

DSO 574 Project 2

THE BEST USE OF 'POWER PARTNERSHIP' LBJ X AD 19-20 LOS ANGELES LAKERS

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LAKERS





WHY LEBRON X AD?



19-20 NBA Champion
& Final MVP

Looking back at the 2019-20 season, it marked the inaugural season for a basketball duo playing together for the Los Angeles Lakers. They immediately showcased their dominance in the league by clinching the NBA championship. Aged 35 and 26, these two stars could score an average of 51.4 points combined in a game (LBJ: 25.3ppg / AD: 26.1ppg). The pairing stays on the court for about 25 minutes per game on average, and outscores opponents by 11.05 points per 100 possessions when together. Undoubtedly, they stand as one of the best 'power partnerships' in the league. Therefore, we believe that the 19-20 Lakers team would serve as an excellent starting point for us to address the two main questions in this assignment:

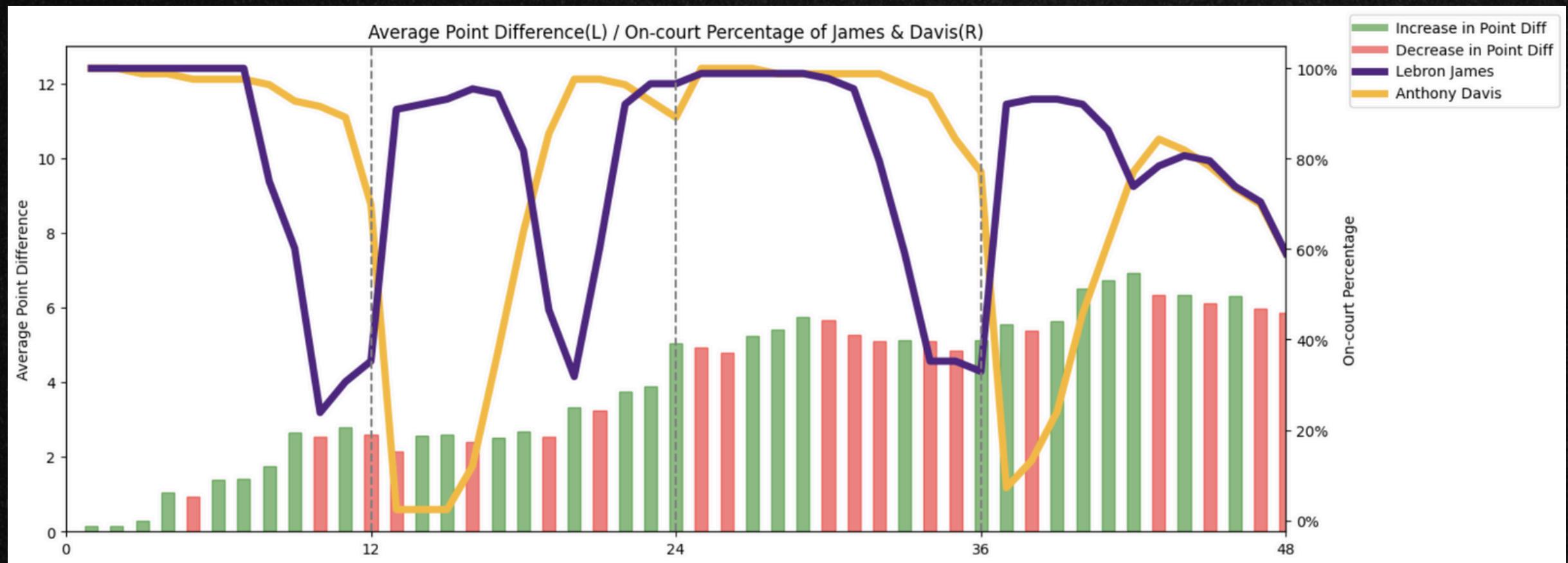
- (1) How does a team best utilize a 'power partnership'?
- (2) Do great players make their teammates better?





Part A. FRANK VOGEL'S UTILIZATION OF THE BASKETBALL DUO

Frank Vogel, the head coach of the 19-20 Lakers



The graph illustrates LBJ and AD's on-court percentages in a 48-minute game, alongwith corresponding team performance (evaluated by Point Difference).

- **Findings**
 - LBJ and AD consistently play together during specific game periods, like the first half of the 1st and 3rd quarters, as well as the last five minutes of the game.
 - LBJ and AD take turns playing on the court, leading the team when the other is not. It's rare for both to be off the court together.
 - The average point difference stays stable and balanced throughout the game, with a higher percentage of positive performance.
- **Conclusion - What's the Secret Recipe?**
 - The 19-20 Lakers developed a successful on-court strategy
 - Consistent pattern and reasonable load management
 - Appropriate scheduling of playing and rest time
 - Deep bench to help team survive the grind of season
 - Lakers has multiple talented and experienced bench players, such as Rajon Rondo, Alex Caruso, and Dwight Howard to maintain competitiveness when the star players are off the court. (the bench net rating ranked the 2nd among all team)
 - The coach is renowned for expertise in developing defensive systems that can adapt to various compositions.
 - Control the pace, control the game
 - There is no apparent correlation between the on-court arrangement and the team's performance.
 - However, this pattern secures a consistent positive point difference by managing each aspect of team composition.

Part B.

HOW THEY MAKE THIS LAKERS TEAM BETTER?

Split_type	Offensive_ratings	Defensive_ratings	Net_ratings	Plus/Minus	Teammate_FG%
LeBron + AD	117.88	106.82	11.05	10.44	46.25
LeBron	111.33	109.49	1.84	8.10	48.28
AD	108.32	115.66	-7.33	-0.10	44.12
Both out	102.71	109.69	-6.99	-4.93	45.07

To investigate the individual and combined impacts of LeBron James and Anthony Davis on the team, we have chosen to compare the team's performance using five metrics. While individual performances of LeBron James and Anthony Davis are also strong (e.g. Teammate_FG% is the highest (48.28%) when only LeBron is on the field), the team's performance seems to be maximized when both players are on the court together (Highest Net_ratings (outscores opponents by 11.05 points per 100 possessions) and Plus/Minus (10.44)).

Glossary:

- (1)Offensive_ratings: Score per 100 Processions
- (2)Defensive_ratings: Opponent's Score per 100 Processions
- (3)Net_ratings: (1) - (2)
- (4)Plus/Minus: (Score(team) - Score(opp)) / team processions
- (5)Teammate_FG%: Teammates Field Goal Percentage

LAKERS



The 17th title for the
Lakers franchise

THANK YOU!

“Leave a Legacy”
The 19-20 NBA Championship,
Los Angeles Lakers

REFERENCE

- ProcessionFormula = $0.96 * [(\text{FieldGoal Attempts}) + (\text{Turnovers}) + 0.44 * (\text{Free Throw Attempts}) - (\text{Offensive Rebounds})]$
- Reference Article:
- “LeBron And AD Aren’t Just Good Together. They’re Historically Great.” (<https://fivethirtyeight.com/features/lakers-lebron-and-ad-arent-just-good-together-theyre-historically-great/>)
- Reference Websites:
- Basketball-reference.com/ statmuse.com

Analyzing the substitutions for Lebron James and Anthony Davis:

- Lebron James:

Among his total 354 substitutions, the primary substitutes were Rajon Rondo (Ro) (27.1%), Alex Caruso (Ca) (13.6%), and Quinn Cook (Co) (9.6%). Notably, these substitutes shared some common ground: (1) All point/shooting guards (2) Great Passers (Assist per 100 poss ranking in the team: Ro(2), Ca(4), Co(7)) (3) Decent Defenders (DRtg: Ca(106), Ro(108), Co(111) which are better than the league avg(111))

- Anthony Davis:

Among the total 112 substitutions, the main replacements were Dwight Howard (22.3%), Markieff Morris (17.0%), and Kyle Kuzma (12.5%). We don't observe any specific patterns but here are some findings: DH(great rebounder and defender).