries. The example cited was of the Andhra Pradesh Film Chamber of Commerce. Though the Chamber’s efforts for the local Telugu language film market have been commendable in the region, the Chamber services only the local film producer community. This is reflected in the declining revenues of other language films from the market; for instance, the Hindi language market. In Tier III cities, the revenues of Telugu films in Andhra Pradesh have grown three times while the revenue of Hindi films from the same territories has declined.

2.2. Music Industry

Music is one of the worse hit industries due to piracy with 64% of the market estimated to be pirated. The total loss to the industry is estimated to be at US\$ 325 mn. The maximum impact to the industry has been via optical disc piracy and internet piracy.

Music	US\$ mn
Optical Disc	255
Cassette Piracy	12
Internet Piracy	58
Public Performance Rights	not estimated
Total	325

I. Market Need:

With access to new technologies consumption patterns have changed dramatically over the past five years. Till 2005, the revenues of the industry were dominated by physical sale i.e. cassettes and optical discs. However, 2006 saw a historical shift in this trend. Now the dominant revenue streams are non-physical ones i.e. mobile downloads, radio and internet.

The key business drivers of piracy in the music business are:

- Demand for quick access to music
- Need for variety
- Lack of differential pricing mechanisms

Adoption of new formats (MP3) and market places (internet) by the music industry pirates have been significant factors in increased piracy. While the MP3 format became popular among

consumers in 1995 and MP3 format supporting players have been available since 1998, the Indian music companies have only now started adopting MP3 as an alternate standard format for their music.

The consumers today want to pay only for the music they like. The inputs from the consumers indicate that they would welcome differential price points and availability of variety of music on one platform, irrespective of the labels and copyrights.

- Public Performance Rights (PPR): The loss on account of PPR in India stems essentially from lack of awareness rather than consumer intent. This has been further fuelled by the dominance of unorganized retail players across the country. Over 80% of Indian retail is still dominated by unorganized players. This loss has not been estimated due to the following reasons:
 - Lack of data available on the number and nature of outlets across the country.
 - Lack of any pricing mechanism defined by the industry for the same.

II. Business Environment:

- Profitability:
 - The music piracy business is driven by consumers and the piracy industry.
 - Internet Piracy: There are innumerable peer to peer networks and websites which allow illegal download of music. These services are either free or earn revenues from advertising and/or subscription fees for its premium services.
 - Optical Disc Piracy: The optical disc business thrives on volumes. It is a low margin business. The music piracy business is driven by new regional film music piracy; this is further dominated by Hindi films which have a share of 60% of the total music piracy business.

The pirated music discs are available at US\$ 0.75 to US\$ 2.4 with an average of 100–150 songs each. The cost of manufacturing of these discs ranges from US\$ 0.36 to US\$ 0.50.

- Audio Cassette Piracy: Audio cassette piracy is limited to remote towns of the country where optical disc players have not yet become popular. Further there is the high cost of manufacturing, fast adoption of optical disc and limited variety offered through this media.
- Technology

Hardware technology has been a main factor in increased music industry piracy. Consumers have played a key role in this trend. The primary access points of music for consumers are:

- Free music available on the internet through peer to peer (P2P) networks and illegal music download sites.
- MP3 format optical discs

A key issue with the industry is lack of mechanical copy protection. The music CDs released in the market by the record companies are not protected mechanically and thus can be easily copied and replicated. Further there are various free softwares available for converting WAV and AAC files to MP3 formats making it easy to convert and store data.

- Ease of Content Acquisition

- **Internet piracy:**

The consumers today have access to music across borders with the help of sophisticated P2P systems and illegal file sharing sites. Most of this content is uploaded by consumers themselves. Two of the most popular P2P networks are “Lime-Wire” and “Bit-Torrent.” Also, there are websites providing pirated music content; however increasingly users have been relying on P2P servers over individual websites.

- **Optical disc piracy:**

Most of the optical discs are burnt products with approximately 100–150 MP3 songs burnt onto one disc. These discs are distributed using the same distribution networks as the legitimate content discs.

Further, the research has also revealed that due to the depleting volumes of legitimate products, the music industry has seen a shift of the distributors to the video business.

While the music CDs (AAC format and MP3 formats) of each film ranges from US\$ 2.5 to US\$ 7.5, the pirated discs with MP3 formats that provide music of over 10 films in one disc are made available by the same distributors for US\$ 0.75 to US\$ 2.5.

- Industry Initiatives

The music industry is represented by two prominent entities namely the Indian Music Industry Association (IMI) and the South Indian Music Company’s Association (SIMCA).

The industry associations have played an important role in initiating anti-piracy operations through raids. However, structuring and executing a large scale proactive action plan to fight causes of piracy and helping member companies maximize revenues from new emerging revenue streams would also be helpful in curbing piracy.

Further, there are allegations of some companies mixing legitimate production with pirated copies and distributing both through official channels.

2.3. Television Industry:

The television segment has been one of the fastest growing segments of the M&E industry growing at a CAGR of 22%. The key losses suffered by this industry in India are on account of the loss of advertising revenue due to content piracy by the local cable operators and loss of subscription revenue due to under declaration of subscribers.

Television	US\$ mn
Cable Piracy - Advertising Loss	129
Subscription Revenue Loss - Under Declaration	2,554
Optical Disc Piracy & Internet Piracy	negligible
Total	2,683

I. Market Need

- **Pirated Content on Cable Operators**

There is enormous demand for filmed content to be broadcast on local cable channels by the cable operators across the country. Broadcasting of latest film content for local cable operators (LCOs) is the key differentiator among competitors and a critical factor for retaining subscribers. LCOs broadcast the content made available to them in the form of optical discs acquired from pirated

sources. Due to lack of enforcement of anti-piracy laws against LCOs and lack of monitoring coupled with high consumer demand, LCOs have got used to broadcasting pirated content regularly.

○ **Loss Due to Under Declaration:**

There is significant loss due to under declaration in the Indian cable and satellite market. The cable distribution is entirely analogue except for the metros where the Conditional Access System (CAS) has been made mandatory. The analogue system does not provide the consumer with the option of choosing channels. Thus, all subscribers receive all channels. The effective Average Revenue Per User (ARPU) has been restricted to an average of INR 180 per month (US\$ 4.4 in the lower income areas going up to US\$ 7.3 in the areas with high per capita incomes). This is further validated by the ARPU of DTH players like DISH TV, where the projected ARPU for 2007–08 is US\$ 4.6 per month.

II. *Business Environment:*

○ Profitability:

- Pirated Content Broadcast:

Pirated content on cable not only helps gain and retain a large subscriber base but also provides the industry with huge advertising revenues due to the high viewership of cable channels. The local channels which are programmed & relayed by local cable operators in their territories, in most Indian states collectively enjoy No. 2 or No. 3 position in channel viewership share. This makes them one of the most sought after groups for advertisers. The advertiser profile of the cable operators includes local as well as national brands.

- Loss Due to Under Declaration:

The total cost of the content distributed via cable & satellite today has doubled based on rack rates defined by the broadcasters.

○ Ease of Content Availability:

The most sought after content that attracts viewership for the cable operators is filmed entertainment. This content is easily available across the country.

Due to the cable systems being analogue, the LCOs can easily add local channels at the local cable head-end level (a local head-end is a facility at the LCO level for receiving television signals for processing and distribution to its subscribers) and push it along with the satellite channel bouquet. There are no content monitoring mechanisms in place for these local channels.

The content is dominated by regional filmed content. The share of foreign films is very low. This is due to successful efforts of MPAA in the country and a favorable court judgment allowing MPAA to hold the MSOs (the controlling cable operators who franchise the LCOs) responsible for piracy at the LCO level and taking legal action against them. As the LCOs cannot differentiate between MPAA and Non-MPAA content, regional films have benefited from their effort.

○ Industry Initiative:

The Indian film and television industry is still struggling to effectively deal with cable piracy. While MPAA has successfully brought down piracy of its content, the regional film producers have not been able to make an impact. The two major reasons for this are:

- The local cable operators are powerful business persons locally – sometimes with strong unlawful protection.

- Lack of organized industry-wide initiative by the film industry to undertake anti-piracy operations and influence policy makers and law enforcement personnel.

Currently, the ability of a producer or studio to fight piracy is largely dependent on their financial strength and the individual initiatives they can take to protect their films. This makes revenues of the industry very vulnerable.

2.4. Gaming Industry

The gaming industry in India is currently a very small market; however it is one of the worst hit due to rampant optical disc piracy. The total loss to box, online, and mobile gaming in India is estimated at US\$ 40 million per year.

Gaming	US\$ mn
PC Gaming - Optical Disc	14.63
Console Gaming - Optical Disc	20.12
Mobile Gaming - Internet	5.14
Total	39.90

The Indian gaming market is dominated by mobile gaming followed by PC gaming and then console games. Mobile gaming has been successful in India due to its high subscriber base, ease of access of games, low price points, and automated operator linked billing. The size of the PC gaming is low due to rampant optical disc piracy in the country and availability of the games on the internet. Console gaming in India is a very slow market due to its high hardware acquisition costs and rampant optical disc piracy.

I. Market Need:

- o Box Gaming:

Box gaming (PC games and console games) is the worst hit by piracy across the world. In India, 90% of the box gaming market is estimated to be pirated.

While the cost of a new legitimate console game ranges between US\$ 35–US\$ 55, and that of a PC game is around US\$ 10, the pirated version of these games are available for US\$ 2.4–US\$ 7.5.

- o Online Games:

Globally, online games are the least hit by piracy. In India online gaming is at a very nascent stage and does not face any piracy issues at the moment.

- o Mobile Games:

Mobile games are less affected by piracy vis-à-vis box games due to the cumbersome process involved in loading a pirated mobile game. Another key factor is the price issue.

II. Business Environment:

- o Technology

PS 2 has been the most successful console in the Indian market. The key reason for rampant piracy in console gaming is that the pirates have been able to modify the PS2 in India to enable them to play games imported from any part of the world. These consoles in India are called ‘modded’ consoles. The cost of this modification is US\$ 25 per console. This service is provided by all vendors who either sell pirated game discs and/or imported consoles (which are unauthorized for sale in India).

○ Ease of Acquiring Content:

The primary form of piracy in the box gaming segment is through optical discs. Due to high volume of data, downloading the games is less probable in the case of box games; however for mobile games illegal internet downloads is the primary issue. Illegal Russian sites have been often cited by the industry as sources for uploading pirated mobile games.

The games are imported from trading hubs like Malaysia, Singapore and Hong Kong & are then replicated in India. These discs are then distributed using legal distribution channels to all vendors.

○ Industry Initiatives:

The gaming industry though at a nascent stage in India is taking proactive measures to resolve the issue of piracy by adapting their business models to the market.

- Anti-Piracy Programs: The key players like Microsoft, Electronic Arts and Sony have hired different agencies already involved in Anti-Piracy operations to provide these companies support.
- Pricing: The players have been actively revising their prices to suit the Indian market
- Adoption of new business models: Having understood the optical disc piracy situation, most new players are entering the gaming market in the online gaming space in India. New online gaming models are coming up for casual games, dedicated PC games and Massive Multiplayer Online Games (MMOGs).

III. *Political and Regulatory*

○ Legal Framework

The main issue facing the industry is the high incidence of indirect tax. While the rest of the entertainment industry enjoys a 4% Value Added Tax (VAT) on sales of a product, gaming products in many states face upto 12% VAT. The industry is therefore currently struggling with the pricing of its products. While the industry has now taken initiatives to reduce its margins and revise pricing for the consumers, it is looking for more support from the government.

3. Financial Estimates and Methodology

3.1. Summary of Revenue Streams Impacted by Piracy:

Industry Segments	Revenue Streams	Key forms of Piracy Quantified
Film Piracy	VAS	
	Theatrical Revenue	Optical Disc Piracy
	Home Entertainment	Cable Piracy
	Broadcast Rights	Loss Due to Under Declaration
	Music Rights	Internet Piracy (negligible-not estimated)
Television Piracy	Advertising Revenue	Cable Piracy
	Subscription Revenue	Loss Due to Under Declaration
Music Piracy	Physical Sales (CDs & Cassettes)	CD Piracy
	Mobile Rights	Cassettes Piracy
	Radio Rights	
	Public Performance Rights (PPR)	Public Performance Loss (not estimated due to lack of data availability)
	Internet	Illegal Internet Downloads
	Synchronization Rights Grand Rights	
Game Piracy		
	PC Games Game CD Sales	Optical Disc Piracy
	Console Games Game CD Sales	Optical Disc Piracy
	Mobile Games Game Sale via Mobile Downloads	Internet Piracy
Online Games	Subscription	

Legend: Revenue streams impacted by piracy

3.2. Summary of Methodologies Adopted for Piracy Estimation:

Key forms of Piracy Quantified	Methodologies	Estimated/Cannot be Estimated
Optical Disc Piracy	Volume estimation based on production capacity	Estimated
Box Game Piracy	Volume break-up based on install base and estimated tie ratio (machine to games)	Estimated
Film Piracy	Used MPAA's estimates as a base and estimated the losses for other film industries based on their share of the total pie determined through primary research	Estimated
Music Piracy	Average realization per unit— derived from market trends	Estimated
Television Content Piracy	Very marginal numbers. There is not much market in India for the same as the TV broadcasters do not see much market in the same	Marginal, not estimated
Cassette Piracy	No data available for validation methodology. Industry estimates are available	Estimated but not validated. The production capacity has not been established to enable validation of industry estimates
Cable Piracy		
Cable Piracy—Films	Estimated based on number of potential paid screenings lost due to cable film piracy	Estimated
Cable Piracy—Music	Revenue share estimation based on the viewership of local cable channels (operated by the local operators) and the revenue share proportions of cable & satellite general entertainment channels in India.	Estimated
Internet Piracy		
Music	Estimates derived using install base and mobile downloads as a surrogate	Estimated
Films	Marginal. Estimates can be derived by using the home user broadband connections and using surrogates to estimate their propensity to download filmed content.	Marginal, not estimated.
Mobile Games	No data available for validation methodology. Industry estimates are available.	Estimated, but no mechanism for download has been established

Key forms of Piracy Quantified	Methodologies	Estimated/Cannot be Estimated
Public Performance Rights: Illegal broadcast of music in public places	Estimate the number of retail outlets in the country. Further estimate the number of establishments playing music. Apply the industry prescribed charge rate for estimating the potential revenue per establishment	Not calculated due to lack accurate data availability
Loss due to under-declaration Under-declaration by Theater owners	Revenue loss estimated based on the % under declared by theater owners. For this the theaters need to be segmented based on the amount of loss.	Estimated
Under-declaration by cable operators	Revenue loss estimated based on the % of under-declared subscribers for each channel	Estimated

3.3. Optical Disc Piracy:

Loss Estimates:

Industry	Pirated Titles mn	Realization per Unit US\$	Loss due to Piracy US\$ mn
Film			
MPAA	4.78	15	70
Foreign Films	0.72	12	9
Indian Films	14.83	6	92
Music ¹	34.89	7	255
Gaming			
PC Games	1.20	12	15
Console Games	0.55	37	20
Total Loss due to Optical Disc Piracy	56.97		461

Note¹: For music the volume estimates are based on number of discs recovered and not tracks

Methodology:

- I. For estimating optical disc piracy we have adopted the volume estimation approach to arrive at the total number of discs traded in the Indian market with pirated content.
- II. This has volume estimates that have been validated by estimating the number of pirated content optical discs traded in each of the key impacted segments, spanning across the key segments:
 - o Music
 - o Films
 - Indian (all regional language included)
 - Foreign
 - Other Films
 - o Gaming:
 - PC Gaming
 - Console Gaming

Key Assumptions:

- I. The **key sources** of optical disc piracy in order of magnitude are:
 - Optical Disc Stamping Machines – Available on job-work basis. There is limited monitoring leading to over 40% of the production capacity of certain optical disc stamping outfits that is being used for pirated content replication only.
 - Mom & Pop Centers – About 50% of the market is fed by medium scale suppliers and tech savvy individuals who copy optical discs, and illegally replicate them for pocket money for supplying to retail outlets. These suppliers have 2–20 CD burners in their homes or at a network of locations and execute orders of 5–100 CDs at a one time.
 - Import of Optical Discs Containing Pirated Content – These are usually imported via the manufacturing hubs like Pakistan, Bangladesh, and Malaysia or trading hubs like Hong Kong. This contributes up to 10% of piracy.
- II. **Volume Assumptions:**
 - Of the total stamping machines available in the country for job-work, 7 factories with total 15 moulding lines are using a part of their installed capacity for stamping pirated content.
 - 60% of their installed capacity is used for pirated content.
 - 90% of this capacity is utilized.
 - Break-up of production by type of optical disc i.e. VCD or DVD
- III. **Volume - Validation & Segment-wise Break-up:**
 - PC Gaming:
 - Gaming PCs assumed to be 30% of total home PCs in the country.
 - Tie- ratio of machine – game assumed 1:1 for the gaming home PCs.
 - This tie ratio has been applied to the total current PC installed base to arrive at the potential sale of the industry.
 - These numbers have been deducted from the legitimate sale in the country before arriving at the loss of revenues.
 - Console Gaming:
 - Tie- ratio of machine – game assumed 2:1 for the entire install base
 - This tie ratio has been applied to the total console installed base to arrive at the potential sale of the industry.
 - These game usage estimates have been deducted from the legitimate sale in the country before arriving at the loss of revenues.
 - Film Piracy
 - Used MPAA’s estimate of its loss in the country as a starting point.
 - MPAA’s estimated loss is US\$ 70 mn (DVD/VCD alone) in value terms
 - Volume share assumptions of the various genres of films assumed have been provided below.

Film Piracy Volume Estimation	Volume share of total pirated films in India
MPAA	20%
Other foreign films	18%
Indian Films (All languages)	62%

- The VCD to DVD ratios assumed are provided below

Film Piracy Volume Estimation	VCD share of the Total Titles	DVD Share of Total Titles
MPAA	30%	70%
Other foreign films	0%	100%
Indian Films (All languages)	60%	40%

Film Piracy Volume Estimation	No. Of Titles for each VCD	No. Of Titles for each DVD
MPAA	1.00	4.00
Other foreign films	1.00	4.00
Indian Films (All languages)	0.50	2.00

- Music Piracy
 - The volumes of pirated music discs have been taken as a balancing figure of the total volume of pirated discs in the market.
 - The volumes of music piracy in the MP3 format are very high. As such, it is important to note the following:
 - Music piracy is driven entirely by the domestic film music industry.
 - The pirated discs sell music in MP3 formats, with each containing songs of 10–12 movies i.e. 700 – 800 songs.
 - The value loss for each CD sold from an industry estimate is in line with the pricing for MP3 discs released by the record companies, which is 3.5 times higher than that of regular regional film music discs.

Key Data Sources used for the Above Projections:

- ▶ Motion Pictures Association of America
- ▶ Andhra Film Chamber of Commerce
- ▶ IMI Association
- ▶ SIMCA
- ▶ Super Cassettes Industries Ltd.
- ▶ Saregama HMV
- ▶ Cyber media
- ▶ Kreed Games
- ▶ Electronic Arts
- ▶ Milestone Technologies
- ▶ Traders – Pirated Films

3.4. Cassette Piracy:

Music Industry US \$ mn	Loss due to Cassette Piracy US \$ mn	% of Total Market
183	12.20	7%

- I. Optical Disc piracy thrives on the low cost of technology, ease of distribution, high storage, capacity and multi format utility.
- II. The same is not true for cassettes; the key drawbacks of audio cassettes from the pirate’s perspective are;
 - o Machinery required for cassette replication is capital intensive
 - o Cassettes cater to only the audio formats
 - o Limited media storage only allows limited songs per cassette, thus restricting product variety
 - o High adoption of optical disc based music systems;
 - o Adoption of FM Radio amongst the lower income groups reduces the dependence on cassettes

The factors stated above have led to the depletion in the size of the audio cassette industry and have restricted piracy volumes as well.

- III. The Indian Music Industry is estimated at US\$ 12.2 million.

3.5. Internet Piracy:

3.5.1. Loss to Music Industry: This refers to the loss suffered by the music industry due to illegal music downloads from the internet.

Methodology

- o Arrive at penetration levels for both mobile and the internet in India.
- o Arrive at estimates for legal download on the mobile and the internet (industry data)
- o Check for differences
- o If there is a huge gap, calculate internet revenues assuming that if the current level of mobile users generate X, what should the internet be generating Y.
- o The difference between what the internet should be generating and what it actually generates is the amount lost due to piracy.

Assumptions

- o Each internet connection is accessed by an average of five users. This is a historic multiple used in India since a large number of users access the internet through cybercafés that offer access for a very small price.
- o At a penetration level of 165 million users, the mobile platform generated US\$ 250 mn through downloads.
- o The medium, however, generated only US\$ 0.05 mn.
- o The tie ratio assumed for music download to each internet user assumed is 0.75 i.e. for every four internet users in India, three download music. This group shows similar downloading habits as the mobile users downloading music-based products.
- o Realization per music download is US\$ 0.27 on the internet

Key Data Sources used for the Above Projections:

- ▶ Revenues for mobile and internet music Soundbuzz India Pvt. Ltd.
- ▶ PWC, IFPI and Indian Music Industry Association’s numbers.
- ▶ TRAI

3.5.2. Loss to Mobile Gaming industry: This refers to the loss incurred due to illegal downloads of mobile games.

	US\$ mn	% of Total Market
Mobile Gaming Industry	12.00	70%
Pirated Market	5.14	30%

- Estimated by the industry to be at approximately 30% of the total Industry.
- There are no surrogates or market studies available to independently estimate this loss.

3.6. Cable Piracy:

3.6.1. Advertising Revenue Loss: This refers to the loss of revenue and viewership to television broadcasters due to pirated content being aired on local cable channels.

Television Industry Advertising Revenue Size US\$ mn	Loss of Advertising Revenue to Cable Piracy US\$ mn	% of Total Market
1989	129	7%

Methodology:

- Calculate the share of cable channels in total TV viewership in India through TAM data
- Arrive at estimates on the proportion of pirated content shown on cable through industry experts/cable operators
- Calculate the share of GEC, film and music channels in total TV viewership
- Calculate the share of GEC, movies and music channels in total advertising revenues.
- Calculate proportionate share of revenues for cable channels. These show GEC, film and music content. So if GEC, film and music channels get 68.5% revenues for a 71.8% share of TV viewing, what could be the share of cable channels.
- Calculate the proportion of ad revenues that cable channels make from pirated content on the basis of the proportion of pirated content shown.

Assumptions

- TV advertising revenues for financial year 2007 are projected at US\$ 1989 mn based on a 22% estimated growth over 2006, as per PWC projections. The basic data comes from TAM Adex data
- The viewership shares for all the clusters are an average across the first six months of 2007. They are assumed to remain at the same average throughout 2007.
- About 60% of the content on cable channels is pirated and it attracts a bulk of the advertising.
- A bulk or more than 95% of the content shown on cable channels is GEC, movies and music content.
- 80% of advertising revenue for the local cable channels (operated by the local cable operators) is earned from pirated content.

Key Data Sources used for the Above Projections:

- ▶ TAM Peoplemeter, AdexData,
- ▶ MCAA
- ▶ Dish TV
- ▶ Sahara One
- ▶ UTV software ltd.

3.6.2. Filmed Entertainment Revenue Loss: This refers to the loss of home entertainment revenues and theatrical revenues due to the broadcast of pirated content being aired on local cable channels. The estimated loss to the film industry due to cable piracy is US\$ 326 million.

Methodology:

- Estimate the number of paid film screenings lost due to broadcast of pirated content.
- Estimate the ratio of loss of these screenings to home entertainment and theatrical segment.
- Estimate the value loss based on the average realization per screening derived of home entertainment and theatrical screenings.

Key assumptions:

- **Cable Reach:**
 - Cable households in India — 65 mn
 - Average number of local channels (programmed & relayed by cable operators for their distribution territories) reaching each household — 3
 - No. of pirated movies reaching each household each day — 8
 - No. of pirated screenings (per person) viewed per household per day — 1
 - The number of movies viewed per household if they were to pay for the content — 1 per month
- **Home Entertainment Market:**
 - Total legitimate size of the home entertainment market is US\$ 147 mn based on SSKI media research report.
 - The total legitimate titles sold are 23.6 mn
 - The ratio of titles sold for hire versus personal consumption is 35%:65%
 - The total illegitimate titles sold are 20.3 mn
 - The ratio of titles sold for hire versus personal consumption is 60% : 40%
 - The average screenings per title sold for home use is 1
 - The average screenings per title sold for hiring is 40

○ **Loss of Screenings Allocated to Home Video Sale Revenues vs. Theatrical Revenues.**

It is assumed that the ratio for cable piracy will be double of the overall earning ratio of the film industry of Theatrical versus Home Entertainment (including direct loss of piracy). This is because most of the cable piracy impacts target segments that do not have access to theaters.

Calculation details are provided below:

STEP 1:

Home Entertainment Legitimate Market Estimations	Units	Value
Legitimate Market Size	US\$ mn	146.34
Value Share of DVDs	%	50%
Value Share of VCDs	%	50%
Home Video DVD Market	US\$ mn	73.17
Average Realization Per DVD	US\$	8.54
Volumes of DVDs Sold in the Market	mn nos	8.57
Home Video VCD Market	US\$ mn	73.17
Average Realization Per VCD Title	US\$	4.88
Volumes of VCD Titles Sold in the Market	mn nos	15.00
Average Realization Per Title	US\$	6.21
		0.00
Total Legitimate Movie Titles Sold		23.57
Sold for Home Use	%	65%
Sold for Hire	%	35%

Pirated Home Entertainment Market Volume Estimations	Units	Value
Total Pirated Movie Titles Sold	mn units	20.33
Sold for Home Use	%	40%
Sold for Hire	%	60%

Home Entertainment Screenings Estimations	Units	Value
Total Titles for Home use	mn units	23.45
Total Titles for Hire or Cable usage	mn units	20.45
		0.00
No. of Screenings for Home use titles		1.00
No. of Screenings for titles for hire		50.00
		0.00
Total Number of Home Entertainment segment screenings	mn screenings	1045.83
		0.00
Average Screening per Title Sold	no. of screenings	23.82
Average Realization Per Title	US\$	6.21
Average Realization Per Screening	US\$	0.05

STEP 2:

Theatrical Screenings Estimations	Units	Value
Total Theatrical Revenue	US\$ mn	83,152
Total Tickets Sold	M n	3,762
Average Realization per ticket	US\$	22

STEP 3: Derive the overall earning ratio of Theatrical screenings to Home Entertainment screenings

Theatrical to Home Entertainment Screening Share	Units	Value
Ratio of Home Video Screenings	%	22%
Ratio of Theater Foot Fall	%	78%

Theatrical to Home Entertainment Screening Loss Sharing Ratio	Units	Value
Loss of screenings allocated to Home Video Sale Revenues.	%	44%
Loss of screenings allocated to Theatrical Foot Falls	%	56%

STEP 4:

Loss Estimation	Units	Value
The Total Number of Movie Screenings Viewed Through Pirated Screenings	million nos p.a.	118,300
Total Number of Potential Paid Screenings Lost Due to Cable Screenings	million nos p.a.	780
		-
Loss of Screenings to Home Entertainment Segment	million screenings	339.32
Realization Per Screening		0.26
Loss of Theatrical Revenue Due to Cable Piracy	US\$ mn	88.43
		-
		-
Loss of footfalls to Theater Segment	million footfalls	440.68
Loss of Revenue for Each Footfall	US\$	0.54
Loss of Theatrical Revenue Due to Cable Piracy	US\$ mn	237.55
		-
		-
Total Loss Due to Cable Piracy	US\$ mn	325.98

Key Data Sources used:

- ▶ UTV Software Ltd.
- ▶ Study of the Pirated Content sales
- ▶ Excel Home Videos
- ▶ SSKI Media Research 2007

3.6.3. Loss Due to Under Declaration: This refers to the loss of subscription revenues suffered by the broadcasters due to under declaration of subscribers by the cable operators. The estimated loss due to under declaration is US\$ 71 mn.

Methodology Adopted:

- Estimate the total bouquet cost for each home based on prescribed prices by the broadcasters.
- Calculate the deficit of collection at the operator level due to discrepancy in ARPU and bouquet cost.

Key Assumptions:

- Bouquet cost based on broadcaster's card rates - US\$ 16.3.
- Average revenue per subscriber - US\$ 4.4.
- Distributor margin is 25% of collected average revenue per subscriber

Calculation Details:

STEP 1:

Bouquets Cost based on Broadcaster Card Rates	Monthly Subscription Charges (US\$)
Star India	1.46
Set Discovery	1.29
Zee Turner bouquet	2.41
Sahara India	0.61
ESPN Star Sports	0.78
Other channels	2.20
Total charges	8.76

STEP 2:

Projected Subscription Revenue Based on Broadcaster Card Rates	Unit	Value
Monthly APRU as per the Broadcaster Rate Card	US\$ mn	9
Reach	mn homes	65
Estimated ARPU	US\$ mn	569
Distributor Margin	%	25%
Annual Revenue accruing to Broad Caster & MSO	US\$ mn	5,122

STEP 3:

Loss on Account of Low ARPU	Unit	Amount
Actual Average Monthly APRU	US\$ mn	4.39
Reach	mn homes	65.00
Estimated ARPU	US\$ mn	285.37
Distributor Margin	%	25%
Annual Revenue accruing to Broadcaster & MSO	US\$ mn	2,568.29
No of Subscribers Paid for Based on Prescribed Card Rates	mn homes	32.59
Under Declaration of Subscribers	%	50%
Revenue Loss Due to Under-Declaration	US\$ mn	2,554.02

Key Data Sources used for the Above Projections:

- ▶ UTV software ltd.
- ▶ MAA TV
- ▶ Hathway Cable
- ▶ Sahara One
- ▶ Dish TV

3.7. Loss Due to Under Declaration: Film revenue loss due to under declaration at the exhibition level:

	Amount US\$ mn
Ernst & Young Estimation	2,028
Declared Box Office Collections	1,566
Loss due to under declaration	461.76

Methodology:

- Estimate the potential box office revenue for the industry post tax based on occupancy rates and realization levels.
- These estimates have been benchmarked against industry figures of box office collections. The difference calculated between actual collections of the industry vis-à-vis capacity utilization indicates the loss due to piracy

Assumptions:

- Legitimate theatrical collections of the industry in 2006 - US\$ 1,566 mn.
- Screens
 - Number of Operational Screens in India – 9500
 - Number of Multiplex screens – 400 (350 North and 50 South)
 - Number of Single Screens in South India – 4400
 - Number of Single Screens in North India – 4700
- Seating Capacity
 - Multiplex – 300 seats
 - Single Screen (North India) – 800 seats
 - Single Screen (South India) – 600 seats
- Effective ticket realization and average occupancy rate 40%
- Average realization per ticket of single screen theaters US\$ 0.50
- Average realization per ticket of single screen theaters US\$ 3.00 to US\$ 3.3
- Show screening frequency, four shows a day. Operational 364 days a year.

Calculations:

		US\$		mn tickets	US\$ mn
Total Operational					
	9,500				
North Single Screens	4,400	0.49	40%	2,050	1,000
North Multiplex					
	350	3.29	40%	61	201
South Multiplex					
	50	2.93	40%	9	26
South Single Screens	4,700	0.49	40%	1,642	801
Estimated Box Office Collections				3,762	2,028

Key Data Sources used for the Above Projections:

- ▶ Pyramid Saimira Theater Ltd.
- ▶ Sathyam Cinemas
- ▶ Rajshri Productions
- ▶ Sringer Films

4. Employment Loss Estimates

Piracy also has a direct impact on employment. One is direct loss due to decrease in volumes of sales and the other is loss of employment due to the impact on production itself i.e. fewer records, movies, and games etc.

The loss of employment has been estimated assuming labour to be a semi variable expense and then extrapolating possible loss of jobs based on current levels of employment in the assessed media segments.

The methodology employed by the Ernst & Young team has used the current employment to revenue levels as the basis for loss estimation. As employment is assumed to be a semi variable component, the losses have been discounted by a factor before applying the derived revenue to employment ratio for estimating the total loss of employment. This factor has been calculated based on the Ernst & Young team analysis while evaluating key employment drivers such as current capacity utilization, impacted part of the value chain and technologies deployed amongst others.

The total estimated loss of employment to the M&E industry is estimated to be 819,712 jobs.

Market	Total Size of the Market (US\$ mn)	Total People Employed (Nos)	Revenue Per Employee (US\$ mn)	Total Loss to the market (US\$ mn)	Factor of Loss	Loss of Employment	% Loss
Gaming	24	3,500	0.0068	40	50%	2,927	84%
Television	4,263	506,290	0.0084	2,683	35%	111,530	22%
Films	2,095	5,000,000	0.0004	959	25%	571,896	11%
Music Industry	183	150,000	0.0012	325	50%	133,434	89%
						819,786	14%

Methodology:

Step 1: Legitimate Market Size Data Was Taken From SSKI Media Research Report 2007.

Step 2: Employment Estimation

The total employment estimation for each business segment includes the production, post-production, distribution and publishing/broadcasting.

Market	Total people employed (Nos.)	Sources
Gaming	3,500	FICCI Frames, 2007
Television	506,290	E&Y Estimates ²
Films	5,000,000	Federation of Indian Chambers of Commerce & Industry
Music Industry	150,000	Industry Meetings & EY Estimates ¹
5,659,790		

Music Industry Estimates¹:

The employment assessment for the music industry is based on the average revenue realization estimated for the Indian music industry at US\$ 976.

Television industry²: Current employment estimation

For estimating the total number of people employed with the television industry, the industry has been broadly divided across its value chain i.e. production, broadcasting and distribution.

Broadcasting:

Methodology

- The channels were organized based on their genres and ownership of the channels (bouquets).
- The average number of people employed per channel or bouquet organized by genres was considered to estimate the total employment in the sector. These employment benchmarks for each genre or bouquet of channels was derived based on published data and analysis done by Ernst & Young.

Key Assumptions

- Total number of channels: 228. This is excluding the foreign channels which only beam into India, however have no direct operations.
- Number of employees by channel genre and bouquets.
 - National news channel (stand alone): 300, Bouquet (3–4 channels): 450, Regional news channel (stand alone): 200
 - National general entertainment channel: 150, Every additional GEC channel in the same bouquet: 80, Regional general entertainment channel: 80
 - Regional news and entertainment (infotainment) channel: 120
 - Children’s entertainment channels, movies and music channels, religion based channels and sports channels: 80 each

Calculation:

Genre	Approx. No. of People Employed	Number of Channels	Total
General Entertainment (National)	150	13	1,950
Additional General Entertainment (National)	80	22	1,760
News (Stand alone)	300	3	900
News (Bouquet)	450	6	2,700
Regional News Channel	200	18	3,600
Movies & Music	80	51	4,080
Children	80	8	10
Infotainment	120	7	840
Religious	80	22	1,760
Sports	80	6	480
Total Number of Employees			18,080

Production:

Methodology:

- Estimate the number of unique programs across channels and average annual employment per unique program.
- Calculate the loss of annual employment based on the average annual employment estimated earlier.

Key Assumptions:

- Total number of channels programming in India: 240
- Average number of programs per hour: 2
- Average annual employment by program genre
 - Drama/soap for national general entertainment channels: 80
 - Drama/soap for regional general entertainment channels and infotainment: 60
 - Drama/soap for children and movies and music: 40
 - News programming, sport and religion based channels– 10
- Daily Fresh Programming
 - GEC: 4 hours, leading to 12 unique entertainment programs produced per annum. This does not include special content of films and shows.
 - News Channels: 1 hour of outsourced programming, 4 unique programs per annum
 - Infotainment Channels (all regional): 5 hours (3 GEC + 2 News), 20 unique entertainment programs per annum. This does not include special content of films, and shows.

Calculation:

Genre	Number of Channels	Average Fresh Programming Per day/ Channel Hours	No. of Programs Per Hour	¹ No. of Unique programs per Channel	No. of Programs New Programs Across Genres of Channels	No. of Additional People Employed Per Program
General Entertainment	122	3	2	12	1,464	80
News ²	53	1	2	4	212	10
Religious/ Spiritual	23	1	2	4	92	10
Children	10	4	2	16	160	60
Infotainment	23	5	2	20	460	40
Sports	9	1	2	4	36	10
Total					2,424	61

Note¹: The programming for the channels is distinctly divided by parts of week (weekend and weekdays) thus doubling the number of unique programs by a factor of 2.

Note²: For News programming only outsourced production hours have been considered for production employment estimation.

Total Loss of Employment in the Production segment:

Size of the Industry USD MN	Loss to the Industry USD Mn	Current Fresh Programs Broadcasted p.a. Hours Per annum	Average Additional People Employed Per Additional Program	Estimated Annual Employment in Production
4,263	2,683	2,824	61	172,520

Distribution:

Methodology:

- Estimate the number of people employed with the Cable and DTH players across all levels of offices including
 - Cable: LCOs and MSOs
 - DTH: Company employed and Dealers

Calculation:

Type of Distributor	Nos.	Employee Per Outfit	Total Employees
LCOs	50,000	6	300,000
National MSOs	4	1,000	4,000
Large Regional MSOs	3	400	1,200
Small Regional MSOs	6	30	180
			305,380

DTH

Type of Outfit	Nos.	Employee per outfit	Total Employees
Operational DTH Providers	4	200	800
Dealer	750	5	3,750
			4,550

Step 3: Determining the discounting factor for employment loss estimation

Gaming Industry: The primary loss in this sector is due to the box gaming segment. All of the box gaming content is foreign and only employs distribution and marketing support in India. Further, the mobile gaming industry, which generates over 50% of the total employment, suffers about 30% losses due to piracy. The revenue losses have been discounted by a factor of 50% before applying the derived revenue to employment ratio for estimating the total loss of employment.

Television Industry: Production and broadcasting segments, which employ 35% of the total workforce in this segment, are the worst hit due to piracy. It is estimated that the increase in revenues will directly impact the broadcasting revenues and increase production. The revenue losses have been discounted by a factor of 35% before applying the derived revenue to employment ratio for estimating the total loss of employment.

Film Industry: The impact of loss in the film industry is suffered predominantly by the production segment followed by exhibition and distribution. The industry is currently dealing with a problem of excess funds chasing limited key resources i.e. actors, directors, and producers. It is estimated that the volume production of films in the country is expected to stabilize with higher investment levels in technology and quality of production. The revenue losses have been discounted by a factor of 25% before applying the derived revenues to employment ratio for estimating the total loss of employment.

Music Industry: The music industry has lost large volumes of people especially in the distribution segment and new artists segment. It is estimated that the increase in revenues will increase the promotion of new artists and scale-up distribution operations, however will not have any significant impact on the production segment. The revenue losses have been discounted by a factor of 50% before applying the derived revenue to employment ratio for estimating the total loss of employment.

Key information sources used:

- ▶ Super Cassette Industries
- ▶ Mr. Bharat Bhushan (independent consultant)
- ▶ Excel Home Videos,
- ▶ B.A.G Films Ltd.;
- ▶ Bharat Bala Productions
- ▶ TAM Peoplemeter.

5. The Way Forward

The issue of piracy needs to be dealt holistically in collaboration with all stakeholders of the industry and law enforcement agencies at large. The key drivers of change for the industry are:

- The State; and
- The Industry

Role of the State:

A stringent law framework to protect copyright and tackle infringement supported by judicial infrastructure is imperative to minimize damage to and secure the future growth of the industry. The law makers need to create a robust legal ecosystem with comprehensive laws spanning across all forms of piracy supported by a speedy and low cost judicial infrastructure.

Fear of the law of the land is known to be one of the most effective tools for wiping out piracy. Singapore, in spite of its proximity to Malaysia, has managed to keep piracy levels at 30% due to management of retail piracy. This is entirely attributed to their robust legal framework and corruption free environment. In India, for instance, with the collaborative efforts of the industry, enforcement agencies and the judiciary a major retail piracy hub (Palika Bazaar, Central New Delhi) has been largely dismantled.

Another initiative worth mentioning has been by the Tamil Nadu State Government. The Tamil Nadu Government has taken the lead in tackling film and soundtrack piracy by creating and enforcing an effective and holistic eco-system. This framework has addressed all links in the chain necessary for curbing film piracy. These key links are:

a. Effective legislations:

Around 2004 the Tamil Nadu Government took legal initiatives to curb film piracy-

- Firstly including film pirates under the Goondas Act that allows detention of the offender up to 1 year without trial.
- Secondly by imposing criminal punishments and heavy monetary fines on exhibitors of pirated films.

This works as an effective multi-pronged strategy to tackle the menace at the production, trading and exhibition levels.

b. Dedicated enforcement mechanism: The execution is carried out through a special video piracy cell under the leadership of the Superintendent of Police. This video piracy cell has 12 units functioning across the state.

c. Judicial mechanisms: Special courts were set-up by the state government to tackle video piracy of films.

These efforts by the Tamil Nadu government have been lauded all over the country, particularly since they have been effective in curbing piracy significantly within the short span of their implementation. For this reason, other states like Kerala, Karnataka and Andhra Pradesh are actively considering or are in the process of developing a similar eco-system.

Role of the Industry:

The industry needs to act as a facilitator and coordinator of anti-piracy efforts. The industry associations therefore would play an important role by collating information, channelising isolated initiatives and creating a common platform, to advise and assist the state in policy formulation and accelerate the establishment of effective enforcement mechanisms.

Further, sharing of information between various players in the industry would go a long way in consolidating and replicating successful initiatives, which would benefit all players in the long run.

As an illustrative, the Andhra Pradesh Film Chamber of Commerce has created an Anti-Video Piracy (AVP) cell since May 2005. This dedicated cell led by a retired SP of the state (currently led by Mr. Keshava Reddy) along with 59 other retired police officers works in tandem with the Government and the law enforcement agencies to fight piracy.

The activities of this AVP cell are funded by a corpus created from a voluntary charge of US\$ 12.20 paid by each producer, distributor, and exhibitor on each print of their films. This seminal effort by the Andhra Pradesh film industry is based on well articulated and scientific methodology, which is reflected in their charter.

The other important illustrative, which underscores the need of sharing, recognizing and emulating the efforts of certain corporates is the Super Cassettes Industries' (T-Series) initiative to create a comprehensive database of public platforms (discotheques, restaurants, hotels, international radio stations) playing content owned by T-Series. This was done by undertaking extensive ground operations to collect information, followed up by intensive interaction with these entities, educating them about legal rights and restrictions and negotiating licensing agreements with them on mutually beneficial terms. Systematized implementation of this initiative over the last five years has made the revenue collection from PPRs for T-series go up to 10% of its total revenues. The revenues of the music industry at large from these sources are negligible.

The strategy employed and implemented by Moser Baer (a leading Indian optical disc manufacturer) is worth noting. The company has recently launched in the market DVDs and VCDs of Indian filmed content for less than one US dollar. The pricing is at an average 1 to 1.5 times the price of the pirated content DVDs/VCDs. This has significantly shaken the market since it has successfully managed to capture the market i.e. through low-end pricing, which has been traditionally catered to by the pirates. This strategy is reportedly being emulated by other content publishers and distributors as well.

These initiatives have offered some hope for a beleaguered M&E industry. However, one would have to wait and see how these initiatives are rolled out over a period of time and whether they do offer the much needed panacea for the industry.

6. Annexure: List of Company and Association meetings

Sr No.	Industry	Company
1	Film	UTV Software Ltd Sathyam Cinemas Shringar Group Akash Audio Pyramid Saimara GV Films Rockline Productions Rajshri Films Kaleidoscope Entertainment Pvt Ltd Kiran Chatterjee Harnath Chakarborty Venkatesh Films Bharat Bala Productions
2	Music	Lahari Recording Co. Pvt Ltd Super Cassettes Industries Limited Saregama Aditya Audio Times Music Sound Buzz Galata.com
3	Television	MA TV Star TV Sahara One Hathway Datacom Dish TV B.A.G. Films Ltd.
4	Gaming	Levelup Games Kreeda Entertainment Indiagames EA India Milestone Zapak.com Excel Home Videos
5	Industry Associations	IMI NASSCOM IMPPA MPAA Andhra Pradesh Film Chamber of Commerce Karnataka Film Chamber of Commerce South India Music Companies Association Eastern India Motion Pictures Association

Ernst & Young's Media & Entertainment Practice

Industry is the cornerstone of Ernst & Young's approach to professional services. Media and Entertainment is one such significant focus area. Our media and entertainment practice of more than 2,000 professionals across more than 100 countries provides teams of people focused on issues and challenges faced by the industry. Globally, Ernst & Young is the leading provider of professional services to this industry and is the lead auditor of Media & Entertainment companies on the 2006 S&P Global 1200 and the 2006 Fortune 1000 lists

Ernst & Young has also developed a Global Media and Entertainment Center to provide a global framework and focused arena where our partners and professionals around the world can share what we are hearing from other media and entertainment companies on a range of issues in assurance, risk, tax, transaction and finance. Ernst & Young India has a dedicated Media and Entertainment practice of more than 100 professionals across various cities who provide services to many of the country's leading media and entertainment companies and also the global media giants in India. We have developed a width of service offerings that has enabled us to establish a strong presence in at least three of the top five players in each segment of the industry.

On behalf of USIBC this study was undertaken by Ernst & Young Pvt. Ltd. The study endeavors to estimate the loss due to piracy in the media and entertainment industry with a special focus on films, television, music and gaming segments. The report is based on available data, extensive market research and anecdotal evidence gathered through industry interviews.

As your partners-in-change, we help you respond quickly and effectively to the challenges of today's entertainment industry.

For further information on Ernst & Young's services for the Media and Entertainment Industry, please contact:

Farokh T. Balsara
National Sector Leader, Media and Entertainment
Jalan Mill Compound, 95, Ganpatrao Kadam Marg,
Lower Parel, Mumbai 400 013, India
Tel: +91 22 40356500 (Board),
+91 22 40356550 (Direct)
Email: farokh.balsara@in.ey.com

About Ernst & Young

Ernst & Young is a global leader in assurance, tax, transaction and advisory services. Worldwide, our 130,000 people are united by our shared values and an unwavering commitment to quality. We make a difference by helping our people, our clients and our wider communities achieve potential.

For more information, please visit www.ey.com

Ernst & Young refers to the global organization of member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients.



ERNST & YOUNG PVT. LTD

