**KATYAYANI DATTI**

**Introduction**

The goal of this analysis is to uncover patterns, trends, and actionable insights from the provided datasets: **User Activity Data**, **Recommendation Data**, and **Moderator Performance Data**. This report focuses on identifying key metrics, evaluating user engagement, and analyzing the effectiveness of recommendations.

**Data Overview**

1. **User Activity Data**:
   * Captures session information such as length, messages sent, feedback rating, and resources clicked.
2. **Recommendation Data**:
   * Contains details on recommendation types, click-through rates (CTR), and feedback scores.
3. **Moderator Performance Data**:
   * Tracks metrics such as sessions moderated, average response time, and user satisfaction scores.

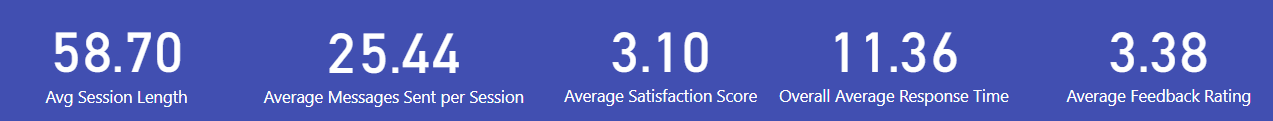
**Dashboard**

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**Key Metrics**

Below are the KPIs calculated to provide actionable insights into the data:



**1. Average Session Length**

* Formula: Sum of all session lengths / Total number of sessions
* Purpose: Indicates how long users stay engaged during their sessions. Longer session lengths often reflect higher engagement.
* Findings: The average session length is **58.70,** which is roughly an hour, this reflects higher engagement

**2. Average Messages Sent per Session**

* Formula: Total messages sent / Total number of sessions
* Purpose: Measures user activity during sessions. A higher number indicates active participation.
* Findings: The average number of messages sent during a session is 25 which is optimal and indicate active participation.

**3. Average Feedback Rating**

* Formula: Sum of all feedback ratings / Total number of sessions
* Purpose: Reflects overall user satisfaction. Higher ratings signify better user experience.
* Findings: The Average feedback score is 3.38 which is considered as Average on a scale 1-6, so this indicates that there needs an improvement.

**4. Moderator Performance**

* Key Metrics:
  + Average Response Time – 11.5 in our case is little over the threshold and needs to be improved.
  + Average Satisfaction Score – 3.10 indicates that the sessions are not highly impactful suggesting that there needs to be training to the moderators
* Purpose: Tracks moderator efficiency and user satisfaction to identify training needs and reward high performance.

**Visualizations:**

**1. User Activity Patterns by Feedback Rating**

**Visualization:** Stacked Column Chart

* **X-Axis:** Feedback Rating
* **Y-Axis:**
  + Average Session Length
  + Average Messages Sent

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**Insights:**

* Higher feedback ratings are correlated with longer sessions indicating a trend.

**2. Recommendation Effectiveness by Type**

**Visualization:** clustered Bar Chart

* **Axis:** Recommendation Type (e.g., Podcast, Blog, Video)
* **Values:**
  + Average Click-Through Rate (CTR)
  + Average Feedback Score

A blue and white bar graph

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**Insights:**

* All categories have balanced CTR, suggesting they effectively engage users.
* Videos receive the highest average feedback scores, indicating user satisfaction.

**3. Moderator Performance Trends**

**Visualization:** Scatter Plot

* **X-Axis:** chat sessions moderated.
* **Y-Axis:** Average response time

**A graph with blue dots

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**Insights:**

* Surprisingly there is no much correlation between response times and chats moderated.

**4.Average feedback rating by Month**

**Visualization:** Line chart

* **X-Axis:** Date
* **Y-Axis:** Average feedback rating

A graph with a line

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**Insights:**

* The feedback rating is highest in the month of which may be because of any camping , details of which is out of scope of the given data.
* But otherwise, the feedback is consistent at 3.5 which is average and needs to be improved.

**5. Engagement Breakdown by Recommendation Type**

**Visualization:** Pie Chart

* **Values:** Count of Recommendations by Type

A pie chart with numbers and a few pies

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**Insights:**

* Podcasts account for the majority of recommendations, followed by videos and blogs.

**6. Average CTR**

**Visualization:** Gauge Chart

* **Values:** Min CTR, MAX CTR, AVG CTR

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* **Insights:**
* The Avg Click through rate is 0.52 on a scale of 1, this needs significant improvement as only 1 in 2 people clicked.

**Actionable Recommendations**

* + Provide coaching to moderators to improve the satisfaction scores.
  + Analyze sessions with low feedback ratings to identify common pain points.
  + Introduce personalized recommendations based on past user activity.

**Conclusion**

This analysis highlights key trends in user activity, recommendation effectiveness, and moderator performance. By implementing the suggested strategies, the organization can enhance user experience, improve satisfaction, and drive engagement.