

# Over The Top (OTT) Market in India – Factors Driving Growth, Evolving Business Models & Challenges – A Study

Nipun Sharma\*  
Padmakali Banerjee\*\*

## Abstract

OTT business worldwide has picked up in recent years transforming the nature and dimensions of international business in general and telecom sector in particular. As major channel of market delivery system OTT service providers are making great strides in global business integration while delivering audio, video and other media over the internet while bypassing traditional operator's network. In India exponential market expansion coupled with a streak of policy measures have revolutionized the scope and extent of "Over-The-Top" (OTT) applications. The market enabling factors that are responsible for the growth of OTT business in India have helped Indian market to integrate with global business paradigm in a significant manner in recent years, thereby contributing to economic growth prospects of the country. This paper explores various business models related to OTT business and critically analyzes their implications in making OTT service providers a global phenomenon while suggesting steps for further improvement.

Copyright © 2020 International Journals of Multidisciplinary Research Academy. All rights reserved.

## Keywords:

Over the Top;  
Service Providers;  
Telecom;  
Communication Technology;  
Business Model.

## Author correspondence:

First Author,  
Mr. Nipun Sharma  
Head of Jeeves (A Flipkart Company)  
Villa No. 680, Adarsh Palm Retreat Villas  
Bellandur, Outer Ring Road, Bangaluru, India , 560103

Second Author,  
Prof. (Dr.) Padmakali Banerjee  
Pro Vice Chancellor,  
Amity University Haryana, Pachgaon, Manesar, Gurgaon, India , 122413

## 1. Introduction

The OTT service providers have come up in a big way in the contemporary world of global business. This is a major channel of market delivery system and the concept is becoming more robust as global business integration is an ongoing process. OTT service providers generally deliver audio, video and other media over the internet while bypassing traditional operator's network. Since, the OTT players do not require any business or technology affiliations with network operators for providing such services, they are often known by the term "Over-The-Top" (OTT) applications.[1] The Telecom Regulatory Authority of

\* Doctorate Program Scholar, Amity University Haryana, Gurgaon, India

\*\* Pro Vice Chancellor, Amity University Haryana, Guagaon, India

India (TRAI) has defined ‘OTT provider’ as a service provider which offers Information and Communication Technology (ICT) services, but neither operates a network nor leases network capacity from a network operator. OTTs deliver ICT services to users over the internet and therefore going ‘over the top’ of a Telecom Company’s (Telco) network.[2]. The growing impact of OTT services on telcos’ voice and messaging revenue is a widely accepted phenomenon in global paradigm. Their impact on mobile data traffic and telco data revenue is also areas that have been acknowledged as critical points for consideration in contemporary business scenario.

OTTs are having a major impact on the way we communicate, entertain, socialise & consume content. It becomes particularly important for a country like India which has one of the youngest populations in the world & where number of internet users are increasing at one of the fastest global rates. In entertainment space alone, globally OTTs have reached the \$76 billion mark in 2018 and potential of Indian market has been estimated at \$5 billion by 2023. [3] Globally, the OTT market is expected to grow to a humongous figure of USD 156.9 billion by 2024, at a CAGR of 14.0% during the above-mentioned duration of time. The rising internet penetration and its associated work related to digital marketing and content development especially with regard to telecom and entertainment industry have opened the doors for galloping growth rates of OTT especially in fast moving developing countries as India, China, Brazil, etc. [4].

This paper attempts to study Indian OTT market (one of the most hyper competitive as well as the most diverse in the world), factors driving explosive growth, evolving business models and the unique challenges being faced.

## **2.0. Ongoing Research Dimensions – A Review**

There are several areas where impact of OTT in modern business domain is perceived. With regard to impact of OTT on Telco industry and revenue generation, a study conducted by Informa’s World Cellular Revenue Forecasts 2018 predicted that exponentially increasing adoption and use of Over-The-Top (OTT) messaging applications will be responsible for global annual SMS revenues to fall down from US\$120 billion in 2013 to US\$96.7 billion by 2018. The study argues that Cost, Content availability, Convenience, Smartphone and mobile internet penetration, User experience, Features and Net neutrality as factors that are instrumental in the increased adoption of OTT services. The study also clarified that OTT apps have destroyed the commercial value of similar products across broad industries because of high velocity factor of transactions of which

many are offered for free. According to HBR, to accomplish higher visibility in globalized market domain OTT requires international brands reconfiguring their business ecosystem with media companies, agencies, and third-party data platforms, while reiterating the need for potential brands need to look internally to rethink the way they themselves organize, operate and do business with clientele base.[5]. A report “Consumer OTT VoIP Outlook: 2013 to 2018”<sup>9</sup> by Ovum, highlights that the OTT VoIP market is growing at a rate of 20 percent. Its application’s usage to reach 1.7 trillion minutes by 2018 and that translates to US\$63 billion in lost revenue. According to this study, as a result of increasing demand of online applications for messaging, by the year 2016, telecom operators would stand to lose revenue worth US\$54 billion in messaging services. [6]. In his study Eun Park identifies five most commonly occurring combinations for viable OTT distribution network while enhancing market dominance in the form of ownership, vertical integration with content producers, platform/multiplatform compatibility, service type, and revenue model. A cluster analysis of such combinations has shown media business viability in different configurations. [7]. In a major study, Christian Kramer and Riem Jalajel states that cooperation with over-the-top players (OTTs) is rapidly becoming a well-established element for telecommunications companies (telcos) in global dimensions. In particular, partnerships in the entertainment industry such as those with Spotify, Deezer, and Netflix display high dynamics in terms of sales and innovation partnership agreements being signed. The study further reiterates the need for adopting appropriate principles for cooperation management related to OTT clusters.[8].

In another major study Murri suggests five generic telecommunication operator strategies can be distinguished in dealing with OTT players. They are denoted as aggressive, opportunistic, competitive, reactive and collaborative. Aggressive strategies include technological blocking of OTT communication services such as Skype or distribution of ad blockers which target the main revenue source of OTT players.[9]. With regard to competitive strategies many operators experience difficulties to cope with speed of innovation and restructuring of cost structures by OTT players.[10]. While collaborative approaches aim at cooperative customer value creation along with mutual economic benefit for OTT players and telecommunication operators, cooperation is a medium or long-term collaboration of economically independent organizations.[11]. Cooperation in many instances is voluntary and can generally be canceled by both companies at any time. [12].

### 3.0 Types of OTT Apps

Essentially there are three types of OTT apps depending on the type of service provided:

OTT Type	Example	Direct competition with Telco
Messaging and voice services	WhatsApp, We Chat, Hike, Facebook Messenger etc.	Yes
Application ecosystems linked to social networks & e-commerce	Facebook, Instagram, Amazon, Flipkart etc.	No
Video/audio content	Tik Tok, YouTube, Netflix etc.	No

### 4.0 Key factors responsible for rapid growth of OTTs

One of the primary reasons for fast growth of OTTs has been the rapid increase in internet penetration. As per 2019 Mary Meeker report, at 12% India has the second highest number of internet users globally which is only behind China at 21%. [13]

The key factors for the rapidly growing Internet – OTT ecosystem in India are as under:

1. Quality & coverage of 4G services: First 3G and now 4G coverage is rapidly increasing in India. India now ranks amongst the Top 10 countries in the world in terms of population covered by 4G. Importantly it has not been at the cost of quality of coverage. In fact download speeds have increased along with coverage.
2. Affordability: 4G data rates have been steadily falling. From an approximate cost of Rs 250 per GB, data rates have fallen to as low as Rs 6 per GB post entry of Reliance Jio. These data rates are lowest in the world.
3. Penetration of Smartphones & Connected Devices: India is the fastest growing smartphone market in the world. There are now 350 million smartphones users in India. [14]. After smartphones, highest amount of content viewership is on TVs. With increasing internet penetration and popularity of OTTs, smart TVs sales are increasing at a rapid clip. According to IDC, smart TVs contribute to 40% of total TV shipments, which showed a growth 55% YoY, in April-June 2019 quarter. [15].

The count of smart TVs in India is expected to double from 10 million in 2018 to 20 million in 2020. [16].

4. Extensive Span of Rural Markets: Rural markets, which are more price sensitive, saw tremendous growth post launch of low cost 4G enabled feature phone by Reliance Jio. Already 7 crore Indian customers have migrated from 2G to 4G by buying JioPhone at price of Rs 1500, which is approximately one fourth the price of a smartphone. The 4G feature phone penetration in rural areas is likely to grow further as Jio has slashed the price from Rs 1500 to Rs 699 w.e.f. 1<sup>st</sup> October, 2019. [17].
5. Migration of 2G/3G Networks to 4G: Both Vodafone Idea and Airtel are rapidly upgrading their 2G/3G networks to 4G to meet the challenge of Reliance Jio which is 100% on 4G. As a result large number of customers are getting the advantage of faster networks which makes use case of OTTs even more attractive.
6. Collaboration of TSPs with OTT players: Increasingly TSPs are tying up with OTT players like Netflix, Amazon Prime Video, Zee5, Hoichoi etc. to offer bundled packages on post-paid to drive subscriber acquisitions as well as retention. Recently Airtel launched bundled package with Amazon Prime Video on pre-paid as well.
7. TSPs/Broadcasters launching their own OTT platforms: In classical case of ‘if you can’t beat them, join them’, Telcos are launching their own OTT platforms like Airtel launched Hike for messaging and Wynk for music. Similarly Jio launched Jio Chat and Jio Music. There has also been a recent trend where Telcos especially Jio have started buying OTTs like Saavn. On similar lines top broadcasters in India have launched their own OTT platforms e.g. Hotstar, Sun NXT, Sony Liv, Zee5 & Voot. [18].
8. Regional Content: For a diverse country like India where there are 23 official languages, emergence of regional content has been a big growth driver. Hoichoi, an

exclusive Bengali language OTT, was launched recently. Even a global OTT like Amazon Prime is now available in six Indian languages.

9. Growth of Indian Content: International OTTs instead of merely relying on their international content or syndications have started making large investments in original Indian content. Similarly Indian OTTs like Alt Balaji and Shemaroo have allocated big budgets for creating original content.
  
10. Tie Up - Sports & Live Events: Popularity of OTT platforms is zooming as they have started acquiring broadcast rights for major sporting events as well as live events. US OTT platform ESPN+ acquired the exclusive English language rights to all 26 matches of the Copa America soccer tournament. [19]. Star India owned Hotstar bought the global media rights for 5 years of Indian Premier League (IPL) for a record Rs 16347.5 crores or \$2.3 billion. This translates to Rs 54.5 crores or \$7.8 million per match which is so far highest in the world. [20] Broadcast of live events as well as shows like Bigg Boss on Voot is also driving viewership & engagement.
  
11. Hyperactive Market: India had 32 OTT players which is one of the highest in the world. The count is now estimated to have gone to 40 plus. Various business models, content and delivery formats are being attempted and this is leading to robust growth in the market.
  
12. Diverse nature of Demographics – Youth Culture Dominance: India has the highest number of young people in the world. As per BCG it is estimated that digital media constitutes 16% of media. However, for the Indian youth, already 25% of media consumption is digital. [21]. Hence uptake of OTTs in Indian market will be one of the fastest in the world.
  
13. Evolving Portfolio of OTTs: OTTs are rapidly evolving/enhancing their offerings across various business segments to deepen/monetise engagement with customers e.g. WhatsApp is exploring payments space by integrating with UPI. Similarly

Amazon has Amazon Pay, Amazon Prime Video, Amazon Music etc. Flipkart has Phone Pe and Facebook has recently announced plans to launch a crypto currency Libra on their platform.

14. Customisation of Services: As Indian society becomes more consumerist, people are moving from community viewing or social viewing (cinema & TV) to personal viewing. OTTs have a tremendous advantage of offering customised content depending on every individual's unique choice.

15. Affordability & Convenience: Indian customers are highly price sensitive. Most of the OTTs either offer free services or at a very affordable price. This works out to be cheaper & more convenient than traditional alternatives.

## 5.0 Business Models

Currently there are 5 kinds of business models:

- Advertising Led e.g. YouTube, Tik Tok, Facebook etc.
- Subscription Led e.g. Netflix
- Transaction Led e.g. iTunes
- Bundled with TSP offerings e.g. Airtel TV or Vodafone Play
- Future monetization of customer data/platform e.g. WhatsApp

A brief overview of each of the business models is as under:

- i) Advertising Led: A lot of OTTs like Tik Tok, YouTube, Facebook etc. are mainly dependent on User Generated Content (UGC). Advertising is the main source of revenues for these platforms. Some of them also try to offer premium services where advertisements are blocked and customers are charged a small fee e.g. YouTube Premium. This is also called freemium model.
- ii) Subscription Led: OTTs like Netflix are subscription based only. They invest in original content or offer content which is available to their customers without advertisements. In other words advertising dollars are compensated by subscription fee dollars.
- iii) Transaction Led: Unlike subscription led OTTs, transaction led OTTs charge for a specific content or event which is watched or consumed e.g. iTunes.

- iv) **Bundled with TSP offerings:** In this case TSP offers a bundle to the customer i.e. telecom services with OTT offerings. For example Airtel offers Amazon Prime Video free with all post-paid plans. Recently it has started offering it on pre-paid platform also with unlimited bundle of Rs 299 with 28 days validity. Advantage to TSP is an attractive subscriber acquisition and retention offer. On the other hand OTT gets to leverage the huge distribution network of TSP as well as often gets a revenue share.
- v) **Future monetization of customer data/platform:** Most OTTs start with free services and later on leverage customer data for future monetisation or developing future products/technologies. WhatsApp is currently the most popular digital messaging service in India (300 to 400 million subscribers). It neither follows advertising or subscriber led model. However, it's customer data is available to it's parent Facebook for insights. It is also planning to shortly launch payments through UPI on it's platform.

## **6.0 Challenges**

The main challenges OTTs are being confronted/ likely to be confronted with are as follows:

### ***i) Censor guidelines on content***

Currently CBFC's remit is limited to theatrical releases and online content is not part of it's mandate. One view is that it may be inappropriate to equate the regulatory logic of film or television which is community based viewing experiences, to online content viewed by the individual on their laptops or phones in the palm of their hands. [22].

On the other hand Madras High court had temporarily banned Tik Tok in India on the ground that it was 'dangerous for children'. The ban has since been revoked.

In absence of official guidelines, major OTTs (with notable exception of Amazon Prime) have signed a code to self-regulate the content under Internet and Mobile Association of India (IAMAI). Basic intent is to ensure that OTTs conduct themselves in a responsible & transparent manner without compromising on consumer interests. [23].

***ii) Security Issues – Government Regulations and Guidelines***

Government of India is concerned by the rampant circulation of fake news, misinformation and misuse of social media by criminals, anti-social elements, paedophiles etc. Unlike highly regulated Telcos, there are no similar strict regulatory guidelines for OTTs. GOI had to force WhatsApp to appoint a Grievance Officer. Similarly senior officials of Twitter were summoned by a Parliamentary Panel. As a result Twitter announced a new feature to make it easier for users to report misleading information about voting during the recently held Lok Sabha elections. [24].

India has asked WhatsApp to digitally fingerprint every message sent on its platform without breaking the encryption, to ensure traceability of all content shared on the app. This will help in tracing the originator of the message. [25]. WhatsApp is currently resisting the government's request on the ground of risk of surveillance of citizens by government as well as investments required for overhaul of their technology infrastructure. In absence of such information by OTTs, government often goes in for data shutdown in areas impacted by riots, curfew and during encounters with terrorists by security forces. This is done essentially to stop circulation of rumours, fake news, communally sensitive propaganda etc. However, this blanket clampdown puts citizens at huge amount of inconvenience.

***iii) Privacy Concerns of Customers***

Privacy and protection of personal data available to OTTs is becoming a major concern area for governments & regulators across the world. This is also putting a lot of pressure on OTTs to self-regulate. Recently David Wehner – CFO, Facebook announced that privacy concerns were a headwind leading to expected deceleration of revenue growth. He also announced that Facebook's third-party targeting would get impacted due to the forthcoming launch of Clear History feature. [26].

***iv) Concerns of Telcos***

Revenues and profitability of Telcos get impacted by messaging, voice and video calls offered by OTT platforms (most often at zero charges).

While OTTs are covered by the Information Technology Act 2000, Telcos have to operate with far stricter regulatory compliances & licensing obligations including customer acquisition norms, lawful interception (LI), customer grievance/redressal norms, entry/exit obligations, quality of service (QoS) norms & penalties etc. OTT players have no such obligations.

Telcos have to make huge investments in both rapidly evolving technologies (2G/3G/4G & soon 5G) as well as capacities to cater to surging data traffic. Telcos in India are already under severe financial stress with three of the four operators reporting losses.

**v) *Reinvention by Direct to Home (DTH) Players***

DTH players like Tata Sky and Dish TV are also reinventing their offerings to take on challenge of OTT players. Tata Sky recently launched Binge which has brought digital content from multiple apps on a single platform. As a result customers would be able to watch their favourite OTT and TV programs on TV screen without subscribing to each provider.[27]. Dish TV has also announced similar plans. It has launched Watcho, it's own OTT platform which is being offered free for the first six months. It is also planning to launch Android set top boxes by Diwali 2019 which will offer OTT apps and cable TV viewing. [28]

**vi) *Churn***

Customer retention is one of the biggest challenges being faced by OTTs in India as 50% of the OTT apps are uninstalled within the first week of installation. [29].

**vii) *Profitability***

There is hyper competition amongst 40+ OTT players in the Indian market. It is one of the most overcrowded markets in the world. Profitability is getting impacted by content and subscriber acquisition costs which are much higher than the revenue generated by advertising or subscription revenues. It is reminiscent of Indian telecom market which had 10-12 operators at one time (highest in the world) but market dynamics forced consolidation to 4 operators (3 private operators + BSNL/MTNL). Path to profitability is likely to ensure consolidation through M&A and folding up of non-viable OTTs.

**viii) *Content Base Growth***

Top OTT players in India are heavily investing in creating exclusive content. This is also putting a lot of pressure on their bottom lines as cost of quality content is steadily increasing. On the other hand OTTs like YouTube, Tik Tok & Bigo Live are working aggressively to promote quality User Generated Content (UGC). ByteDance owned Tik Tok launched #Edu Tok where motivational speakers and teachers are creating educational videos. Similarly Singapore based Bigo Live is training 14,000 paid broadcasters for generating localised educational content. [30]. YouTube has millions of channels in India

but it hardly creates any content. It is very strong in educational content like how to bake a cake, repair your car, play an instrument or how to do Yoga. According to Susan Wojcicki, CEO – YouTube is about the next million channels which tend to involve creators. [31].

## **7.0 Conclusion**

The telecom industry globally as well as in India is a highly regulated business domain because of two reasons. First they use Radio Frequency spectrum, which is a limited national resource. Second contemporary age of telecommunications resurgence is critical to the socio-economic development and welfare of a nation. This heavy regulatory architecture is often proved to be a limiting and expensive constraint for telcos. It limits the way telcos can do business and earn revenues while at the same time adding expenses in the form of compulsory regulatory compliances in terms of roll-out obligations, rural services, low population density areas in large geographical domain. On the other hand OTT market faces minimal regulatory bindings in general. The limits put on their business usually exist only to the extent of addressing the security and privacy concerns associated with user data. And even these regulations are not well defined in most nations till date. Additionally service obligations are practically ineffective for OTT players beyond what they promise their users. Hence OTT players have essentially been able to build creative, flexible business models which they continue to adapt to the market's requirements.

This paper has listed 15 factors which are leading to massive growth of OTT market in India. This growth will further accelerate due to increasing localisation and regionalisation of content, expanding digital infrastructure, increasing digital marketing spends & greater participation from Bharat (75% of Telco OTT searches originate from outside of top 8 cities. [32]. It is estimated that by 2023, two out of three entertainment users will access OTTs. In terms of revenue, 10X growth is projected from present \$0.5 billion to \$5 billion by 2023. [33]. As far as customer base is concerned, OTT users are likely to shoot up with 30-35 million paying OTT subscribers and 350+ million subscribers of TSP bundled OTT services by 2021. [34].

OTT provides many great individual benefits, such as lower costs and more targeted advertisements, but we prefer to look at it more holistically. The main benefit of OTT is that it allows brands and advertisers the ability to gather data that can be applied to an omni-channel marketing approach. This, in turn, assists in defining campaign KPIs and

optimization. Data such as click-through rate, view rate and actual conversions leading to customers, which cannot be gathered through a traditional TV mechanism, are all tied directly to attribution and are invaluable. [35]. Conceptual analysis and practical business dynamics provide a strong inter-industry strategic clustering in the growth and development of OTT markets.

This rise of OTTs will have a major social, economic, political and technological impact. At the same time rising subscriber acquisition and content costs will force OTTs to constantly tweak their business models and look at consolidation or alliances for profitability. On the other hand Government of India will have to ensure a light touch regulatory framework for healthy growth of OTTs as well as ensure that other industry sectors esp. TSPs are not unfairly impacted. Indian OTT ecosystem is all set for the next leap.

## References

- [1] Joshi, Sujata, Sarkar Sohag, Dewan Tanu, Dharmani Chintan, Purohit Shubham and Gandhi Sumit, 2015, “*Impact of Over the Top (OTT) Services on Telecom Service Providers*”, Indian Journal of Science and Technology, Vol 8(S4), pp: 145–160, (February) 2015.
- [2] TRAI Consultation Paper On Regulatory Framework for Over-The-Top (OTT) Services 2015.
- [3] *Entertainment goes online – A \$5 billion opportunity* – The Boston Consultancy Group, November 2018.
- [4] Markets and Markets Research Private Limited, Report Jan 2020, Report Code: TC 2445 available at <https://www.marketsandmarkets.com/Market-Reports/over-the-top-ott-market-41276741.html>
- [5] Belis, Janet, “*What an OTT future means for brands*,” Harvard Business Review, May 13, 2015.
- [6] Consumer OTT VoIP Outlook: 2013 to 2018 by Ovum. Available from: <http://fortune.com/2014/06/23/telecom-companies-count-386-billion-in-lost-revenue-to-skype-whatsapp-others/>, 2013
- [7] Eun-A-Park, 2019, “*Prevalence of Business Models in Global OTT Video Services: A Cluster Analysis*”, International Journal on Media Management, Vol. 21, Issue. 3-4, pp: 177-192.
- [8] Kramer, Christian and Riem Jalajel, 2018, “*OTT Partnering with Telcos: On the Rise*”, in Future Telco, Peter Krussel (Ed), Springer pp: 211-218.
- [9] Murri, P., 2013, “*Telecom Italia’s Solutions To Address Competition From OTT Players.*” Available at [http://globalpartnershipsprogram.telecomitalia.com/res/pdf/Newsletter\\_Gartner\\_about\\_GPP.pdf](http://globalpartnershipsprogram.telecomitalia.com/res/pdf/Newsletter_Gartner_about_GPP.pdf)
- [10] Grove, N., and Baumann, O., 2012, “*Complexity in the Telecommunications Industry: When Integrating Infrastructure and Services Backfires*”, Telecommunications Policy (36:1), pp. 40-50.
- [11] Picot, A., Reichwald, R., and Wigand, R., 2003, “*Die Grenzenlose Unternehmung: Information, Organisation Und Management*,” in Lehrbuch zur Unternehmensführung im Informationszeitalter, Picot, A., Reichwald, R., and Wigand, R. (Eds.), Gabler, Wiesbaden, Germany.
- [12] Gerpott, T.J., 2005, “*Unternehmenskooperationen in Der Telekommunikationswirtschaft*,” in Kooperationen, Allianzen und Netzwerke: Grundlagen-Ansätze-Perspektiven, in Zentes, J., Swoboda, B., and Morschett, D. (Eds.), Gabler, Wiesbaden, Germany, pp. 1207-1229.
- [13] Internet Trends 2019, Mary Meeker Report, June 11, 2019.
- [14] Year in search – India: Insights for brands – Google, May 2019.
- [15] After fighting it out for your phones, Chinese firms now eye Smart TVs – The Economic Times, October 8, 2019.
- [16] A billion screens of opportunity – EY FICCI, March 2019.
- [17] JioPhone Diwali 2019 Gift – JioPhone At Rs 699 Only – Media Release, October 1, 2019.
- [18] *Entertainment goes online - A \$5 billion opportunity* – The Boston Consultancy Group, November 2018.
- [19] Copa America rights snaffled by ESPN+ - SportsPro, May 29, 2019.
- [20] Rs 54.5 crore per match is not insane, look at it in right context: Star India CEO Uday Shankar - The Economic Times, September 5, 2017.
- [21] *Entertainment Goes Online – A \$5 Billion Opportunity* – The Boston Consultancy Group, November 2018.
- [22] Handle With Care – The Times India, Lucknow June 18, 2019.
- [23] Netflix, Hotstar & other OTT platforms to self-regulate content, thequint.com, January 17, 2019.
- [24] The Economic Times, *Lok Sabha elections: Twitter unveils new feature that will let users report fake news*, April 24, 2019.
- [25] The Economic Times, *Fingerprint messages to ensure traceability: Government to WhatsApp*, June 18, 2019.

- [26] Facebook says it will finally launch its long-awaited clear history feature this year, *cnc.com*, February 26, 2019.
- [27] Business Today, *Tata Sky Binge – Value for money*, June 16, 2019.
- [28] Economic times, *Dish TV has a plan to take on JioFiber, Bharti Airtel* , September 24, 2019.
- [29] *Entertainment goes online – A \$5 billion opportunity* – The Boston Consultancy Group, November 2018.
- [30] Tik Tok, Bigo Live turn the page with educational content – The Economic Times, June25, 2019.
- [31] YouTube should be the platform for the next million channels – Business Today, June 2, 2019.
- [32] Year in search – India: Insights for brands – Google, May 2019.
- [33] *Entertainment goes online – A \$5 billion opportunity* – The Boston Consultancy Group, November 2018.
- [34] A billion screens of opportunity – EY FICCI, March 2019.
- [35] Forbes , *Bob McKay, What Brands Need To Know About Developing An OTT Strategy*, April 16, 2019.