Holistic Clutch Performance

Evaluation tools for determining the recipient of the Jerry West Trophy

Shreyans Gupta | Matthew O'Donnell | Logan Godfrey | Varun Mittal | Aritra Acharjee |

The Inaugural Season: 2022-23

Rebranding

For the 2022-23 season, the NBA rebranded its major awards, naming them after the league's legends. A brand-new *Clutch Player of the Year Award* would be named after Jerry West.

Voting

The award winner is decided by a group of 100 media members who each vote for three players. 1st place votes receive 5 points, 2nd place receives 3 points, and 3rd place receives 1 point.

The Winner

De'Aaron Fox, Jimmy Butler, and DeMar DeRozan were the three finalists for the award in 2022-23. Fox was the eventual recipient, receiving 91 1st place votes.
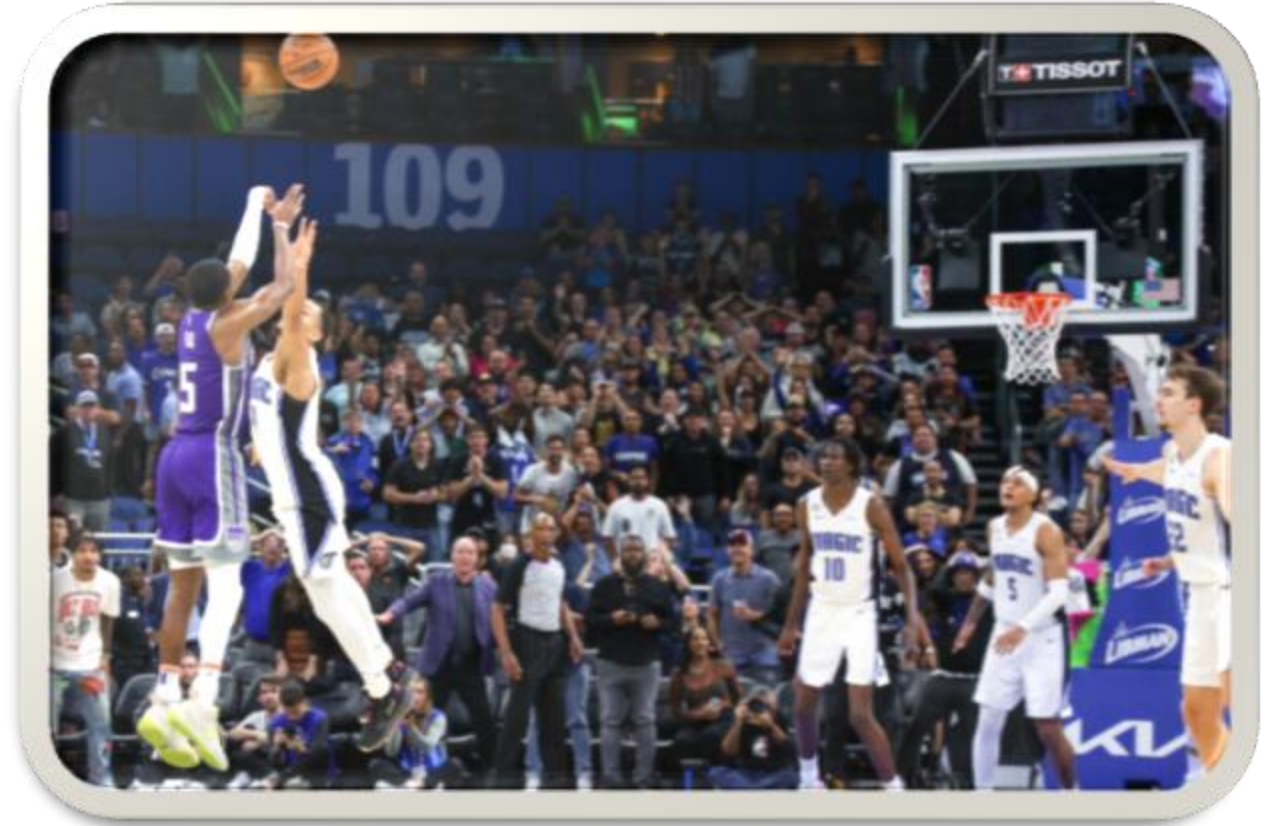
The Criteria

Clutch Points

1. De'Aaron Fox - 194

2. DeMar DeRozan - 159

3. Jimmy Butler - 151

Nov 5th, 2022
De'Aaron Fox connects on a half-court shot at the buzzer to stun the Orlando Magic 126-123

Motivation   **Data**   **Methodology**   **Results & Conclusions**

A More Holistic Approach

Is there a better way to define clutch performance?

Factors to Consider

- Efficiency
- Playmaking
- Rebounding
- Defense
- Winning Percentage

Examples

- Clutch Rebounds:
  - Fox 18, Butler 32, DeRozan 30
- Clutch Turnovers:
  - Fox 13, Butler 7, DeRozan 9

Motivation | **Data** | **Methodology** | **Results & Conclusions**

How Did We Get Our Data?

Step by Step Process:

1. nba.com -> Statistics -> Players -> Clutch Table

2. Pulled the dataset using the hoopR package

3. Used nba_leaguedashplayerclutch function from hoopsR to fetch clutch performance data

4. Limitations in Data: Did not include many defensive statistics other than OREB and DREB

The NBA defines clutch time as situations with less than 5 minutes remaining and a score within 5 points

| Motivation | Data | Methodology | Results & Conclusions |

Methodology 1: Points Added

Problem

To create a holistic metric for clutch contributions, we must aggregate various box score statistics. How does one compare the importance of a rebound to the importance of a made free throw?

Solution

View each box-score stat as points above or below the expectation for that possession. We can use league-wide offensive rating for a given year as our baseline for expected points per possession.

Motivation | Data | Methodology | Results & Conclusions

Methodology 1: Computation

Clear Ends to Possession
- **2 Point Field Goal Made:** 2 - PPP
- **3 Point Field Goal Made:** 3 - PPP
- **Assist:** Points Per FGM – PPP
- **Steal:** PPP
- **Turnover:** -PPP

Important Notes
- Points per possession, rebounding rates, and points per field goal made are season-specific.
- A free throw attempt is weighted as 0.44 possessions, which is taken from the formula for True-Shooting %.

Rebounds
- **Def. Rebound:** PPP * ORB%
- **Off. Rebound:** PPP * DRB%

Unclear Ends to Possession
- **Field Goal Missed:** -PPP * DRB%
- **Block:** PPP * DRB%

Free Throws
- **Free Throw Made:** 1 - 0.44 * PPP
- **Free Throw Missed:** -0.44 * PPP

Methodology 2: Regression

- Evaluate player performance in clutch time by evaluating each statistical contribution's correlation with the win percentage of a player

- Fit a linear model to assign weights to each statistic

- Used field goal percentage, points scored, personal fouls, blocks, steals, turnovers, assists, defensive rebounds, and offensive rebounds.

- Multiplied the data in matrix form with the vector of weights.

Results 2022-23

Voting Results	Points Added per Minute	Clutch Regression Score
1. De'Aaron Fox – 460 votes	1. Nikola Jokic – 0.52	1. Luke Doncic – 18.22
2. Jimmy Butler – 104 votes	2. Tyrese Haliburton – 0.46	2. Jimmy Butler – 16.71
3. DeMar DeRozan – 80 votes	3. Jrue Holiday – 0.39	3. Tyrese Haliburton – 15.98
4. Jalen Brunson – 77 votes	4. Joel Embiid – 0.39	4. Nikola Jokic – 15.48
5. Joel Embiid – 51 votes	5. Jimmy Butler - 0.38	5. Joel Embiid – 14.95

**Among players with 100+ clutch minutes*

Motivation | Data | Methodology | Results & Conclusions

Results: 2023-24

Betting Odds	Points Added per Minute	Clutch Regression Score
1. Stephen Curry -150	1. Shai Gilgeous-Alexander – 0.57	1. Shai Gilgeous-Alexander – 25.32
2. DeMar DeRozan +100	2. Nikola Jokic – 0.46	2. Stephen Curry – 23.28
3. Shai Gilgeous-Alexander +2900	3. Giannis Antetokounmpo – 0.46	3. Damian Lillard – 20.69
4. Damian Lillard +10000	4. Stephen Curry – 0.45	4. DeMar DeRozan – 20.49
5. Nikola Jokic +10000	5. Damian Lillard - 0.41	5. Fred VanVleet – 20.42

**FanDuel Odds as of 4/9   ***Among players with 100+ clutch minutes*

Motivation	Data	Methodology	Results & Conclusions

Determining How to Vote

What is the Goal?

Highlight the league leader in late-game scoring?

Identify the clutch-time MVP?

Recognize the season's most dramatic moments?

Cater to shot-making guards in an era dominated by forwards and centers?

Focus on season-long volume in the clutch? Or adjust for cutch minutes played?

"I wonder if we will ever have a year in which the top clutch player does not lead the NBA in "clutch" scoring... And if the formula to pick this winner is so easy, then why would we have the award at all?"
- Joe Vardon, *The Athletic*, April 2023

"This award doesn't really make sense... It seems like the voters are latching on to clutch points per game as a main stat to cast a vote on."
- Eric Richter, *The New York Post*, April 2024

Conclusion
Iconic moments and overall volume **should matter**, but alternative metrics can bring more diversity to the discussion, making this new award more worthwhile.

Motivation | Data | Methodology | Results & Conclusions

Shiny App demonstration