How can we increase revenue from Catch the Pink Flamingo?

Chua Yeow Long

Hi, my name is Yeow Long. I'll now proceed to discuss on how we can increase revenue from Catch the Pink Flamingo.

Problem Statement

How can we use the following data sets to understand options for increasing revenue from game players?

- User behavior and trends
- Uncover options previously not seen

Fill in appropriate/key data set descriptions.
In your script, be sure to make clear how this is a data science story. State in your own words YOUR opinion of why the different kinds and sources of data are so important for Eglence to be able to identify new revenue opportunities.

It is important to obtain different kinds and sources of data so that we extract customers buying habits and patterns and determine the top ten spenders, how much they spend and what they spend on, to obtain understand this trends. After performing data exploration, it is possible to determine the options/possibilities/ways to increase revenue from the game players. It is also possible to uncover previously unseen options.

Data Exploration Overview

- Total of 4619 samples, only 1411 have made purchases
- HighRollers (spend > 5) versus PennyPinchers (spend <5)
- avg_price, user_id, user_session_id removed.

Assuming you have <2 minutes for this slide, what is the most important thing(s) to convey from your experience with exploring the data?

We see that out of a total of 4619 samples, only 1411 transactions were made. A new categorical feature attribute was created to enable analysis of players. As this is supervised learning, we need labels for our datasets. We break them down into HighRollers and PennyPinchers. The creation of this categorical attribute is also necessary as this is a classification problem. After completing the data exploration and preparation step, we decided to remove features such as avg_price, user_id and user_session_id as they were deemed unnecessary.

What have we learned from classification?

- 207 HighRollers have been predicted correctly.
- 10 HighRollers have been predicted incorrectly.
- 285 PennyPinchers have been predicted correctly.
- 63 PennyPinchers have been predicted incorrectly
- iPhone users are HighRollers with a percentage rating of 93.2% and other platform type users are PennyPinchers with a percentage rating of 6.8%

Assume you have 2 minutes to present what you perceive to be the most important or remarkable points from your classification analysis.

The overall accuracy of the model is 207 HighRollers predicted correctly, 10 HighRollers predicted incorrectly, 285 PennyPinchers predicted correctly, 63 PennyPinchers predicted incorrectly.

From analysis results, it was determined that iPhone users are HighRollers with a percentage rating of 93.2% and other platform type users are PennyPinchers 6.8%.

What have we learned from clustering?

3 cluster centers identified

Cluster 1 is different from the others in that users produce average number of hits but made the most purchases.
Cluster 2 is different from the others in that the users who produce less hits and also made less purchases.
Cluster 3 is different from the others in that the users who produce the most hits but made less purchases.

Two recommendations
Firstly, we should increase the number of adds to users who play alot and the rational is that users who play alot are also users who spend less and click less on adds, this adds increase will promote users to spend more and hence, increase the revenue.
Secondly, we should show higher price ads to users who spend more. One behaviour noticed was that they do not play often and when they do, they always spend and hence, by showing them the more valuable adds we can increase revenue.

Assume you have 2 minutes to present what you perceive to be the most important or remarkable points from your classification analysis.

From cluster analysis, 3 cluster centers were identified. These clusters can be differentiated from each other as follows:
Cluster 1 is different from the others in that users produce average number of hits but made the most purchases.
Cluster 2 is different from the others in that the users who produce less hits and also made less purchases.
Cluster 3 is different from the others in that the users who produce the most hits but made less purchases.

There are two recommended actions.

Firstly, we should increase the number of adds to users who play alot and the rational is that users who play alot are also users who spend less and click less on adds, this adds increase will promote users to spend more and hence, increase the revenue.

Secondly, we should show higher price ads to users who spend more. One behaviour noticed was that they do not play often and when they do, they always spend and hence, by showing them the more valuable adds we can increase revenue.

From our chat graph analysis, what further exploration should we undertake?

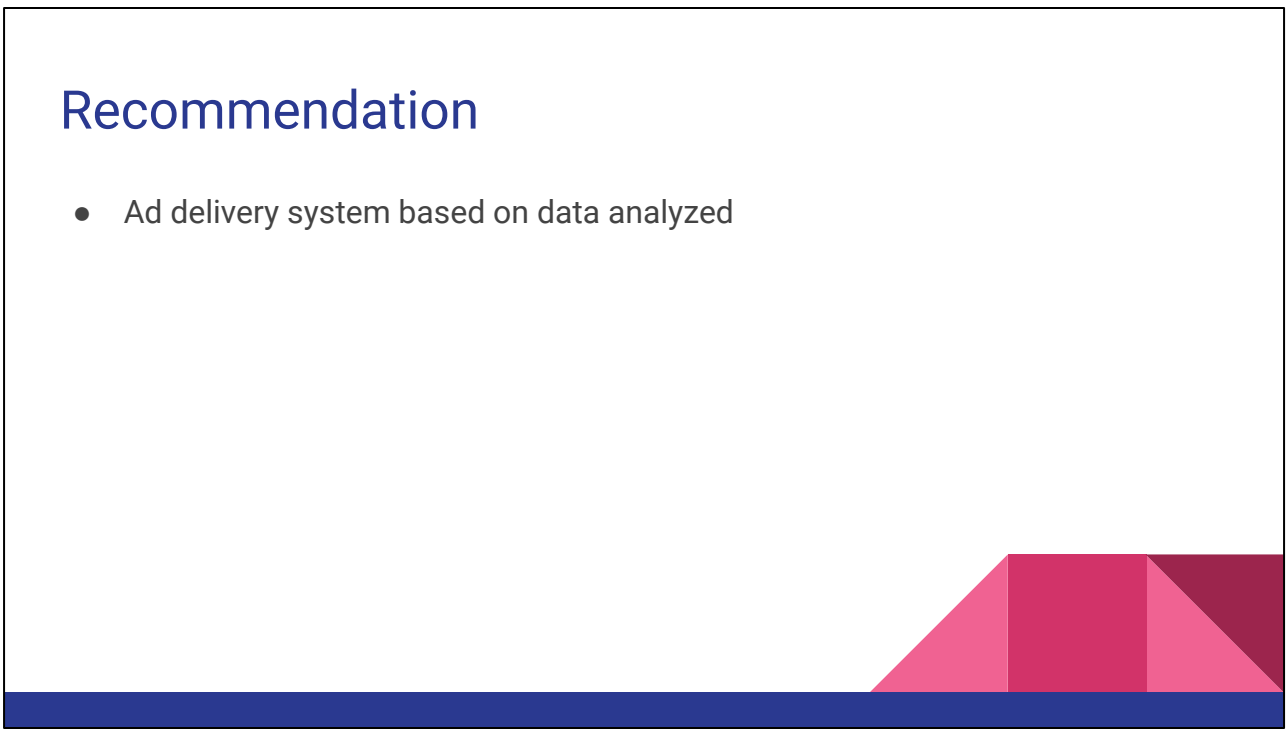
- Determined longest conversation chains
- Analyzed relationship between chattiest users and chattiest teams
- Determined how active groups of users are

Assume you have 2 minutes to present what you perceive to be the most important or remarkable points from your graph analysis

From chat graph analysis, we have determined the longest conversation chains and its participants. There are 9 such chats and 5 users participated in this chain. We have also analyzed the relationship between the top 10 chattiest users and top 10 chattiest teams and noticed that the most chattiests users are not in the chattiest teams. Finally we determined how active groups of users are.

Recommendation

- Ad delivery system based on data analyzed



From your own viewpoint, make one recommendation/action the Eglence should follow to improve their business. Be sure to explain your rationale.

Recommendation. I would recommend Eglence to build a ad delivery system / recommendation engine based on data collected, processed and analyzed. For example, from the results of clustering, one behaviour noticed was that they do not play often and when they do, they always spend and hence, by showing them the more valuable adds we can increase revenue.