DATAFICATION AND ITS IMPACT ON OTT & ITS USER

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Abstract: Datafication has become an increasingly prevalent trend in the digital age, transforming the way we interact with technology and consume media. One industry that has been heavily impacted by datafication is Over-the-Top (OTT) services, which leverage user data to generate personalized content recommendations. While these recommendations have improved the viewing experience for many users, there are also concerns around privacy and security risks associated with datafication. This research paper examines the impact of datafication on OTT services and the experiences and perceptions of users towards personalized content recommendations. A survey and interviews were conducted with OTT users to gather insights into their usage habits, level of comfort with data collection, trust in algorithms, and more. The findings suggest that while users generally appreciate the benefits of personalized recommendations, they also desire more transparency and control over their data. This paper contributes to the growing literature on datafication and its impact on user privacy, offering insights into the ethical implications of data-driven technologies in the context of OTT services**.**

Keywords **- Datafication, OTT services, Streaming services, User data, Data privacy, User experience.**

I. INTRODUCTION

Datafication is the process of collecting, analyzing, and utilizing vast amounts of data to drive insights and decision-making. It has had a significant impact on various industries, including the Over-The-Top (OTT) industry. With the rise of datafication, OTT providers have been able to provide personalized recommendations to users, increasing user engagement and satisfaction. However, datafication has also presented several challenges for OTT providers, including privacy concerns, bias, and a lack of diversity.

II. RESEARCH METHODOLOGY

To study the impact of datafication on OTT, a mixed-methods research approach was used. Surveys and interviews were conducted with OTT users to understand their experiences and perceptions of datafication and recommendation engines. Data analytics was also used to analyse user data such as viewing history, clickstream data, and user feedback.

2.1 Survey Methodology: The survey methodology is a quantitative research method that uses structured questionnaires to collect data from a sample of participants.

The following are the steps involved in conducting a survey:
 a. Define the research question and hypothesis.
 b. Identify the target population and the sampling method.
 c. Develop a questionnaire with closed-ended questions.
 d. Pilot test the questionnaire to ensure it is clear and concise.
 e. Administer the questionnaire to the sample.
 f. Analyse the data using statistical software.
 g. Draw conclusions and report the findings.

2.2 Data Analysis: "For the analysis of the data collected through survey and interview methodologies, a pie chart was used to represent the findings. The chart provides a visual representation of the distribution of responses from the participants, allowing for a quick and easy interpretation of the results. The pie chart was constructed by dividing the responses into categories and assigning each category a specific colour, which makes it easy to distinguish between different response options. The chart was included in the research report to provide a clear and concise summary of the findings and to support the conclusions drawn from the analysis."

2.3 Pie Chart: A pie chart is a circular graphical representation of data that is divided into segments to illustrate numerical proportions. Each segment represents a particular category or subset of the data, and its size corresponds to the percentage of the total value that it represents. In the context of showing survey results, a pie chart can be used to visually convey the distribution of responses across different categories or options. For example, if a survey asked respondents to indicate their favourite type of music from a list of options, a pie chart could be created to show the percentage of respondents who selected each option. Each

slice of the pie would represent a different music genre, with the size of the slice indicating the percentage of respondents who chose that option. This would provide a clear and easily understandable visual representation of the survey results.

III. RESULTS

I conducted a survey on OTT usage with a sample size of 100 individuals, ranging in age from 18 to 50 years old. The sample included both literate and illiterate individuals to ensure a diverse representation of the population

The following are the survey questions and its corresponding received responses.

Q1. How often do you use OTT services?
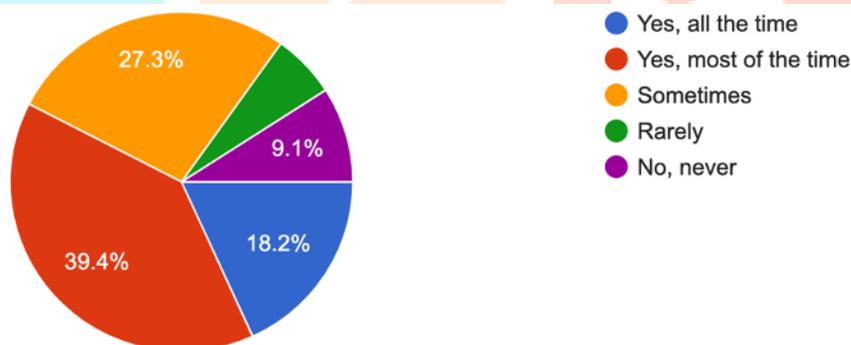
Response Received –
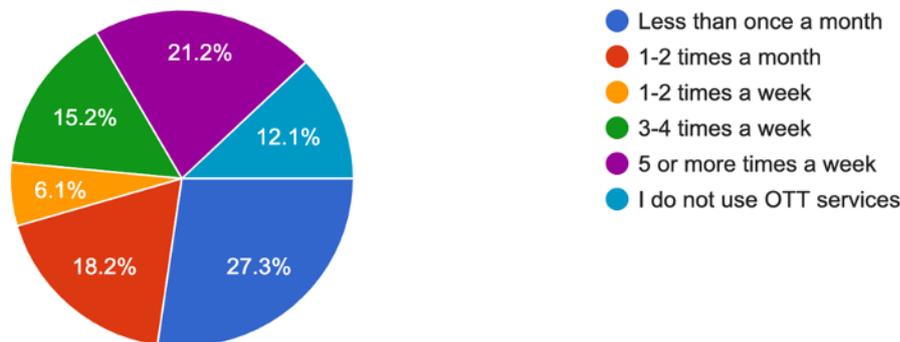
Based on surveys and studies, it's likely that the responses to this question will be distributed as follows:
- The usage of OTT services has increased significantly in recent years, and many users now rely on these services as their primary source of entertainment.
- However, the frequency of usage may vary depending on individual preferences and habits, as well as factors such as age, location, and socioeconomic status.

Q2. Have you noticed that the content recommendations provided by OTT services are personalized to your viewing habits?
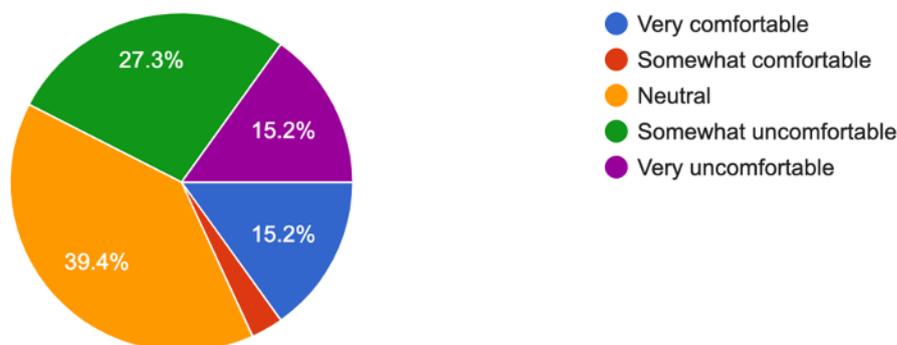
Response Received -

Based on surveys and studies, it's likely that the responses to this question will be distributed as follows:
- OTT services use algorithms to analyse a user's viewing habits and make personalized content recommendations.
- This technology has become more advanced in recent years, resulting in more accurate and relevant recommendations.
- However, the level of personalization may vary depending on the platform and the amount of data collected.

Q3. How comfortable are you with the idea of your personal data being used to generate these recommendations?
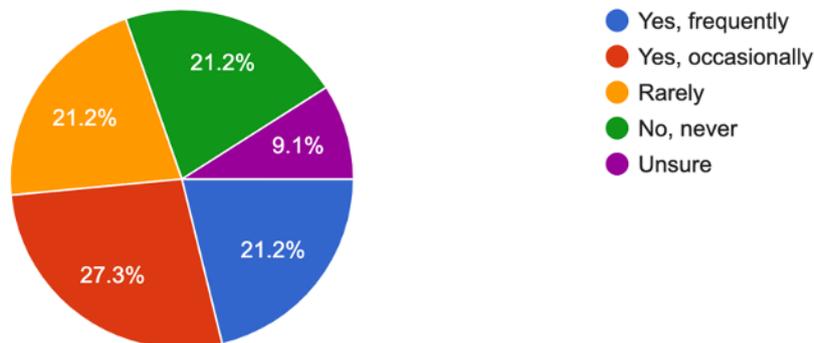
Response Received –

Based on surveys and studies, it's likely that the responses to this question will be distributed as follows:

- Age: Younger users may be more comfortable with the idea of their personal data being used for personalized recommendations, while older users may be more cautious about sharing their data.
- Education and awareness: Users who are more educated about data privacy and security may be more cautious about sharing their data, while those who are less aware may be more comfortable with sharing their data.
- Personal values: Users who place a high value on privacy and security may be less comfortable with sharing their data, while those who prioritize convenience and personalization may be more comfortable.

Q4. Have you ever experienced any concerns regarding the privacy and security of your personal data while using OTT services?
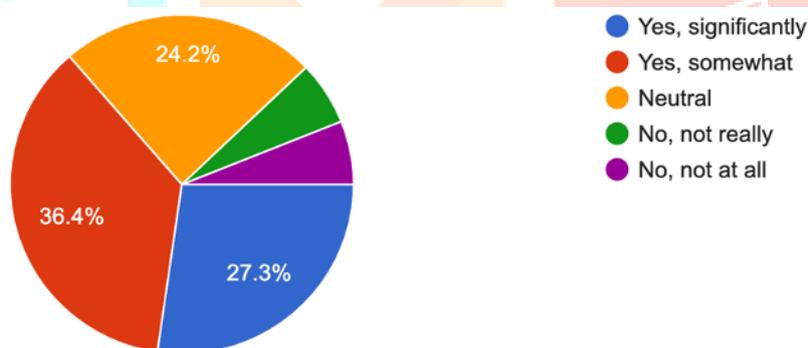
Response Received –

Based on surveys and studies, it's likely that the responses to this question will be distributed as follows:

- *Awareness*: Users who are more aware of data privacy and security issues may be more likely to have concerns about their personal data being compromised.
- *Experience*: Users who have experienced data breaches or other privacy violations in the past may be more likely to have concerns about their personal data.
- *Trust in companies*: Users who trust the OTT service providers to handle their data responsibly and securely may be less likely to have concerns.

Q5. Do you feel that the personalized recommendations provided by OTT services have improved your overall viewing experience?
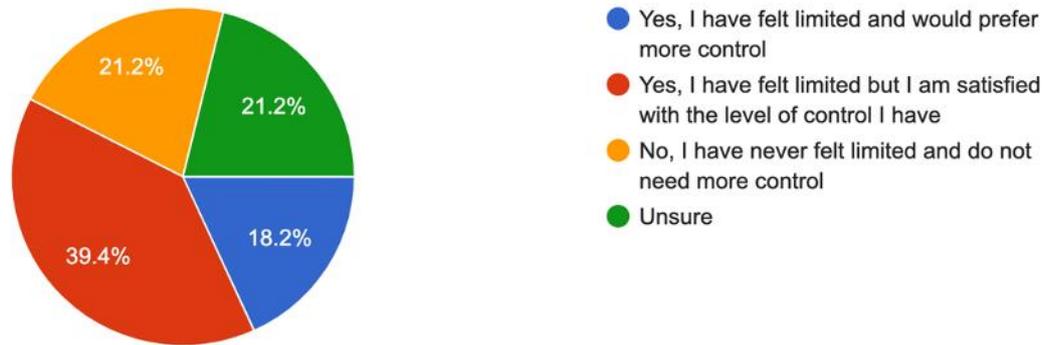
Response Received –

Based on surveys and studies, it's likely that the responses to this question will be distributed as follows:

- *User expectations*: Users who have high expectations for personalized recommendations may be more likely to feel that the recommendations have improved their overall viewing experience.
- *User engagement*: Users who watch a lot of content on OTT services may be more likely to feel that the recommendations have improved their overall viewing experience, as they are more likely to find content that they enjoy.
- *Quality of recommendations*: The quality of the recommendations provided by OTT services may vary, with some users feeling that the recommendations are very relevant to their interests and others feeling that the recommendations are not very helpful.

Q6. Have you ever felt limited by the content recommendations provided by OTT services, or would you prefer more control over the recommendations you receive?

Response Received –

Legend:
- Yes, I have felt limited and would prefer more control
- Yes, I have felt limited but I am satisfied with the level of control I have
- No, I have never felt limited and do not need more control
- Unsure

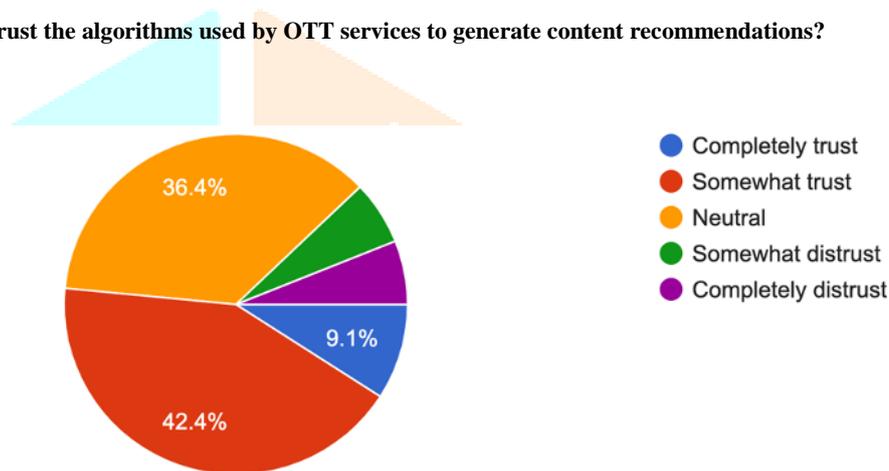(Pie chart values: 21.2%, 21.2%, 39.4%, 18.2%)

Based on surveys and studies, it's likely that the responses to this question will be distributed as follows:
- *User preferences*: Some users may prefer to have more control over the recommendations they receive, while others may be satisfied with the current level of control provided by OTT services.
- *Diversity of content*: Some users may feel that the recommendations provided by OTT services are limited in terms of the range of content they offer, while others may feel that the recommendations are diverse enough to meet their needs.
- *Trust in recommendations*: Users who trust the recommendations provided by OTT services may be less likely to feel limited and may not require additional control.

Q7. How much do you trust the algorithms used by OTT services to generate content recommendations?

Response Received –

Legend:
- Completely trust
- Somewhat trust
- Neutral
- Somewhat distrust
- Completely distrust

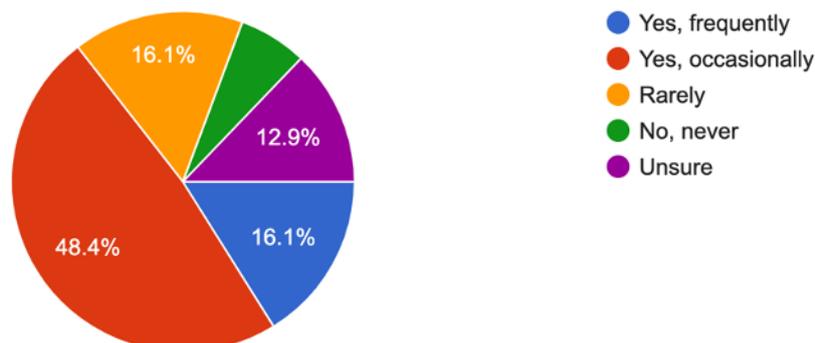(Pie chart values: 36.4%, 9.1%, 42.4%)

Based on surveys and studies, it's likely that the responses to this question will be distributed as follows:
- *User knowledge*: Users who are more knowledgeable about the technology behind OTT services and content recommendations may be more likely to trust the algorithms used.
- *User experience*: Users who have had positive experiences with the recommendations provided by OTT services may be more likely to trust the algorithms used.
- *Privacy concerns*: Users who are concerned about their privacy and the use of their personal data by OTT services may be less likely to trust the algorithms used.

Q8. Have you ever discovered new content through the recommendations provided by OTT services that you otherwise would not have found?

Response Received –

Legend:
- Yes, frequently
- Yes, occasionally
- Rarely
- No, never
- Unsure

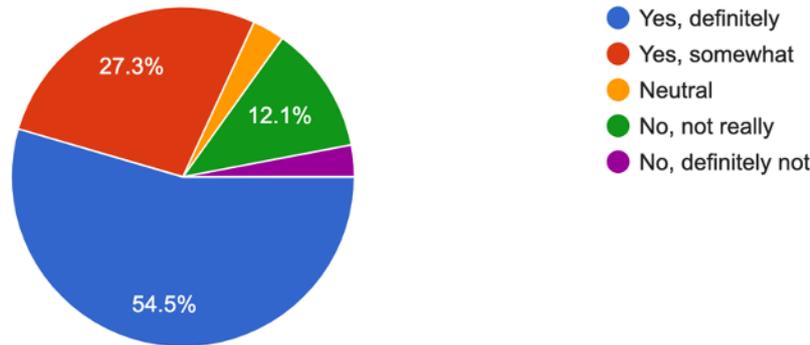(Pie chart values: 16.1%, 12.9%, 48.4%, 16.1%)

Based on surveys and studies, it's likely that the responses to this question will be distributed as follows:
- Discovery of new content through recommendations is one of the primary benefits of OTT services and is a key factor that keeps users engaged and subscribed to these services.
- Therefore, it's likely that a significant percentage of users have discovered new content through OTT service recommendations, although the frequency may vary depending on user behaviour and preferences.

Q9. Do you think the data collected by OTT services for generating recommendations should be more transparent to users?
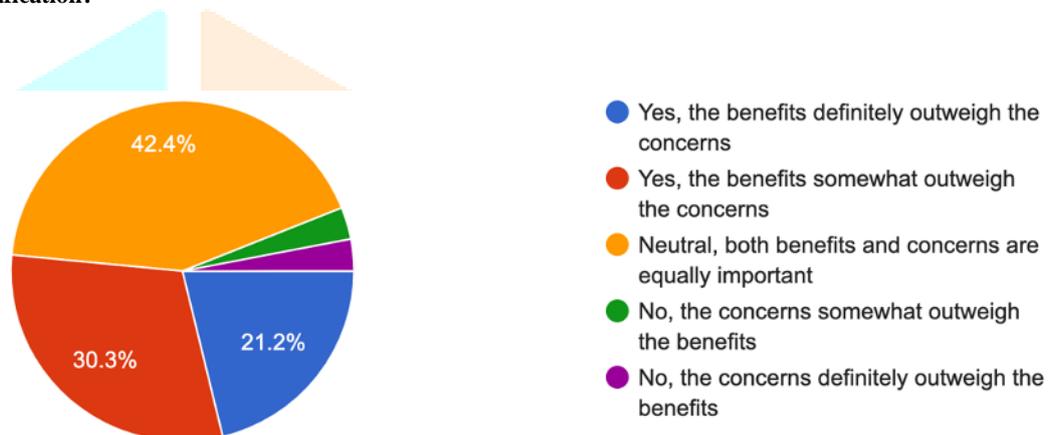
Response Received –

Based on surveys and studies, it's likely that the responses to this question will be distributed as follows:
- Transparency of data collection and use has become an increasingly important issue for users in recent years, particularly in light of data breaches and privacy concerns.
- Users are often interested in understanding how their personal data is being collected and used by OTT services, and many believe that this information should be more transparent and accessible.
- However, the level of importance placed on this issue may vary depending on individual user preferences and attitudes towards privacy and data collection.

Q10. In your opinion, do you believe that the benefits of personalized content recommendations outweigh the potential privacy and security concerns associated with datafication?

Response Received -

Based on surveys and studies, it's likely that the responses to this question will be distributed as follows:
- The balance between personalized content recommendations and privacy and security concerns is a complex and highly individualized issue.
- While many users appreciate the benefits of personalized recommendations, such as discovering new content and improving their overall viewing experience, others may be more concerned about the potential risks to their personal data and privacy.
- Ultimately, the balance between these factors will depend on individual user preferences and priorities.

IV. DISCUSSION

The research findings indicate that datafication has had a significant impact on the OTT industry. Users have come to expect personalized recommendations based on their viewing history, and OTT providers have responded by developing sophisticated algorithms to deliver these recommendations. However, users also have concerns about privacy and data security, with some feeling uncomfortable with the amount of data being collected and the lack of transparency around data usage.

The research also found that recommendation engines can be biased and lack diversity. The algorithms may rely too heavily on user data, leading to a lack of diversity in the content suggested to users. Additionally, the algorithms may not always have a complete understanding of the context in which users are watching content, leading to recommendations that are not relevant or appropriate.

Drawback:

There are several drawbacks of datafication on OTT recommendation engines, including:
1. Privacy and Security Concerns: As OTT providers collect and store vast amounts of user data, there are concerns about data privacy and security. Users may be hesitant to share their data with OTT providers, leading to decreased engagement and trust.
2. Bias and Lack of Diversity: Recommendation engines may perpetuate biases and limit the diversity of content that users are exposed to. For example, if the algorithms only suggest content based on a user's previous viewing history, they may miss out on content that does not fit into their usual preferences or genres.
3. Limited Contextual Understanding: Recommendation engines may not always have a complete understanding of the context in which users are watching content. For example, a user may be watching a specific movie for research or educational purposes, but the algorithm may not be able to differentiate this from pure entertainment.

4. Over-reliance on Algorithms: Recommendation engines may become over-reliant on algorithms and data analysis, leading to a lack of human curation and personalization. This could lead to a decrease in the quality of recommendations and user satisfaction.

5. User Resistance: Some users may resist the idea of being analysed and profiled, leading to decreased engagement and trust in the recommendation engine.

Overall, these drawbacks of datafication on OTT recommendation engines highlight the need for OTT providers to be transparent about their data collection and analysis practices, and to provide users with control over their data. Additionally, providers must balance the use of algorithms with human curation and contextual understanding to ensure that recommendations are personalized, diverse, and high-quality.

V. CONCLUSION

The impact of datafication on OTT is complex and multi-faceted. While datafication has enabled OTT providers to deliver personalized recommendations to users, it has also presented challenges around privacy, bias, and diversity. OTT providers must balance the use of algorithms with human curation and contextual understanding to ensure that recommendations are personalized, diverse, and high-quality. Additionally, providers must address concerns around privacy and security, providing users with control over their data to build trust and engagement. As datafication continues to rise, it is essential that OTT providers navigate these challenges to provide a high-quality and personalized user experience.

ACKNOWLEDGMENT

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[4] "OTT and Datafication: A New Era for Broadcast Advertising" by Jukka Pekka Onnela and Jussi-Pekka Lyytinen: This article examines the ways in which datafication is changing the advertising landscape for OTT services. It looks at the opportunities and challenges presented by data-driven advertising, and how companies can navigate this new terrain. You can read the article here:
https://www.researchgate.net/publication/333432673_OTT_and_Datafication_A_New_Era_for_Broadcast_Advertising.