



UCD Michael Smurfit Graduate Business School

M.Sc. Business Analytics

MIS41420 – Sports Analytics

Assignment 2

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1. Introduction

In this report, Ben Stokes has been chosen as the player on whom the analysis will be based. Ben Stokes is currently on the list of Top 10 Test Cricket All-Rounders in the world according to ICC (International Cricket Council), which is the governing official body for international cricket, responsible for the development, organization, and regulation of the sport at the global level.

Ben Stokes, widely regarded as one of England's finest cricketers, has emerged as a significant figure in the sports world through his outstanding contributions to international Test cricket. Stokes, born in Christchurch, New Zealand, immigrated to England at a young age and became an immediate force to be reckoned with in the world of cricket (Wikipedia, n.d.). He was elevated to captain of the England Test team due to his exceptional all-around abilities and outstanding leadership skills.

Player Name- BEN STOKES

Player Full Name- BENJAMIN ANDREW STOKES

Country- ENGLAND

Age- 32

Batting Style- LEFT HAND BAT

Bowling Style- RIGHT ARM FAST MEDIUM

Player Role- ALLROUNDER



Stokes' stellar career has been embellished with several extraordinary events that have cemented his place in cricket history. His first Test century in Australia, which he attained in just his second game, was one of his early high points. However, it was his incredible performance in the third Ashes Test match against Australia in 2019 at Headingley that cemented his place in history. Stokes mounted a valiant single attack on the Australian bowlers when England needed a daunting 200 runs to win, and his unbeaten 135 helped England win by an incredible one wicket (Keith Prowse, 2023). He was given the nickname "Headingley Hero" for this outstanding accomplishment, which will go down in cricket history as a treasured moment (Keith Prowse, 2023).

Stokes has continually demonstrated his enormous talent and adaptability as a Test cricket player. He is a right-arm fast bowler and a middle-order left-handed batsman with the rare capacity to affect the game in many ways. Since scoring an incredible 258 runs against South Africa during England's 2015–16 tour, Stokes has proven his skill with the bat (Keith Prowse, 2023). He holds the Test world record for the highest individual score, batting at number six (Keith Prowse, 2023). He and Jonny Bairstow also set a world record partnership for the sixth wicket in that same Test match, scoring a stunning 399 runs together (Keith Prowse, 2023).

Stokes' influence extends beyond his exceptional performances on the field. He displays outstanding leadership qualities as the captain of the England Test team, setting an example for and motivating his squad to new heights. He has won players' and fans' respect and adoration due to his unwavering work ethic, competitive spirit, and unbreakable willpower.

Ben Stokes has cemented his place in sports history, particularly in Test cricket. He has reached the top of the game due to his exceptional all-around abilities and leadership qualities. Stokes' tremendous efforts, both with the bat and the ball, have altered the course of cricket history and solidified his legacy. He has captured spectators all around the world with his enthralling performances, which were exemplified by his valiant effort at Headingley. Ben Stokes keeps making an ever-lasting impression on the cricket world with his unwavering dedication and exceptional talent.

2. Informative Metrics

Insightful analytics has become essential for studying player performance and determining how players affect the game in the context of Test cricket all-rounders. These measurements enable a thorough evaluation of an all-rounder's batting, bowling, and fielding skills by offering priceless insights into many facets of their performance. Exploring these insightful measures, one can have a greater knowledge of the players' contributions and effectiveness in Test cricket.

The primary metrics used to analyse the player are given below-

- **Runs Scored:** Total number of runs scored by the player.
- **Batting Average:** The average number of runs scored per innings, calculated by dividing the total runs by the number of outs.
- **Batting Strike Rate:** The rate at which the player scores runs, calculated by dividing the total runs by the total balls faced and multiplying by 100.
- **Wickets Taken:** The number of batsmen the player has dismissed while bowling.
- **Bowling Average:** The average number of runs conceded per wicket taken, calculated by dividing the total runs conceded by the number of wickets taken.
- **Bowling Strike Rate:** The average number of balls bowled per wicket taken.
- **Bowling Economy:** The average number of runs conceded per over bowled.

The below visualisation has been created in Power BI. The numbers generated for each player metric are based on the last 5 years' data, 2019-2023 (Anon., n.d.).



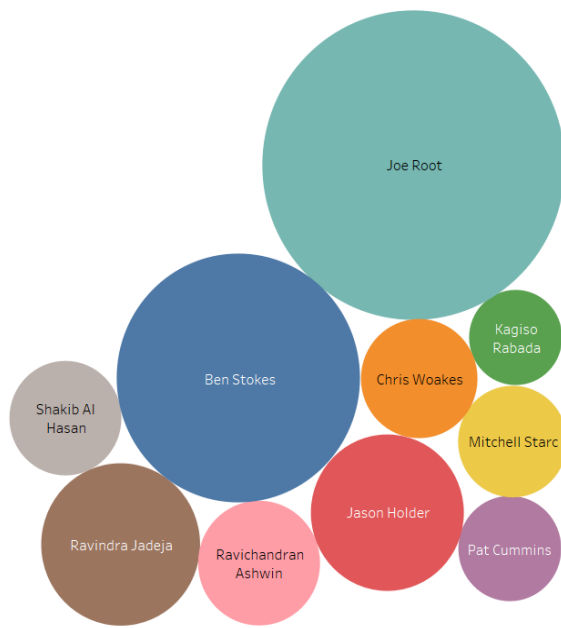
3. Ranking

Since Ben Stokes is on the list of top 10 Test Cricket All-Rounders in the world, the ranking of Ben Stokes has been compared to other players in that same list. The top 10 Test Cricket All-Rounders have been considered from the Top 14 Test Cricket All-Rounders such that all players have been playing Test Cricket for the last 5 years, from 2019-2023 (Anon., n.d.). Other Players with whom Ben Stokes will be compared and ranked with-

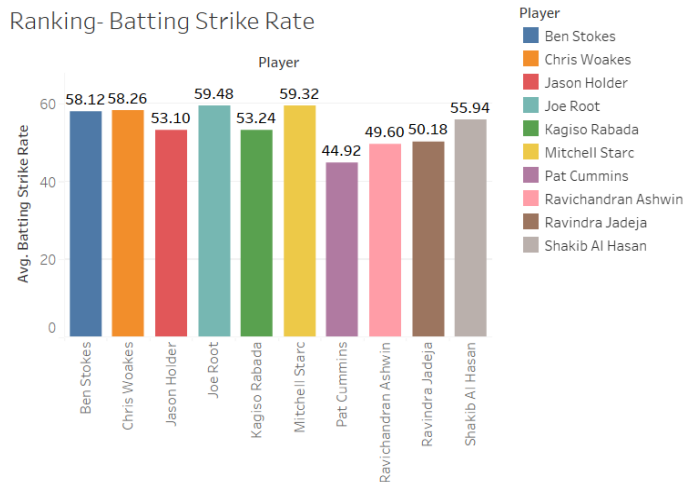
Ravindra Jadeja
Ravichandran Ashwin
Shakib Al Hasan
Jason Holder
Joe Root
Mitchell Starc
Pat Cummins
Chris Woakes
Kagiso Rabada

In Tableau, the below visualisations have been created into 2 dashboards- one dashboard to analyse batting performance and another dashboard to analyse the bowling performance of the players. Ranking given is out of 10 as there are 10 players in total, with Rank 1 being given the highest precedence and Rank 10 being given the lowest precedence.

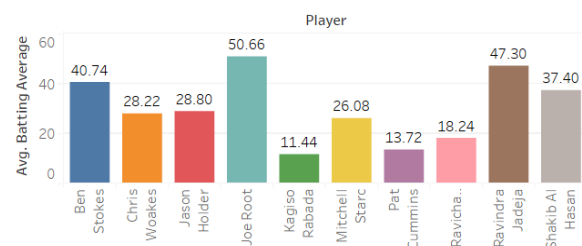
Ranking- Runs Scored



Ranking- Batting Strike Rate



Ranking- Batting Average

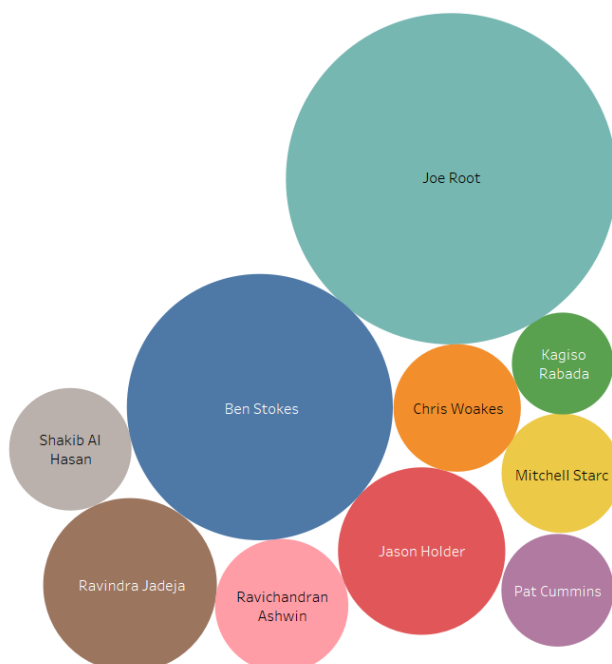


1. Runs Scored (P1)-

It can be seen from the packed Bubble chart that the maximum number of runs scored in the last 5 years from 2019-2023 was Joe Root amassing 4727 runs in this period. Ben Stokes scored the next highest runs with an aggregate of 3055 runs. The rest of the other players have scored runs lesser than Ben Stokes. In terms of runs accumulated, Ben Stokes is the second in the highest run-scored list, which is an outstanding achievement.

RANK for Ben Stokes- 2nd

Ranking- Runs Scored

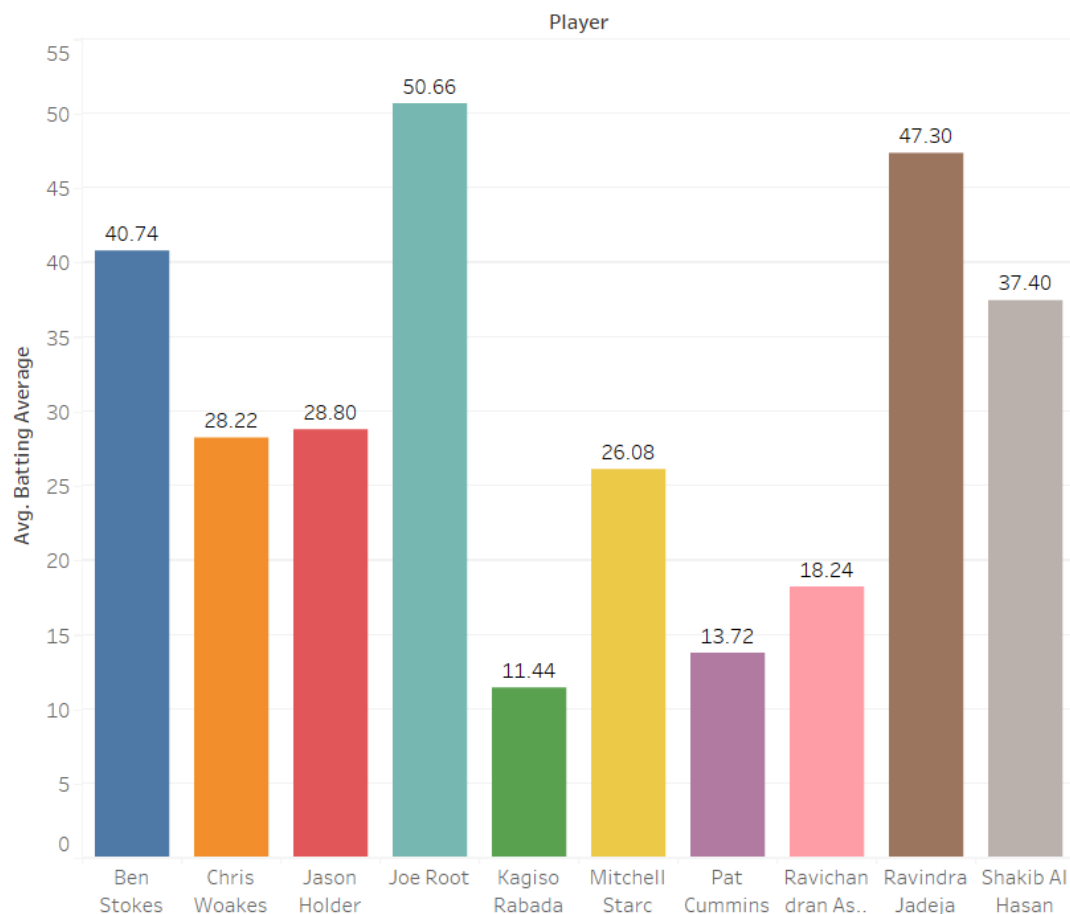


2. Batting Average (P2)-

The highest Batting Average is for Joe Root, averaging 50.66 per the bar chart. The next highest is Ravindra Jadeja, whose average is 47.30. Ben Stokes is third on the list of highest Batting Averages, averaging 40.74. A higher batting average indicates a higher number of runs scored by the player in an innings. Ben Stokes has a good batting average amongst the rest of the players.

RANK for Ben Stokes- 3rd

Ranking- Batting Average

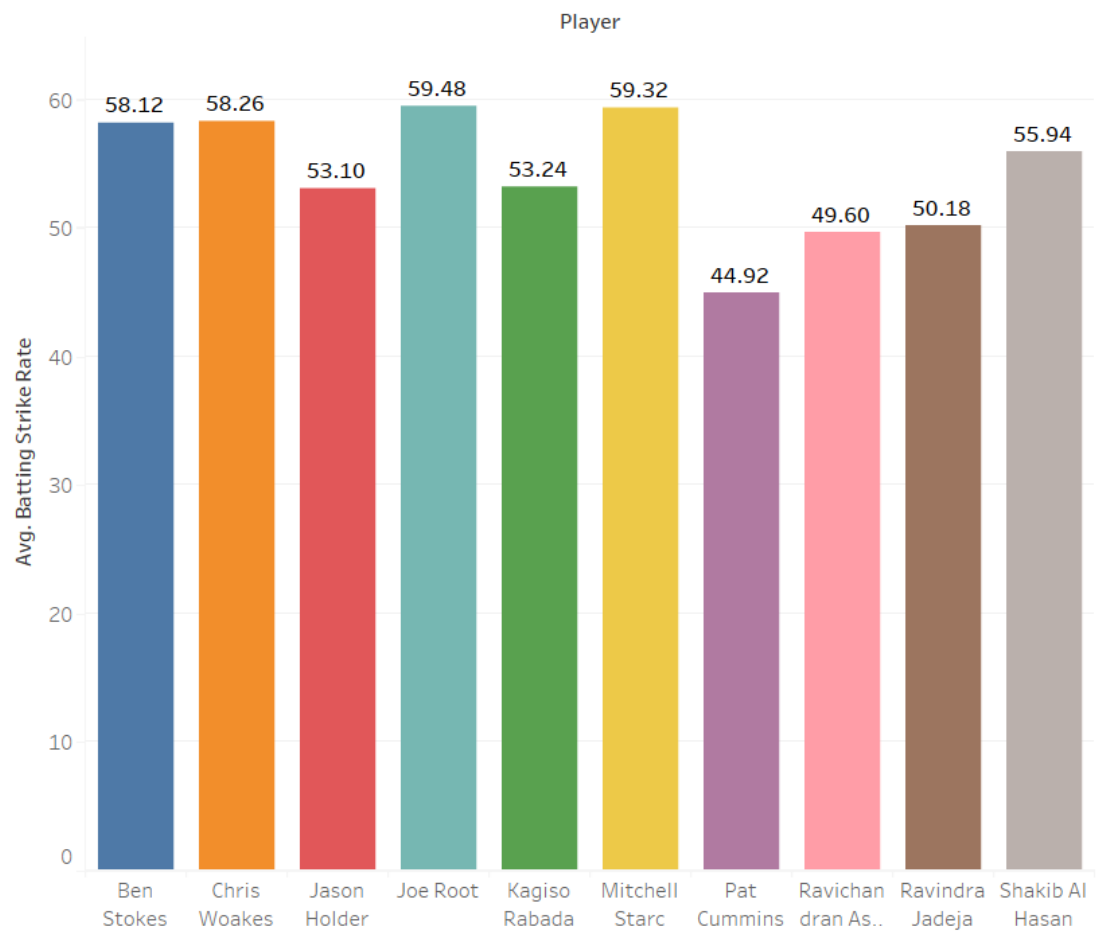


3. Batting Strike Rate (P3)-

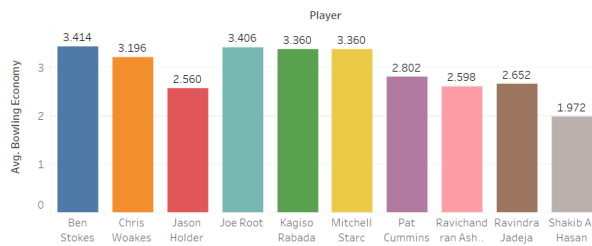
The higher the batting strike rate, the higher the pace at which the player scores the runs. As interpreted from the bar graph, Ben Stokes has a strike rate of 58.12, making him the fourth highest among the list of players. The batting strike rate of Ben Stokes is good if the numbers of other players are taken a look at. Only 3 other players are above him in the batting strike rate but that too with just a marginal difference.

RANK for Ben Stokes- 4th

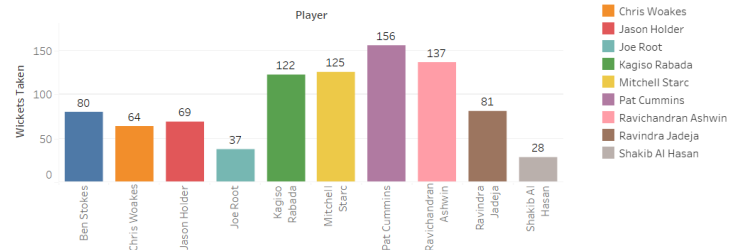
Ranking- Batting Strike Rate



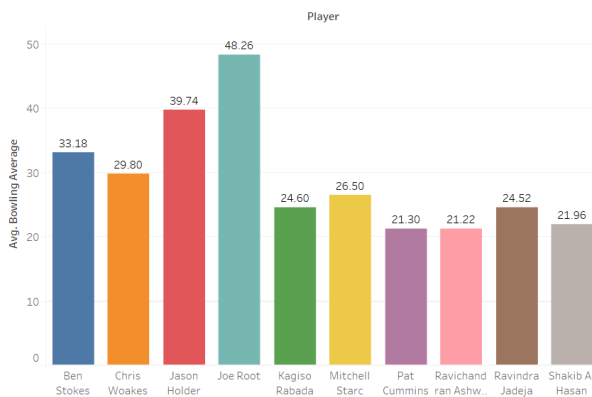
Ranking- Bowling Economy



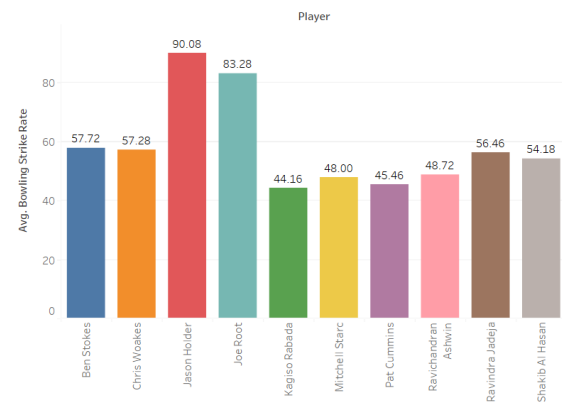
Ranking- Wickets Taken



Ranking- Bowling Average



Ranking- Bowling Strike Rate

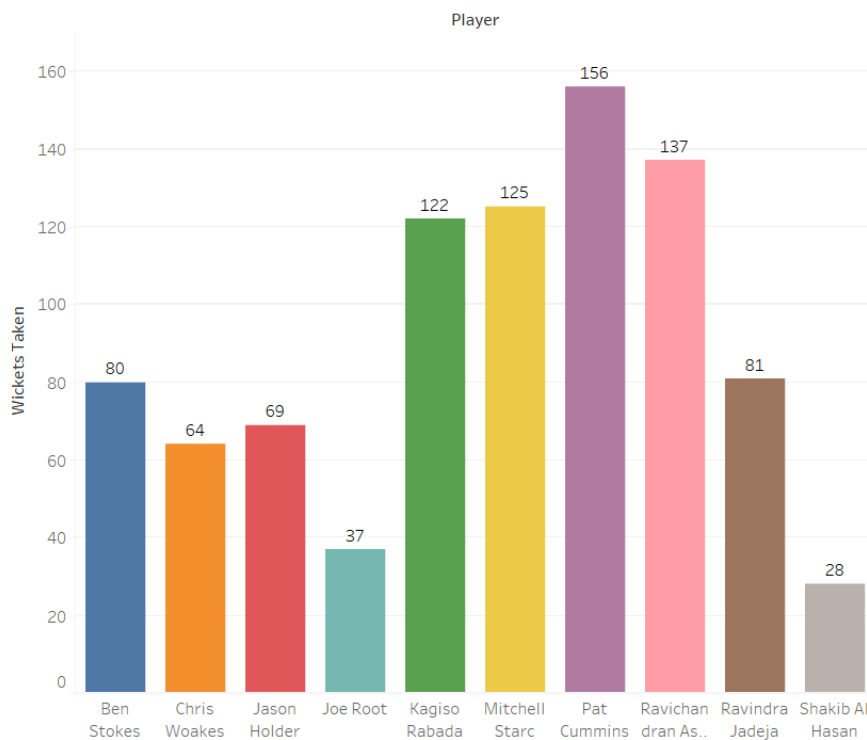


4. Wickets Taken (P4)-

In terms of wickets taken, Ben Stokes is the sixth-highest wicket-taker among the 10 players, according to the bar chart. This shows his performance is decent compared to the other players in the top 10 list.

RANK for Ben Stokes- 6th

Ranking- Wickets Taken

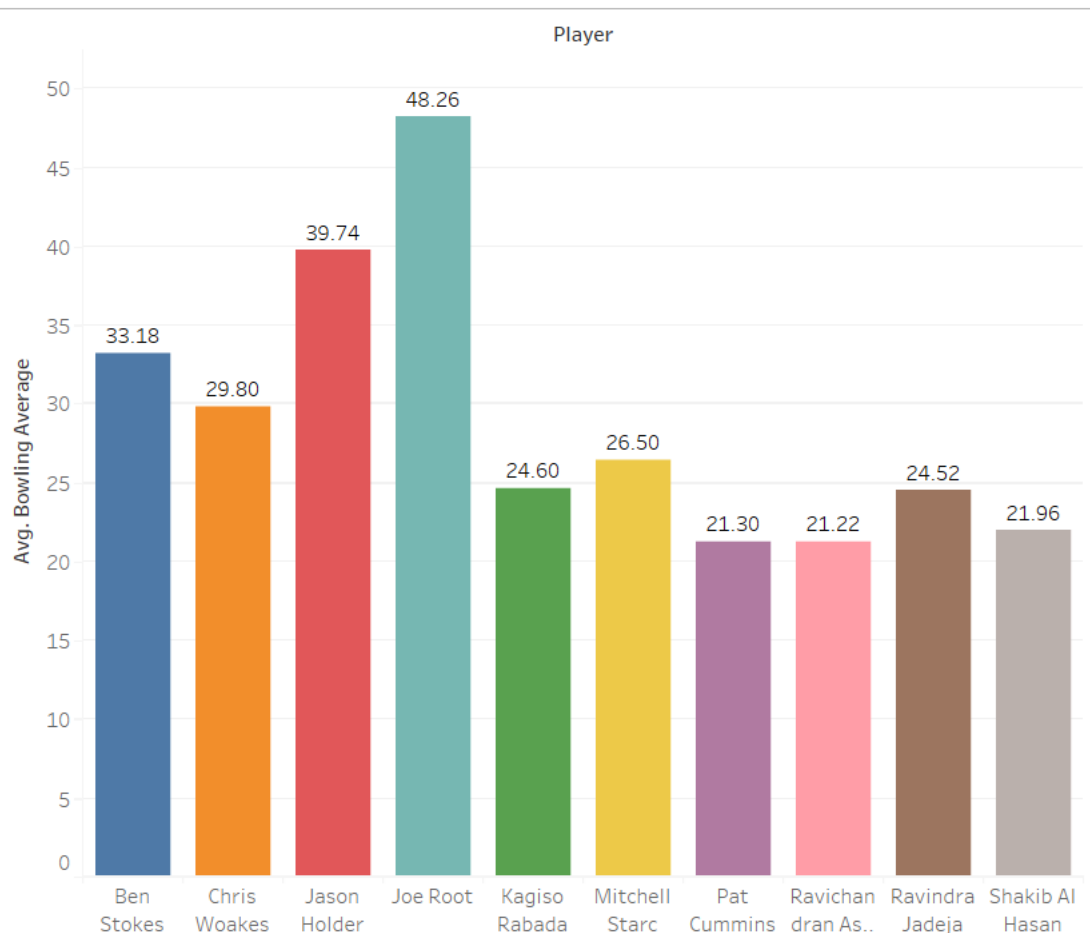


5. Bowling Average (P5)-

In this metric, the lower the bowling average, the higher the player scores the ran, as it is the average number of runs conceded per wicket taken. Ben Stokes has a bowling average of 33.18 which is bad compared to other players. 7 other players have better bowling averages than Ben Stokes. Ben Stokes is eighth on the list of bowling averages.

RANK for Ben Stokes- 8th

Ranking- Bowling Average

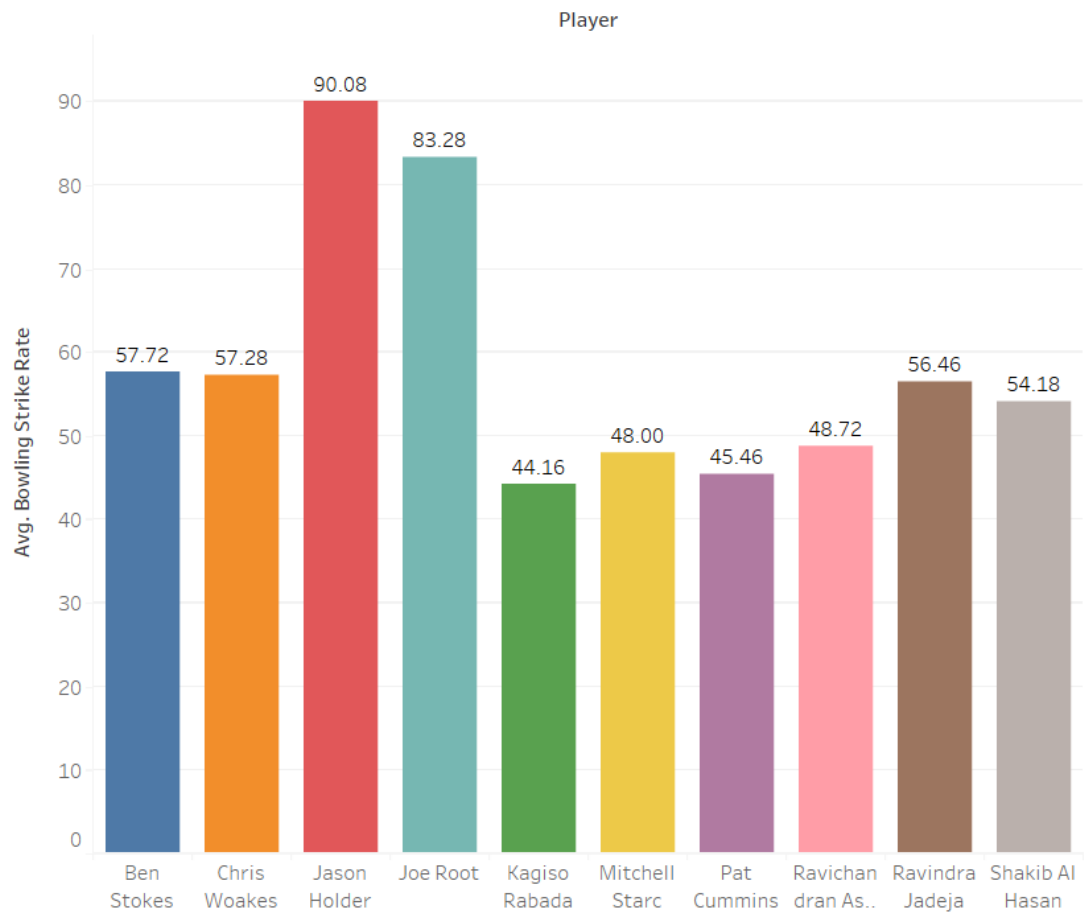


6. Bowling Strike Rate (P6)-

Ben Stokes has a Bowling Strike Rate of 57.72, which makes him the eighth on the list of players. The lower the Strike Rate, the better, as the number of balls taken to take a wicket would be lower. In this area, Ben Stokes is lagging. He takes a wicket in almost every 58th ball.

RANK for Ben Stokes- 8th

Ranking- Bowling Strike Rate

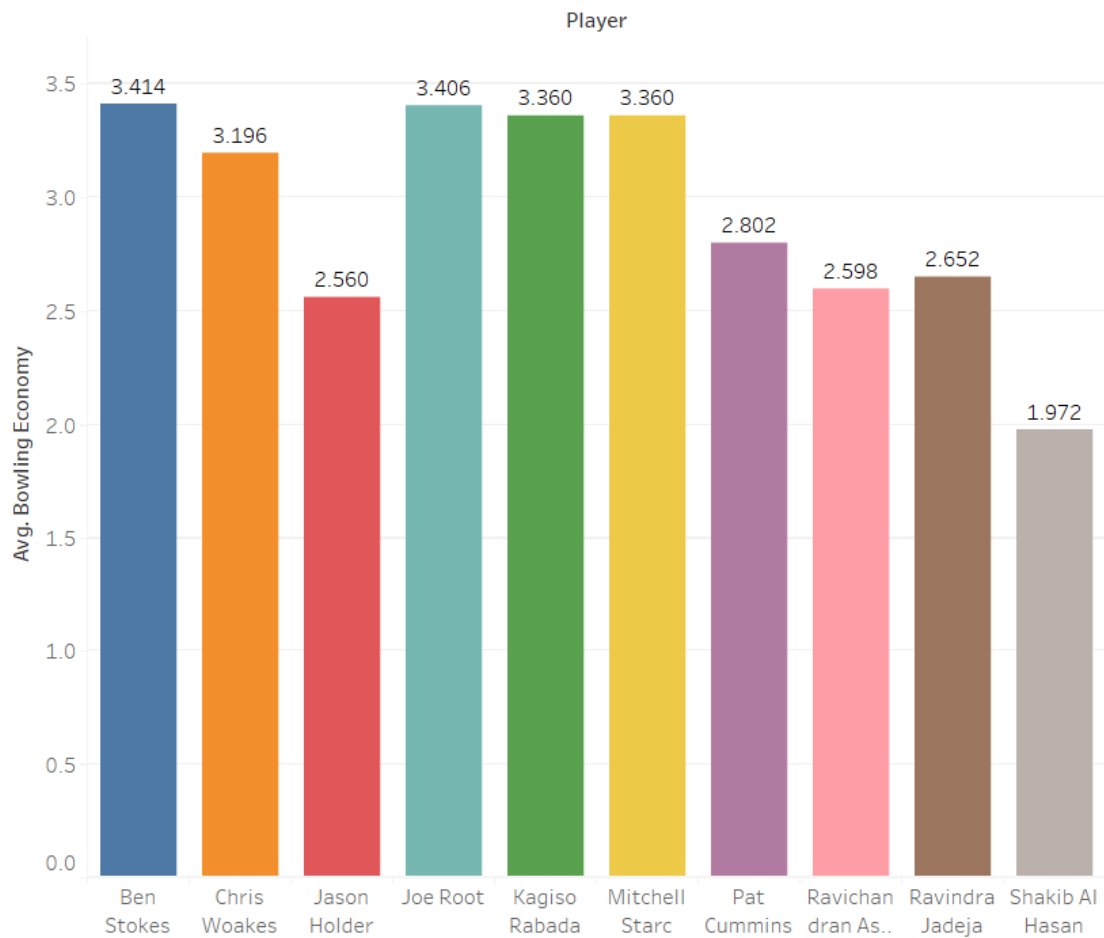


7. Bowling Economy (P7)-

Ben Stokes' bowling economy is 3.414, the worst among the players. He leaks runs at 3.414 an over which is bad in test cricket. Rest all other players have a better bowling economy than Ben Stokes.

RANK for Ben Stokes- 10th

Ranking- Bowling Economy



Overall Rank

For each rank attained, weights have been assigned. Below are the weights assigned for each rank-

Rank 1- 10 Points

Rank 2- 9 Points

Rank 3- 8 Points

Rank 4- 7 Points

Rank 5- 6 Points

Rank 6- 5 Points

Rank 7- 4 Points

Rank 8- 3 Points

Rank 9- 2 Points

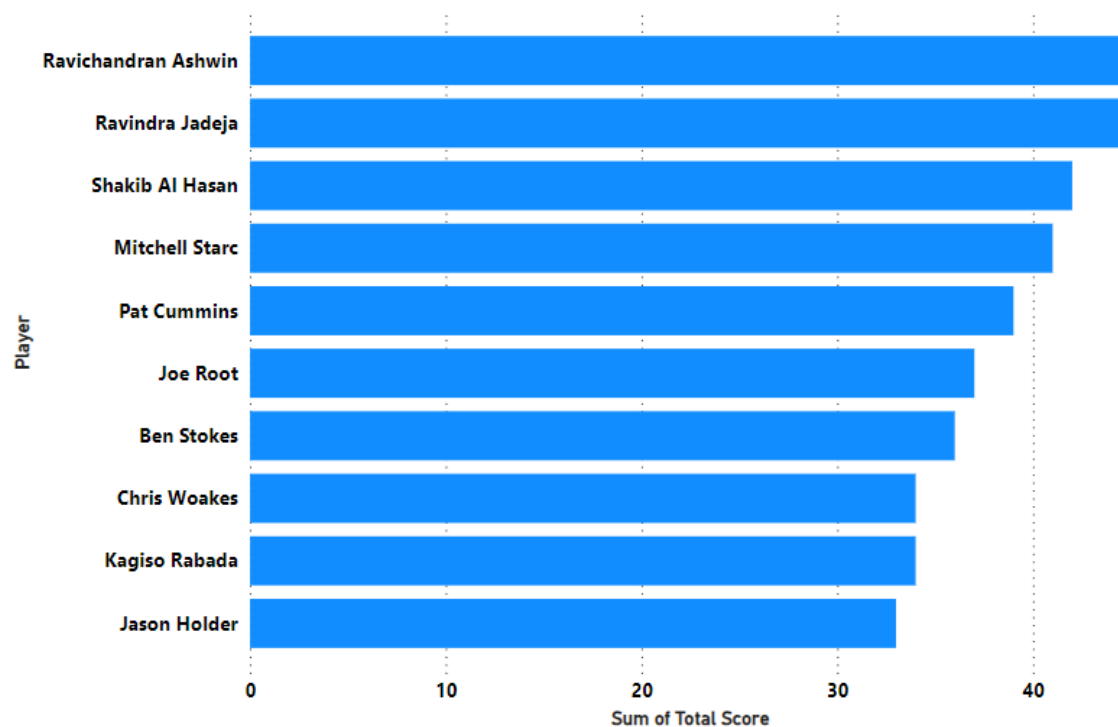
Rank 10- 1 Point

P1, P2, P3, P4, P5, P6 and P7 represent the points for each of the metrics mentioned above.

Player	P1	P2	P3	P4	P5	P6	P7	Total Score
Ben Stokes	9	8	7	5	3	3	1	36
Chris Woakes	5	5	8	3	4	4	5	34
Jason Holder	7	6	4	4	2	1	9	33
Joe Root	10	10	10	2	1	2	2	37
Kagiso Rabada	1	1	5	7	6	10	4	34
Mitchell Starc	3	4	9	8	5	8	4	41
Pat Cummins	2	2	1	10	9	9	6	39
Ravichandran Ashwin	6	3	2	9	10	7	8	45
Ravindra Jadeja	8	9	3	6	7	5	7	45
Shakib Al Hasan	4	7	6	1	8	6	10	42

According to each metric, each player has been given respective points based on his rank in that metric. Points gained from each metric have been accumulated for each player. The player with the highest points gained will be ranked 1st, and the player with the least points will be ranked 10th.

Sum of Total Score by Player



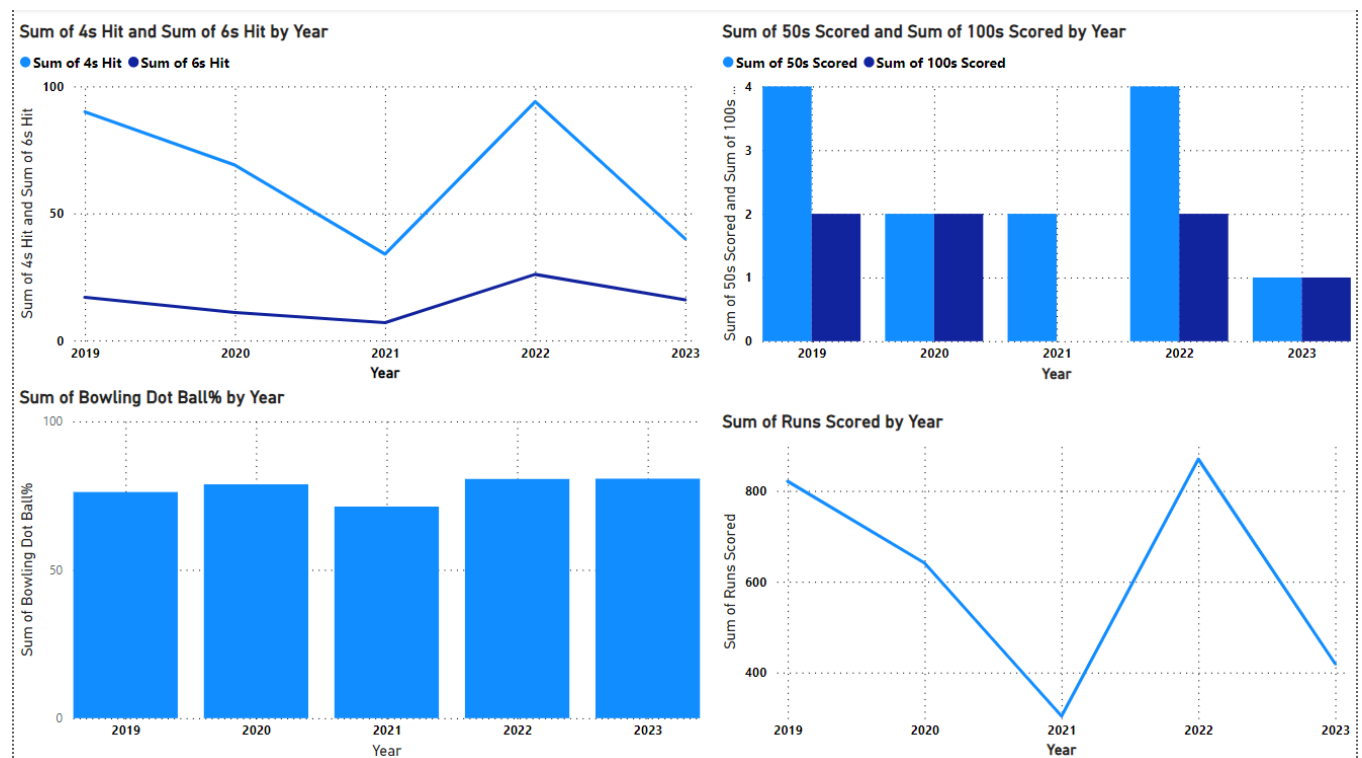
From the above bar chart, it can be seen Ben Stokes is ranked seventh, attaining a score of 36. Ravichandran Ashwin and Ravindra Jadeja both scored 45 points, and hence, both obtain Rank 1. Shakib Al Hasan is ranked 3rd with 42 points. Jason Holder is the least-ranked Test Cricket All-Rounder scoring 33 points with the rank being 10th.

OVERALL RANK for Ben Stokes- 7th

4. Characteristics

Some more metrics have been used to analyse the unique characteristics of Ben Stokes-

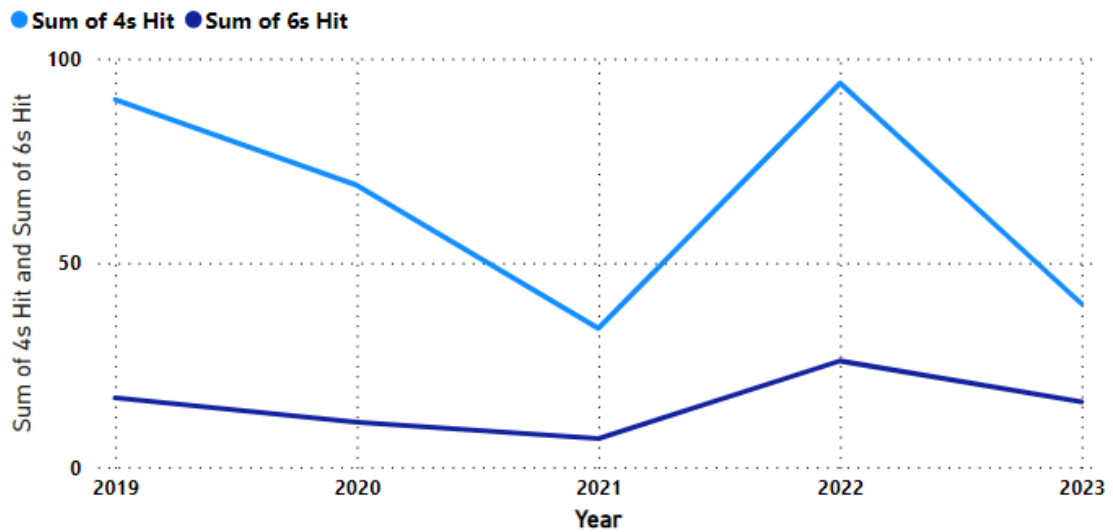
- **4s Hit:** The total number of boundaries hit by the player, i.e., fours.
- **6s Hit:** The total number of maximums hit by the player, i.e., sixes.
- **50s Scored:** The number of times the player has scored a half-century (50 runs or more in an innings).
- **100s Scored:** The number of times the player has scored a century (100 runs or more in an innings).
- **Bowling Dot Ball %:** The percentage of deliveries bowled by the player where no runs were scored (dot balls).



1. 4s and 6s Hit-

The number of 4s hit by Ben Stokes in 2019 and 2022 is close to 100; in 3 of the 5 years, the number of 4s hit is above 50. For 6s hit each year, 4 of the 5 years show that Ben Stokes hit more than 10 sixes. This metric shows the 4s and 6s hitting ability of Ben Stokes, meaning Ben Stokes can take on any bowling attack and counterattack it. This shows his aggressive, dominating batting intent.

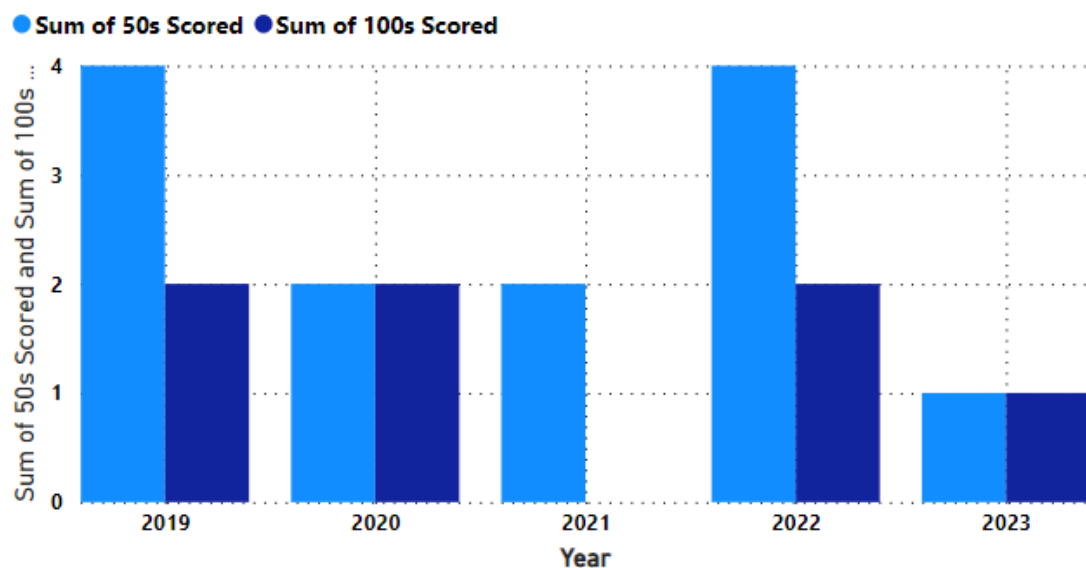
Sum of 4s Hit and Sum of 6s Hit by Year



2. 50s and 100s Scored-

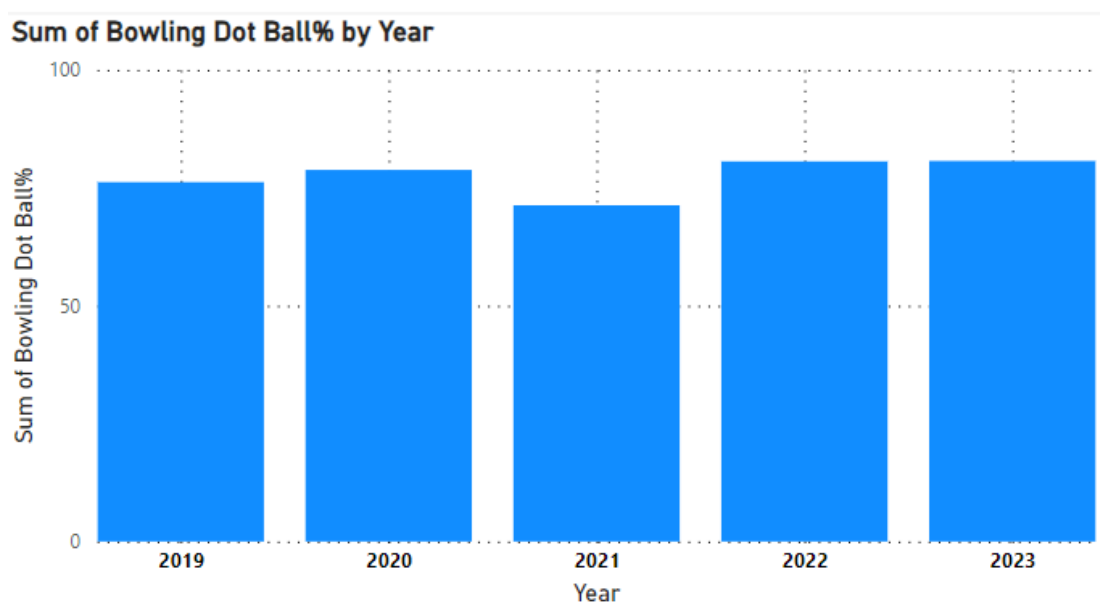
There is a consistent amount of the 50s scored by Ben Stokes in all of the 5 years. In 4 of the 5 years, he has scored 100s. This metric showcases the ability to bat for long hours, be patient and score valuable, crucial runs for the team.

Sum of 50s Scored and Sum of 100s Scored by Year



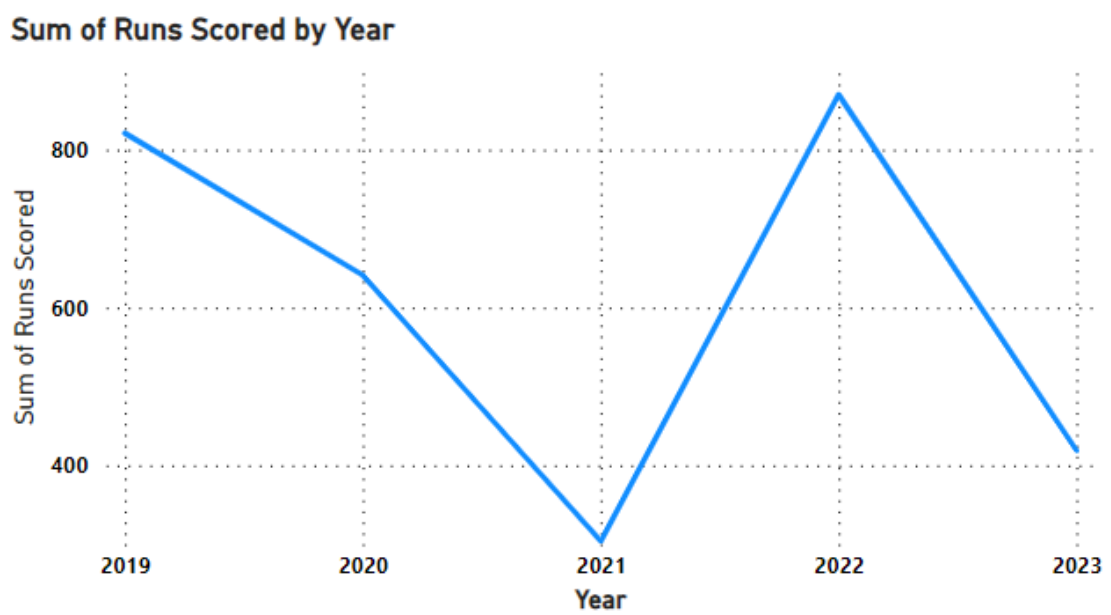
3. Bowling Dot Ball %-

In all 5 years, the Bowling Dot Ball % for Ben Stokes is above 70%, and in the last 2 years, that is, 2022 and 2023, the Bowling Dot Ball% reached more than 80%, which shows considerable improvement and the knack of bowling crucial tight overs with many dot balls. More Dot Balls bowled can help pressure the opposition team to score runs. Hence, having an excellent Dot Ball % is a crucial arsenal for Ben Stokes.



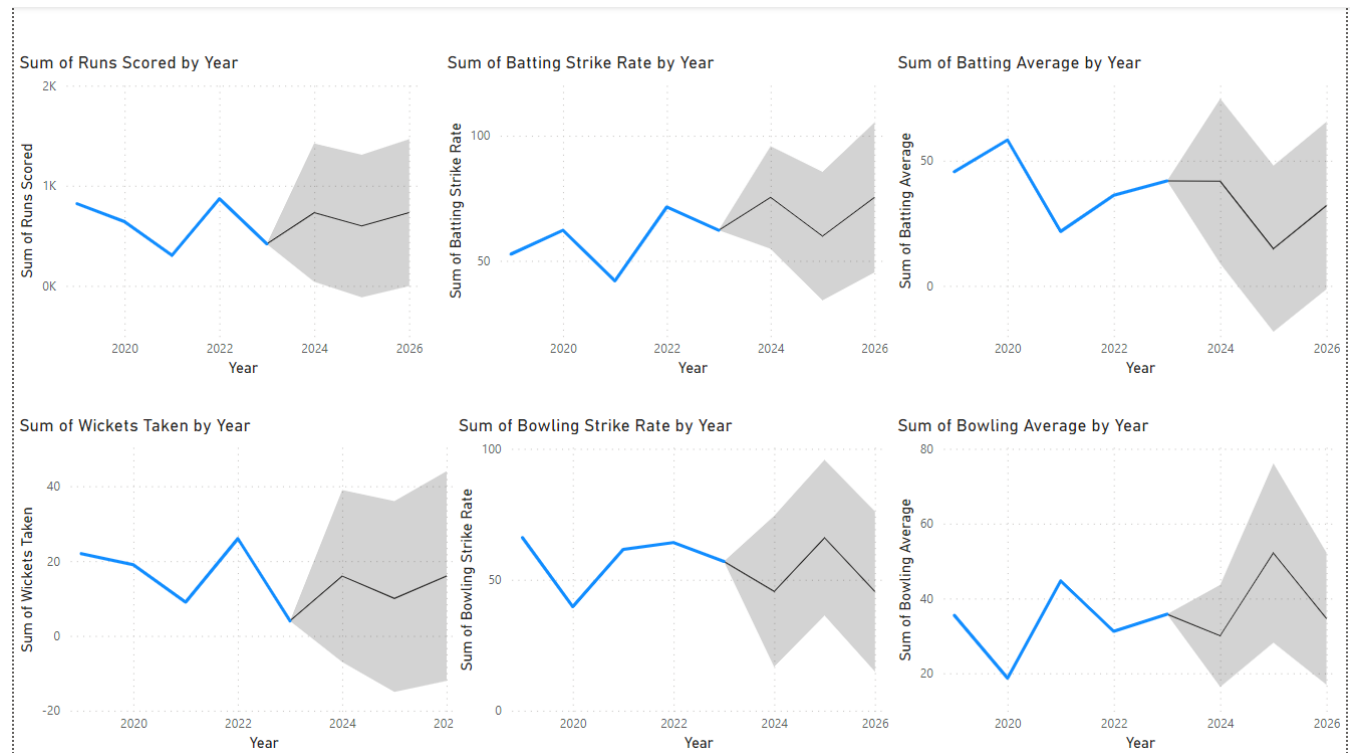
4. Runs Scored-

Ben Stokes has had one bad year in which he failed to cross 400 runs. Rest of the other years, he was able to successfully cross 400+ runs and help his team significantly in scoring runs. Scoring runs is a significant factor required in contributing to the team's wins, and Ben Stokes has been able to contribute successfully.



5. Future Performance

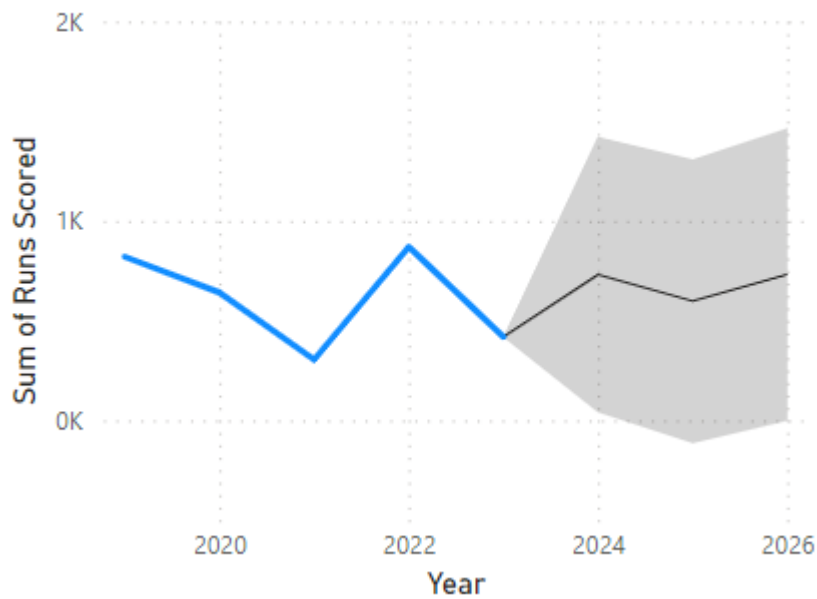
In Power BI, the future performance has been determined by using the forecast option, wherein the forecast length has been set as 3 meaning it will forecast for the next 3 years. The confidence interval has been set at 99%. The below metrics have been used as a measure to analyse the future performance of Ben Stokes.



1. Runs Scored-

It is forecasted that in the next 3 years, Ben Stokes will score close to 600-700 runs yearly.

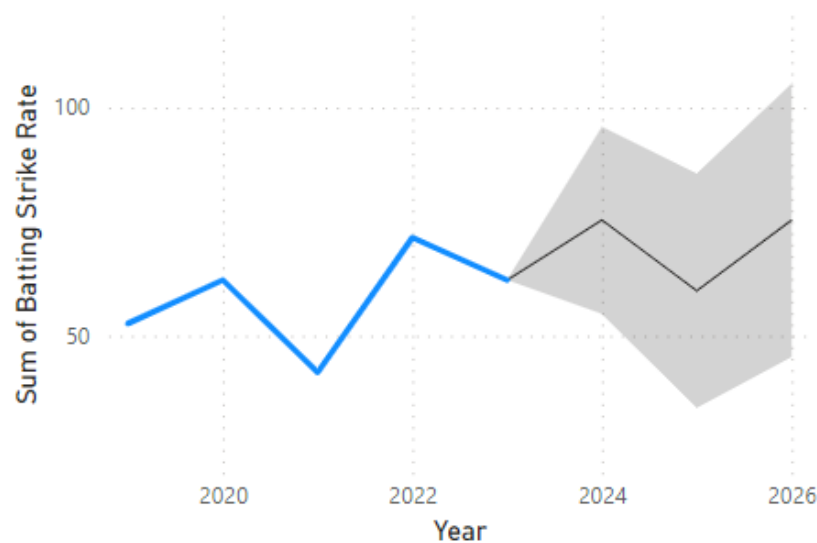
Sum of Runs Scored by Year



2. Batting Strike Rate-

In the next 3 years, Ben Stokes' strike rate is projected to be above 60 in all the years, and there is a likelihood of strike rate crossing 75 in 2 of the 3 years.

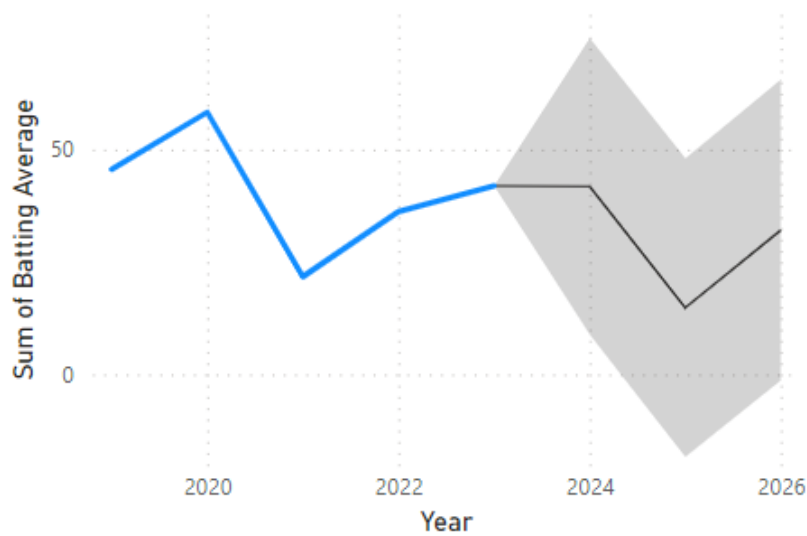
Sum of Batting Strike Rate by Year



3. Batting Average-

The batting average is crossing 40, but it is likely to fall below 20.

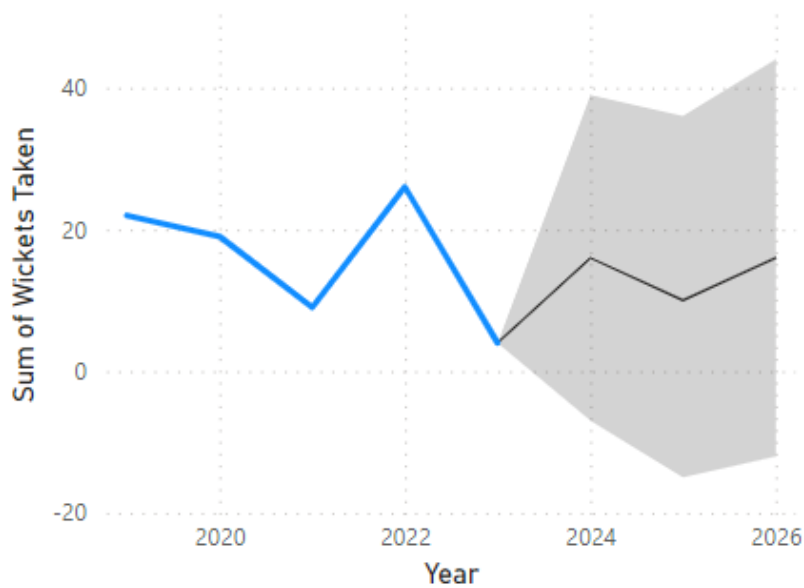
Sum of Batting Average by Year



4. Wickets Taken-

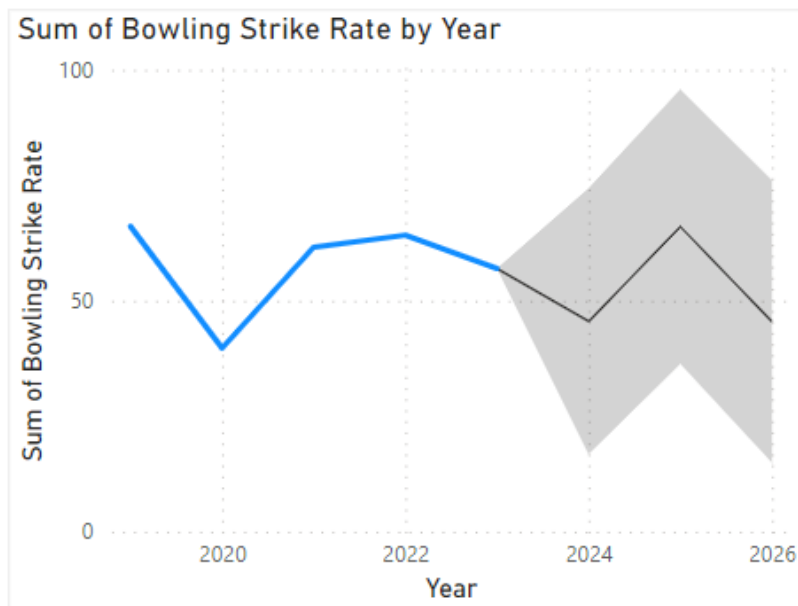
In the next 3 years, it is forecasted that Ben Stokes will take more than 10 wickets but less than 20 wickets each year.

Sum of Wickets Taken by Year



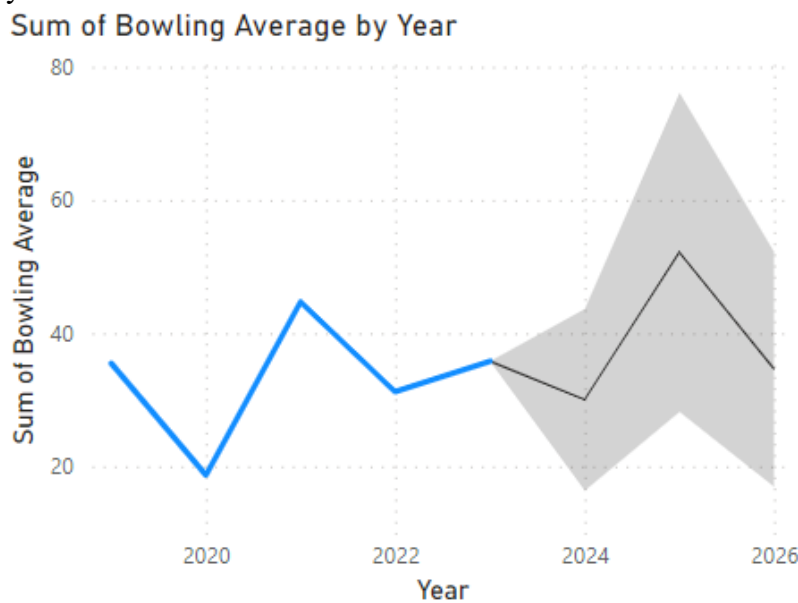
5. Bowling Strike Rate-

The bowling strike rate is predicted to decrease, which is a good sign. The lower the bowling strike rate for Ben Stokes, the lower the balls bowled for him to take a wicket.



6. Bowling Average-

The bowling average for Ben Stokes is predicted to be close to 30 in the next coming years.



Based on the above metrics used for future performance, it can be said that Ben Stokes' batting ability will be pretty good in the next three years as compared to his predicted bowling performance in the next three years. Another interesting factor which can be taken into account can be the account is the age of the player. Since, Ben Stokes is 32 years, he still has a few good years left to make a furthermore impact in the Test cricketing world.

6. Conclusion

Ben Stokes is a remarkable player and the heights he has achieved in international cricket, specially Test Cricket is outstanding. Based on his analysis, Ben Stokes is more a Batting All-Rounder since his batting statistics are excellent according to the analysis conducted. His bowling is comparatively a bit lower in standards than his batting but he has created an impact with his bowling too. If one sees his, bowling performance, his ability to bowl dot balls is excellent. Even though he is a bit expensive in his bowling, he has that wicket taking ability which is such a useful parameter. Ben Stokes is one of the great and what he can achieve under pressure is marvellous.

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