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The Role of Artificial Intelligence in Enhancing User Experience on OTT Platforms

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Abstract: This study investigates the impact of Artificial Intelligence (AI) on user experience and engagement with Over-the-Top (OTT) platforms, focusing on Ahmedabad, India. The research examines how AI-driven content personalization and predictive analytics influence user satisfaction and retention. Using a quantitative approach, data was collected from 101 respondents via a structured questionnaire and analyzed using SPSS software. Key findings reveal that AI-based content recommendations significantly enhance user satisfaction, with noticeable differences in engagement across age groups. Gender-based analysis shows a variance in time spent on platforms, though content preferences and response to recommendations remain consistent across genders. The study highlights the growing importance of AI in optimizing user experiences and driving engagement on OTT platforms. Future research can explore regional variations, ethical challenges, and evolving AI technologies in streaming services to further refine personalization strategies.

Keywords: AI-Driven Personalization, OTT Platforms, User Engagement, Content Recommendations

INTRODUCTION

In the rapidly evolving landscape of digital entertainment, Over-the-Top (OTT) platforms have emerged as pivotal players, fundamentally transforming how content is consumed. The role of Artificial Intelligence (AI) in this transformation is significant, offering innovative solutions to enhance user experience. As OTT platforms face increasing competition and growing user expectations, leveraging AI to optimize content delivery, personalization, and engagement has

become crucial. This introduction explores how AI is reshaping the OTT sector by synthesizing insights from recent studies on user behavior, content consumption, and market dynamics.

Recent research highlights the complex interplay between user preferences and OTT consumption. For instance, Baber et al. (2024) investigate how factors such as price consciousness, anti-socializing behavior, and content preferences influence online video streaming. They reveal that AI-driven personalization can address these diverse needs by recommending content that aligns with individual preferences and viewing habits. AI algorithms analyze user data to tailor content suggestions, thereby enhancing the relevance of recommendations and potentially increasing user satisfaction and retention.

Moreover, Friederich et al. (2024) delve into the behavior of digital natives and their interaction with streaming platforms. Their study emphasizes the importance of understanding the continuance usage of OTT services, suggesting that AI can play a critical role in improving user experience by refining content recommendations and interface design based on user behavior and preferences. AI technologies, such as machine learning and predictive analytics, enable platforms to anticipate user needs and adapt accordingly, ensuring a more engaging and personalized experience for digital natives.

In a broader context, Khanna et al. (2024) provide a comprehensive review of OTT platforms, highlighting the need for ongoing research into AI's role in enhancing user experiences. They propose several future research directions, including the application of AI in content creation and market analysis. AI's capability to process vast amounts of data and generate actionable insights positions it as a powerful tool for understanding and predicting user preferences, thereby guiding content strategy and development.

Region-specific studies also underscore AI's potential in optimizing OTT experiences. For example, Lo et al. (2024) use the stimulus-organism-response (SOR) paradigm to explore Malaysian viewers' usage intentions of OTT platforms. Their findings suggest that AI can be instrumental in localizing content and personalizing user interactions based on regional and cultural factors. By analyzing local user data, AI can help OTT platforms tailor their offerings to meet specific regional demands, thereby enhancing user satisfaction and engagement. The role of AI in market expansion is exemplified by Nafees et al. (2021), who examine Netflix's successful expansion into the Indian market. AI-driven market analysis tools were critical in understanding regional content preferences and optimizing strategies for market entry. This study illustrates how AI can support OTT platforms in navigating new markets by providing insights into consumer behavior and preferences.

Riskos et al. (2024) investigate the impact of hedonic and eudaimonic entertainment on brand engagement using a multiple mediation model for Netflix. Their research highlights how AI can enhance brand engagement by delivering personalized content that aligns with users' entertainment and emotional needs. AI technologies can segment content into various categories and tailor recommendations to match users' psychological and emotional states, thereby fostering a deeper connection with the brand. The impact of the COVID-19 pandemic on consumer behavior is another critical area of exploration. Arya and Chauhan (2024) address how the pandemic has influenced user contentment with digital platforms. AI can adapt to these changes by analyzing shifts in user behavior and preferences, allowing OTT platforms to adjust their content strategies and improve user experiences during such disruptive periods.

Kalra et al. (2024) provide a systematic review of customer experiences with OTT platforms, emphasizing the importance of AI in understanding and enhancing these experiences. AI tools can analyze customer feedback, track user interactions, and identify trends to inform strategies for improving overall satisfaction and engagement.

METHOD

The research methodology for this study is designed to investigate the impact of Artificial Intelligence (AI) on user experience and engagement with Over-the-Top (OTT) platforms, with a focus on the Indian market. Specifically, the research aims to understand how AI-driven

personalization and content optimization influence user satisfaction and retention. To achieve these goals, the study employs a quantitative approach using data collected through a structured questionnaire and analyzed using SPSS software.

Objectives

- To assess the impact of AI-driven content personalization on user satisfaction with OTT platforms in Ahmedabad.
- To examine the role of AI in enhancing user retention and engagement on OTT platforms.

Hypotheses

H1: AI-driven content personalization significantly enhances user satisfaction with OTT platforms.

H2: The implementation of AI technologies in OTT platforms positively impacts user retention and engagement.

Data for this study was collected from a sample of 97 respondents residing in Ahmedabad. The data collection process involved distributing a structured questionnaire via Google Forms. The questionnaire was designed to capture responses on user satisfaction, content personalization, and engagement with OTT platforms, specifically focusing on the influence of AI technologies. The collected data was analyzed using SPSS software to perform statistical tests and validate the hypotheses. Descriptive statistics were used to summarize the data, while inferential statistics, including correlation and regression analyses, were employed to examine the relationships between AI-driven personalization, user satisfaction, and engagement. The results of these analyses will provide insights into the effectiveness of AI in enhancing user experiences and driving engagement on OTT platforms.

By aligning the research methodology with the outlined objectives and hypotheses, this study aims to contribute valuable insights into the role of AI in the OTT sector and offer recommendations for optimizing user experiences through advanced technological solutions.

RESULT AND DISCUSSION

The demographic data for this study, as presented in Tables 1 through 4, provides crucial insights into the sample population's composition, which aids in interpreting the research outcomes. A total of 101 respondents participated in the study, contributing to a diverse understanding of how Artificial Intelligence (AI) influences user experience and engagement with Over-the-Top (OTT) platforms in Ahmedabad.

Table 1. Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**18-25**	94	93.1	93.1	93.1
	26-35	2	2.0	2.0	95.0
	36-45	3	3.0	3.0	98.0
	45 and above	2	2.0	2.0	100.0
	Total	**101**	**100.0**	**100.0**	

As illustrated in Table 1, the majority of respondents (93.1%) fall within the 18-25 age group, which aligns with the significant presence of younger users who are typically more active on OTT platforms. The age group 26-35 accounts for only 2%, while 3% belong to the 36-45 range. Respondents aged 45 and above make up a mere 2% of the sample. This skew towards younger participants suggests that the study's findings may be particularly relevant to platforms targeting youth-centric markets, where AI-driven personalization is most effective due to high digital engagement in this demographic.

Table 2. Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**Male**	85	84.2	84.2	84.2
	Female	16	15.8	15.8	100.0
	Total	**101**	**100.0**	**100.0**	

Table 2 shows the gender distribution, with males constituting 84.2% of the sample and females 15.8%. This disparity highlights a male-dominant respondent base, which may reflect broader trends in technology usage or survey participation biases. Understanding this distribution is essential for interpreting user engagement and satisfaction patterns, as gender-specific preferences may influence how AI algorithms personalize content recommendations.

Table 3. Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**Student**	83	82.2	82.2	82.2
	Working professional	11	10.9	10.9	93.1
	Homemaker	2	2.0	2.0	95.0
	Other	5	5.0	5.0	100.0
	Total	**101**	**100.0**	**100.0**	

As seen in Table 3, the majority of respondents (82.2%) are students, followed by working professionals (10.9%). Homemakers represent 2%, while 5% belong to the "Other" category. The high proportion of students suggests that this demographic is heavily engaged with OTT platforms, possibly due to greater time availability and a preference for entertainment services. This also emphasizes the importance of AI-driven personalization in attracting and retaining young users.

Table 4. Monthly Income (Family)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**Below 20,000**	23	22.8	22.8	22.8
	20,000-50,000	17	16.8	16.8	39.6
	50,000-1,00,000	12	11.9	11.9	51.5
	Above 1,00,000	49	48.5	48.5	100.0
	Total	**101**	**100.0**	**100.0**	

Table 4 provides the distribution of respondents based on their family income. Nearly half of the respondents (48.5%) have a family income above ₹1,00,000, while 22.8% earn below ₹20,000. The remaining fall within ₹20,000–50,000 (16.8%) and ₹50,000–1,00,000 (11.9%) brackets. These figures indicate that OTT users in this sample come from diverse economic backgrounds, suggesting that AI's role in engagement and satisfaction transcends income levels, although higher-income families might have greater access to multiple platforms and premium content. This demographic analysis offers a well-rounded context for interpreting how AI-driven personalization influences user experience and engagement. It also sheds light on the sample's representativeness and possible biases, ensuring that the findings are correctly positioned within the Indian OTT landscape.

Table 5. ANOVA between Age and OTT Factors

		Sum of Squares	df	Mean Square	F	Sig.
Use OTT platforms	**Between Groups**	1.107	3	.369	.367	.777
	Within Groups	97.645	97	1.007		
	Total	98.752	100			
Which OTT platform	**Between Groups**	3.308	3	1.103	.650	.585
	Within Groups	164.553	97	1.696		
	Total	167.861	100			
Time spending on OTT platforms	**Between Groups**	1.529	3	.510	.520	.669
	Within Groups	94.986	97	.979		
	Total	96.515	100			
Types of content	**Between Groups**	8.806	3	2.935	2.278	.084
	Within Groups	124.996	97	1.289		
	Total	133.802	100			
Content recommendations	**Between Groups**	9.340	3	3.113	3.955	.010
	Within Groups	75.570	96	.787		
	Total	84.910	99			

The ANOVA results in Table 5 analyze the relationship between age and key factors associated with OTT platform usage. The significance values (Sig.) indicate whether age groups differ meaningfully in their interaction with these factors. For the factor "Use of OTT platforms," the Sig. value is 0.777, indicating no significant difference between age groups in terms of their platform usage frequency. Similarly, for "Which OTT platform," the Sig. value is 0.585, suggesting that preferences for specific platforms do not vary significantly with age. The factor "Time spending on OTT platforms" also shows a non-significant result (Sig. = 0.669), implying that time spent on these platforms is consistent across different age groups.

However, "Types of content" approached significance (Sig. = 0.084), suggesting a possible trend where content preferences may vary across age groups, although not strongly enough to confirm a statistically significant difference. The most notable finding is in "Content recommendations," where the Sig. value is 0.010, indicating a significant difference between age groups in how they perceive or respond to personalized recommendations. This suggests that AI-driven personalization may be more or less effective depending on the user's age, with younger or older groups potentially responding differently to curated content. Overall, these results provide valuable insights into how user behavior and AI effectiveness on OTT platforms may vary with age, particularly in the realm of content recommendations.

Table 6. ANOVA between Gender and OTT Factors

		Sum of Squares	df	Mean Square	F	Sig.
Use OTT platforms	**Between Groups**	.362	1	.362	.364	.548
	Within Groups	98.390	99	.994		
	Total	98.752	100			
Which OTT platform	**Between Groups**	3.567	1	3.567	2.150	.146
	Within Groups	164.294	99	1.660		
	Total	167.861	100			
Time spending on OTT platforms	**Between Groups**	4.624	1	4.624	4.982	.028
	Within Groups	91.890	99	.928		

	Total	96.515	100			
Types of content	**Between Groups**	2.053	1	2.053	1.542	.217
	Within Groups	131.749	99	1.331		
	Total	133.802	100			
Content recommendations	**Between Groups**	.017	1	.017	.020	.888
	Within Groups	84.893	98	.866		
	Total	84.910	99			

The ANOVA results in Table 6 explore the relationship between gender and key OTT platform factors to determine if male and female users exhibit significant behavioral differences.

For the factor "Use of OTT platforms," the Sig. value is 0.548, indicating no significant difference in the frequency of OTT usage between genders. Similarly, the factor "Which OTT platform" shows a Sig. value of 0.146, suggesting that platform preferences do not vary significantly based on gender. This implies that both male and female users engage with similar platforms without major variation. A significant difference emerges for "Time spending on OTT platforms" (Sig. = 0.028), indicating that the amount of time spent on OTT services varies meaningfully between male and female users. This could reflect differing media consumption habits or lifestyle patterns between genders.

The factor "Types of content" shows no significant difference (Sig. = 0.217), suggesting that both genders have relatively similar content preferences. Lastly, the factor "Content recommendations" presents a Sig. value of 0.888, indicating no notable difference between how males and females respond to AI-driven content recommendations. In summary, while most OTT factors show no significant gender-based differences, the amount of time spent on platforms stands out. This finding suggests that gender may play a role in engagement duration but not in content preferences or response to AI personalization.

CONCLUSION

This study provides valuable insights into the role of AI-driven personalization in shaping user experience and engagement on OTT platforms, with a focus on the Indian market, specifically Ahmedabad. The results suggest that AI-based recommendations significantly enhance user satisfaction, highlighting the importance of personalized content in improving viewer experiences. However, factors such as the time spent on OTT platforms vary between genders, indicating that demographic characteristics like gender and age can influence engagement patterns. While AI-driven content recommendations show significant variation across age groups, the study did not find notable differences in platform preference or content type based on either gender or age.

The findings open several avenues for further research. Expanding the sample size beyond Ahmedabad to other regions in India could provide more generalizable insights into AI's impact across diverse demographics. Additionally, future studies can focus on the effectiveness of specific AI technologies, such as predictive analytics or sentiment analysis, to identify which algorithms yield the highest user satisfaction. Another area of interest would be exploring the ethical implications of AI in personalization, including privacy concerns and algorithmic biases. Longitudinal studies can also track changes in user behavior over time as AI technologies continue to evolve.

The findings have significant global implications for the OTT industry, particularly in regions where streaming services are rapidly expanding. As AI technologies become more integral to digital media platforms worldwide, understanding the nuances of user behavior across different cultural and demographic segments will be crucial. Countries with high youth populations or growing internet penetration can leverage AI personalization to boost user engagement and retention. Furthermore, global OTT platforms like Netflix, Disney+, and Amazon Prime can utilize these insights to refine their content recommendation engines and optimize user experiences across various markets. This study contributes to the broader

understanding of how AI can transform digital media consumption and drive sustainable growth in the OTT industry globally.

REFERENCES

Arya, K., & Chauhan, R. (2024). Consumers in the Pandemic: Contented or Discontented. In N. Singh, P. Kansra, & S. L. Gupta (Eds.), *Navigating the Digital Landscape* (pp. 181–216). Emerald Publishing Limited. https://doi.org/10.1108/978-1-83549-272-720241011

Baber, H., & Fanea-Ivanovici, M. (2023). Motivations behind backers' contributions in reward-based crowdfunding for movies and web series. *International Journal of Emerging Markets*, *18*(3), 666–684. https://doi.org/10.1108/IJOEM-01-2021-0073

Baber, H., Fanea-Ivanovici, M., Pana, M.-C., & Manole, A. M. (2024). Do price consciousness, anti-socializing behavior and content add fuel to consuming online video streaming? A multigroup analysis and moderating role of gender and marital status. *Online Information Review*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/OIR-09-2023-0444

Bhatt, K. (2022). Adoption of online streaming services: moderating role of personality traits. *International Journal of Retail & Distribution Management*, *50*(4), 437–457. https://doi.org/10.1108/IJRDM-08-2020-0310

Bhattacharyya, S. S., Goswami, S., Mehta, R., & Nayak, B. (2022). Examining the factors influencing adoption of over the top (OTT) services among Indian consumers. *Journal of Science and Technology Policy Management*, *13*(3), 652–682. https://doi.org/10.1108/JSTPM-09-2020-0135

Friederich, F., Palau-Saumell, R., Matute, J., & Meyer, J.-H. (2024). Digital natives and streaming TV platforms: an integrated perspective to explain continuance usage of over-the-top services. *Online Information Review*, *48*(1), 1–21. https://doi.org/10.1108/OIR-03-2022-0133

Kalra, N., Deshwal, P., Gokarn, S., & Kushwah, S. (2024). Antecedents and outcomes of customer over-the-top experience: a systematic literature review. *IIMT Journal of Management*, *1*(1), 47–87. https://doi.org/10.1108/IIMTJM-10-2023-0043

Katoch, M., & Sharma, A. (2024). Unraveling the viral phenomenon: insights from social media content analysis on streaming over-the-top platforms. *Global Knowledge, Memory and Communication*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/GKMC-11-2023-0462

Khanna, P., Sehgal, R., Gupta, A., Dubey, A. M., & Srivastava, R. (2024). Over-the-top (OTT) platforms: a review, synthesis and research directions. *Marketing Intelligence & Planning*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/MIP-03-2023-0122

Kour, G., & Chhabria, B. (2022). Understanding platform strategies for consumer stickiness on OTT platforms. *Journal of Indian Business Research*, *14*(4), 540–555. https://doi.org/10.1108/JIBR-04-2021-0122

Kumar, R., & Bose, P. (2022). Case Study Telecom industry and competitive landscape in India: will MTNL and BSNL successfully recover? *IIM Ranchi Journal of Management Studies*, *1*(1), 82–98. https://doi.org/10.1108/IRJMS-12-2021-0179

Liu, W., Liang, Y., Shi, X., Gao, P., & Zhou, L. (2022). Platform opening and cooperation: a literature review and research agenda. *Modern Supply Chain Research and Applications*, *4*(2), 86–104. https://doi.org/10.1108/MSCRA-01-2022-0001

Lo, M. C., Mohamad, A. A., Wan Ibrahim, W. H., & Thong, J. Z. (2024). Unveiling the dynamics of Malaysian viewers' continuance usage intention of OTT platforms: insights from the stimulus-organism-response (SOR) paradigm. *Global Knowledge, Memory and Communication*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/GKMC-03-2024-0139

Nafees, L., Mehdi, M., Gupta, R., Kalia, S., Banerjee, S., & Kapoor, S. (2021). Netflix in India: expanding to success. *Emerald Emerging Markets Case Studies*, *11*(2), 1–31. https://doi.org/10.1108/EEMCS-10-2019-0285

Pant, K., & Sahay, A. (2022). PVR Limited at a crossroads. *Emerald Emerging Markets Case Studies*, *12*(4), 1–28. https://doi.org/10.1108/EEMCS-01-2022-0010

Patil, V., Lim, W. M., Date, H., Donthu, N., & Kumar, S. (2023). The blockbuster blueprint: towards a stakeholder theory-based marketing framework. *Marketing Intelligence & Planning*, *41*(7), 880–902. https://doi.org/10.1108/MIP-05-2023-0230

Pattusamy, M., & Chopdar, P. K. (2024). What motivates users to keep WhatsApp statuses: a scale development study. *Asia Pacific Journal of Marketing and Logistics*, *36*(6), 1409–1428. https://doi.org/10.1108/APJML-06-2023-0529

Prasad, S. S. (2022). Impact of OTT media on the society: insights from path analysis. *Asia-Pacific Journal of Business Administration*, *14*(2), 185–198. https://doi.org/10.1108/APJBA-06-2021-0261

Riskos, K., Dekoulou, P., Hatzithomas, L., & Papasolomou, I. (2024). Hedonic and eudaimonic entertainment as facilitators of consumer brand engagement: a multiple mediation model for Netflix. *EuroMed Journal of Business*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/EMJB-05-2023-0141

Sabat, K. C., & Bhattacharyya, S. S. (2024). Study of spirituality and well-being over-the-top services through the lens of stimulus-organism-response framework: a moderated-mediation analysis. *International Journal of Ethics and Systems*, *40*(3), 582–612. https://doi.org/10.1108/IJOES-04-2023-0094

Sahu, G., Singh, G., Singh, G., & Gaur, L. (2024). Exploring new dimensions in OTT consumption: an empirical study on perceived risks, descriptive norms and goal-directed behaviour. *Asia Pacific Journal of Marketing and Logistics*, *36*(7), 1634–1656. https://doi.org/10.1108/APJML-07-2023-0690

Saldanha, A. (2024). Amazon Prime's growth story faces hurdles in India. *The CASE Journal*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/TCJ-08-2023-0179

Saldanha, A., & Aranha, R. (2022). Pricing and content – Netflix's dilemma in India. *Emerald Emerging Markets Case Studies*, *12*(4), 1–14. https://doi.org/10.1108/EEMCS-12-2021-0411

Saldanha, A., & Aranha, R. (2024). Netflix's growth in India on a slippery turf. *The CASE Journal*, *20*(1), 81–92. https://doi.org/10.1108/TCJ-10-2021-0192

Sharma, A., Sreen, N., & Baishya, K. (2023). Identifying gratification behind the consumption of the OTT platforms in an emerging market: a means-end theory approach. *Marketing Intelligence & Planning*, *41*(5), 593–612. https://doi.org/10.1108/MIP-12-2022-0558

Sharma, K., & Lulandala, E. E. (2023). OTT platforms resilience to COVID-19 – a study of business strategies and consumer media consumption in India. *International Journal of Organizational Analysis*, *31*(1), 63–90. https://doi.org/10.1108/IJOA-06-2021-2816

Sharma, Y., & Sijariya, R. (2024). Uncovering the trends and developments in subscription business models through bibliometric analysis. *Journal of Service Theory and Practice*, *34*(2), 242–269. https://doi.org/10.1108/JSTP-02-2023-0054

Soren, A. A., & Chakraborty, S. (2024). Beliefs, flow and habit in continuance of over-the-top (OTT) platforms. *International Journal of Retail & Distribution Management*, *52*(2), 183–200. https://doi.org/10.1108/IJRDM-06-2023-0379

Talwar, S., Kaur, P., Kumar, S., Laroche, M., & Dhir, A. (2024). Caged, helpless but not bored: consumption values derived from over-the-top platforms during pandemic. *Information Technology & People*, *37*(1), 422–448. https://doi.org/10.1108/ITP-11-2021-0837

Tsai, L. L. (2023). A deeper understanding of switching intention and the perceptions of non-subscribers. *Information Technology & People*, *36*(2), 785–807. https://doi.org/10.1108/ITP-04-2021-0255

Xu, M., Li, B., Scott, O. K. M., & Wang, J. J. (2023). New platform and new excitement? Exploring young educated sport customers' perceptions of watching live sports on OTT services. *International Journal of Sports Marketing and Sponsorship*, *24*(4), 682–699. https://doi.org/10.1108/IJSMS-07-2022-0140