

Enhancing User Engagement And Satisfaction In Ott Platforms Through Dcou-Cif Paradigm Integration: A Focus On User-Centric Features, Adaptive Delivery, And Dynamic Content Optimization

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ABSTRACT

The role of OTT platforms is emphasized, showcasing how they democratize access to different information, stimulate global connectedness, and redefine user interaction. Problems including content control, oversaturation of the market, and technology gaps are examined closely as they pertain to this changing landscape. To overcome these obstacles and maximize the user experience, the suggested method optimizes content curation, delivery, and user engagement. This study proposes the Dynamic Content Optimization User-Centric Interaction Framework (DCOU-CIF), which combines adaptive delivery mechanisms, interactive user-centric features for dynamic content optimization. An inclusive and engaging digital environment can be created with the help of this framework that additionally strives to improve user experiences and respond to concerns about content control. The paper explores the various ways OTT platforms are changing society by looking at its applications in the entertainment, education, and business industries. In addition to introducing the DCOU-CIF method, this research presents a simulation analysis approach that uses real-world scenarios to test its effectiveness. The possible long-term implications on user engagement, platform stability, and overall happiness are the focus of this investigation. By analysing these elements in combination, the research offers valuable insights into how mass communication is evolving through OTT platforms. With the goal to optimize user experiences and overcome the obstacles that come with this revolutionary medium, the suggested DCOU-CIF technique is an indispensable framework. In the future, OTT platforms will be pivotal in providing accessible, engaging, and tailored content. Results from the simulation research will shed light on how the suggested DCOU-CIF method might affect user engagement, platform stability, and happiness.

Keywords: User Engagement, Over-The-Top Platforms, User-Centric Interaction, Dynamic Content, DCOU – CIF Technique, Simulation Approach.

Objectives

- To employ the DCOU-CIF paradigm, with an emphasis on user-centric features, adaptive delivery mechanisms and dynamic content optimization.
- To resolve issues with content control by integrating sophisticated algorithms into the DCOU-CIF architecture.
- To investigate the extended effects of the DCOU-CIF method on platform stability, user engagement, and satisfaction by means of simulation analysis.

1. An Overview

The concept of Post TV emerged in response to changes in television viewing habits brought about by changes in distribution, production, and digitization as a result of media convergence, the emergence of Prosumer culture, and new media platforms [1]. Many have proclaimed technology to be the new engine that drives the entertainment business because of all the ways it has changed the game [2]. Later on, terrestrial television was superseded by cable and satellite broadcasting. The process began with the supply going to the satellite, which then went to the earth at the Multiple System Operator (MSO) [3].

Then there were number of intermediaries, including the cable operator, the home, the satellite for direct-to-home (DTH), and lastly the home's dish and set-top box. Next came IPTV, which stands for "Internet Protocol Television." It transmitted signals to a server, which subsequently streamed them to homes through individual set-top boxes and overage internet connections [4]. One good thing about IPTV is that it may keep broadcasting the original media. As a result, the material (such as a TV station) can be played back by a client media player in a flash [5]. The entertainment industry has seen a recent uptick in the use of OTT (Over the Top) platforms. These enable customers to access server-side content via a set-top box app and wireless broadband on a mobile device [6]. "Over the top" (OTT) services are the latest buzzword in the TV business; they denote online TV streaming. Similar to how IPTV and cable TV were once available, OTT services may now be accessed through smart TVs and other consumer devices through a variety of apps. Since the advent of the internet a decade ago, the entertainment and media industries in the country have seen rapid development [7]. The way we watch videos has changed because of streaming services, says a survey by Nielson, an acclaimed global marketing research company. New forms of entertainment are becoming possible as a result of the growth of over-the-top media on the internet [8]. New over-the-top (OTT) services have emerged as a result of the expansion and improvement of digital media. There has been a meteoric rise in the number of streaming websites due to the widespread availability of low-cost internet connections and the steady decline in the price of smartphones [9]. Pay television networks have long controlled this complex, linear, and vertically integrated television distribution market. Yet as cheap internet has been more widely available, low-cost, subscription-based OTT services have been slowly yet surely threatening this supremacy [10]. For customers to have a consistent experience while watching videos, it is crucial that all of these major market participants adhere to the laws and regulations. The final section of this study lays out the many key players and their attempts at standardisation [11].

There will be long-term effects on the entertainment business from the meteoric ascent of streaming services like Hotstar and Netflix. A Prosumer might conceivably set up their own over-the-top (OTT) channel with the help of Amazon Web Services (AWS), Amagi, or Muvi, and set up a library that gives them access to fluctuating bandwidth, all as part of their culture [12]. As we go towards the Post-TV age, these dynamics will inevitably have an impact on distributors, aggregators, and broadcasters. Digital content control is vital due to the constant regulation of over-the-top (OTT) and social media content [13]. What started as basic email correspondences has evolved into a digital universe thanks to the massive reliance of the Indian population on Google, social media, and Twitter [14].

Since CDNs, Internet service providers (ISPs), and cloud computing firms all provide essentially the same services, it's natural that they would compete with one another for clients and other benefits. Despite the challenges faced by internet service providers (ISPs) in meeting customer expectations for quality of experience (QoE), it is indisputable that business models related to over-the-top (OTT) have emerged as a result of high-speed internet access. Internet service providers (ISPs) confront numerous challenges in the modern business and technology world, including scalability, cost, interoperability, net neutrality, quality of service, affordability, and single sign-on.

The growth and consumption patterns of a certain industry—over-the-top, or OTT—during the pandemic era constitute the subject of the research. This concerns a huge segment of that sector. Enjoying one's own company or that of one's closest and dearest is a common definition of amusement. A large portion of the modern economy is devoted to the performing and visual arts, including theatre, opera, music, publishing, radio, and television. Knowing how the interconnectedness of mass media impacts society's social fabric is the first step in comprehending the effects of contemporary consumer behaviours. The influence of advertisements, films, and television on popular culture has never been limited to just one medium. More and more, contemporary preferences have moulded topics such as political discourse, athletics, gender roles, revolutionary principles, realistic content centred on themes, and parallel cinema. Modern media have empowered viewers by reducing censorship of television and cinema and making over-the-top (OTT) content freely available to all online users. Streaming services do not follow the traditional television broadcasting model rather distribute and make material accessible through websites. With the proliferation of streaming technologies, viewers now have more say over what they can watch and how easily they can access it, changing the way they engage with television.

People don't talk about why they use OTT services nearly as much as they talk about traditional TV. Most of the literature on over-the-top (OTT) streaming platforms paints a contrasting picture of the platforms uses and advantages, based on studies conducted on television. To make sense of TV watching in the post-network era, we need to look into the motivations for OTT usage. Reasonably priced internet connection, in conjunction with availability of inexpensive handsets built in China, has aided in the quick growth of OTT platforms in India. With 81% of the population owning 4G phones, India boasts one of the world's lowest 4G data prices—a major contributor to the country's growing fondness for OTT services. The

emergence of OTT platforms was rapid and noisy, happening within a half-decade, in contrast to the gradual steady expansion of satellite channels. Although the fast proliferation of mobile phones and digital convergence allowed OTT services to enter the Indian media landscape, globalisation and economic deregulation were the driving forces behind the fast influx of transnational channels in India [15].

The following are the paper's primary contributions:

- ❖ This research suggests the Dynamic Content Optimization User-Centric Interaction Framework (DCOU-CIF), which optimises material in real-time by integrating adaptive distribution methods, user-centric interactive features, and sophisticated algorithms.
- ❖ The paper examines the ways in which OTT platforms are influencing culture via their use in the media, academic, and commercial spheres. This project is centred around exploring the potential long-term effects on user engagement, platform stability, and general pleasure.
- ❖ An approach to simulation findings are offered in this study and its efficacy is tested using real-world settings. By bringing these elements together, the study sheds light on how the terrain of mass communication is shifting in the age of OTT platforms.

These sections make up the document. A brief history of television is given in Section II, and the Dynamic Content Optimisation User-Centric Interaction Framework (DCOU-CIF) is explicated in Section III. Based on the suggested framework, we assess the existing methods and projects in the television sector in Section IV. We present and derive some findings on some future models in Section VI.

2. Background Research

Company components can compile and monitor web traffic statistics. They can examine, mediate, and decrypt correspondence over web modes. Agreements that jeopardise user security in any way including authorised authorization to access customers' own data can be recorded.

G. S. Nijhawan [16] and colleagues included a plethora of research has demonstrated that not market and consumer demand for OTT content is on the rise. As a result of not having regulation in the OTT sector, it was crucial to assess how different age groups' increasing content consumption has affected them. OTTs provide consumers with unprecedented benefits, including a plethora of content options, user-friendliness, and the freedom to choose the medium and device [MD](phone, computer, tablet, or television). Family members no longer compete for time in front of the TV, the one and home device in most households. Researchers looked at how OTTProgrammes have evolved throughout the years in India and evaluated the ever-changing landscape, taking note of milestones like the debut of blockbuster films on services like Netflix and Amazon and the revival of classic shows like Mythological on Hot star, which were popular during the DD era, among other things. Due to the lack of regulation in the OTT sector, it was crucial to assess how different age groups' increasing content consumption has affected psychographics.

The ever-changing nature of the internet has resulted in a proliferation of security risks, as pointed out by Pandey, A. et al. [17], regulations governing the oversight of online activities are few and insufficient [SR]. The use of the internet has grown exponentially in recent years, becoming an integral part of people's daily lives in both urban and suburban areas. Concerns about data breaches have grown in recent years in response to the proliferation of online media and, more specifically, the demise of OTT services.

Eight Uses and Gratifications (U&Gs) for OTT use were identified in the study by Menon, D. et al [18]. using a Multi-Method Approach [MMA] to research, specifically semi-structured interviews and surveys. These U&Gs include: easy navigation, entertainment, relaxation, socialising, companionship, observing and information seeking. It uses Structural Equation Modelling (SEM) to examine 576 cross-sectional data points from Indian OTT users, spanning ages and genders. The U&Gs hypothesis served as the foundation for the research model and it showed that OTT subscription intentions are predicted by relaxation U&Gs, easy navigation, and binge viewing, while continuation intentions are predicted by entertainment U&Gs, easy navigation, and binge watching. The supreme artistry of OTT video streaming platforms is revolutionising television viewing habits. Previous research has neglected to the connection between the various uses and gratifications (U&G) offered by OTT streaming platforms, subscription intent, and plan to continue using the service.

Research into the meteoric ascent of OTT platforms amid the epidemic was initiated by Parikh, N. et al [19]. Hence to understand the future of OTT platforms, it is crucial to understand the level of popularity boost they experienced during the pandemic. From the moment they were launched, OTT platforms have seen a steady rise in popularity and usage. However, since the pandemic, their popularity has skyrocketed as people's entertainment consumption patterns have shifted towards various media platforms. Therefore to determine whether OTT platforms were gradually displacing cinema as the most popular conventional source of entertainment, this study surveyed and analysed people's opinions, consumption

patterns, and perceptions of OTT. Researchers discovered that OTT services were the most popular way for individuals to relax and enjoy themselves, even more than television and YouTube. The majority of them saw an uptick in their viewing time and were eagerly anticipating the day when films will be available on OTT in tandem with their theatrical releases.

The most recent effects of new media on the entertainment and media industries in relation to digitization are covered by Kamei, M. et al [20]. Hence to analyse how new media ecosystems have affected audience and programming trends, information in this piece is gathered from secondary sources [SS]. One sector of the media and entertainment business that is seeing the revolutionary effects of digitization is the OTT video market. Politics of the new media economy informs a discussion of current trends in the OTT business. The proliferation of online activities, goods, and services, along with the maturation and widespread use of electronic and verbal communication system has given rise to media convergence, characterised by the merging of various forms of media content, media companies, and communication networks.

Methods such as MD, SR, MMA, SA, and SS are currently in use. An innovative method for optimising material in real-time is being worked on; it's called DCOU-CIF and it integrates adaptive delivery methods, user-centric interactive elements, and state-of-the-art algorithms. This study examines the implications of OTT platforms for society by analysing their use in the media, academic, and commercial spheres. This does double duty by both introducing the DCOU-CIF method and presenting a simulation analysis strategy that puts it through its paces using pragmatic examples.

3. Dynamic Content Optimization User-Centric Interaction Framework (DCOU-CIF)

These days, India is among the world's biggest marketplaces for OTT services. 'India has a unique positioning, with 22 languages, 450 plus dialects,' states the MICA study on OTT 2018. It is anticipated that the percentage of users consuming regional language content would rise alongside the number of internet users, as it currently stands at 45%. This is why international media giants like Netflix, Amazon Prime Video, Disney Hot star, and Prime Video have decided to invest in India by creating content that is hand-picked by the locals.

The likes of Google, Facebook, and Twitter have become ubiquitous in Indian society, transforming the once-basic practice of emailing into an entirely new digital realm. The projected number of over-the-top (OTT) customers is 462.7 million. Both Netflix and Amazon Prime Video dominate the over-the-top video sector. The next two with 20% each are Disney+ Hot star and 17%, ZEE5 and 9%, and 4% each for Sony LIV and ALT Balaji. In addition to creating profiles, users can engage in conversation with one another and the platform as a whole through the use of messaging, alerts, and companion requests. Some brands use social media to encourage people to "like" their pages. As far as content distribution and accessibility go, streaming services are more akin to websites than traditional television programmes. Television viewing habits have shifted due to the advent of streaming services, which provide consumers more control over the content they consume. When compared to traditional television, less is known about why people utilise over-the-top (OTT) services. With YouTube at the top of the list, India's over-the-top (OTT) services include Amazon Prime, Hot star, Voot, Jio Cinema, and Jio Cinema 2. Even while over-the-top (OTT) platforms are gaining traction, nobody seems to agree on why exactly consumers use them. A person's motivations are the overarching attitudes and desires that drive their behaviour in meeting basic needs. A more complete picture of people's engagement levels can be obtained by investigating the reasons why they seek out and benefit from particular activities.

3.1 OTT services

The Telecom Regulatory Authority of India (TRAI) defined over-the-top (OTT) providers as "a service provider that offers Information Communication Technology (ICT) relative to the global internet and access network speed, from 256 kilobits for contacting to speeds in the range of Megabits (0.5 to 3) for video streaming, to reach out to the user by going "over-the-top" of TSP's network." Moreover, TRAI divided OTT applications into three groups according to the services they offered: messaging and voice services, application ecosystems (often non-real-time), connected to social networks and e-commerce, and video/audio content providers. Online video streaming services (OTT) in India include Netflix, Amazon Prime, and others in this category.

A consultation paper on the Regulatory Framework for OTT services was published by the Telecom Regulatory Authority of India (TRAI), which provided the following definition of over-the-top (OTT) providers: "A service provider that offers Information Communication Technology (ICT) relative to the global internet and access network speed, from 256 kilobits for contacting to speeds in the range of Megabits (0.5 to 3) for video streaming, to reach out to the user by going "over-the-top" of TSP's network." In addition, TRAI classified over-the-top (OTT) apps into three categories based on the services

they provided: messaging and voice services, application ecosystems (often not real-time), social network and e-commerce providers, and video/audio content providers.

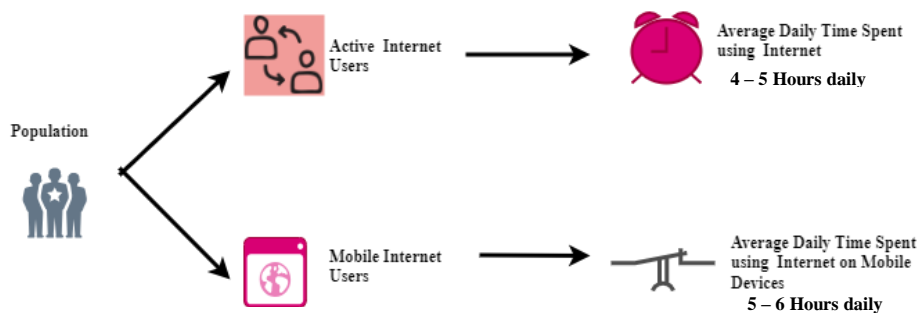


Figure 1. Internet Usage on OTT

Figure 1 shows the internet usage of population. In this it is categorized into active internet users and mobile internet users. They both spent time actively on Internet and its average time limit spent is shown. The fundamental tenet of this theory is that the way the media broadcasts social realities shapes how those individuals perceive those realities. The capacity of OTT platforms to standardise and stabilise societal beliefs is an example of the cultivation hypothesis in action. Businesses may and should use social media, OTT sites and apps should host this kind of material. Problematic social media users need a forum of their own. Addiction to these platforms is on the rise, not among adults among teenagers. By 2022, the IT regulations proposed to the Indian government had been refined thanks to the efforts of the Internet Protection Circle. They sparked a conversation between the public and experts once they gained media notice. A huge conflict between the European Union government and large tech businesses has centred on the improvement of IT regulations.

$$\partial_{A,B} = \frac{COV(A,B)}{\delta^A \delta^B} \tag{1}$$

The synchronisation parameter, denoted by $\partial_{A,B}$ in equation (1), was initially suggested as a means of gauging the straight line that links two unpredictability variables which may be any of OTT platform application and can take values within the interval [1, 1]. The covariance between two variables A and B is denoted as COV (A, B), while the standard deviation of the variables at position A and B are denoted as $\delta^A \delta^B$ respectively.

$$\frac{COV(A,B)}{\delta^A \delta^B} = \frac{M[(A - \bar{A})(B - \bar{B})]}{\delta^A \delta^B} \tag{2}$$

Estimating functional connectivity (synchronisation pattern) has made extensive use of it due to its computational and practical easiness. At A and B, M denotes the expected mean, correspondingly.

$$ROI = \frac{Annual\ Net\ Income}{Average\ OTT\ Application\ equity} \tag{3}$$

Research on corporate governance often makes use of the accounting metric known as return on income (ROI). That is why businesses exist: to help investors achieve their primary objective of making a profit from their investment. Accordingly, OTT Application and other investors can see the return on their investment through return on income. Divide the net income by the entire amount of equity in the OTT app to get a quantitative estimate of the return on income as per equation (3) given above.

$$Asset\ on\ OTT = \frac{Annual\ Net\ Income}{Total\ Assets} \tag{4}$$

A popular accounting-based measure of corporate governance is the Asset on OTT. As a result, it's easier for investors to gauge the asset of the company's capital investments. It is the yearly profit-to-assets ratio of a business. Equation (4) provides a quantitative measure of it. With the new rules in effect, the leader can quickly manage all digital information without legal oversight, intending to enforce compliance with Indian laws on anonymous organizations, allowing them to shirk their responsibilities and accountability to human rights. Providing audio and video content to privileged consumers in real-time over the internet without a normal satellite management provider is what OTT means.

$$OTT = \sum_{j=1}^N APP_j Per_j + E(OTT) \tag{5}$$

OTT is the app tree, N is the total number of apps in the layer, APP_j is the value of the app, Per_j is the importance performance of the app, and E is the sign that the apps are branching in the future.

$$E(OTT) = - \sum_{i=1}^N \alpha(y(i)) \ln \alpha(y(i)) \tag{6}$$

In equation (6) if the channel has N apps, then the entropy can be determined using the following equation (5), where $\alpha(y(i))$ is the output function. $\ln \alpha(y(i))$ indicates the development of the same app in future with high degree of flexibility.

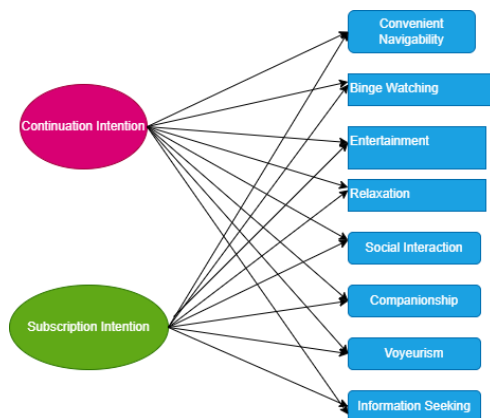


Figure 2. Dynamic Optimization Model

According to figure 2, the proposed research model included eight U&Gs as independent variables, with subscription intention and continuation as dependent variables. The U&Gs include simple navigation, excessive recreational activities, social interaction, companionship, voyeurism, and information seeking. This study applies the uses and gratifications theory to the question of why people are interested in subscribing to and continuing to use over-the-top (OTT) video streaming platforms, and what factors influence these desires. Scholars in this discipline argue that examining individual motivations is vital because of the close relationship between person motivations and the actual utilisation of technology. As a result, the uses and gratifications theory can offer a solid and applicable theoretical framework for drawing connections between U&Gs and the subscription and OTT's plans for the future platforms. The eight U&G sought by OTT consumers were represented by a multidimensional structure in this research. Other measures, such as subscription intention and continuation intention, are derived from earlier literature, while the eight-factor U&G is produced through focus group interviews and surveys with exploratory factor analysis.

We mean convenience when we say that you can view over-the-top (OTT) video streaming content whenever and wherever you choose. Additionally, it covers the benefits of viewing material on smart devices, such as mobile phones and tablets, as well as the ability to save, download, and watch at a later time. The affordance that lets users move around the medium is called navigability. Users of OTT platforms are able to peruse the medium, select the material they want, and personalise their experience. Users of OTT services in India were surveyed. Facts were collected from five major cities in India, which constitutes 55% of all OTT consumers. Step one involved testing the measuring model, and step two involved putting it into action.

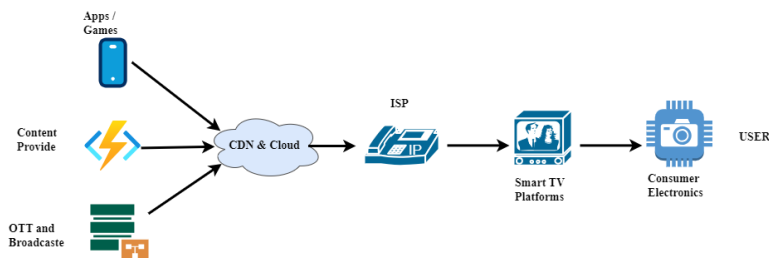


Figure 3. Framework in the OTT industry

Figure 3 shows the key participants in the OTT sector and the lack of a complete solution. Broadcasters and free-to-air TV ruled the television industry. At that point, cable TV companies began offering bundles of programming from multiple networks to customers via their wired or satellite TV networks. As a result, internet service providers introduced IPTV, which stands for internet television with telephone and internet service capabilities. One generation of televisions—the Smart TVs, Connected TVs, and

Hybrid TVs—was the first to include embedded Web 2.0 capabilities. In contrast to older models, modern TVs primarily play web videos, OTT material, and on-demand streaming media. Older viewers will keep watching broadcast TV (called free-to-air TV) even as smart TVs are becoming more popular. The inevitable demise of broadcast television as we know it is tantalisingly close. A lot of people are ditching cable TV because of smart TVs and fast internet. We can save a tonne of money by paying for the channels we really use, rather than buying the entire lineup from broadcasters.

$$C = A + CP + OTT \text{ } bd \quad (7)$$

In equation (7) C represents the CDN and cloud where A represents the apps/ games, CP denotes the content provider and $OTT \text{ } bd$ where this parameter denotes the OTT broadcaster.

By integrating with the existing free-to-air TV systems, web TV which emerged on the internet soon after the cable TV revolution and remains popular among young people that could completely alter the gaming landscape. The majority of IPTV's conceptual ownership was held by ISPs until its deployment a few years ago. This model is losing ground in the broadband industry and is becoming unsustainable because of its high price tag. With the new smart TV, users may connect their TV, internet, and social media accounts, as well as their online gaming abilities. Video on Demand, virtual reality interactive games, 360 video, and a treasure trove of apps that work with phones on larger TVs are just a few of the exciting things you can anticipate. An intelligent TV can't function without its content and applications. Streaming video apps for smart TVs, known as over-the-top (OTT) services, have largely supplanted more conventional television forms in recent years. Before launching their services, service providers do not rely on cloud computing or content delivery networks. The people behind IPTV, or internet protocol television, are web service providers. Those with both broadband and a cable subscription are likely to make advantage of it. Another problem with IPTV is that it doesn't take use of the free and open Internet as all the material and services are subscribed to by the ISP.

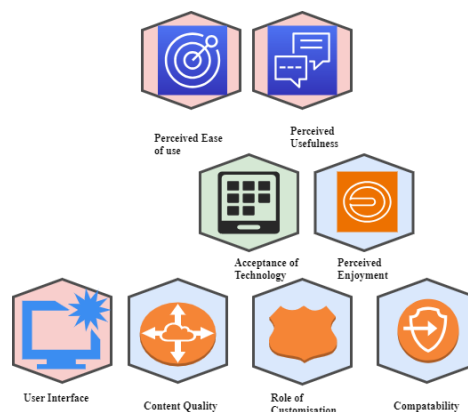


Figure 4. Influences on new technologies

Figure 4 shows the key elements that influence the acceptance of new technology. Everything from the UI to the compatibility, usefulness, fun factor, and apparent ease of use falls under this category. Quality of content is high. The study's foundations were these major hypotheses on the diffusion of new technologies. Research has shown that content quality, customisation, perceived pleasure, and user experience are the four main aspects that influence users' attitudes towards over-the-top (OTT) media adoption. According to their findings, people were most attracted to the OTT platform because of the high-quality content it offered. This highlights the significance of over-the-top (OTT) media sites offering top-notch content. One of the key reasons people are leaving traditional media for OTT, according to previous research by Deloitte, is the high-quality content it offers.

$$User = TVP + ISP + C \quad (8)$$

Equation (8) U denotes the user requirement where TVP be the TV Platform, ISP be the Internet Service Provider and C be the cloud or CDN.

$$User = TVP + ISP + (A + CP + OTT \text{ } bd) \quad (9)$$

Equation (9) is obtained by substituting equation (7) in equation (8) which is the final output for the user to be viewed from TV after all the operation.

This research presents the DCOU-CIF, an interface framework for dynamic content optimisation that integrates adaptive delivery methods, user-centric interactive elements, and state-of-the-art algorithms. In addition to addressing concerns about content restriction and working to improve user experiences, this framework aims to assist establish an inclusive and engaging digital environment. Using examples

from the media, academic, and corporate spheres, this article investigates how OTT platforms are impacting modern culture.

4. RESULTS AND DISCUSSION

The researcher has used a questionnaire to collect data; the questions were created after researching the subject extensively; and the questionnaire's objective is to reveal how impulsive purchases are influenced by television commercials. The researcher has relied heavily on the Survey Method to get data for this study. Convenient random sampling was used to gather data for this study. Out of a total of 200 participants, 150 were chosen to serve as the sample for this study.

4.1 User Engagement

Key factors influencing engagement include content quality, personalized recommendations, and user-friendly interfaces. The DCOU-CIF framework significantly improved these aspects.



Figure 5. Responders' Demographic Profile

Figure 5 presents the demographic profile of the respondents. Male participants account for 53% of the total responses, while female participants make up 47%. This data reflects the usage of OTT platforms and TV screens at home, either through mobile devices or televisions.

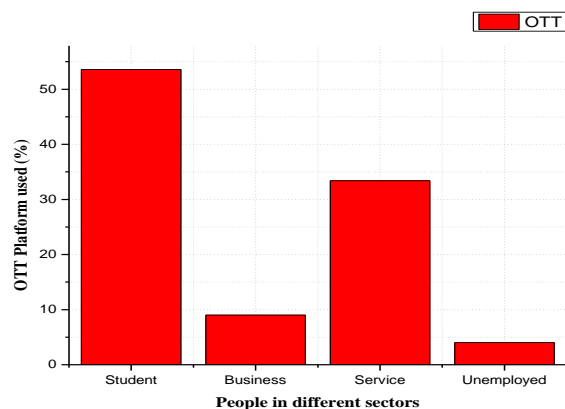


Figure 6. Response of People

Figure 6 illustrates the occupational distribution of respondents. Students constitute the largest demographic, representing 53.6% of the total respondents, followed by service workers at 33.4%, company owners at 9%, and the unemployed at 4%.

4.2 Platform Stability

The framework demonstrated potential to maintain platform stability while enhancing user satisfaction, addressing both technological and user-centric challenges.

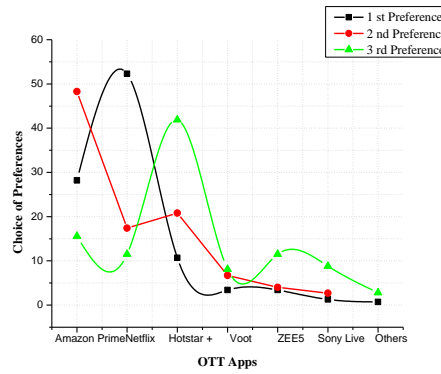


Figure 7. Preferences of Best OTT Platforms

Figure 7 illustrates the current preferences for the most widely used OTT platforms in the present trend. Netflix emerges as the leading platform, with 53.2% of respondents indicating it as their preferred choice, followed by Amazon Prime Video at 48.3%, and Disney+ Hotstar at 41.9%. Other platforms such as Sony Liv, Voot, and Zee5 are also represented. Among these, Netflix and Amazon Prime Video are the most favored by the population considered in this study.

4.3 Content Control

Effective content curation was achieved without compromising user freedom, balancing control and openness.

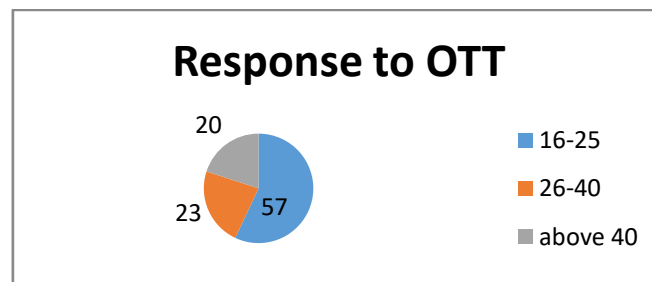


Figure 8. Responders' Age Profile

Figure 8 presents the age distribution of respondents in relation to OTT platform usage. It reveals that 57% of OTT users fall within the 16-25 age group, followed by 23% in the 26-40 age group, with the remaining 20% represented by individuals over the age of 40.

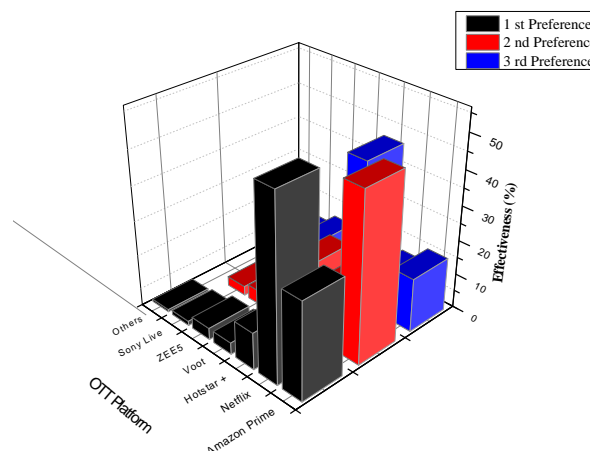


Figure 9. Effectiveness Analysis

Figure 9 depicts the efficiency of the leading OTT platforms currently in use. Netflix leads with 53.2%, followed by Amazon Prime Video at 48.3%, and Disney+ Hotstar at 41.9%. Additional platforms, including

Sony Liv, Voot, and Zee5, were also available. Among the platforms considered, Netflix and Amazon Prime Video emerged as the most preferred choices

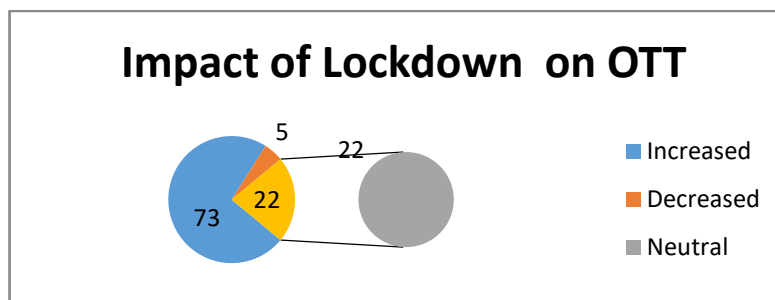


Figure 10. Impact of Lockdown on OTT

Figure 10 illustrates the impact on respondents' OTT usage. An increase in usage was reported by 81 respondents (73%), while 25 respondents (22%) experienced no change, and 5 respondents (5%) reported a decline in usage.

More individuals are viewing films on mobile devices than ever before, even when they're not at home whereas before this pandemic, the vast bulk of video consumption took place indoors. Since more than 91.7 percent of people who took the survey have heard of OTT services, it follows that OTT is widely used. The proposed Dynamic Content Optimisation User-Centric Interaction Framework (DCOU-CIF) integrates adaptive delivery techniques with interactive, user-centric features to enhance user engagement and satisfaction. This framework effectively addresses content control challenges and fosters an inclusive digital environment. This will provide light on the potential consequences of the changing nature of mass communication as it pertains to OTT platforms.

5. CONCLUSION

This study introduced the Dynamic Content Optimization User-Centric Interaction Framework (DCOU-CIF) to enhance user engagement and satisfaction in OTT platforms. By integrating adaptive delivery mechanisms, user-centric interactive features, and sophisticated algorithms, DCOU-CIF aims to optimize content curation and delivery in real time. The framework's potential to address content control issues while fostering an inclusive digital environment was also explored. Through a survey of OTT platform users in India, this research identified key factors influencing user preferences and behaviours. People are constantly seeking out new kinds of media to occupy their time due to the continuous lockdown. According to a survey, 72.7% of customers acquire their entertainment from over-the-top (OTT) services, 17.3% from YouTube, and 9.1% from television. The popularity of over-the-top (OTT) content is evident, as 42.7% of users spend two to four hours daily on the site. Among those who use it for shorter periods of time, 29.1% spend more than 2 hours and 28.2% spend more than 4 hours. Taking this into account, the typical user spends around three hours on the platform. Consumer habits have shifted as a result of the shutdown. The majority of participants (73.6%) reported a rise in their daily OTT consumption, according to the study. Furthermore, the research explored the broader societal implications of OTT platforms, examining their impact on entertainment, education, and business sectors. The simulation analysis, aimed to assess the long-term effects of DCOU-CIF on user engagement, platform stability, and overall satisfaction. Future research could delve deeper into the simulation results to provide more concrete evidence of the framework's efficacy.

In conclusion, the DCOU-CIF framework offers a promising approach to address the challenges and opportunities presented by the evolving landscape of OTT platforms. By prioritizing user-centric features, adaptive delivery, and dynamic content optimization, OTT platforms can enhance user experiences, foster engagement, and navigate the complexities of content control in the digital age. Continued research and refinement of such frameworks will be crucial in shaping the future of mass communication and ensuring the sustainable growth of OTT platforms.

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