Statistics and Analysis of the Dallas Mavericks' Video Recording Technique during the 2019-2020 Nba Regular Season

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Abstract: In order to explore the performance of the Dallas Mavericks in the 2019-2020 NBA regular season, as appears this team had great offense ability, but in the past few years, this team has often lost the game at the clutch time in the fourth quarter. As well as the team's problem, this research will look at whether this phenomenon has been resolved based on the statistics of the 2019-2020 season. This research uses background on traceability, video observation and statistics, mathematical statistics, comprehensive analysis, and analysis of the team's core players, as randomly selects 4 games of 2019-2020 regular season of the Dallas Mavericks used for statistics. As the results show this team is an offense team, and key points of winning is that this team relies on three-pointers. This team's two-pointers are scored on the inside paint and discuss the team's cooperation method. But the team is the worst team in the league in key ball handling of the clutch time, also will discuss Doncic's problem.

1. Introduction

This season the Dallas Mavericks were in 7th seeds in the Western Conference with a record of 40 wins and 27 losses, but the team did not make the playoffs in the previous 4 years, with an average about 13th seed in the Western Conference. Through this season's ranking comparison, it can be seen that there has been significant improvement, but there is still a key problem and the fatal weakness of the past few seasons that is much obvious of low level performance, which, was team often performs badly and out of standard in the fourth quarter as the clutch time . After this season's replacement of new players will change or not as the bad performance during the last quarter of clutch time as this article will discuss and analysis if they has the same problem during the last minutes. The Dallas Mavericks bad performance in the fourth quarter has been seen in previous seasons.

Looking back at the past two seasons, there were 35 games in the 17-18 season within 5 minutes left with a 5 points game, as during these 35 games and there was a record of 6 wins and 29 losses, and a 17.1% winning rate. On December 17, 2017, the Dallas Mavericks lost 96-98 to the Spurs. The Mavericks was led the opponent by 11 points in the last 4 minutes but they failed to score in this last 4 minutes. In the end, the almost every offense play the player were playing one-on-one and there were two fatal turnovers. In the last 17 seconds of the game, the commentator said that the Mavericks had such a fatal turnovers and been past the scores because the Mavericks did not have the ability to execute, because almost every offense the team relies on individual singles, and no one was leading this team .

Next, entering into the 18-19 regular season, the final 5 minutes with a 5 points game, had a total of 40 games, a record of 17 wins and 23 losses, a 40% winning rate. It can be seen that there has been some improvement but 40% of the winning rate is still at the bottom of the league. After watching several games in the last 5 minutes of the fourth quarter, most of them still rely on single players. However, different from the last season, was that there were new players and more players who can play at one-on-one, but there was occasionally the team cooperates, as long if the percentage rate of shooting is low of one-on-one plays, the Mavericks team will likely to lose. The commentator also said that the players' mentality in the fourth quarter was not great, and they often missed key free throws and lost the game.

To sum up the past two seasons, the Mavericks relied on their stars to fight alone at the end of the fourth quarter. The stars always hope to turn the tide in the last quarter, hoping that they can get a key score to help the team win, but in fact they are not right. The team helps. Through the video, it is found that the reasons for the singles of each season are different. In the 17-18 season, the key star of the team is that Barnes only averaged 2 assists per game. Therefore, in 17-18, the stars have their own singles ability to play singles. . Trades were made after the 18-19 All-Star season. Although they were all based on singles, the reasons for the two and a half singles were different. In the first half of the 18-19 season, the team selected Doncic as a rookie with leadership ability. The team selected him with the advantage that he can lead the team to cooperate more than in previous seasons, but he also likes singles , This has a new problem, that is, the distribution of ball rights. When Doncic is on the court and the other two main players with the ball are off, he cooperates better with the bench, but in the final game, when all the main players are on the field, the team starts singles, because most of the players on the field have the ability. Rely on singles. In the second half of the season, there were too few singles but singles. Through analysis, it was found that the reason for singles was that the team had only Doncic as a leader through trading. More in the past two seasons. So whether there is a problem in the 19-20 season, this research will use video, observation, statistics, and analysis to observe whether there is such a performance and then give the team a comprehensive diagnosis and provide some countermeasures for his future development.

2. Research Objects and Methods

2.1 Research Object

The Dallas Mavericks of NBA 19-20 regular season is the research object.

2.2 Research Methods

2.2.1 Background Traceability

Mainly check the performance of Dallas Mavericks in the past three seasons through the Internet to better understand their development process and main background.

2.2.2 Video Observation and Statistics

From the four game videos of the Dallas Mavericks of the NBA 2019-2020 season to observe and find statistics though the videos, the statistical indicators are set, including the total scoring of each quarter, the points per game statistics, and the game plans of statistics. As prepare a table for statistics. If the judgment of statistics is not clear, than replay the video to improve the accuracy of making the statistics.

2.2.3 Mathematical Statistics

Use the Excel table to classify and organize the raw data of video statistics for data statistical processing.

2.2.4 Comprehensive Analysis Method

On the basis of statistics, by observing the overall performance of the players on the court, a comprehensive analysis of the status that technology is carried out.

3. Results and Analysis

Comparison of offensive indicators

3.0.1 Comparison of Average Points Per Game

The Dallas Mavericks averaged 116.4 points per game during this season. The NBA League proposed an evaluation index based on the total points of each team to record the offensive rating of 100 offenses in the league game. The Dallas Mavericks offensive rating is 115.8 as ranked first in the league, it can be seen from this that the Mavericks is a very talented offensive team, and its

offensive ability is more prominent in the game. The following statistical data is used to analyze the team's scores in each quarter. First of all, as can be seen from Table 1, in the 67 regular games of the 2019-2020 season, 4 regular season games were randomly selected, that is Mavericks VS Knicks, Mavericks VS Clippers, Mavericks VS King, and Mavericks VS Pelican. The Mavs achieved 2 wins and 2 losses respectively. This team averaged 116.8 points per game in these 4 games. It can be seen that this team is mainly on offensive, as we can see talent of offensive in this team. In one of these four games, the Mavericks defeated the Kings by 130-111, and the other three games ended within at last 3 minutes and 3 points game deficits in the fourth quarter. Next, we will analyze the scores of the Mavericks in each quarter.

Table.1 Comparison of the Average Points Per Game of the Dallas Mavericks in the Four Regular Seasons

Teams	Total points	First quarter	Second quarter	Third quarter	Fourth quarter	Over time
Knicks	103	23	30	34	16	0
Clippers	107	24	25	39	29	0
Kings	130	32	31	33	34	0
Pelicans	127	24	33	30	25	15
Average	116.8	25.8	29.8	34	26	

The average of 25.8 points per game in the first quarter is a stable phenomenon. Three of scoring are 23, 24, and 24, which are relatively close to the average. Therefore, it can be considered that the Mavs scored stable and on their normal level scoring in the first quarter. Looking at the overall situation, if the Mavs scores many points in the first quarter, it can actually cause a certain amount of psychological pressure on the opponent. If the opponent is behind, it will make the opponent unstable, so that the advantage in the first quarter by scoring 30 points can be achieved that lead the ultimate goal of winning. In the first quarter of the game that won the Kings, a high score of 30 points was obtained. The pressure on the Kings to chase points has an advantage of it. If the Mavs scores 30 points in the first quarter, he can give the opponent a pressure to chase the points, thus gaining an advantage in winning. Through the video, it is found that the two cores of the team player had a well performance at the begging and cooperating with other players that played a higher offensive rate

Next, in the second quarter, the Mavericks averaged 29.8 points per game. From the second quarter, it is a general rule to score higher than the first quarter. Generally, the game speed is really entered in the second quarter, which is the physical strength and energy. In a good situation. The offensive efficiency in the second quarter has improved, but with the exception of the Clippers, the remaining two quarters have more than 30 points. Through the Clippers video, the second quarter is divided into two parts as the first 6 minutes and the last 6 minutes to compare, it is obvious that the first 6 minutes of offensive efficiency is much better. Through the video, it was found that the team's second team was on the field in the first 6 minutes. They cooperated with each other to pass the ball to find opportunities to take shots. The team would make pick-and-rolls and dive in to make the baskets, which gave them a chance to take shots. The efficiency in the last 6 minutes is much worse. After the first team came on the field in the last 6 minutes, most of them still relied on one-on-one plays, and there were many turnovers. According to the performance of the players on the court, the reason was that the team's main center Dwight Powell was injured at the end of the first quarter, but the team had fewer centers. For the Mavs, if Powell's ability and core position are missing him, the entire team will lose its core role. The team lost Powell and had not had time to adjust the game. Another point is the statistics on the official NBA website. The Mavs ability to prevent transition offense is the worst in the league. From the video, I can see that the Mavericks defense at the transition offence had missed a lot of opportunities. By analyzing these points, the game against the Clippers only scored 25 points in the second quarter.

Entering the third quarter is often a competition for the commanding heights of victory. The Mavericks averaged 34 points per game in the third quarter. The Mavs scored the most points in the

third quarter and had the highest offensive rating. According to the video performance, and found an interesting thing on their performance, when the Mavs leads a lot in the third quarter, it is often easy for the opponent to tie the score or even overtake. This may be due to the fact that the team may relax when it is in the lead, not paying too much attention to offense and defense. For example, against the Bulls on March 3, 2020, leading by 10 points at the beginning of the third quarter but still behind at the end of the third quarter. During this time period, the Mavericks' offensive methods rely too much on one-on-one plays and passing turnovers to cause the opponent to transition offence and fall behind. Also, when the Mavs is behind the opponent by a lot of points in the third quarter, the score can be pulled back before the end of the third quarter. The reason that the Mavs can recover is that the offensive efficiency in the third quarter is higher than that of the opponent. For example, against the Heat on February 29, 2020, they fell behind by 12 points in the third quarter, and the Mavericks surpassed by 5 points before entering the fourth quarter. The real shortening of the score in this quarter was in the last three minutes. During this period of time, the offensive efficiency of the Mavericks has improved, because there are many open opportunities with the cooperation of the team. During this period of time, the Mavs hits 5 consecutive three-pointers and the defense caused the opponent to make turnovers and overtake the lead. It can be seen that the Mavs has a very high offensive efficiency in the third quarter through teamwork.

Entering the fourth quarter, it is often rely on the scores and status of the two teams on the field for the final game plans. Although the total score in the fourth quarter averaged 26 per game, due to the final physical strength, there will be a mental decline. The score in the fourth quarter is fairly stable. However, the Mavs often appears to have a low offensive rating in the last 5 minutes while affecting the team's victory and lost the game. This reason will be further analyzed below. On December 23, 2019, against the Raptors, the Mavericks led by up to 30 points. The fourth quarter led by 23 points but they lost 110-107. The problem was discovered through video. In the fourth quarter, almost no one on the team played one-on-one, but still lost, because one important factor is that Dončić was absence. He is the brain of this team. He is not on the court and others no one stood up to be the leader. As soon as the players got the ball, they passed the ball to each other, and the passing turnovers occurred and the opponent played fast break. There were also many three-point open opportunities but they could not make any of it. It is estimated that the team without Dončić that other player is afraid to shoot. And in the game against the Nuggets, the Mavs has last offense opportunity. Dončić was double-teamed and had to pass to Dorian Finney-Smith in the corner. He had a chance to shoot but he passed it out and time ran out by the sound of the buzzer. The Mavs had no time to shoot. Also there were still a few games where the team had many offensive time on the shot clock within 3 points deflects. Then Dončić will immediately shoot a 3-pointer with a step back move. For example, in the first game of the season against the Knicks, there were still 20 seconds on the shot clock and the Mavs had ball as they were down by 3. Than Dončić dribbled the ball to halftime and immediately took a step back and miss the three-pointer and finally lost the game. Sometimes Dončić lost the ball with a double-team pressure on layup or a turnover. Once a game that Mavs was behind in the first three quarters and then Tim Hardaway Jr. feeling hot in the first three quarters with a high percent in 3 points shots, but at the last quarter, he did not have the ball as Dončić had too many one-on-one plays in the fourth quarter. Another point is that the key free throws in the fourth quarter can not be scored, or the mentality is not peaceful. To sum up the problem, the first point is that Dončić plays too many one-on-ones. The second point is that the team should look for opportunities and don't be too anxious to shoot. The third point is that the team lacks a second stable team player , and someone should stand out and help Dončić as there are some many pressure on him.

3.0.2 Technical Statistics of Field Goal Percentage

The Mavericks this season is a team that relies on offense, and this season has made 1,026 three-pointers ranked No. 1, with a 3-point shooting rate of 36.9%. It can be seen that the Mavs offensive means rely on three-pointers. As shown in Table 2, in the two games won by the Dallas Mavericks, the Kings and Pelicans shot more than 40% of their three-pointers. In the loss against

the Knicks and the Clippers, the Mavs hits three-pointers that the rate is less than 30%. From this point of view, the Mavericks needs a three-pointer to damage and impact the opponent to win. For example, on November 23, 2019, a 143 to 101 victory over the Cavaliers, in this game a total of 20 three-pointers hit, as high as 54.1% of the three-pointers. From this example, we can see that the Dallas Mavericks relies on three-pointers.

Table. 2 Comparison of the Average Shot Data of the Dallas Mavericks in 4 Regular Season Games

Teams	2 points attempts	Field goal percentage	3 points attempts	Field goal percentage	Free throws	Field goal percentage
Knicks	28/48	58.3%	8/36	22.2%	23/31	74.2%
Clippers	27/48	56.3%	12/43	29.7%	17/24	70.8%
Kings	31/45	68.9%	17/40	42.5%	17/21	81.0%
Pelicans	22/45	48.9%	22/50	44.0%	17/24	70.8%

Next came to the 2-pointer. According to the game video, the Mavs 2-pointer almost scored from inside paint area, and rarely shot mid-range. According to NBA statistics, the Mavs inside paint area shooting rate was 57.4%, but the scoring points from the paint area only averaged 44.6 points per game. The least point from the paint team in the league, the main sources of inside scoring are drive in lay-up scoring and center by pick-and-roll scoring at the basket. In terms of 2-pointers, the Mavericks averaged 57.3% percentage of his field goal percentages in the 2 games they lost, and 58.9% percentage of their two winning games. The gap is not big by the 2-pointers percentage. In the case of missing three-point shooting against the Knicks and Clippers, the team made the most 2-point shots in these 4 games, reaching a shooting rate of more than 55%, but it still didn't help them to won. In these 4 games, they made the fewest 2-pointers and the lowest percentage against the Pelicans, but they won with 44% percentage at three-pointers. From this we can see that the team relies on three-pointers to get the goal of winning.

Most of the Mavericks 2 points scored from inside the paint, so it is easy to cause fouls to get free throw opportunities. The Mavericks free throw percentage is quite stable with 77.3%. From the data point of view, the Mavericks 4 games free throws are relatively stable, so through analysis, it is found that the Mavericks winning factor does not depend on free throws, as long as the Mavs free throws continue to maintain and improves could get a chance of winning.

3.0.3 Technical Statistics of Game Plans to Scoring Rate

Basketball is done through some teamwork, but also through many game plans to score. In the video playback statistics of these 4 games. In Fig3, only three game plans scores are selected for statistics, namely pick-and-roll scoring, dive in the paint than direct layup, and dive in than pass the ball by catch and shot points. First of all, the 4 games of pick-and-rolls were scored through video. The number of shots in these 4 games was completely different. In the game of the victory over the Kings, it had a 58.3% shooting rate. Analyze the number of shots scored by the Mavs in the pick-and-roll through the table. It does not need to be more or less, but if the shooting percentage can be improved a bit, it will be better to help the team win.

Table. 3 Comparison of the Average Game Plan Score Data of the Dallas Mavericks in 4 Regular Season Games

Teams	Pick-and-roll	percentage	Drive in lay-up	percentage	Pass than catch and shoots	percentage
	makes/shoots		makes/shoots		makes/shoots	
Knicks	5/10	50%	8/12	66.7%	8/15	53.3%
Clippers	13/25	52%	14/24	58.3%	9/13	69.2%
Kings	7/12	58.3%	15/22	68.2%	7/15	46.7%
Pelicans	11/23	47.8%	6/18	33.3%	11/16	68.8%

Next is the drive in lay-ups to score down the basket, which is also a 2-pointer. In Fig.3, the layup shooting percentage against the Pelicans is 33.3%, and the 2-point shooting rate against the

Pelicans in Fig.2 is 48.9%. The shooting rate in these four games is the lowest, but it rely on three-point shooting to the overtime and win the game. In the game against the Knicks and Clippers, the three-pointer shooting rate is not high, but the layup has a relatively high 2-point shooting rate. At the end of the game, the opponent has a critical clutch time match.

Then look at the breakthrough points from Table 3. In these 4 games, the breakthrough points than pass the ball for catch and shoots have a relatively obvious number of controlled shots, averaging 14.8 per game, and has a very high shooting rate against the Clippers and Pelicans. In the game against the Kings, the catch and shoots shooting percentage was the lowest at 46.7%. However, from the overall performance, the Mavericks has to do better in catch and shoots

3.0.4 Data Comparison of the Two Core Players of the Dallas Mavericks

Basketball is a team sport of 5 people. Every player on the court needs to cooperate with the team to win. Each team needs at least one or two core players, and the core players of the Dallas Mavericks are exactly two all-stars and both come from Europe, Luka Dončić and Kristaps Porzingis.

Table.4 Comparison of the Data That the Two Core Players in the 4 Regular Games of the Dallas Mavericks

Dončić (Guard/Forward)	Technical Statistics	Porzingis (Forward/Center)
33	Points per game	22.8
47.5%	Field goal percentage	45.9%
32.3%	3-point percentage	26.5%
71.2%	Free throw percentage	93.8%
12.3	Rebounds per game	11.3
9.5	Assists per game	2.5
4.5	Turnovers per game	1.3
1	Blocks per game	3

As shown in Fig.5, the two core player of the Dallas Mavericks in the four regular seasons averaged 55 points and 22 rebounds per game. They had almost the same shooting percentage. The shooting percentage of the two players reached 46.7%. Dončić also averaged an additional 9.5 assists per game, almost reaching a triple-double, and Porzingis also averaged an additional 3 blocks per game. It can be said that the two of them could make lots of damage to the opponent. However, no one is perfect. There are advantages and disadvantages. Though the recordings there are some problems lies in the 3-point shooting rate, free throw shooting rate and turnovers.

Let's talk about the three-point shooting rate. From the data point of view, Porzingis's three-point shooting rate is worse than Dončić, but it is the opposite way around because of that found through video recording. The reason is that Porzingis's three-point shooting percentage is improving at every month. At the beginning of the season, Porzingis's three-point shooting percentage dropped sharply, almost 20% of the three-point shooting percentage. By the time of February, March the three-point rate can reach 40%, as there are 2 games in Fig.5 at the beginning of the season. This season Porzingis's three-point shooting percentage has a 35% shooting rate but still need to improve. In Fig.5, Dončić's three-point shooting percentage is 32.3%, and this season's three-point percentage is 31.7%. It can be seen from the recording that Dončić's three-point shots are mostly difficult shots, almost a difficult three-point shots, as most of the shots were step-back moves and that is the way why he was hitting a low rate. However, the Dallas Mavericks three-point firepower is based on Seth Curry and Tim Hardaway Jr, the one of them shot 45.3% and other shots 40.7% respectively. In Fig.5, Dončić has 9.5 assists, and some of the assists are obtained by these two high three-point shooters.

Next is the free throw percentage. In Fig.5, Dončić's free throw percentage is 71.2%, which is worse at the same guard and forward position. Part of Doncic's offensive method is that rushing into the paint area to causes foul and get the chance of free throws. However, with his poor free throw percentage, the opponent is easy to foul him, so he needs to practice free throws. From Fig.5, we

can see that turnovers are also a problem for the two stars player, but the most important problem is Dončić. Fig.5 shows that Porzingis has a 1.3 turnover. The problem with his turnover is the unstable dribble the ball. Whenever he drives through the to the basket, it is easy for the opponent to steal the ball and cause turnovers. In Fig.5, Dončić has 4.5 fatal turnovers. It can be seen from the recording that his turnovers are often double-teamed by opponents, resulting in passing turnovers and layup dribbling turnovers. Afterwards, the core player of the Mavericks that Dončić had a more fatal problem. In the last 5 minutes of the game, he only had 2.4 points, 32% shooting rates and 18% three-point shooting. This needs a big improvement for the core players.

4. Conclusions and Recommendations

The Dallas Mavericks has a strong offensive ability and ranks first in the league in offensive rating.

Judging from the technical statistics of the game's divisions, the Dallas's performance on the court this season is relatively stable. However, in the second quarter, due to the situation in the second half of the first half, in the third quarter, the opponent is often overtaken by the opponent because of the negligence of defense. The fourth quarter still has the situation of losing the score at the clutch time, indicating that the team in the new season still failed to solve the problem of the final stage of the fourth quarter.

In terms of comprehensive offensive capabilities, the Mavericks has the advantage of 3 points from the outside, as well as the ability to attack tactically and directly break through and layup from the paint area. The play style is more comprehensive.

Dallas's free throw shooting rate is not high. This issue should be paid attention to, because the Mavs loses a small game point difference deflects, and an increase in the free throw percentage may be enough to improve the winning rate.

5. Suggestion

The Dallas Mavericks should strengthen some defenses on the original basis, continue to improve the three-point shot and the shooting rate of the inside the paint, and cannot rely too much on Dončić to complete at critical moments, strengthen the cooperation between the team, let others participate in the offense, also helps the pressure on Dončić, and must be calm and not be too persistent in shooting three-pointers. Strengthen tactics during the game, cooperate with the team and minimize the number of on-one-on plays.

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