About dataset (Understanding of the Scenario)

The data provided for analysis contains 3 tables. Including:

User Activity Data	Recommendation Data	Moderator Performance Data
user_id	recommendation_id	moderator_id
session_id	user_id	chat_sessions_moderated
timestamp	recommendation_type	average_responce_time
session_length	feedback_score	user_satisfaction_score
message_sent	user_clicked	
feedback_rating		
recources_clicked		

User Activity Data

In this dataset user's activities are stored. Every time user visit to the website new **user_id** and **session_id** is generated. **Timestamp** column represents when session is started, and the length of this session is shown in **session_length.** During the session how many messages user sent for moderator is saved on **message_sent** and recourses clicked stored on **recources_clicked**. User gives feedback for moderator who have helped him during the session. It is saved on **feedback_rating**.

Recommendation Data

During the session when user interacting with website recommendations (**recommendation_type**) (blog, podcast, video) is shown to users. Users feedback (**feedback_score**) and count of users click to the recommendations (**user_clicked**) are stored also in this table. Every recommendation has its own id (**recommendation_id)**

Moderator Performance Data

This table represents the answer for following questions: Which moderator (**moderator_id**) how many chat sessions moderated (**chat_sessions_moderated**), what was the average response time (**average_responce_time**) for overall sessions and how users satisfied (**user_satisfaction_score**) from this user.

Modelling tables

User Activity and Recommendations tables relate to each other with **user_id** column. Meanwhile, Moderator Performance table isn't directly connected with other tables in this dataset.

Key insights from dataset

Moderator Performance Analysis

From moderator performance dataset the main target is increasing **user satisfaction score** from moderators. After analysis, it is identified that the **moderators experience** and **response time** might influence satisfaction score.

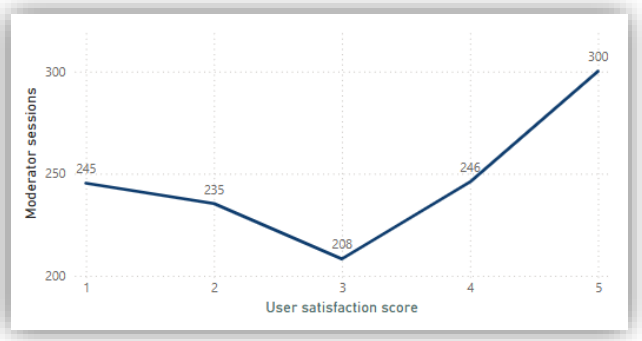
1. Moderator's average response time vs user's satisfaction score

This diagram might answer the reason why user's satisfaction score is low from certain moderators. Users with a low satisfaction score (1) experienced the highest response time (19.8). While other moderators ranked 2 to 5 responses to user relatively lower time.

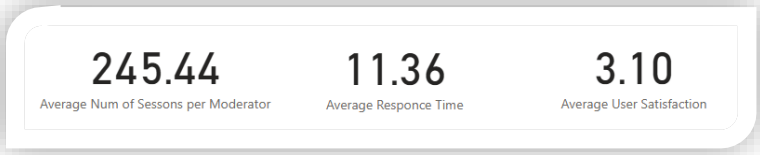
A higher response time likely contributes to lower satisfaction score from users

2. Average sessions handled by moderator's vs users' satisfaction score

This line graph tells shows average sessions operated by moderators with the same satisfaction score. Low scored moderators (1-3) have only operated 208-245 session in average. Meanwhile, excellent moderators (4-5) operated 246-300 sessions.



This suggests that the more experience have moderators, the more users satisfy from their service.



Generally, users scored **3.1** out of 5 the moderator's service. Per moderator participated **245** session and their average response time **11.36**.

From this analysis, to increase users' satisfaction score from their services it is suggested to **reduce response time** for users. Additionally, mostly users satisfy more from moderators who has **more experience** in this filed.

Recommendation Analysis

Observations show that the most effective recommendation type is **podcast** which is mostly recommended science users followed 132 podcast recommendation out of 181 which demonstrates 73% of effectiveness of recommendation.

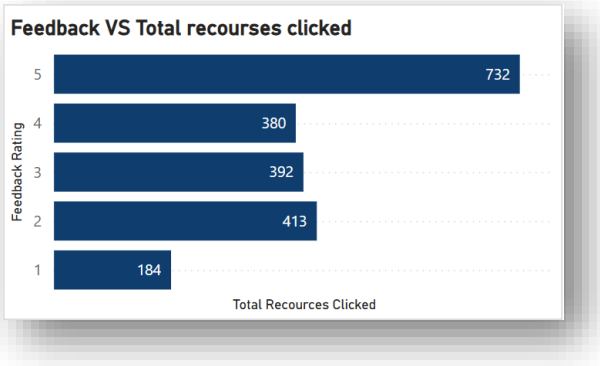
Row Labels	Total Recommendations	Total Clicks	Average Feedback Score	Effectivness
Podcast	181	132	2.97	73%
Video	170	85	3.09	50%
Blog	149	85	3.10	57%
Grand Total	**500**	**302**	**3.05**	**60%**

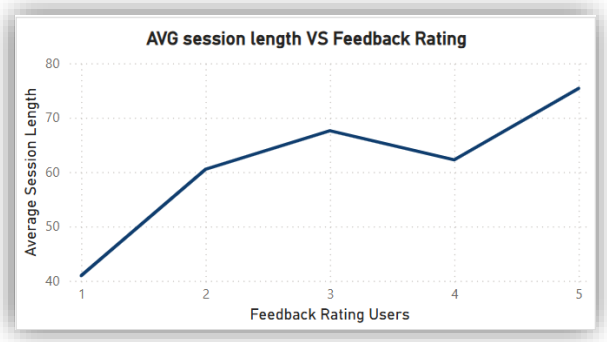
According to user's feedback score for recommends **blog** recommends are evaluated average **3.1** score which is the highest point.

Company should focus more **podcast** and **blog** recommendations to increase user average feedback score and effectiveness of recommendations.

User Activity Analysis

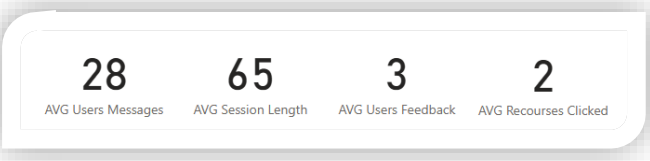
If the main target of this analysis is to increase service quality and user interaction on the website, it is important to know what the most influential factors is for trends.





As these diagrams we can conclude that satisfied users (their feedback rate is 5) are the people who **click more resources** and **spend more time** than other users. The session length is above the average (**78**) in satisfied clients.

Sessions lasts for **65** mins and users sent **28** messages during this time in average. Per user clicks **2** resources. Their average feedback rate is **3** out of 5.



There is a possibility to enhance users' engagement if company manages to keep customers stay longer on the website. They also need to ensure that the resources are engaging and appealing.