

Over-the-Top (OTT) Platforms in India

Sakshi Kulkarni¹, Krutika Konde² and Dr. Mangesh Bedekar³

¹⁻³School of Computer Engineering & Technology, Dr. Viswanath Karad MIT World Peace University, Pune, Bharat, India
Email: kulkarnisakshi26@gmail.com, krutika.konde@gmail.com, mangesh.bedekar@mitwpu.edu.in

Abstract—The rapid growth of internet services and smart devices has changed multimedia content consumption patterns and fostered the development of many Over-The-Top (OTT) providers. As a result of OTT services, viewers today have expectations that are drastically different from those of the past. As on date there are roughly 40 OTT providers in India that deliver media content over the Internet. According to market research, there are already close to 350 million users in India, with that number anticipated to rise to 500 million in the not-too-distant future. There is fierce competition among OTT service providers. Viewers can watch digital material whenever and wherever they want using OTT.

OTT being a media-on-demand service (predominantly Video) that provides a wide range of content for audiences of all age groups and in various genres. Streaming video is becoming a more popular and successful approach to reach today's viewers, and it's the best option for enterprises looking to engage new consumers during the discovery stage of the customer journey. Through the trinity of sight, sound, and motion, advertising over streaming media platforms create an effective connection between the enterprise and an interested consumer. With the wide acceptability among subscribers, OTT platforms make money and gain popularity. This paper throws light on the OTT platforms, their economics, Advertising on the OTT Platforms, and the Legal Aspects from an Indian perspective.

Index Terms— Over-The-Top, OTT, OTT Providers, OTT market, OTT video streaming, OTT Metrics, OTT Advertising, OTT Platforms, Revenue Models.

I. INTRODUCTION

Traditionally, movies and other audio and video content have been consumed through television and theatre. Technology became easily accessible at home with the emergence of VHS, DVDs and Video disc rental services. In addition, the content was delivered via cable television over coaxial and fiber optic connections. Direct-to-Home (DTH) technology, which provided high-quality broadcast and on-demand information directly to the viewer via satellite and dish transmission, was another upgraded service. Technology advancements have recently made watching movies or TV shows more convenient through internet streaming or Video on Demand (VoD) services. The streaming of video content over the Internet via Over-The-Top (OTT) applications is referred to as VoD.

Any streaming service that offers material to viewers over the Internet is referred to as Over-The-Top (OTT). OTT platforms in India and elsewhere which have gained popularity are Netflix, Disney Hotstar, Amazon Prime Video, to name a few. Viewers can join up for a variety of OTT services and access them through websites and applications. Laptops, smartphones, tablets, smart TVs, PCs, and other devices are commonly used to access these services [6].

The video streaming industry in India is predicted to grow at a Compound Annual Growth Rate (CAGR) of 21.82 % by 2023, with revenues of Rs. 11,977 crores. Global OTT revenue is expected to reach \$150 billion by 2024, according to a Statista analysis [10].

Unlike for most other industries, the Covid-19 induced lockdown situation was a game-changer for the entertainment industry. The OTT platforms were widely available, and the nature of OTT content delivery made it simple for users to switch to watching content streamed by OTT providers [3]. The pandemic's persistence, which resulted in the second and third waves of lockdowns around the world, led to a surge in OTT content consumption [Amidst second COVID-19 wave, online streaming continues to soar. [4] Especially during the pandemic, a considerable increase in the number of paying customers for OTT material was recorded [1]. As seen in [2], the availability of current broadband infrastructure has a favorable impact on the expansion of the paid OTT video market [9].

II. LITERATURE REVIEW

Although there are over 300 OTT platforms available on the Internet, about 10-15 are well-known and widely used. There are about 40 OTT providers in India that provide original media content via the internet. There are presently 350 million users, but this number is likely to rise to 500 million in the near future. According to the report, there is fierce competition in the OTT provider market, which has contributed to the market's rise [9].

India is a fight for Amazon and Netflix, according [5], and will emerge as a site for the spread of OTT video services. YouTube has been an open platform with media libraries for all forms of video for major Indian broadcasters [12].

OTT apps, according to [8] , are unquestionably the future of India. The most crucial finding of her research was that half of all OTT customers are suffering from "subscription fatigue," which is caused by the viewer's engagement with so many different OTT systems. It was also stated that the advent of large-scale OTT platforms like Disney Plus could limit the opportunities for smaller, niche companies [11].

In a niche analysis based on a questionnaire, [7] found that OTT gives better levels of pleasure than TV viewing and that OTT platforms and traditional TV media are in severe competition.

[13] lists some of the advantages of OTT platforms, including

- (1) connectivity
- (2) cost-effectiveness
- (3) convenience
- (4) content variety
- (5) device independence

As the OTT video market grows, providers throughout the industry are focusing on two things: enticing new subscribers and retaining existing ones. What techniques could OTT providers employ to attract and retain more customers? What customer-acquisition levers are available to competitors in the space? Which methods of retention are efficient, and which are not?

III. OTT MODELS OF CONTENT DELIVERY

Various models are used by OTT platforms to earn revenue. Most prevalent models are divided into the following categories as shown in Figure 1.

IV. THE OTT LIFE CYCLE

Most OTT platforms follow the lifecycle stages as indicated in Figure 2.

V. THE INDIAN OTT MARKET

The Indian OTT market is picking up rapidly. According to a 2019 survey from KPMG, 87% of online video viewing in India is done on the Smartphone. Big OTT Platforms are launching Mobile-only platforms in the Indian market e.g., Disney. Disney's Mobile only platform is expected to be cheaper than their other offerings and is also expected to have High Definition (HD) streaming too. Netflix and Amazon Prime have also launched Mobile-only platforms.

In another development across the spectrum, the Big OTT platforms have tied up with telecom providers to provide their subscriptions along with the Data plans that the telecom providers offer to its customers. This comes on the technical advantage in the Indian market that the 4G coverage in India is good. Further the data

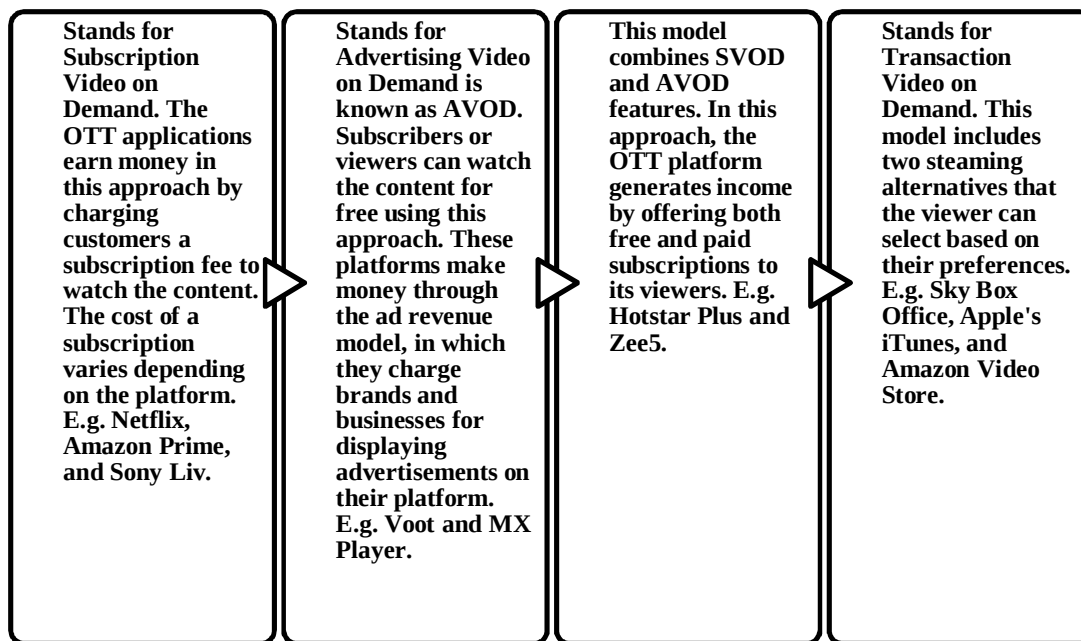


Figure 1 – The OTT Platforms for Content Delivery

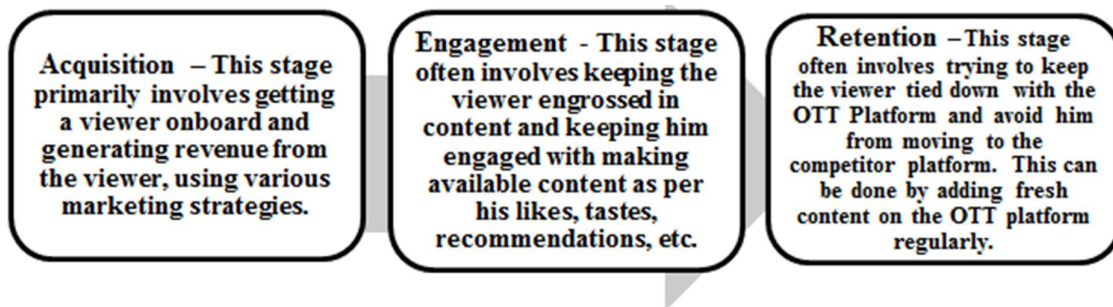


Figure 2 – The OTT Life Cycle

rates offered by the telecom providers are among the cheapest in the world. The speeds for Data provided by the telecom companies are satisfactory too.

Statistics show that the OTT Market in India is expected to grow at a projected Compound Annual Growth Rate (CAGR) of 25-30% as indicated in Figure 3 below.

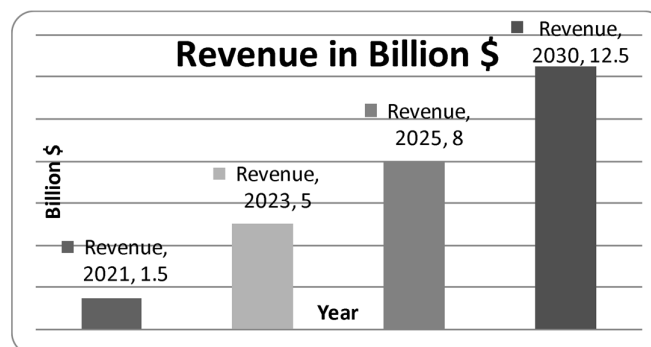


Figure 3 – The Indian OTT Market Revenue in Billion \$

VI. CONSUMPTION PATTERNS OF OTT MEDIA IN URBAN AREAS

The Indian OTT market is rapidly gaining pace of viewers using the Smartphone catching up with viewers watching OTT content on other devices like Desktop / Laptop and the traditional mode of watching on Television.

Statistics show that the OTT Viewership Market in India is restricted to the prominent three devices as indicated in Figure 4 below.

Majority of the Indian households had a Television for years. Then came the Desktop / Laptops during the decade beginning 2020. With Nuclear families on the rise in India, it is also common to note that there are three generations staying in average households together. As much as 95% of Indian homes are Single Television homes. The three generations have to schedule time amongst themselves to get a piece of the television at home. This has led to a heavy demand for smartphones. In the Indian market, Smartphones at affordable rates are available from a lot of Original Equipment Manufacturers (OEM) which led to increase in usage and viewership too.

OTT platforms have a large range of video offerings wherein some are family friendly; some can be viewed with your partner while some are restricted to personal consumption only. Gone are the days when the entire family used to sit together with all eyeballs directed towards the one TV set at home in the living room. These days the most common occurrence in Indian households is video consumption with the viewers back to the wall and or locations that are privy and suitable to the viewer.

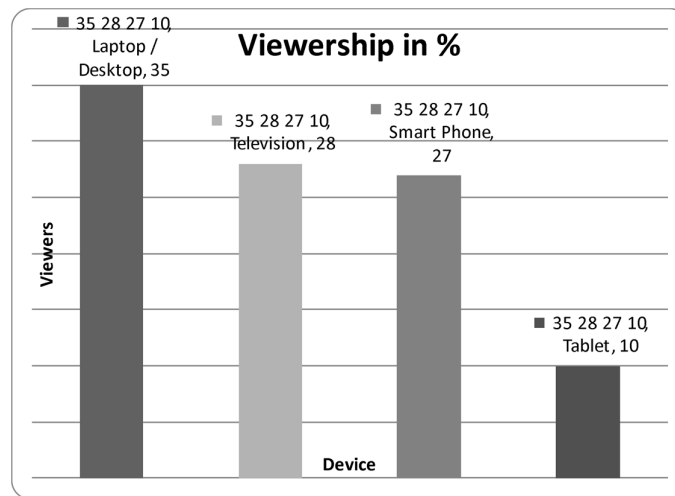


Figure 4 – The OTT Viewership Market in India

VII. CONSUMPTION PATTERNS OF OTT MEDIA IN RURAL AREAS

With the rapid penetration of electronic gadgets and the increasing reach of the telecommunication network, Rural India has not been untouched by the OTT platform. This is in contrast to the Television penetration in the early 90's when the range of terrestrial television broadcasts was largely restricted to the urban areas only.

The content on the OTT platform is seeing rapid localisation and is going multi-lingual to address the large masses in rural India. Family friendly content saw voice-overs and dubbing in local dialects, while international content saw rise in subtitles. This rise in the rural audience has made the Indian OTT market rising to the Second spot, first being China.

Smartphone and telecommunication infrastructure jointly has led to OTT content consumption on Smartphones in a wide range of languages like Hindi, Bangla, Telugu, Tamil, to name a few.

A lot of video content these days is Dubbed in local languages and is also observed that there is a significant amount of Hindi speaking audiences which are now consuming dubbed movies originally made in Telugu, Tamil and other Indian languages.

After conquering the rural population some OTT players are exploiting the Rural population for increasing their market footprint. OTT provider, Eros, has partnered with Bharat Sanchar Nigam Limited (BSNL) Indian official, government owned, telecom service provider, with the largest network coverage which reaches smaller rural markets too.

VIII. ADVERTISING ON THE OTT PLATFORMS, THE CURRENT TREND

With the rise in OTT Viewership, there is a new opportunity for marketers — OTT advertising. The primary reason for advertisers to be drawn towards OTT advertising is that the ads content can reach a smaller but more targeted audience as compared to any traditional, say TV broadcast advertising which usually caters to a broad audience.

The trend to incorporate OTT into the overall marketing strategy seems to be on the rise, apart from the social media, audio ads, website etc. in the marketing strategy to engage with the intended audience in multiple meaningful and individually tailored ways.

The platform displays ads directly to the audience through the streaming devices and services. The audiences consume these ads on their own devices. The amount spent on advertising can thus reach a more targeted and niche audience and can reduce spend waste considerably.

A. Advertising on the OTT Platforms, Best Practices for Ads

For companies looking to advertise on OTT platforms, there are a few guidelines to follow so as to make sure that the ads are relevant to your audience. The guidelines are as follows,

Keep Them Short – the average Audience will not see a minute-long ad, unless the viewer can recognize and can connect with the brand. Most viewers will skip the ads as soon as the "skip ad" button on the video content is enabled. It is better that the ads be short. They better be under 20/30 seconds. Around 15 seconds is good ad time.

Formatting needs Attention – the created ads might look great on bigger screen(s), Smart TVs, Internet Enabled TV's, etc. but attention needs to be paid on how it will look on an average Smartphone screen too. The ads must be prepared considering the variety of devices, including TVs, laptops, tablets and smartphones where it will be viewed.

Keep Ads Relevant – the ads should be current and relevant to the viewers. It is good to understand the audience before delivering the ads so there can be an individually tailored experience that will build trust and convert viewers into customers.

B. Factors making OTT Advertising successful

Some of the factors that make OTT Advertising successful are as follows:

Reach – The OTT Ads reach a large audience.

Targeting – Targeting is the primary strength of OTT advertising. Reaching a focused group of audience saves involved resources and increases efficiency.

Immediate Data analysis – Most of the OTT platforms already have systems to monitor viewer engagement. Ads data analysis viz. Information on types of data, impressions, etc, helps to get the advertisements right.

Cost efficiency – OTT advertisements are highly efficient in tracking the reach, number of views, etc.

Creativity – OTT platforms carry a variety of video quality including high-quality videos. Businesses can leverage this by creating specific Ads based on device form factor and can target them to a select audience.

IX. OTT AND THE LAW, LEGAL AND REGULATORY ISSUES

Several countries have regulatory guidelines for OTT Platforms such as Australia, Singapore and the UK. The Central Government of India, issued a notification on November 9th, 2020 which recommended bringing all OTT platforms under the scope of the Ministry of Information and Broadcasting (MIB).

Another notification dated February 25, 2021 brought OTT platforms under the new IT Rules 2021 and aimed to formulate a single framework for regulation for OTT platforms. This OTT regulator will be accommodated in the IT Act 2000. They were labelled as the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021 to regulate OTT platforms [14].

In India, OTT platforms are termed as publishers of online curated content. Online curated content is any audio and or visual content such as films, web-series, podcasts etc. which are made available to the viewers on demand, including but not limited through subscription by OTT platforms [15].

The IT Rules 2021 suggests reworking of the digital media landscape. It indicated that all the OTT players have to be more involved in regulating content.

The Rules indicate the OTT provider does self-classification of the content on their platforms and that they do so without any involvement of the Central Board of Film Certification (CBFC).

OTT platforms should adhere to the display of age-based content descriptors for all parts of the curated content on their platforms, they should also display viewer discretion advisory, where applicable.

The OTT platforms are required to abide by the Indian Penal Code, and the Indecent Representation of Women Act 1986 [16]. To regulate or NOT to regulate is still undecided.

X. IMPLEMENTATION OF REGULATION & COMPLIANCE IS A CHALLENGE

If the goal of OTT censorship is aimed to regulate what content Indian audiences consume, it is expected to be a long-lost battle. A prime example is Porn. India is still the world's third-largest consumer of porn even though the Central Government regularly blocks reported porn sites.

It is well proven, from other examples, that excessive regulations will incentivize a boom for regulated content and will lead to a boom in the black-market boom. It may very well lead to bankrupt the relatively smaller OTT providers who might choose to abide by the rules. As per industry estimates the few OTT providers are marred with piracy and are already losing up to 30 percent of their annual revenue. Appealing against and fighting legal battles over pirated content is costly and time-consuming too.

XI. CUSTOMER IS THE KING?

Viewing of content on OTT is requested / demanded by the viewer, it is also expected that the control over censorship should also reside with the viewer. The viewer should be able to indicate their level of censorship on the content they intend to watch. The content can be censored in both the audio and the video formats. These days censorship involves the use of an "beep" sound to overrule the audio in the content, which may sound unpleasant to a set of viewers. Instead, a warning may be presented as "censored content" in the subtitles frame for the audio content which is to be Censored. For Video content censorship the video frame is blurred out or blurred thus implementing censorship. Technology is available today to implement these censorship mechanisms at the user's device level, termed as edge computing. The devices (Smart TV, Android TV, Laptop, Tablets, Smartphones, etc.) used today to consume OTT content have the necessary computing power and storage power to execute this censorship at the viewer's device in run-time. Moreover, most of the OTT platforms content are streamed through custom built software applications, where these censorship rules can be easily applied.

Self-censorship or Individual Censorship can be implemented in today's technology enabled world. Here, each Viewer gets to decide his/her censorship level to be enforced on the media to be consumed. It can be a FIVE-point scale or a minutely tuned TEN-point scale with the Highest-level implying Highest level of censorship to the lowest level implying No Censorship.

Each piece of Media content can be automatically labelled to be marked as inappropriate for a certain group of audiences (censored) in any of the available media formats Viz. Text, Audio or Video.

A fully automated step-by-step multi-stage pipeline approach to censorship based on Machine Learning can be implemented to this purpose. The three forms of media(s) as indicated above, can be marked (censored) independently.

For Textual content, which predominantly is the SubTitles in the media, or also can be the textual content in the images / video that is displayed on the screen, this textual content will be operated on by the censorship pipeline.

The pipeline to have the following stages,

- (1) Input text (for Subtitles) / Optical Character Recognition (for textual content in the images / video that is displayed)
- (2) Ignore (Skip) the stop words
- (3) Identify key words and phrases
- (4) Match the above identified keywords and phrases with the Dictionary of words (which are to be marked / censored)
- (5) Check the censorship level chosen by the end user and Blank out (Delete) these matching words
- (6) Issue warning messages about certain words being censored based on the user's level of censorship Text Content Censored.

The dictionary of words, in this case can be implemented by a Bag-of-Words approach with weights to each word, each bi-grams, and n-grams, assigned by the machine or by experts, one time.

For Audio Content, the audio is passed through the audio processing pipeline that will identify to label the audio content (as censored). The multi-stage pipeline will detect audio parts, identify if this is explicit, and if so, it should be compared to the censorship level chosen by the end user. If the censorship level requires the content to be blocked, the specific piece of audio will be replaced by the "beep" sound with a warning in the subtitle section that says "Audio Content Censored".

Similarly for Video content, the video can be processed at a frame level, scene level to identify presence of any explicit content, to label the video content (frame / scene) (as censored). At run-time, if found, it should be compared to the censorship level chosen by the end user. Replace the original video frame with a pixelated video frame where the user won't be able to see the specific frame as per the user's censorship level.

This labelling information for Text, Audio, Video will be encoded with the media itself and is streamed to the user's device.

This censorship pipeline can be activated when any media content is uploaded on the streaming media platform. All the processing required is to be done one-time only and is required to be done on the Media Servers of the OTT service provider. The OTT Service provider is expected to have the level of Hardware and Software required for this.

This type of censorship requires minimal to No Hardware modifications at the viewers level on the user's device and will not affect the underlying device hardware. This is only Software implemented censorship and can be rolled-out as a software upgrade, on the OTT Platform.

XII. CONCLUSION

OTT platforms provide a diverse range of content. The pandemic caused by Covind-19 resulted in an increase in OTT viewership and popularity, further powered by their simplicity and inexpensive infrastructure requirements. This form of viewer driven censorship will also facilitate reducing the overhead and burden of censorship, on all the involved stakeholders. It further gives complete control to the end user as OTT is primarily used as a Video on Demand (VoD) service. This form of censorship will also enable the viewer to have full right and authority.

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