FANTASY SPORTS: UNSUPERVISED LEARNING PROJECT

Nicolle Chuquilin

CLUSTER 0

TOP TIER PLAYERS

- Top-tier players who consistently accumulate higher point totals

- Players with a strong chance of earning bonus points

CLUSTER 2

INFLUENTIAL PLAYERS

- Players with key roles in their team's performance

- They may not frequently score or assist

- Leading to lower fantasy points compared to top-tier players

CLUSTER 1

SUBSTITUTE PLAYERS

- Players who tend to have limited playing time

- They often come in as substitutes.

- Resulting in lower fantasy point yields

CLUSTER 3

BACKUP PLAYERS

- Players primarily serve as backup options in case of injuries to the starting ones

-Their playing time and fantasy point production are minimal

FANTASY SPORTS' **CONCLUSIONS**

Setting K = 4
Given the noticeable decline observed at K = 4 in the elbow plot, we opted to set K as 4 for our clustering analysis

Game impact vs Longer game durations
Players who have a more substantial impact on the game tend to participate in longer game durations and accumulate higher fantasy point scores.
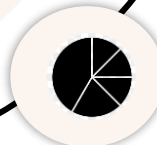
K-Means algorithm
While five different algorithms were explored, it was ultimately decided to employ the K-Means algorithm as the final choice, as it achieved the highest silhouette score of 0.40.

High selling prices
Players with greater goal-scoring abilities, creativity, and influence can command higher selling prices.

- Their prices should be set at a **premium level.**
- This creates budget constraints, to prevent users' teams from overcrowding with too many top-tier players.

**Cluster 0:
Top Tier Players**

- Their pricing should strike a balance between Cluster 0 and Cluster 1 players.

**Cluster 2:
Influential Players**

- These players should be assigned **lower price tags**, making them attractive differential options.

**Cluster 1:
Substitute Players**

- These players should be priced the lowest among the 4 clusters.

**Cluster 3:
Backup Players**

Previous performances

Player performances from previous seasons should be considered.

Benchmark

Fantasy prices from the previous season should be referred to as a benchmark to determine the price for the upcoming season.

More tailored and effective pricing strategy

OnSports should conduct cluster analysis separately for each of the playing positions to arrive at a better fantasy pricing strategy.

THANK YOU