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life2218 sync

77d94e3 · 3 days ago

2141 lines (2141 loc) · 109 KB

Preview

Code

Blame

Raw

How the 3 point shot has increased in attempts and their percentages since its introduction in 1970

- This query includes an aggregate function; AVG()
- I am using this function to measure the 3 point attempts and percentage for the entire NBA by decade.
- GROUP BY and ORDER BY are used to categorize the data by season year
- The line graphs whos the upward trend in the 3 pt attempts and its correlation to 3 point percentage increase for the most part in each decade.

In [1]:

```
select [season], avg([x3p_per_game]) AS '80's 3 point %', avg([x3pa_per_game]) AS '80's 3 point attempts'
FROM [dbo].[Player Per Game]
where season between 1980 AND 1989
GROUP BY [season]
ORDER BY [season]

select [season],avg([x3p_per_game]) AS '90's 3 point %', avg([x3pa_per_game]) AS '90's 3 point attempts'
from [dbo].[Player Per Game]
where season between 1990 AND 1999
GROUP BY [season]
ORDER BY [season]

select [season],avg([x3p_per_game]) AS '2000's 3 point %', avg([x3pa_per_game]) AS '2000's 3 point attempts'
from [dbo].[Player Per Game]
where season between 2000 AND 2009
GROUP BY [season]
ORDER BY [season]

select [season],avg([x3p_per_game]) AS '2010's 3 point %', avg([x3pa_per_game]) AS '2010's 3 point attempts'
from [dbo].[Player Per Game]
where season between 2010 AND 2019
GROUP BY [season]
ORDER BY [season];

select [season],[team], [attend] AS Attendance,[w] AS Wins
from [dbo].[Team Summaries]
WHERE ([season] BETWEEN 2023 AND 2024)
AND [attend] IS NOT NULL
AND [w] IS NOT NULL
ORDER BY 1,4 DESC,3 DESC
```

(10 rows affected)

(10 rows affected)

(10 rows affected)

(10 rows affected)

(60 rows affected)

Total execution time: 00:00:00.210

Out[1]: **season 80's 3 point % 80's 3 pt attempts per game**

1980	0.06610644356209357	0.23781512767410412
1981	0.044077135437776235	0.19035812801894406
1982	0.04745308395684884	0.1983914228091291
1983	0.0409207168747397	0.1867007695500503
1984	0.04839650243955173	0.20699708630757152
1985	0.06574585764200648	0.25110497410043825
1986	0.07598944680671893	0.28997361827101115
1987	0.1063492077959593	0.3753968271471205
1988	0.13262910873327458	0.4291079843792837
1989	0.15821917938519287	0.5114155258966363

Out[1]: **season 90's 3 point % 90's 3 pt attempts per game**

1990	0.16013072039891432	0.514161222137527
1991	0.18888889062228928	0.600226758575899
1992	0.19672489289893855	0.6111353714360681
1993	0.22761692879991172	0.7033407584927927
1994	0.24407484617835518	0.7532224559889266
1995	0.44889380715259936	1.3028761039166588
1996	0.4533944968646819	1.2677064222070056
1997	0.4630662023320223	1.3285714268087303
1998	0.3595978068885899	1.0740402197734311
1999	0.34871795000526795	1.0343195228769464

Out[1]: **season 2000's 3 point % 2000's 3 pt attempts per game**

2000	0.3731854846400599	1.0989919356070459
2001	0.3592178779801621	1.040037244336343
2002	0.4206000002473593	1.2284000027030706
2003	0.41118012589265596	1.2012422349974976
2004	0.3979487183511767	1.169743590388033
2005	0.4625641033308119	1.3222222248967896
2006	0.44902309107049954	1.2850799276286713
2007	0.4955426364588414	1.4062015487444262
2008	0.4899159674759673	1.3983193262660203
2009	0.5420962221715663	1.504467352994324

Out[1]: **season 2010's 3 point % 2010's 3 pt attempts per game**

2010	0.521626297732538	1.505882351108179
2011	0.5404800023674965	1.5371200006723404
2012	0.5094373881032592	1.509255895056439

2013	0.5542757428831455	1.5884816727063003
2014	0.5967266786166767	1.6893617005351131
2015	0.6317972368038561	1.8698924729305844
2016	0.6638408308803623	1.9081314867781314
2017	0.7628571439064852	2.1692436958310983
2018	0.777560242059001	2.217921690319676
2019	0.884180791612904	2.5588983015636098

Out[1]:

season	team	Attendance	Wins
2023	Milwaukee Bucks	718786	58
2023	Boston Celtics	766240	57
2023	Philadelphia 76ers	839261	54
2023	Denver Nuggets	788635	53
2023	Cleveland Cavaliers	777280	51
2023	Memphis Grizzlies	707836	51
2023	Sacramento Kings	715491	48
2023	New York Knicks	795110	47
2023	Brooklyn Nets	724439	45
2023	Phoenix Suns	699911	45
2023	Miami Heat	807190	44
2023	Golden State Warriors	740624	44
2023	Los Angeles Clippers	720543	44
2023	Los Angeles Lakers	763168	43
2023	New Orleans Pelicans	687691	42
2023	Minnesota Timberwolves	687510	42
2023	Toronto Raptors	811261	41
2023	Atlanta Hawks	719787	41
2023	Chicago Bulls	841632	40
2023	Oklahoma City Thunder	636903	40
2023	Dallas Mavericks	827282	38
2023	Utah Jazz	728240	37
2023	Washington Wizards	710481	35
2023	Indiana Pacers	641562	35
2023	Orlando Magic	728405	34
2023	Portland Trail Blazers	767374	33
2023	Charlotte Hornets	702052	27
2023	San Antonio Spurs	694434	22

2023	Houston Rockets	668865	22
2023	Detroit Pistons	759715	17
2024	Boston Celtics	766240	64
2024	Denver Nuggets	807062	57
2024	Oklahoma City Thunder	715509	57
2024	Minnesota Timberwolves	720960	56
2024	Los Angeles Clippers	776782	51
2024	Dallas Mavericks	828897	50
2024	New York Knicks	808885	50
2024	Milwaukee Bucks	740850	49
2024	Phoenix Suns	699911	49
2024	New Orleans Pelicans	692054	49
2024	Cleveland Cavaliers	793167	48
2024	Philadelphia 76ers	821714	47
2024	Los Angeles Lakers	793945	47
2024	Orlando Magic	773939	47
2024	Indiana Pacers	677554	47
2024	Miami Heat	809743	46
2024	Golden State Warriors	740624	46
2024	Sacramento Kings	735015	46
2024	Houston Rockets	720045	41
2024	Chicago Bulls	845620	39
2024	Atlanta Hawks	696418	36
2024	Brooklyn Nets	720291	32
2024	Utah Jazz	728240	31
2024	Memphis Grizzlies	681875	27
2024	Toronto Raptors	800129	25
2024	San Antonio Spurs	742522	22
2024	Portland Trail Blazers	751395	21
2024	Charlotte Hornets	674400	21
2024	Washington Wizards	692851	15
2024	Detroit Pistons	726378	14

Attendance/ Wins Correlation for 2023 & 2024 Seasons by Team

- Query uses aliases and ORDER BY
- Aliases add to ease when creating a visualization
- ORDER BY allowed for data to be sorted by season, then wins, then attendance
- Regardless of the amount of research, I could not figure out how to include my SandDance Visualization Screenshot. I tried to insert image from the text cell. I will include it as a separate file to, at least, have it presented.

In [2]:

```
select [season],[team], [attend] AS Attendance,[w] AS Wins
from [dbo].[Team Summaries]
WHERE ([season] BETWEEN 2023 AND 2024)
AND [attend] IS NOT NULL
AND [w] IS NOT NULL
ORDER BY 1,4 DESC,3 DESC
```

(60 rows affected)
Total execution time: 00:00:00.006

Out[2]:

season	team	Attendance	Wins
2023	Milwaukee Bucks	718786	58
2023	Boston Celtics	766240	57
2023	Philadelphia 76ers	839261	54
2023	Denver Nuggets	788635	53
2023	Cleveland Cavaliers	777280	51
2023	Memphis Grizzlies	707836	51
2023	Sacramento Kings	715491	48
2023	New York Knicks	795110	47
2023	Brooklyn Nets	724439	45
2023	Phoenix Suns	699911	45
2023	Miami Heat	807190	44
2023	Golden State Warriors	740624	44
2023	Los Angeles Clippers	720543	44
2023	Los Angeles Lakers	763168	43
2023	New Orleans Pelicans	687691	42
2023	Minnesota Timberwolves	687510	42
2023	Toronto Raptors	811261	41
2023	Atlanta Hawks	719787	41
2023	Chicago Bulls	841632	40
2023	Oklahoma City Thunder	636903	40
2023	Dallas Mavericks	827282	38
2023	Utah Jazz	728240	37
2023	Washington Wizards	710481	35
2023	Indiana Pacers	641562	35
2023	Orlando Magic	728405	34

2023	Portland Trail Blazers	767374	33
2023	Charlotte Hornets	702052	27
2023	San Antonio Spurs	694434	22
2023	Houston Rockets	668865	22
2023	Detroit Pistons	759715	17
2024	Boston Celtics	766240	64
2024	Denver Nuggets	807062	57
2024	Oklahoma City Thunder	715509	57
2024	Minnesota Timberwolves	720960	56
2024	Los Angeles Clippers	776782	51
2024	Dallas Mavericks	828897	50
2024	New York Knicks	808885	50
2024	Milwaukee Bucks	740850	49
2024	Phoenix Suns	699911	49
2024	New Orleans Pelicans	692054	49
2024	Cleveland Cavaliers	793167	48
2024	Philadelphia 76ers	821714	47
2024	Los Angeles Lakers	793945	47
2024	Orlando Magic	773939	47
2024	Indiana Pacers	677554	47
2024	Miami Heat	809743	46
2024	Golden State Warriors	740624	46
2024	Sacramento Kings	735015	46
2024	Houston Rockets	720045	41
2024	Chicago Bulls	845620	39
2024	Atlanta Hawks	696418	36
2024	Brooklyn Nets	720291	32
2024	Utah Jazz	728240	31
2024	Memphis Grizzlies	681875	27
2024	Toronto Raptors	800129	25
2024	San Antonio Spurs	742522	22
2024	Portland Trail Blazers	751395	21
2024	Charlotte Hornets	674400	21
2024	Washington Wizards	692851	15
2024	Detroit Pistons	726378	14

NBA Season MVP Winner Totals by Team

- A COUNT function is used to keep a count of the total number of MVP awards won.
- A WHERE clause was used to filter data that included only the winners of the award and the MVP award
- A GROUP BY statement assisted in using each team as a category to find out how many MVP awards each team has won in NBA history.

In [3]:

```
SELECT [tm], COUNT(*) AS 'number of awards'
FROM [dbo].[Player Award Shares]
WHERE winner = 1
AND award = 'nba mvp'
group by tm;
```

(23 rows affected)
Total execution time: 00:00:00.011

Out[3]:

tm	number of awards
BAL	1
BOS	10
BUF	1
CHI	6
CIN	1
CLE	2
DAL	1
DEN	2
GSW	2
HOU	4
LAL	8
MIA	2
MIL	5
MIN	1
NYK	1
OKC	2
PHI	7
PHO	3
PHW	1
POR	1
SAS	3
STL	2
UTA	2

.png)

NBA All-Star Selections for each player for seasons 2020-2024

- A Count function was used to keep a tally of total All-Star Selections
- A WHERE clause was used to filter only the seasons needed
- A BETWEEN operator was used in conjuciton with the WHERE clause to filter.
- The goal was to include only a specific number of seasons and count all many selections each player had.

In [4]:

```
SELECT player, COUNT(*) AS 'All Star Selections'  
FROM [dbo].[All-Star Selections]  
WHERE season BETWEEN 2020 AND 2024  
GROUP BY player
```

(57 rows affected)
Total execution time: 00:00:00.011

Out[4]:

player	All Star Selections
Andrew Wiggins	1
Anthony Davis	3
Anthony Edwards	2
Bam Adebayo	3
Ben Simmons	2
Bradley Beal	1
Brandon Ingram	1
Chris Paul	3
Damian Lillard	4
Darius Garland	1
De'Aaron Fox	1
Dejounte Murray	1
DeMar DeRozan	2
Devin Booker	4
Domantas Sabonis	3
Donovan Mitchell	5
Draymond Green	1
Fred VanVleet	1
Giannis Antetokounmpo	5
Ja Morant	2
Jalen Brunson	1
James Harden	3
	1

Jaren Jackson Jr.	1
Jarrett Allen	1
Jaylen Brown	3
Jayson Tatum	5
Jimmy Butler	2
Joel Embiid	5
Jrue Holiday	1
Julius Randle	3
Karl-Anthony Towns	2
Kawhi Leonard	3
Kemba Walker	1
Kevin Durant	4
Khris Middleton	2
Kyle Lowry	1
Kyrie Irving	2
LaMelo Ball	1
Lauri Markkanen	1
LeBron James	5
Luka Dončić	5
Mike Conley	1
Nikola Jokić	5
Nikola Vučević	1
Paolo Banchero	1
Pascal Siakam	2
Paul George	3
Rudy Gobert	3
Russell Westbrook	1
Scottie Barnes	1
Shai Gilgeous-Alexander	2
Stephen Curry	4
Trae Young	3
Tyrese Haliburton	2
Tyrese Maxey	1
Zach LaVine	2
Zion Williamson	2

Percentages of Wins and Losses for the

Percentages of Wins and Losses for the Chicago Bulls for the 2024 NBA Season

- The goal was to display the percentages of wins and losses as a pie chart.
- The CAST function was used to change the variable from a tinyint for a decimal.
- The FLOOR function was used to round the final number.
- The ALIAS was used to make the final number header.
- Two WHERE clauses were used to filter out the data for only the Chicago Bulls and the 2024 season.

In [5]:

```
select FLOOR((CAST([w] AS decimal)/ (CAST([w] AS decimal)+ CAST([l] AS decimal)) * 100)) /  
        FLOOR((CAST([l] AS decimal)/ (CAST([w] AS decimal)+ CAST([l] AS decimal))  
from [dbo].[Team_Summaries]
```