



IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 10 Issue: V Month of publication: May 2022

DOI: https://doi.org/10.22214/ijraset.2022.42467

www.ijraset.com

Call: 🛇 08813907089 🕴 E-mail ID: ijraset@gmail.com



# OTT vs. Cinemas: The Future Trend in the Movie and Entertainment Sector

Aishwary Gaonkar<sup>1</sup>, Shreyansh Jain<sup>2</sup>, Rohan Dowerah<sup>3</sup>, Jaskiran Atwal<sup>4</sup>, Santoshkumar Dyavanpelli<sup>5</sup>

Abstract: With the internet speed and bandwidth growth along with the rise of smartphones, the content consumption behaviour has changed drastically in the late 2010s and early 2020s. With the ease of internet bandwidth availability, the OTT platforms like Netflix, Prime Video, Hotstar have eclipsed the cinemas and television networks. The purpose of this research is to understand the behaviour of movie and content watchers with respect to their preference of OTT over cinemas or vice-versa and predict how will it impact the future trends in the entertainment industry. In simple words, which platform has got a better future – OTT or Cinemas?

#### I. INTRODUCTION - RESEARCH BRIEF

Watching movies and other digital content in India has been a consistent activity and a part of the lifestyle that provides relaxation and recreation from the frantic professional work. People from all age groups love to consume digital content via movies, web series, one-shot films, etc. The key aspect has been the shift in the medium on which these movies and series are consumed.

In the early digital era viz. the 1990s to 2010s, the cinemas and television were the major platforms on which movie content was consumed. The coverage and reach of these two platforms covered even the rural parts of India. Thus, people developed a behaviour of watching movies at the cinemas as well as television. And since then with the internet developing quite fast, the medium of cinemas and television has been overtaken by OTT Platforms.

With the COVID-19 pandemic fuelling the OTT wave even further, impacting the cinemas to shut down; has helped the OTT players to set a strong foothold as the prime medium for watching movies, web series and much more digital content. This has impacted the Cinemas considerably in terms of revenue and market share that leads to direct competitive rivalry between the two mediums viz. OTT and Cinemas despite differences in business model.

#### A. OTT vs. Cinemas – The Concept

OTT (Over the Top) Platforms are web-based digital media libraries that enable users and viewers to stream different types of media content of several genres and languages. These platforms have gained a considerable audience and viewership over the last half-decade. Disney+ Hotstar, Amazon Prime Video, Netflix, Sony LIV are some of the leading OTT platforms in India.

These OTT platforms were a substitute and mainly a partner to the mainstream Cinema exhibition companies. The Cinema chains like INOX and PVR were the chief players in the entertainment industries that helped movie production companies to distribute their movies all across the country. Cinemas have been the prime platform for viewers and audience to watch movies firstly.

The major stimulator for the rivalry between OTT and Cinemas is the shift in consumer preferences towards OTT platforms for consuming digital content over the past 3-4 years since 2019. People have switched to OTT for several reasons and avoided going to Cinemas for watching movies.

### B. Need for Research Study of the Problem

There are several reasons that can be assumed for this shift in consumer behaviour in the entertainment sector. It can be convenience, price sensitivity, variety of content available, etc. Although, these reasons need to be explored, examined and validated via a proper research study. Thus, this validates the need for this research study for examining the concept of OTT vs. Cinemas and analysing the rationale behind the shift in consumer behaviour.

A detailed research study will also help the different stakeholders of the entertainment industry mainly the different parties associated with the Cinemas and OTT platforms. The research will help them to get an idea of what the future trend holds of in purview of their market share and the consumer behaviour in the entertainment sector.

#### C. Aim and Objectives

1) Aim: To understand and analyse the shift in content consumption medium from Cinemas to Over the Top (OTT) platforms and its future implications.



ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538 Volume 10 Issue V May 2022- Available at www.ijraset.com

- 2) Objectives
- To find out people's preferences and the rationale behind choosing Cinemas or OTT platforms.
- To understand the psychological and physical influences on people for preferring one media over the other.
- To differentiate between Cinemas and OTT on the basis of several aspects that influence consumer preferences.
- To predict the future trend in the movie and entertainment sector in India.

#### II. LITERATURE REVIEW

The advent of smartphones and internet bandwidth has aided a wider coverage of smartphones and internet in India. The internet usage is for different purposes, however one aspect it has facilitated well is online video streaming. The OTT (Over the Top) platforms for movies and TV series streaming have grown exponentially over the past half a decade due to above reasons. However, the effect of these platforms is only seen upon the movie theatre and cinemas during the COVID-19 pandemic.

As mentioned by (Chatterjee & Pal, 2020), Consumers prefer OTT material due to not just technological progression but also socioeconomic and behavioural changes impacted by globalisation, according to this investigation into consumer behaviour in relation to OTT content and television and film consumption in light of technological advances. This is through their analysis and evaluation in the paper named 'Globalization propelled technology often ends up in its micro-localization: Cinema viewing in the time of OTT'.

As analysed by (Saha & Prasad, 2021), in their paper named 'CONSUMPTION PATTERN OF OTT PLATFORMS IN INDIA' Favourable demographics, relevant engaging content, free content and the range of subscription plans for premium content show more scope for growth in the future. The broadly distributed population have access to their favourite content across multiple screens and spend almost one-eighth part of the day in watching their favourite drama, TV show or movie. The global and national players along with regional players have built different models for supplying content and generating revenues. The future has a lot more reliability over virtual platforms where there has been a major shift in the customer touch-point.

In the paper 'Competitions between OTT TV platforms and traditional television in Taiwan: A Niche analysis' by (Ning & Chen, 2019), they have analysed that in terms of niche overlap, the findings suggest that OTT TV and traditional TV have a lot in common when it comes to entertainment and simplicity of use. Overall, the competitive superiority of OTT TV outperforms traditional TV in every way. Finally, in terms of programme kinds, news, movies, and sports effectively predict users' cable TV gratification, whereas dramas and movies effectively predict users' OTT TV gratification.

As evaluated by (Sundaravel & Elangovan, 2020), in '*Emergence and future of Over-the-top (OTT) video services in India: an analytical research' In* India, video real-time has emerged as one of the most promising avenues for content consumption. Indeed, even the smallest OTT stages are raising funds from global investors and having a significant impact. Hotstar, an Indian OTT administration, currently dominates the market. Hotstar has the largest number of non-paying OTT subscribers.

The Smartphone is the most well-known device for watching OTT video material, and Xiaomi is the most popular Smartphone brand among OTT subscribers. Among OTT users, Jio is the most well-known system administration, followed by Airtel and Vodafone-Idea. Hindi and English are the most widely watched languages. This paper highlights the trends in the OTT entertainment sector.

In the paper '*New Media as a Change Agent of Indian Television and Cinema: A study of over the top Platforms*' written by (Singh, 2019), Study uncovers that Hotstar, Netflix and Jio are the key part in Indian OTT administration market. Amazon is likewise one of the major players on the lookout yet it has little crowd share in India. Indian crowd utilize these applications without paying any cash. They love to watch stream content liberated from cost. Most of the watchers watch content through these applications as long as 2 hours every day. The majority of the crowd watch content on streaming media in night.

Generally favoured content on Over the top applications is web series. Indian populace loves to watch web series on these stages. Second favoured program is film. Indian crowd loves to watch films on these applications. Hindi is favoured language of Indian watchers the majority of individuals watch video content through applications in Hindi language.

As mentioned in '*THE RISE OF OTT PLATFORM: CHANGING CONSUMER PREFERENCES*' written by (Jain, 2021), The web has massively changed the working of a large portion of the businesses. Media outlet has confronted exceptional changes in the tasks because of the rising utilization of web among its ideal interest group. This situation is exceptionally suitable for the development of the OTT platforms from one side of the planet to the other. Indeed, even interest groups in India are acquainted with the motion pictures, shows, music and different types presented by various OTT stages.

Netflix, Amazon Prime, Disney+ Hotstar, Zee5 and so forth are turning out to be extremely famous video web-based platforms for salaried and youth market in India. The extension of OTT industry has blocked out cinemas to a negligent arena. This article causes to notice the ascent of OTT, factors affecting its prosperity, the ideal interest group and so forth.



ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538 Volume 10 Issue V May 2022- Available at www.ijraset.com

As analysed in 'IS OTT INDUSTRY A DISRUPTION TO MOVIE THEATRE INDUSTRY?' written by (Varghese & Chinnaih, 2021), From the information, one might say that individuals lean toward watching content for the most part in OTT stages and once in a while in cinemas. Practically half respondents believe that OTT platforms are a disturbance to Movie theatres. One of the main motivations is the wide scope of content. Another one is accessibility of content on request. Explanations for the change are comfort of individual viewing and accessibility of international content. However still, watchers aren't ready to watch another film on OTT platforms, they lean toward it on a cinema that offers them the artistic experience, atmosphere, screen size, and sound quality that OTT stages can't accomplish. In the paper 'How streaming services make cinema more important' written by (Gaustad, 2019), discusses the trends of OTT vs. local content and movies in the Norwegian region. The techno cultural disruption brought on by digitization has revolutionised the way we watch films outside of the cinema and the economic structures of content suppliers. Between 2010 and 2016, DVD/Blu-ray and subscription-based streaming services in Norway swapped places as the primary and secondary media for home video viewing. As a result, home video consumption has shifted from a high-yielding platform in the beginning of the release cycle to a low-yielding platform near the end, where films face stiffer competition from drama series and international content tends to outperform local content.

#### III. RESEARCH METHODOLOGY

This research study is to examine and understand the shift in consumer behaviour in the competitive rivalry between OTT and Cinemas. It will also analyse the psychological influencing factors that impact the decisions of consumers to choose OTT over Cinemas and vice-versa. The overall aim is to analyse and predict the future trend of the entertainment industry in India from this research study of the two major mediums for consuming digital content.

This section describes the overall process and methodology of the research study. It consists of the research approach and types of research methods undertaken for conducting the study.

#### A. Research Approach – Deductive

This research will follow a deductive approach that is the top-down approach towards research. As the research problem has prior existing literature and our research study will be trying to amend and deduce new findings upon the same topic of interest viz. Rise of OTT platforms or OTT vs. Cinemas. Thus, a deductive approach is suitable for this research study and will be followed as part of the research methodology for this research.

#### B. Research Type – Quantitative Research

This research type involves data & outcomes that are easier to quantify & interpret using numerical & graphical methods. The data collected is a lot simpler & factual based, often consisting of numbers & statistics. Bar graphs, pie charts, etc. are used to interpret such quantitative data. For example, Surveys, Polls, etc

#### C. Rationale for Choosing Quantitative Research

The quantitative analysis of data always helps to present factual data visually and can be effective to communicate the research findings in a better way. The rationale behind choosing quantitative research is to develop a factual and well-explored conclusion based on the quantitative data. As it can summarize all the key reasons and factors that influence consumer behaviour in the entertainment sector in context of the OTT vs. Cinemas face-off and its future trends.

#### D. Data Collection Method - Surveys

The quantitative data will be collected via an online survey of the viewers and audience of the OTT platforms and Cinemas. The questionnaire will be focused upon examining the factors that influence the consumer psychology for choosing OTT or Cinemas. The questions will be specific to reasons for preferring a particular medium such as convenience, pricing, content variety, viewing experience, etc.

#### E. Sampling Method – Judgement Sampling

The rationale of choosing a judgement sampling technique is to keep control of the quality of responses. This method comes under non-probability sampling and is based on the authors' judgement for maintaining accuracy of data collection and ensuring relevant target respondents are chosen for the data collection. For this research, this method is suitable as understanding difference between the OTT and Cinemas consumers and non-consumers is crucial for getting purposeful data for appropriate analysis and evaluation. Also, amongst the sampled respondents, the judgement sampling will be vital to include relevant knowledgeable respondents as well as of all age groups, gender, income groups, etc.



ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538 Volume 10 Issue V May 2022- Available at www.ijraset.com

- F. Survey Questionnaire
- The survey questionnaire for this research is as follows:
- 1) Name
- 2) Which medium do you prefer for watching movies?
  - Cinemas
  - OTT Platforms
  - Television
- 3) Which OTT platforms do you frequently subscribe and watch content on?
  - Disney+ Hotstar
  - Amazon Prime Video
  - Netflix
  - Sony LIV
  - Zee5
  - Other
- 4) Why would you prefer OTT platforms over Cinemas screens?
  - Binge-watching convenience
  - High Cinema ticket pricing
  - Variety of content on OTT
  - Device convenience Mobile, Laptop and Chromecast
- 5) Why would you prefer watching movies at the Cinemas?
  - Experience like 3D, IMAX and 4DX
  - Great ambience
  - Video and Sound quality
- 6) What type of content do you watch on OTT platforms?
  - Movies
  - Web Series
  - One-Shot Films
  - Documentaries
- 7) What other content do you or would you like to watch on OTT?
  - Live Sports Streaming
  - Live TV
  - Other
- 8) Do you think the current subscription prices charged by all OTT players in India worth?
  - Fairly Priced
  - Under priced
  - Overpriced
- 9) In light of the recent PVR-INOX Merger; will it help the two cinema giants to beat the OTT platforms?
  - Yes
  - No
  - Maybe



10) If a movie is premiered in the cinemas and on OTT at the same time, where would you prefer to watch it?

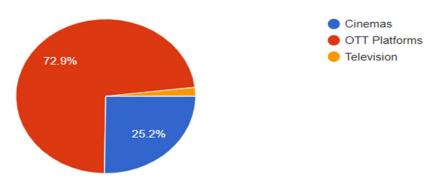
- Cinemas
- OTT •

| Name                  |          |
|-----------------------|----------|
| 107 responses         |          |
|                       | 4        |
| Rashi                 | <u>^</u> |
| Alexandrea Alexandrea |          |
| Alankrit Agnihotri    |          |
| Vedant                |          |
|                       |          |
| Ketki Pawaskar        |          |
| Kaushik Kumar         |          |
|                       |          |
| Sachin                |          |
| Rohan                 |          |
|                       |          |
| Aakanksha Kambli      |          |
| Ashwin                |          |
|                       |          |

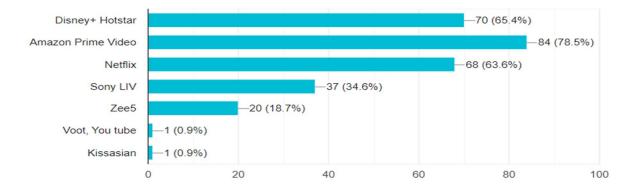
## IV. FINDINGS AND OUTCOMES

These findings were derived from about 107 respondents as per the above sampling method.

1) Name – 107 responses with Names were collected



- 2) Which Medium do you prefer for Watching Movies?
- *a)* 72.9% of respondents prefer OTT Platforms
- b) 25.2% of respondents prefer Cinemas
- c) 1.9% of respondents prefer Television



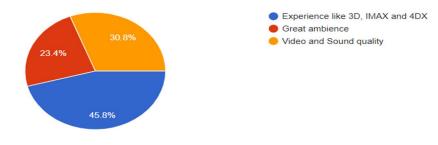


ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538 Volume 10 Issue V May 2022- Available at www.ijraset.com

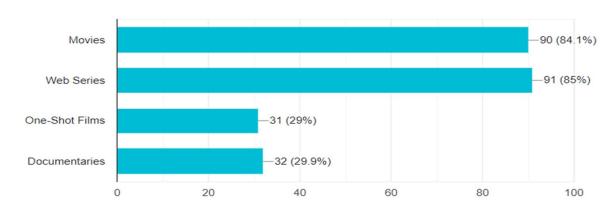
- 3) Which OTT platforms do you frequently subscribe and watch content on?
- a) 78.5% of respondents use Amazon Prime Video
- b) 65.4% of respondents use Disney+ Hotstar
- c) 63.6% of respondents use Netflix
- d) 34.6% of respondents use Sony LIV
- e) 18.7% of respondents use Zee5
- f) Rest 1.8% use other platforms like Voot, etc.



- 4) Why would you prefer OTT platforms over Cinemas screens?
- a) 33.6% of respondents like the Device Convenience in OTT platforms
- b) 25.2% like the Variety of Content on OTT platforms
- c) 21.5% of respondents like the Binge-watching convenience
- *d*) 17.8% like OTT due to high cinema ticket pricing
- e) About 2% of the respondents cite all of the above reasons.



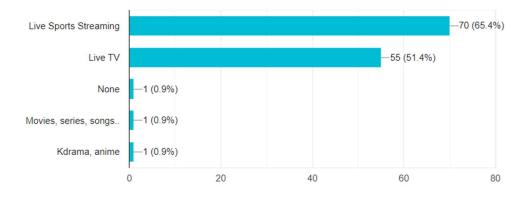
- 5) Why would you prefer watching movies at the Cinemas?
- a) 45.8% respondents prefer Cinemas due to 3D, IMAX and 4DX Experience
- b) 30.8% respondents prefer Cinemas due to the High Video and Sound quality
- c) 23.4% of respondents like Cinemas due to the great ambience



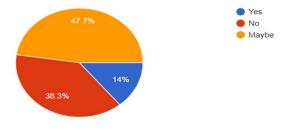


ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538 Volume 10 Issue V May 2022- Available at www.ijraset.com

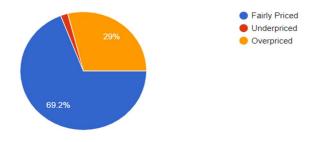
- 6) What type of content do you watch on OTT platforms?
- a) 85% of the respondents watch Web Series on OTT platforms
- b) 84.1% of respondents watch Movies on OTT platforms
- c) 29.9% watch Documentaries on OTT
- *d*) 29% also watch One-shot films on OTT



- 7) What other content do you or would you like to watch on OTT?
- a) About 65.4% of respondents watch Live Sports streaming as well on OTT
- b) 51.4% of respondents like to watch Live TV as well on OTT
- 8) Do you think the current subscription prices charged by all OTT players in India worth?
- a) 69.2% of respondents feel that OTT platforms are Fairly Priced in India
- b) 29% feel that OTT platforms are Overpriced in India
- c) Less than 2% feel that OTT platforms are Under-priced in India



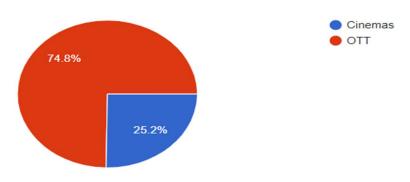
- 9) In light of the recent PVR-INOX Merger; will it help the two cinema giants to beat the OTT platforms?
- a) 47.7% people are unsure about whether the PVR-INOX merger will beat OTT or not.
- *b)* 38.3% people think the merger won't beat OTT platforms
- c) Only 14% people think the merger will beat the OTT platforms.





ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538 Volume 10 Issue V May 2022- Available at www.ijraset.com

- 10) If a movie is premiered in the cinemas and on OTT at the same time, where would you prefer to watch it?
- a) 74.8% would watch the movie premiere on OTT platforms
- b) 25.2% would watch the movie premiere in Cinemas



#### V. ANALYSIS OF FINDINGS

Based upon the survey findings, it clearly reflects how big of an impact have the OTT platforms made in the Entertainment industry. The preference given to OTT platforms is evident in majority of the responses. Here is the detailed analysis of the survey findings from the 107 responses collected.

In the first question, the OTT platforms certainly have the majority of respondents' preference with almost 73% preferring OTT over cinemas. The same question had just 25% responses for Cinemas and less than 2% voting for Television. Thus, it shows how the audience has shifted towards OTT.

In the second question, the different OTT platforms were voted by the respondents as which of those platforms do they subscribe and use frequently. About 78.5% of the respondents do watch Amazon Prime Video which is the highest vote, followed by Disney+ Hotstar at 65.4% and Netflix at 63.6%. It reflects these three OTT platforms have had the largest reach and influence on the respondents and can be said as the top 3 OTT platforms used.

While, there are platforms like Sony LIV and Zee5 watched by roughly 20-30% of the respondents. However, the dominance by Prime Video, Netflix and Hotstar is certainly evident over the rest.

Coming to the reasons and psychology of the audience for choosing OTT platforms, the Device convenience viz. OTT can be accessed on multiple devices like smartphones, laptop and Chromecast as well is one of the most popular reasons people voted for with almost 34% votes. People are choosing OTT due to the convenience and ease of accessibility it provides. While the variety of content compared to Cinemas is a big motivator for about 25% of the respondents.

The cinema ticket pricing also influences people's decision to switch to OTT. In essence, besides convenience and binge-watching ease, the costs that we pay for the content also is a key factor and OTT is perceived as a reasonably priced medium compared to Cinemas.

On the other side, understanding the psychology and rationale of people choosing Cinemas is also important. 46% of the respondents want the 3D, IMAX and 4DX experience that is currently exclusive to Cinemas only. This proprietary and exclusive experience provided by Cinemas is still hard to replicate for OTT platforms due to the lack of technological integration on both the hardware and software fronts.

Similarly, people also choose Cinemas due to a great ambience and theatrical experience along with the high video and sound quality. Though OTT can replicate the video and sound quality and it is evident that lots of OTT platforms have done so. The ambience and the IMAX 3D or 4DX experience may still be a winning point for Cinemas for the foreseeable future.

The predominant content watched on OTT platforms are Movies and Web series with almost 84-85% of the respondents voting for the same. While One-shot films and documentaries also have some watchers (29-30% of respondents). Movies and Web series are the more mainstream and popular content on OTT platforms, which does reflect on all OTT platform libraries when the percentage of movies and web series is measured that is considerably high.

Besides, movies and web series, respondents also love to watch Live TV and especially Live sports streaming on OTT. Hotstar and Sony LIV have been the prime platforms that stream Live sports as well. And with almost 66% respondents wanting to watch Live sports on OTT, it is a popular avenue for expansion in the OTT sector. As a result, the latest update that Amazon has also started streaming Live cricket is a big trend and evidence of demand for Live sports streaming.



ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538 Volume 10 Issue V May 2022- Available at www.ijraset.com

Moving to the pricing of the OTT platforms, majority (69.2% of respondents) feel that the subscription prices set by all major OTT player in India are fairly priced. And it is fair to say that its correct as all platforms are providing value worth of their subscription prices. Although the other 29% of people do say that OTT subscriptions are overpriced. And this opinion may be swayed by the fact that some platforms like Netflix have a higher cost compared to Disney+ Hotstar or Prime Video. Overall, at present the OTT prices still are reasonable for customers to purchase and enjoy a valuable experience.

A major latest update in the entertainment industry is the merger between the two major cinema screen chains viz. PVR and INOX. The merger between these two powerhouses of the Indian cinema screening industry is a big pact for the cinemas to take the fight to OTT platforms and can make a good impact to lure people back to choosing cinemas as their preferred medium of watching movies. As per the survey results, almost 48% of respondents are unsure of the outcome of this merger as whether it will be successful in its objectives or not. While, 38.3% firmly believe that the merger cannot stop the OTT trend and it will not be successful in gaining back market share. Only 14% of respondents keep faith in the cinemas' deep pockets and thus it reflects how the masses have adapted to OTT platforms.

A test situation question was also included in the survey that asked the respondents whether they would want to watch a movie in the cinemas or on OTT if it was premiered on either platform simultaneously at the same day. Keeping to the trend, almost 75% (74.8%) voted to watch it on OTT rather than going to the cinemas. This reflects the key shift in consumer behaviour and the industry dynamic that people are willing to purchase OTT subscriptions and watch movies at leisure rather than going for a pay-per-view movie at the cinema screens.

These survey findings do reiterate some of the key aspects assumed before framing the objectives of this research. These aspects include the psychological aspects that have influenced the shift in consumer dynamic in the entertainment industry and how the OTT platforms have gained viewership with the advent of smartphone and internet bandwidth availability.

The crucial aspect is rationale of better convenience and pricing relative to cinemas has pushed OTT to become the preferred medium of digital content viewers. And this trend has strong foundation to continue growing further. Although, the exclusiveness of a theatrical experience with the 3D, IMAX and 4DX technology is proprietary advantage of the Cinemas and they have considerable credibility to pull back market viewership with clever strategies and marketing.

#### VI. CONCLUSION

The shift in consumer behaviour and the major shift from OTT to cinemas is proven considerably basis the numerous findings and responses of this research. To predict the future trend in the movie and entertainment sector, the OTT platforms are in prime position to dictate terms and drive the industry forward as the preferred and popular medium of the masses. With the strengths of content variety, language availability, genre diversity and viewing convenience at a competitively affordable cost, OTT platforms can be said to have a decent advantage over Cinemas for the future.

With respect to sustenance, there is no threat for Cinemas to go non-existent as other forms of media like radio is experiencing. They still have decent coverage like the TV network and have strengths upon which they can bounce back to gain viewership and stake a good claim in the industry once again. Though with the present consumer trends, it will be tougher for them to tackle the challenges OTT has started to pose.

#### REFERENCES

- Chatterjee, D., & Pal, S. (2020). Globalization propelled technology often ends up in its micro-localization: Cinema viewing in the time of OTT. Global Media Journal-Indian Edition, 12(1).
- [2] Gaustad, T. (2019). How streaming services make cinema more important. Nordic Journal of Media Studies, 1, 67-84.
- Jain, M. (2021). THE RISE OF OTT PLATFORM: CHANGING CONSUMER PREFERENCES. EPRA International Journal of Multidisciplinary Research (IJMR), 7(6), 257-261.
- [4] Ning, Y., & Chen, K. (2019). Competitions between OTT TV platforms and traditional television in Taiwan: A Niche analysis. Telecommunications Policy, 43(2019).
- [5] Saha, S., & Prasad, V. S. (2021). CONSUMPTION PATTERN OF OTT PLATFORMS IN INDIA. International Journal of Modern Agriculture, 10(2), 641-655.
- [6] Singh, D. (2019). New Media as a Change Agent of Indian Television and Cinema: A study of over New Media as a Change Agent of Indian Television and Cinema: A study of over. Journal of Content, Community & Communication, 9(5), 131-137.
- [7] Sundaravel, E., & Elangovan, N. (2020). Emergence and future of Over-the-top (OTT) video services in India: an analytical research. International Journal of Business, Management and Social Research, 8(1), 489-499.
- [8] Varghese, M., & Chinnaih, S. (2021). IS OTT INDUSTRY A DISRUPTION TO MOVIE THEATRE INDUSTRY? Academy of Marketing Studies Journal, 25(2).











45.98



IMPACT FACTOR: 7.129







# INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 🕓 (24\*7 Support on Whatsapp)