How can we increase revenue from
Catch the Pink Flamingo?

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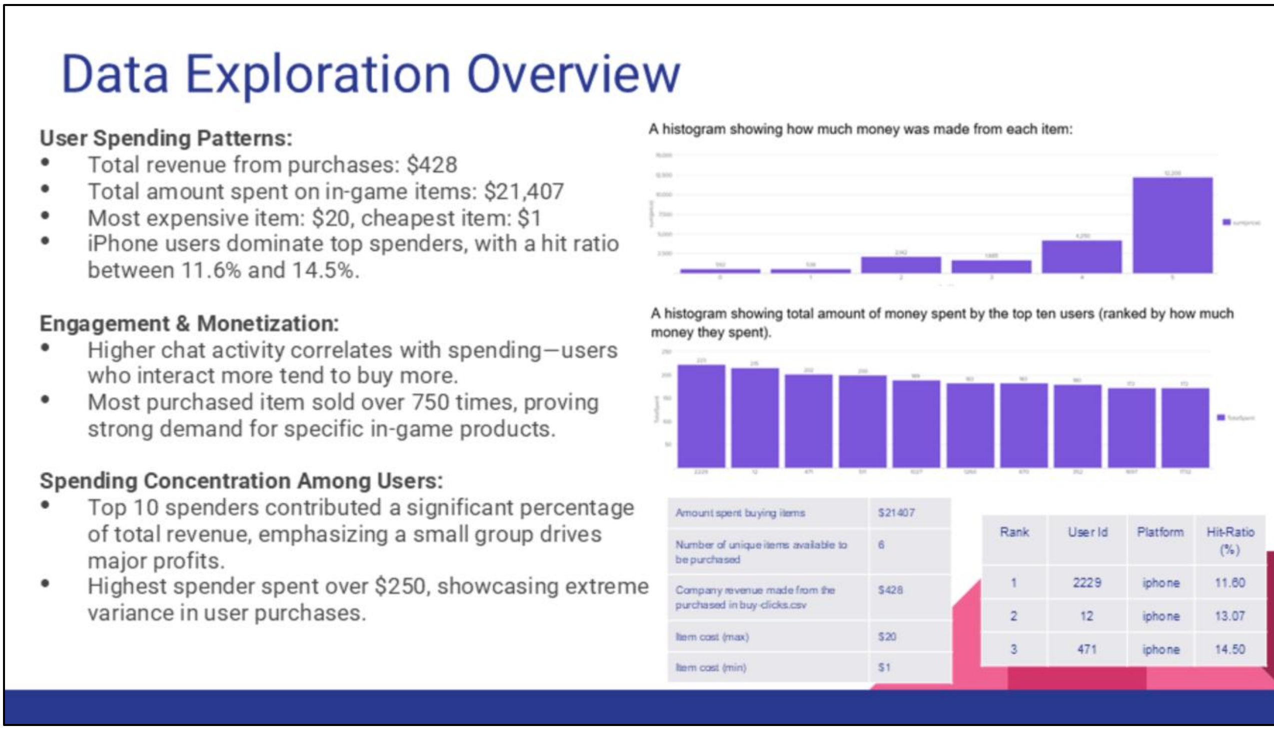
The analysis incorporates multiple datasets, including user sessions, ad clicks, in-app purchases, and chat interactions. These sources provide insight into player behavior, spending habits, and engagement patterns.

By leveraging data science techniques, we can uncover patterns in user engagement and spending habits. This allows Eglence to move beyond surface-level trends and proactively identify opportunities to boost revenue.

User session data shows how long players engage. Ad-click and purchase data reveal spending behavior. Chat interactions provide insights into community influence. Together, these sources enable Eglence to refine monetization strategies—targeting the right users with the right offers

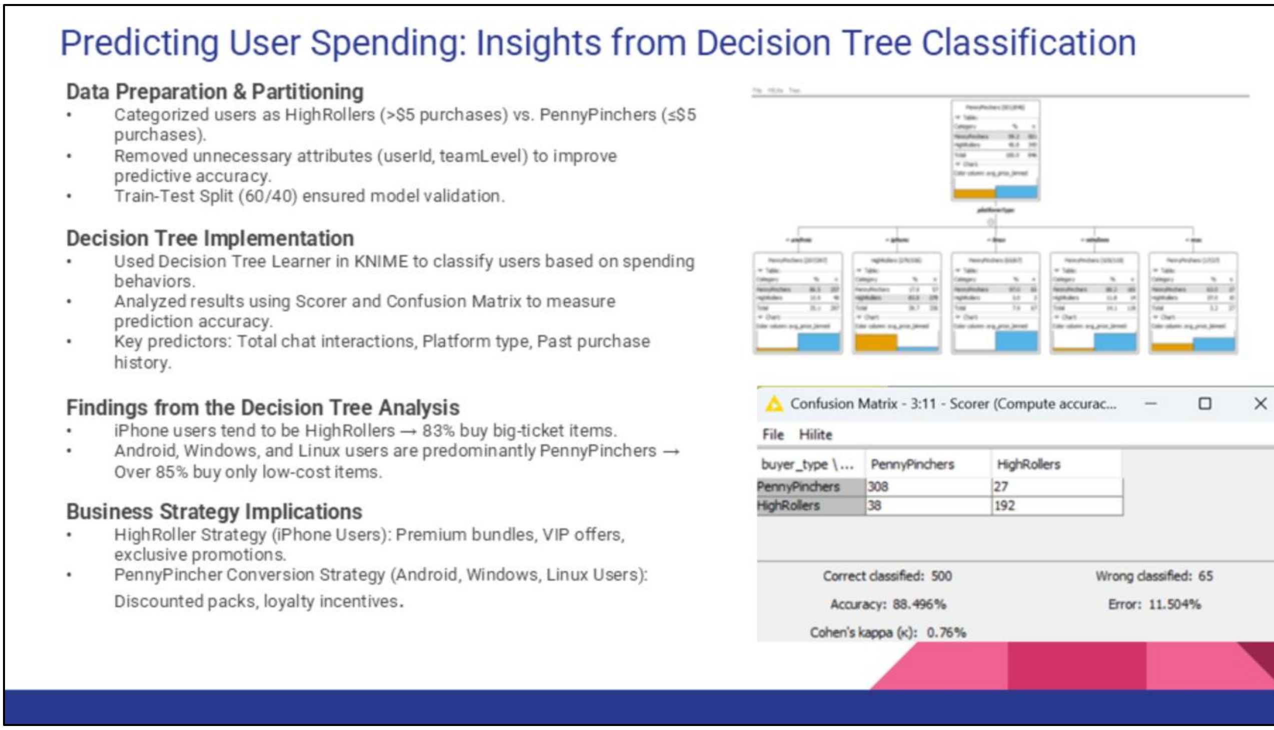


In exploring the Flamingo app data, I worked with multiple datasets—user sessions, purchases, ad-clicks, and game interactions—to uncover spending patterns. One of the most important findings was that spending behavior is highly segmented, with a small group of high-spenders driving the majority of revenue.

Total in-game purchases amounted to $21,407, but revenue generated was only $428, suggesting that purchase pricing and engagement strategies could be optimized. The most expensive item costs $20, while the cheapest is $1, with a few items dominating the economy—one was purchased over 750 times.

Interestingly, iPhone users spend significantly more than others, and their hit ratios range from 11.6% to 14.5%, indicating higher engagement. Another major insight is that users with higher chat activity tend to make more purchases, showing the powerful connection between social interaction and monetization.

These findings help us predict spending behaviors, refine engagement strategies, and uncover new revenue opportunities for Eglence.



Using Decision Trees, we classified users into HighRollers and PennyPinchers based on their spending behavior.

Feature selection was key in making accurate predictions, ensuring only relevant attributes—chat activity, platform type, and past purchases—were included. After partitioning the dataset into an 60/40 train-test split, we implemented the Decision Tree model in KNIME, which effectively categorized users.

One of the most striking insights was that iPhone users are far more likely to be HighRollers, with 83% purchasing high-value items, while Android, Windows, and Linux users overwhelmingly fall into the PennyPincher category.

For Eglence, these findings shape new revenue strategies—premium bundles for HighRollers, discounted packs for PennyPinchers, ensuring optimized monetization across user groups.

Insights from Clustering Analysis

Why Clustering Was Used

- Segmented users into four distinct clusters based on ad-click behavior and spending patterns.
- Used Elbow Method to determine optimal K=4 clusters.

Major Findings from Cluster Analysis

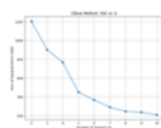
- Cluster 2 (High Rollers) → Users with above-average ad clicks and high spending.
- Cluster 4 (Engaged but Low Spenders) → Highly active in ads but not converting into purchases.
- Cluster 3 (Low Engagement Users) → Minimal ad clicks, low revenue—likely disengaged audience.
- Cluster 1 (Slightly Below Average Users) → Near the mean but less active overall.

Business Implications for Eglence

- Premium Offers for Cluster 2 → Exclusive in-app bundles to boost revenue from High Rollers.
- Conversion Strategies for Cluster 4 → Personalized discounts & loyalty incentives to drive spending.

Attribute	Rationale for Selection
ad_click_count	Represents the total number of ad clicks per user. Directly conveys the overall engagement with ads.
InApp_Purchase_Revenue	Captures the total revenue generated by the user through in-app purchases. Indicates this measure tracks monetary contributions.
Revenue_Per_AdClick	Denotes the average revenue obtained per ad click (i.e., total revenue divided by the total ad clicks). Reflects the conversion efficiency of ad interactions into revenue.

# of clusters created: 4
Using Elbow method, K = 4 is chosen as an optimal value for this case.



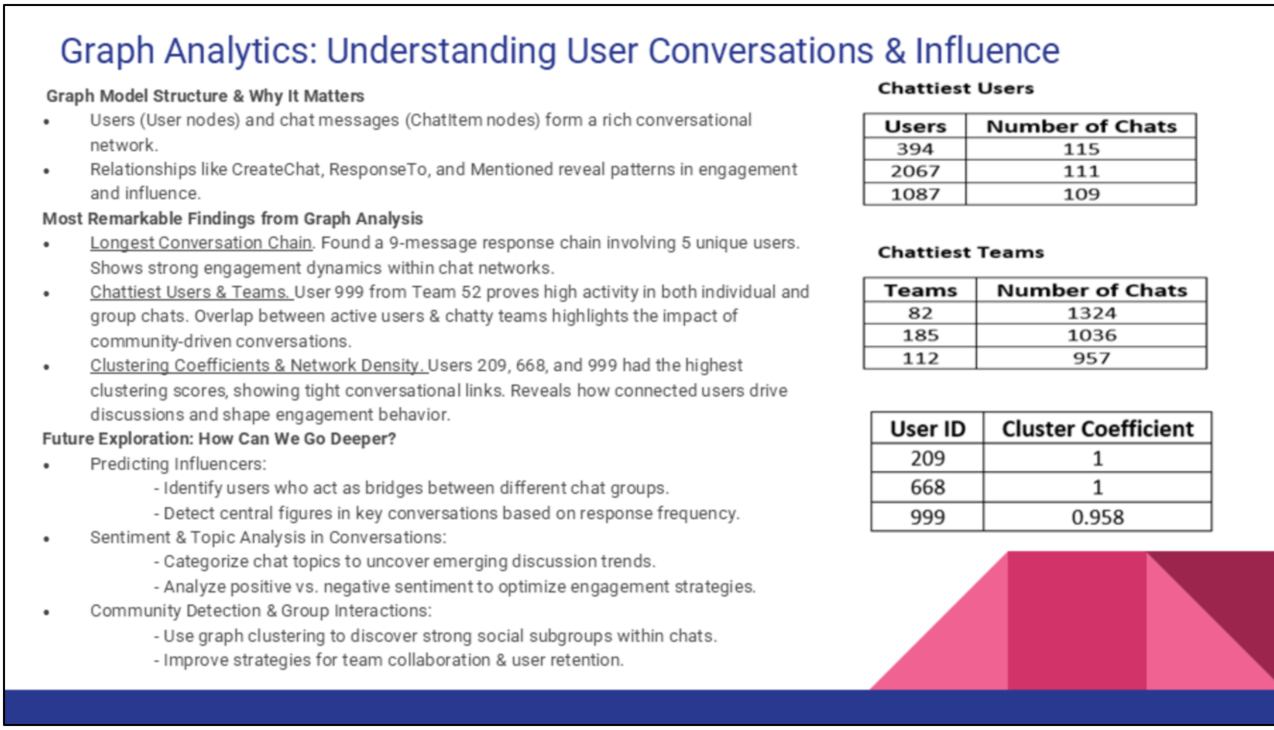
Cluster #	Center
1	[-0.197 -0.278 -0.172]
2	[0.225 1.792 1.558]
3	[-1.175 -0.720 -0.319]
4	[1.094 0.002 -0.327]

Clustering allowed us to segment users into four distinct groups based on ad clicks, in-app purchases, and revenue per ad click.

The most important findings were in Cluster 2 and Cluster 4—Cluster 2 represents High Rollers, users who convert ad engagement into high spending, while Cluster 4 includes highly engaged users who don't spend much.

This insight allows Eglence to craft targeted monetization strategies—Premium bundles for High Rollers, and discount incentives for Cluster 4, encouraging low spenders to increase their purchases.

By understanding engagement and spending behavior through clustering, Eglence can maximize revenue opportunities while optimizing user experience.



Our graph analysis uncovered rich conversational patterns, revealing how users engage and interact.

One remarkable finding was the longest response chain, spanning 9 messages with 5 unique participants, showcasing deep discussions. We also identified the chattiest users and teams, where user 999 appeared in Team 52, proving an overlap in individual and group chat engagement.

Network density analysis highlighted users 209, 668, and 999 as having high clustering coefficients, meaning they play central roles in chat interactions.

For further exploration, we can predict conversation influencers, analyze sentiment trends, and refine community detection to enhance engagement strategies. These insights can drive smarter communication models and optimize user retention within Eglence's chat network.

Our analysis has shown clear segmentation of user spending behavior and engagement patterns. To improve revenue, Eglence should implement AI-driven personalized promotions, focusing on HighRollers and engaged but low-spending users.

For HighRollers, exclusive premium bundles and VIP perks will enhance retention. Meanwhile, Cluster 4 users, who engage heavily but spend less, can be converted through targeted discounts and loyalty incentives.

Additionally, chat activity strongly correlates with spending, suggesting that in-app social interactions should drive personalized offers.

This strategy optimizes revenue by ensuring the right users receive tailored promotions, increasing overall spending while improving user experience.

Thank you for your attention!