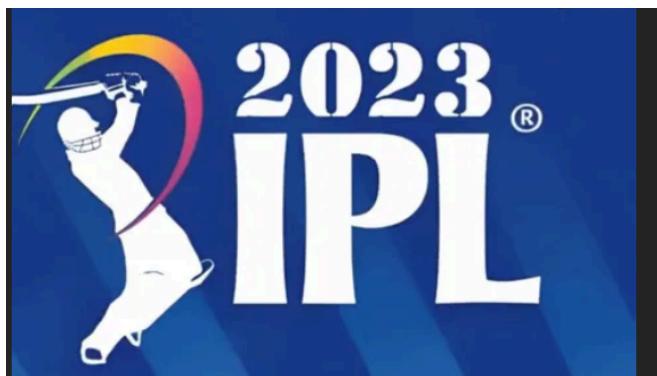


# **Making IPL Team for selector by The help of T20 world Cup data set by using Microsoft Power BI: A Case Study.**

IPL is not just a game it is a festival, the country when it supports the indian team . however during ipl they stand strong behind their respective teams, the strong fan bases engage in entertaining banter on social and are always out there to defend their team or justify their chance at the ipl this is the beauty of that tournament. moreover the television coverage of the ipl is one of the most comprehensive in the world in the world as it reaches out to millions in different languages . indian may not able to watch the action in stadium ,but the buzz will only intensify in millions of home across india.



As we understand what the ipl means to the Indian population, why not discuss the bidding of the ipl teams ?

which should be formulated quantitatively and in an objective manner.

The bidding process is inherently dynamic in nature, as franchises have to frequently realign their strategy after each bid by taking into consideration multiple factors. Most importantly, they have to take into account a player's potential contribution to the team as well as predicted economic value creation of the player.

We are doing the analysis on t20 world cup data to discover the best player for creating the best ipl team nevertheless we also understand our spending. Moreover, in the ipl auction 2023 each team is subject to a total salary cap of 95 crore.

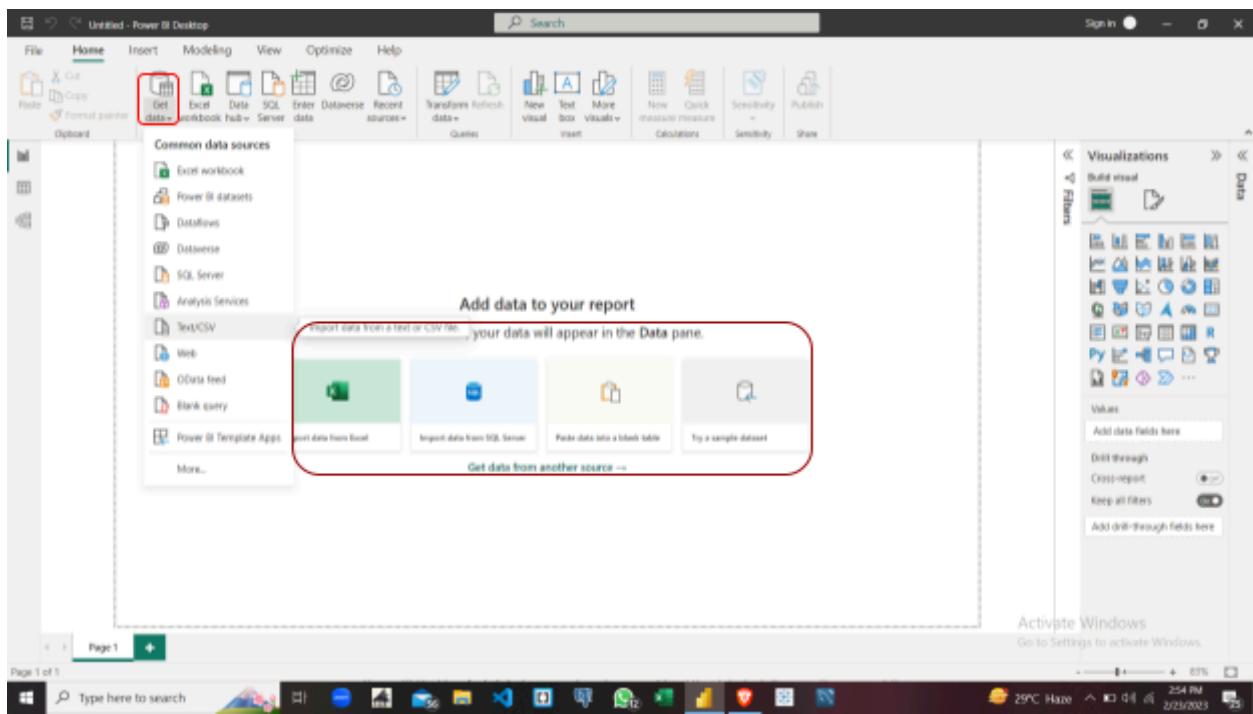
For this report,

We will be using the Microsoft Power BI tool for this business intelligence and data visualization case study. This tool is a business intelligence tool for analyzing data and generating insights from data in visuals, reports, and dashboards. For this case study, we will be using the MS Power BI tool to import the dataset, transform the dataset in the Power Query Editor, design the data model, create some measures, and build the report.

Here's a step-by-step approach to using the Microsoft Power BI desktop app in developing this data visualization solution. We will be taking you through loading the data for analysis, transforming the data, and building the data model. The built data model will then be used in report building for communicating insights to ipl management couch owner and team coordinator.

## Get data

Power BI can be connected to various data sources. You can see all the possible available options using the 'Get Data' icon. With these options, you can import data into Power BI. Excel is one data source where Power BI can load the worksheet and read its contents. Once loaded, you can view the data in the 'Fields' pane. Another data source can be the web. You can select 'Web' as an option using the 'Get Data' icon and enter the name of the URL. You can also experiment with other available data sources.

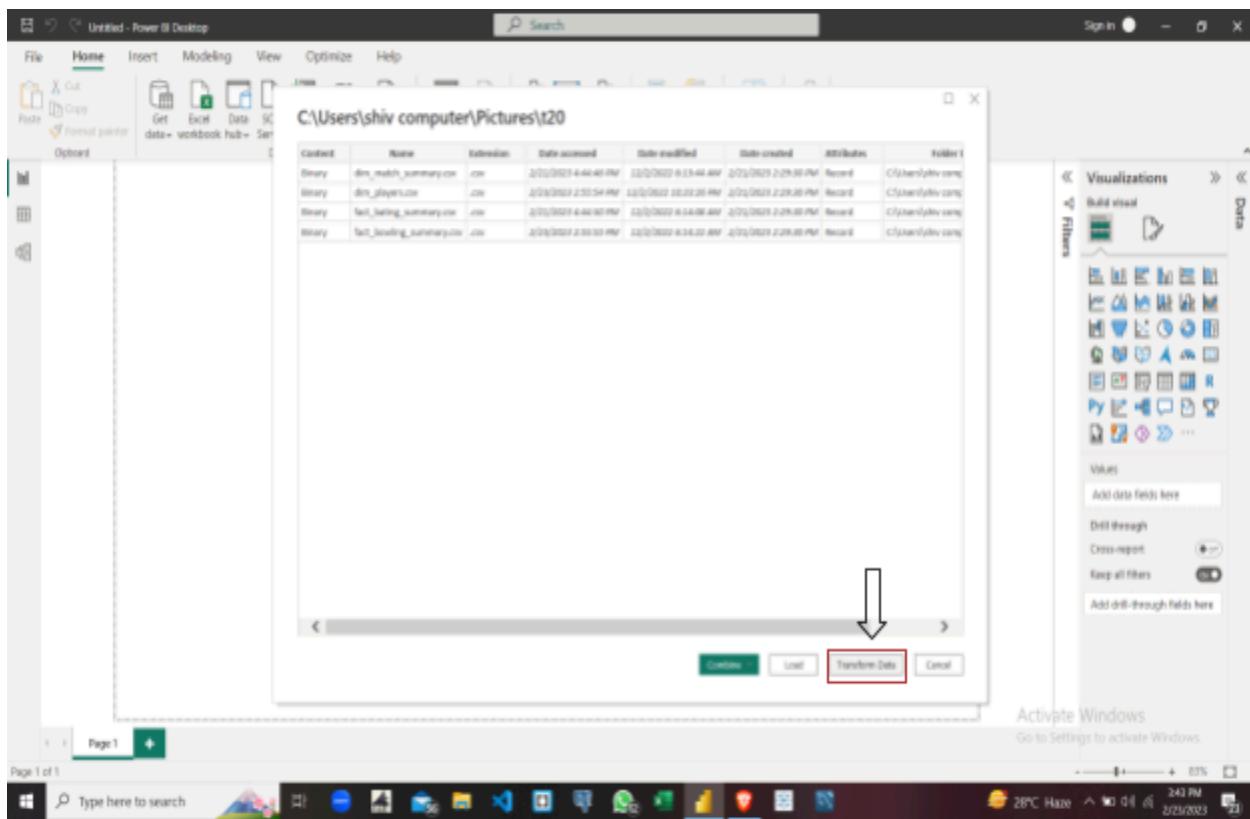


In this article we are importing our data set from a *CSV* file .There are several sources for free data sets online that are available for research and practice for instance kaggle,google dataset ,Quandi etc.

## Transform data

Data comes in an unformatted structure, and it requires a skill set to format the data and extract valuable insights from it. To analyze and extract data, we need a tool, and if someone asks me which tool I use for analyzing the data; Without a second thought, I will name **Power BI**. Undoubtedly, Power BI transforms data in a correlative and interactive manner to analyze, extract and visualize it.

As we are intended to sort our data, we will go with the “**Transform Data**” option.



## Power query editor

The Power BI transforms data button takes you to the other window, popularly known as **Power Query Editor**, where we will clean and transform our data.

The data table can be selected and imported into the Power Query Editor for some data transformations.

note-when we are transforming the data first carefully absorbing all columns and their data type,after that.We can carry out specific tasks on this dataset: convert row to columns, splitting columns, creating custom columns, changing data types of data columns, and others.

## Change table name

Let's say we are not satisfied with table names, and to avoid confusion, we wish to change its name.

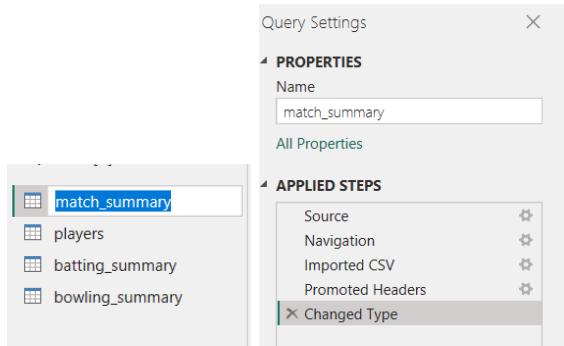
The screenshot shows the Microsoft Power Query Editor interface. In the center, there is a table with the following columns and data:

	team	opponent	venue	margin	date
1	Namibia	Sri Lanka	55 runs	Gqeberha	18/06/2022 120 # 1828
2	Netherlands	U.A.E.	3 wickets	Gqeberha	18/06/2022 120 # 1825
3	Scotland	West Indies	42 runs	Hobart	18/07/2022 120 # 1826
4	Ireland	Zimbabwe	31 runs	Hobart	18/07/2022 120 # 1828
5	Namibia	Netherlands	5 wickets	Gqeberha	18/08/2022 120 # 1830
6	Sri Lanka	U.A.E.	79 runs	Gqeberha	18/08/2022 120 # 1832
7	Ireland	Ireland	8 wickets	Hobart	18/09/2022 120 # 1833
8	West Indies	Zimbabwe	31 runs	Hobart	18/09/2022 120 # 1834
9	Netherlands	Sri Lanka	56 runs	Gqeberha	18/09/2022 120 # 1835
10	Namibia	U.A.E.	7 runs	Gqeberha	18/09/2022 120 # 1836
11	Ireland	West Indies	9 wickets	Hobart	18/10/2022 120 # 1837
12	Scotland	Zimbabwe	5 wickets	Hobart	18/10/2022 120 # 1838
13	Australia	New Zealand	89 runs	Sydney	18/10/2022 120 # 1839
14	Afghanistan	England	5 wickets	Perth	18/10/2022 120 # 1840
15	Ireland	Sri Lanka	9 wickets	Hobart	18/10/2022 120 # 1851
16	India	Pakistan	4 wickets	Melbourne	18/10/2022 120 # 1852
17	Bangladesh	Netherlands	9 runs	Hobart	18/04/2022 120 # 1843
18	South Africa	Zimbabwe	no result	Hobart	18/04/2022 120 # 1844
19	Australia	Sri Lanka	7 wickets	Perth	18/09/2022 120 # 1848
20	England	Ireland	5 runs	Melbourne	18/05/2022 120 # 1846
21	Afghanistan	New Zealand	abandoned	Melbourne	18/05/2022 120 # 1848a
22	Bangladesh	South Africa	100 runs	Sydney	18/05/2022 120 # 1847
23	India	Netherlands	96 runs	Sydney	18/03/2022 120 # 1848
24	Pakistan	Zimbabwe	3 runs	Perth	18/03/2022 120 # 1849
25	Afghanistan	Ireland	abandoned	Melbourne	18/03/2022 120 # 1848a
26	Australia	England	abandoned	Melbourne	18/08/2022 120 # 1889a
27	New Zealand	Sri Lanka	85 runs	Sydney	18/08/2022 120 # 1850
28	Bangladesh	Zimbabwe	3 runs	Brisbane	18/03/2022 120 # 1851

In the bottom right corner of the editor window, there is a watermark that says "Activate Windows" and "Get to Settings to activate Windows".

Formula bar shows the formula that is used in a specific column and measure; moreover, Applied steps show the transformations to the data.

Any transformations to your data will show in the Applied Steps list. For instance, if you change the data type ,it will display in the Applied Steps list as changed type.



When we glance through the table player we notice a couple of issues. The first one is that there are few player names in the bracket (©) furthermore, the columns header are not in the correct place, moreover, the data have duplicate values .

## Extract value

so we are going to apply some transformation where we used the extract option then select before the delimiter.

The screenshot shows the Power Query Editor interface. A dialog box is open over the main query grid, specifically the 'Text Before Delimiter' dialog. The 'Text Before Delimiter' field is highlighted with a red box. The dialog contains the instruction 'Enter the delimiter that marks the end of what you would like to extract.' and a text input field containing a single quote character ('). There are 'OK' and 'Cancel' buttons at the bottom right of the dialog.

## Convert row to column

so we are going to apply some transformation.so,This will convert the first row into columns.

The screenshot shows the Power Query Editor interface with the transformed data. The first row ('Column1', 'Column2', 'Column3') has been converted into columns: 'name', 'team', 'image', 'bowlingStyle', 'bowlingType', and 'playingRole'. The 'File' tab is selected in the ribbon. The 'Transform' tab is also visible.

## Sort and remove duplicates.

By sorting the players name in ascending order, we discover there are some duplicate values in the data and we remove the duplicate.

The screenshot shows the Power Query Editor interface with two tables open. On the left, the 'match\_summary' table is displayed with a context menu open over the 'name' column. The menu includes options like 'Sort Ascending' (highlighted with a red box), 'Sort Descending', 'Clear Sort', 'Remove Empty', and 'Text Filters'. On the right, the 'Table.TransformCo' table is shown with a context menu open over the same 'name' column, also featuring a 'Remove Duplicates' option highlighted with a red box.

## Add conditional columns

This screenshot illustrates the process of adding a conditional column in Power Query. Step 1 shows the 'Add Conditional Column' dialog box. Step 2 shows the 'New column name' field set to 'match\_type'. Step 3 shows the formula being built: '= if [matchDate] is before [1/22/2022] then [super\_t]'. Step 4 shows the 'Else' dropdown menu with '[super\_t]' selected. The background shows the Power Query Editor with multiple queries and a preview of the data.

With Power Query, you can create new columns whose values will be based on one or more conditions applied to other columns in your table.

1 The Conditional column command is located on the Add column tab, in the General group.

1.

2. New column name: You can define the name of your new column. In this example, we use the name match type.

3. Conditional clauses: Here you define your conditional clauses. You can add more clauses by selecting Add clauses. Each conditional clause will be tested on the order shown in the dialog box, from top to bottom. Each clause has four parts:

- Column name: In the drop-down list, select the column to use for the conditional test. For this example, select the match\_date.
- Operator: Select the type of test or operator for the conditional test. In this example, the value from the match\_date column has to be less than .
- Value: You can enter a value or select a column to be used for the conditional test. For this example, enter 22/oct/2022.
- Output: If the test is positive, the value entered here or the column selected will be the output. For this example, if the match\_date value is less than 10/22/2022, your Output value should be the qualifier match.

4. Final Else clause: If none of the clauses above yield a positive test, the output of this operation will be the one defined here, as a manually entered value or a value from a column. In this case, the output will be the super 12.

# Splitting columns and filling and replacing the null values.

For calculating different statistics for bowling performance we do some transformation in the over column on bowling\_summary table because there are several rows which are in the decimal form so we have to split the over column into two and we split column by delimiter.moreover by new column it is easy to evaluate bowling economy.

The screenshot shows the Power Query Editor interface with the 'bowling\_summary' query selected. A red box highlights the 'Split Column' icon in the ribbon. Another red box highlights the 'Split Column by Delimiter' dialog box, which is open over the main query grid. The dialog box has the following settings: 'Delimited' selected, 'Custom' separator chosen, 'Each occurrence of the delimiter' checked, and 'Advanced options' expanded. The main grid shows a list of matches with various teams and their statistics. The bottom status bar indicates '14 COLUMNS, 500 ROWS'.

## Replace

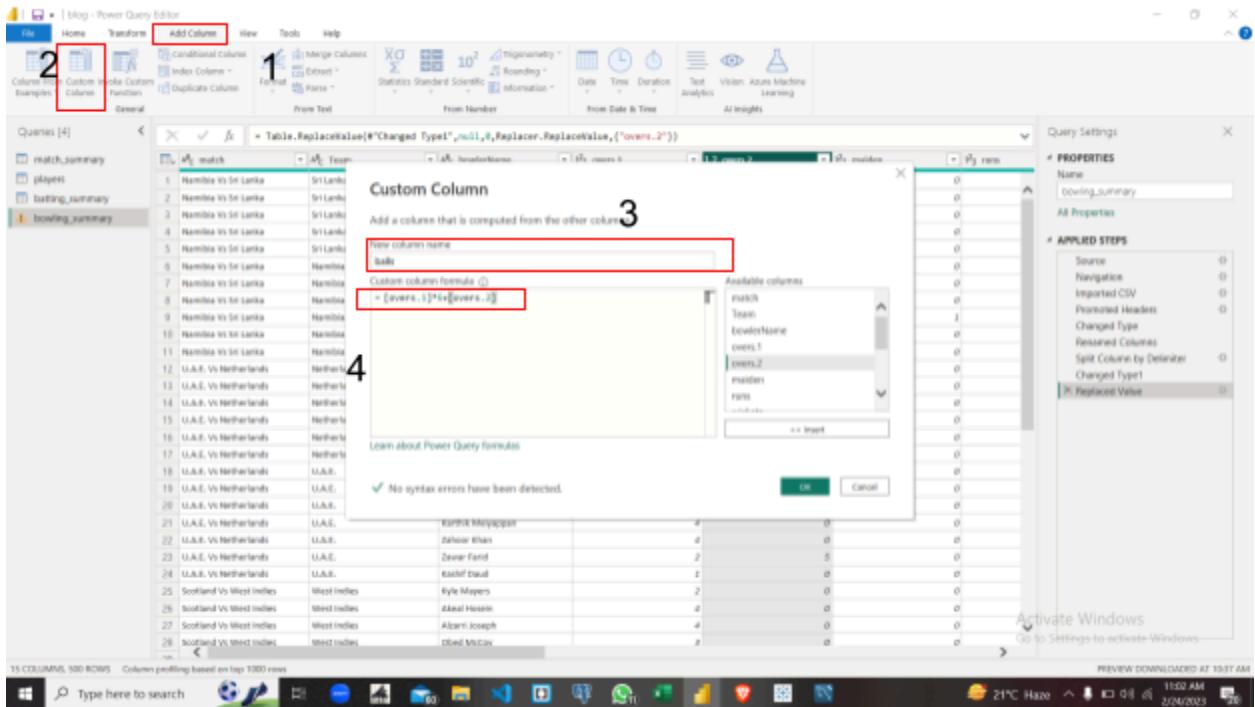
In a bowling\_summary table over 2 columns there are various null values in it .Hence,we should replace the null value with zero since it makes it more logical.

The screenshot shows the Power Query Editor interface with the 'Transform' tab selected. A red box labeled '1' highlights the 'Replace Values' button in the ribbon. A red box labeled '2' highlights the 'Replace Values' dialog box, which is open over the main table view. The dialog shows 'Value To Use' set to 'null' and 'Replace With' set to '0'. The main table view shows two columns: 'overs.1' and 'overs.2', both containing 'null' values. The 'APPLIED STEPS' pane on the right shows the step 'Changed Type'.

## Custom column

If you need more flexibility for adding new columns than the ones provided out of the box in Power Query, you can create your own custom column here. We need total balls bowled by bowlers. We already split and replace values so it is easy to create a custom column.

The formula that you can use to create the Total balls  $[overs.1]*6+[overs.2]$ .



## Changing data type

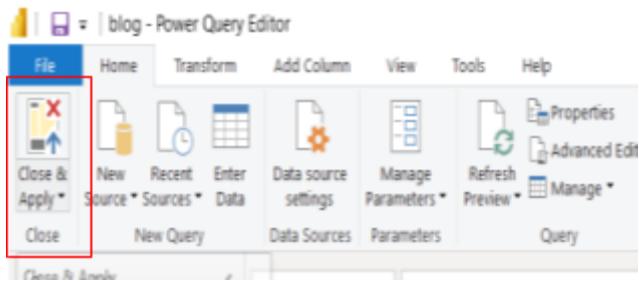
We want to convert data type to whole number for precise and relevant data. Select the column and "Right-Click" on the column header. A drop-down list will appear; select "**Change Type**". Now, again a drop-down list will appear with different data types. Select the data type according to you.

The screenshot shows the Microsoft Power Query Editor interface. The 'APPLIED STEPS' pane on the right highlights the 'Replaced Value' step, specifically the 'Whole Number' type, which is circled in red. The 'Properties' pane shows the query is named 'bowling\_summary'. The main area displays a table with 28 rows and 6 columns. The columns are labeled 'id', 'Rounds', 'Score', 'Series', 'Order', and 'MatchID'. The data represents bowling scores, with 'Rounds' ranging from 1 to 10, 'Score' ranging from 0 to 3, and 'Series' ranging from 1 to 3.

## Close and apply

As soon as you are done with the data transformation procedure, save the query. Go to the "Home" tab and click on the "**Close & Apply**" button to save the data. It is the final step that will load your data.

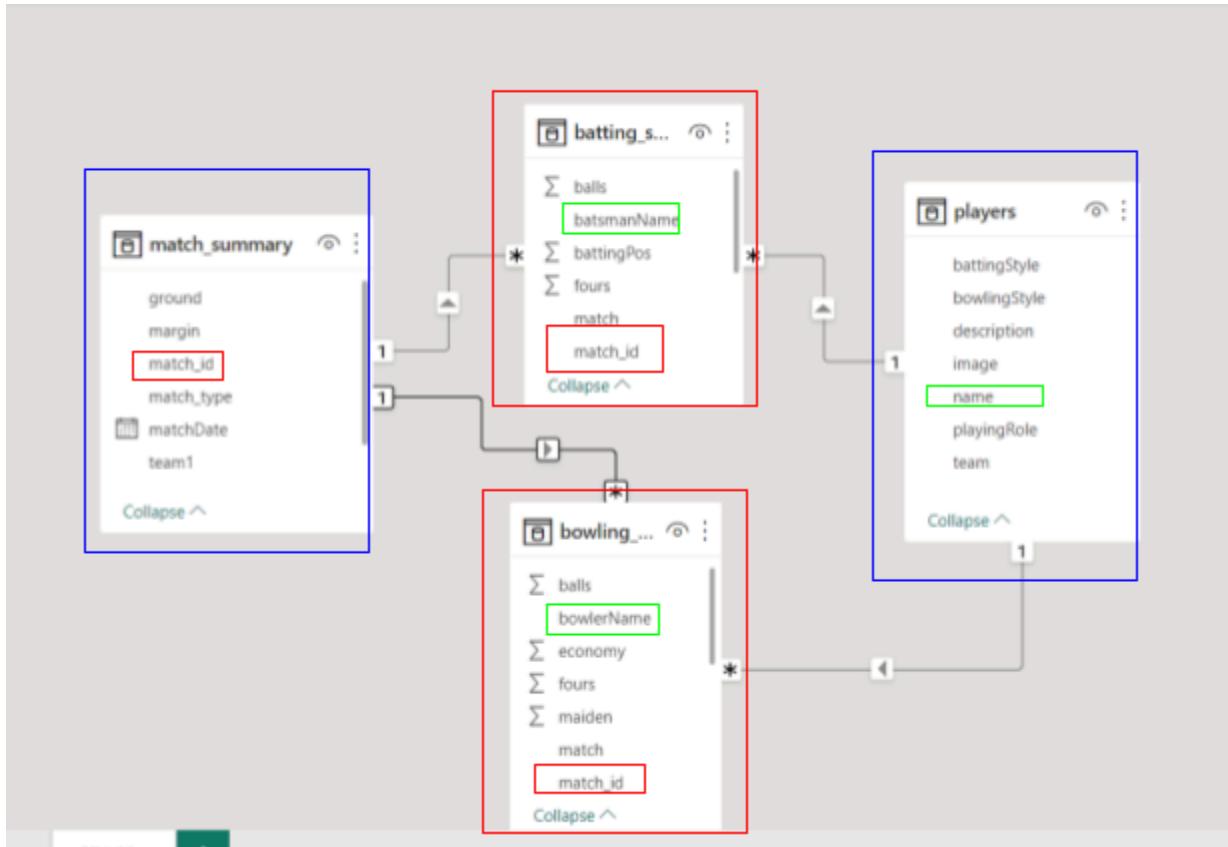
Easy right?? Isn't it fair to say that Power BI is convenient to use



## Data modeling and building parameter using dax.

Data modeling is one of the four pillars of Power BI report development. It allows you to connect different data tables in your Power BI report by creating relationships between them. Developing your data modeling skills will greatly improve your reports and outputs. So, I'm going to show you a proven method to develop reports efficiently and easily.

### Creating Relationships



above we have a snapshot of a cricket data model. The tables highlighted in red are dimension type tables. All the attributes that you can use to describe or slice and dice your transactional/fact table data should go in dimension tables. The `match_summary` on the left and the `players` table on the right with the blue outline is the fact table.

We don't want to have duplicate records in dimension tables, so it's important that your tables are unique by the primary key field (or the fields or fields that make up the unique values in that table). we should aim to create a one-to-many relationship from your dimension to fact tables.

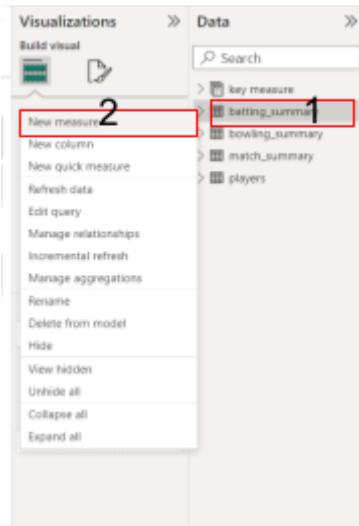
For more Helpful Tips & Best Practice

<https://www.youtube.com/watch?v=5IYZR921toc>

## Create and use your own measures

In most cases, Power BI Desktop automatically calculates and returns values according to the types of fields and aggregations you choose. However, in some cases you might want to create your own measures to perform more complex, unique calculations. With Power BI Desktop, you can create your own measures with the Data Analysis Expressions (DAX) formula language.

To create a measure, follow these steps:



1. In the Fields pane, right-click any four cricket tables, or hover over the table and select More options (...).
2. From the menu that appears, choose New measure.  
This action saves your new measure in four cricket tables, where it's easy to find

## **Created measure for the report-**

we create measure according to criteria and parameter is required for instance -

We need to know the top scorer of all time and which bowler has the best economy and so on. so we kept in mind the data requirement then we created those measures.

### **Table -batting\_summary**

#### **1 .Measure-total run**

purpose-total number of runs scored by the batsman

Formula-total runs=sum(batting\_summary[runs])

#### **2.measure- total innings batted**

Purpose-total number of innings a batsman got a chance to bat

Formula-total inning batted=count(batting\_summary[match\_id])

#### **3.measure-total innings dismissed**

Purpose-to find the number of innings got out

formula-total innings dismissed=sum(batting\_summary[out])

#### **4.measure-batting average**

purpose-average run scored in an innings

formula-batting avg=divide([total runs],[total innings dismissed],0)

### **5.measure-total ball faced**

Purpose-total ball faced by batman

Formula-total ball faced= sum(batting\_summary[balls])

### **6.measure-strike\_rate**

purpose -no of runs scored per 100 balls

Formula-strike rate-strike rate=divide([total runs],[total ball faced],0)\*100

### **7.measure -batting position**

Purpose-batting position of a player

Formula-batting position=roundup(average(batting\_summary[batting\_pos]),0)

### **8.measure-boundary %**

Purpose-percentage of boundaries scored by players

Formula-boundary %=divide(sum(batting\_summary[boundary\_run],[total runs],0)

### **9 measure -avg.balls faced**

Purpose-average ball faced by batter in an innings

Formula-avg.balls faced=AVERAGE(batting\_summary[balls])

## Table-bowling \_summary

### 10.measure-wickets

Purpose-total number of wickets taken by bowler

formula-wickets = SUM(bowling\_summary[wickets])

### 11.measure-balls bowled

Purpose-total number of balls bowled by a bowler

formula-balls Bowled = SUM(bowling\_summary[balls])

### 12.measure-runs conceded

purpose-Total runs conceded by the bowler

formula-Runs Conceded = SUM(bowling\_summary[runs])

### 13.measure-bowling economy

purpose-Average number of runs conceded in an over

formula-bowling economy = DIVIDE( [Runs Conceded], ([balls Bowled]/6),0)

#### 14. measure-Bowling Strike Rate

purpose-Number of balls bowled per wicket

formula-Bowling Strike Rate = DIVIDE([balls Bowled], [wickets],0)

Great- The data model is now ready for data visualizations and reporting with these measures.

## Visualization to create Insights



## Dashboards

A Power BI dashboard is a single page, often called a canvas, that uses visualizations to tell a story. Because it is limited to one page, a well-designed dashboard contains only the most-important elements of that story.

Dashboards are a wonderful way to monitor your business, to look for answers, and to see all of your most-important metrics at a glance. The visualizations on a dashboard may come from one underlying dataset or many, and from one underlying report or many. A dashboard can combine on-premises and cloud data, providing a consolidated view regardless of where the data lives.

A dashboard isn't just a pretty picture; it's interactive and the tiles update as the underlying data changes.

Note- when we are ready to create a dashboard ,always be aware of criteria parametre that we want in our report so let us create those ..

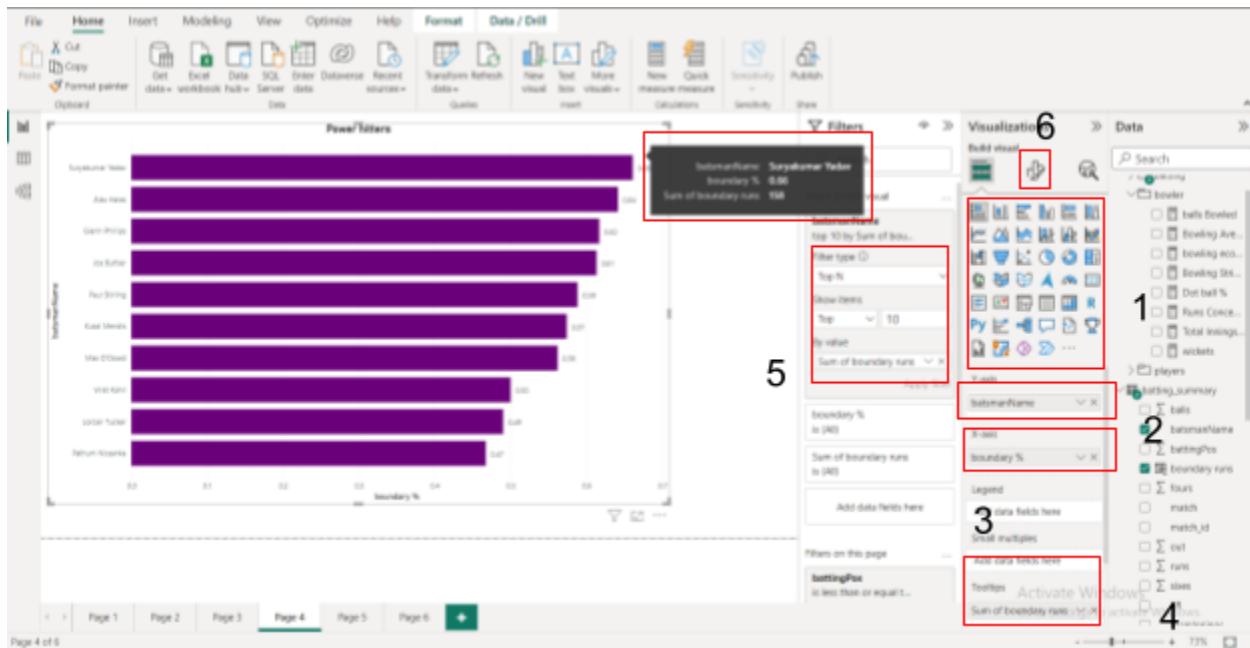
Now we ready to create dashboard

## **Dashboard -TOP ORDER**

The **top order** is defined as the batters batting at positions 1, 2,3 and 4. The batters who bat at positions 3 and 4 in the order are sometimes the most technically proficient batters with the best stroke play. As they are likely to face an older ball that is easier to score runs against, they must aim to make a large number of runs. They may be exposed to the new ball if an opener loses his wicket early on and so must be equipped to deal with this scenario as well. Top and middle order batters must also be adaptable as they may be required to attack, consolidate or defend according to the needs of the team as the match situation develops.

So now we understand what we have to do.in addition, first we create charts and analyze one by one and determine its motive and cause and then put every chart in a single page .

# power hitters analyze with stacked bar chart-



In above image

- 1- we first select a stacked bar chart in the build visual .
- 2- drag or select field( batsman\_name) in x-axis .
- 3-drag or select, field or measure (boundary %) in y axis.
- 4-put boundary runs in tooltips for more information.
- 5-fiter in this visual uses top n for top 10 according to their total boundary runs .

6-for formatting your visuals.

For formatting style learn from-

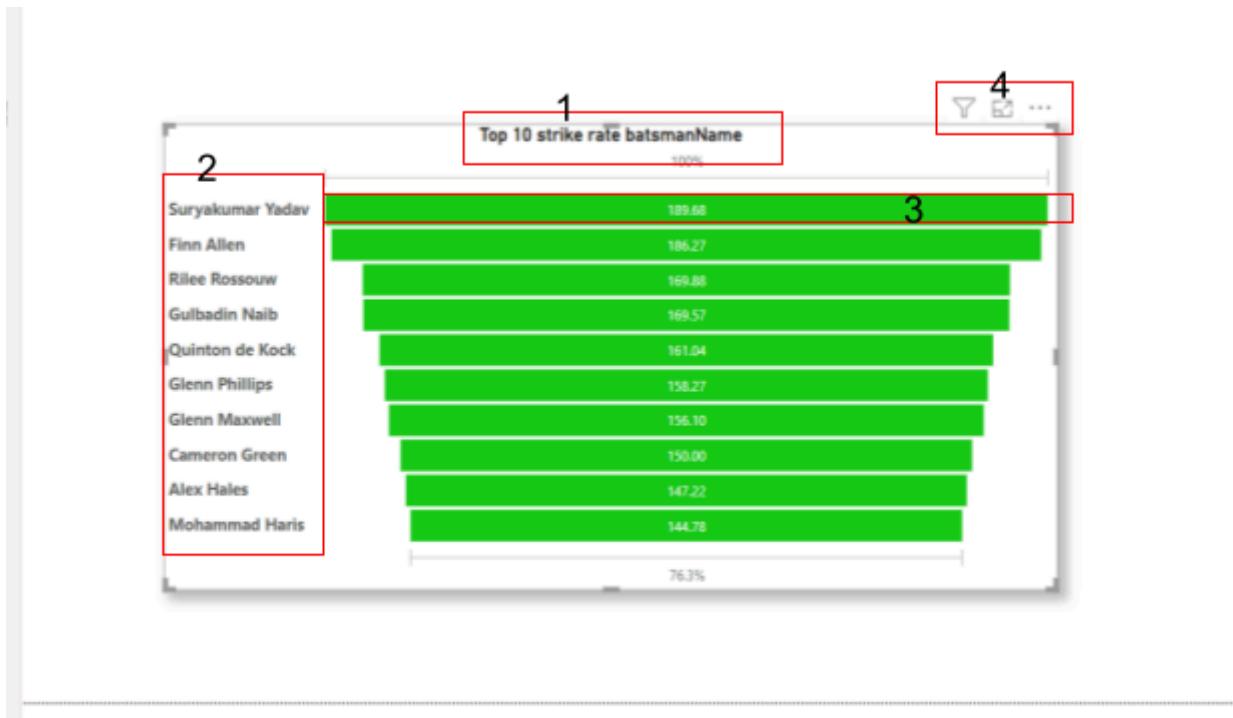
<https://www.youtube.com/watch?v=jChBDVPv77c>

**Observation**-the essence of measure that we created above boundary % in this stacked bar it aids to know the top power hitter in the t 20 world cup ,it vividly apparent that suryakumar yadav have best boundary percentage (0.66%) moreover we sorted the columns in descending order for better

visualization, it provides the top 10 power hitters furthermore, it gives the insight of country have most power hitters.

**Conclusion**-if a management wants a power hitter in their ipl team they are betting on these listed players for sixes and fours because they are so specialized in boundaries .

## Top strike rate batsman analysis with funnel chart.



We already learned some of the steps in the above graph. furthermore now we comprehend the chart that we created and also analyze it .

In this graph

1-is title or the heading of the chart.

2-category field (batsman name).

3-value here we make use of strike rate measure.

4-in chat ellipse have 3 feature one is filter used second focus mode third option you can find more useful function like sort, export ,remove etc.

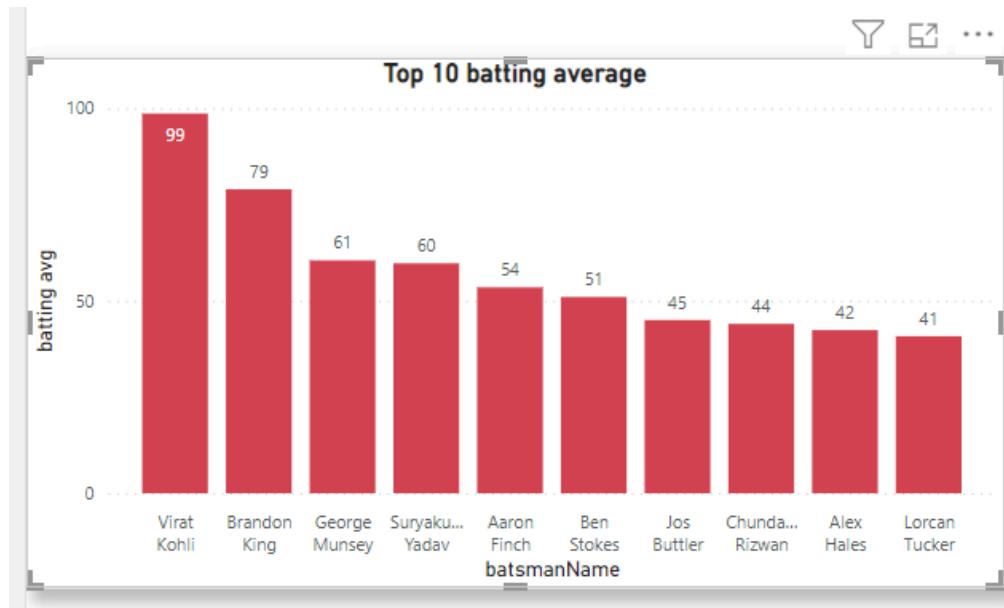
**Observation-** the batting strike rate is defined for a batsman as the average number of runs scored per 100 balls faced . The higher the strike rate, the more effective a batsman is at scoring quickly.here are the top 10 batsmen with highest strike in t20.

In limited-over cricket,strike rates are of considerably more importance. In the funnel chart we clearly show that suryakumar yadav is on the top having approximately 190

And last one is Mohammad Haris 144.

**Conclusion-** these are the player who entertain in the ipl the most and any selector in ipl want those player who having a highest strike rate,

## Batting average analyses with stacked column charts.

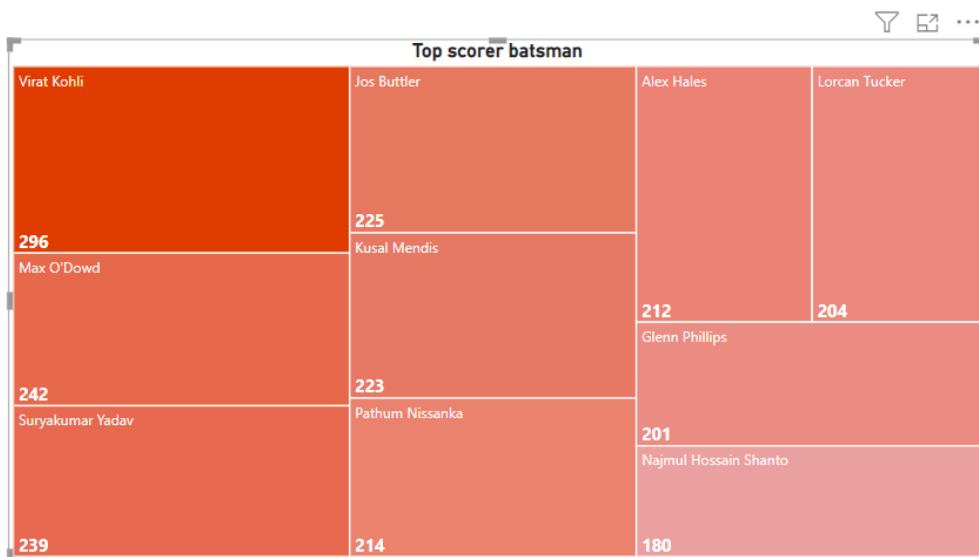


**Now we learn steps and key areas in visualization, so now we only focus on observation and conclusion.**

**observation**-Most players have career batting averages in the range of 20 to 40. This is also the desirable range. However, players who sustained an average above 50 through a career were considered exceptional. here we see top average maintained by virat kohli is 99 second to virat is brandon king and last is Lorcan tucker is in top 10.

**Conclusion**-in ipl these players are supposed to be key members of their all the eye of the selector is on them they also the expensive batsman in ipl.

## Top scorer batsman analysis with heatmap



**observation**-When it comes to score ,in history the player who is highest scorer in any format highlighted as the main player of the event.in heatmap graph shows lighter the color the lower the value moreover the darker the color highest the number .

In heatmap chart virat kohli is on the top 54 runs more compared to second in the graph it shows most potential batsman in cricket in t20 in that year.

**Conclusion-** it aids to demonstrate who holds the orange cap in upcoming ipl because of their stats.

We collected all the pieces. Let's arrange every graph in the dashboard.

## Dashboard -top order



In the above dashboard we use slicer ,scorecard and filter on this page.

1- **filter** on this page constrains the batting order because we want only top order batsmen from 1 to 4.

2- **Slicer** displays commonly used or important filters on the report canvas for easier access. In our case, if we want to display our country's statistics, it also displays which country has the best openers.

3-**card** through a single value, in our case is no. sixes and four if you select any player in the graph it changes its number according to the player statistic .

**observation**-The designated dashboard depicts the statistical information about the top order batsman.this dashboard shows the relevant data of openers by their average ,total score boundary% and strike rate .

Overview we observe major details of batsmen by the help of these graphs.

**Conclusion-** now selector have easily select the player according to their if they want a play who score more and responsible for stability of team they select from player from stacked column bar chart (batting average ) and heatmap(top scorer) if they want a player for more aggressive and big hitters mindset batsmen they selected the players from the other two graphs.

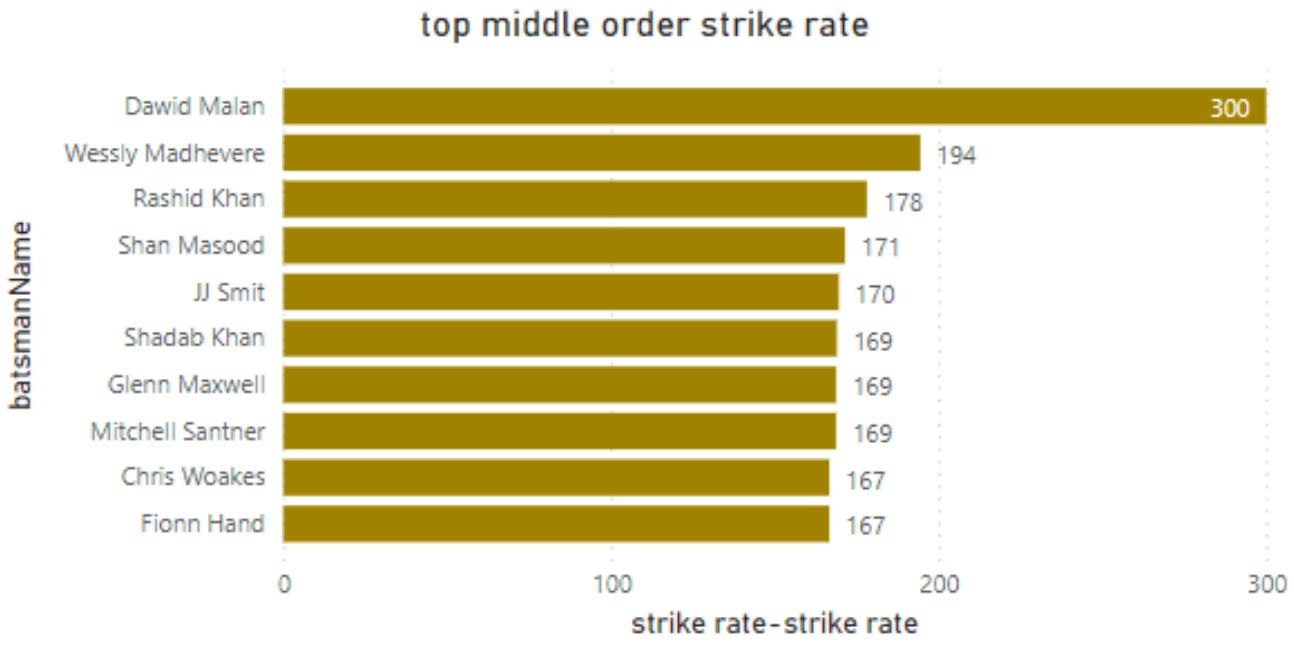
Note - we already learn how to create and interact with graphs additionally , now follow the same process to the next two dashboard.

## **Dashboard 2-middle order.**

The **middle order** is typically defined as the batters batting at positions 5, 6 ,7 and 8. It usually consists of versatile batters who must continue to build an innings. The middle order batter is likely to be facing a much older ball bowled by a spin bowler and defensive technique is necessary to overcome this type of attack, but they are often also fleet-footed players who attack slow bowling by charging down the pitch. The middle order players must also be adept at making runs when playing with the poor quality batters in the lower order. This requires the ability to manipulate the strike so that the tail-enders are shielded from the more potent bowler.

Players who are designated as an all-rounder often bat in the middle order

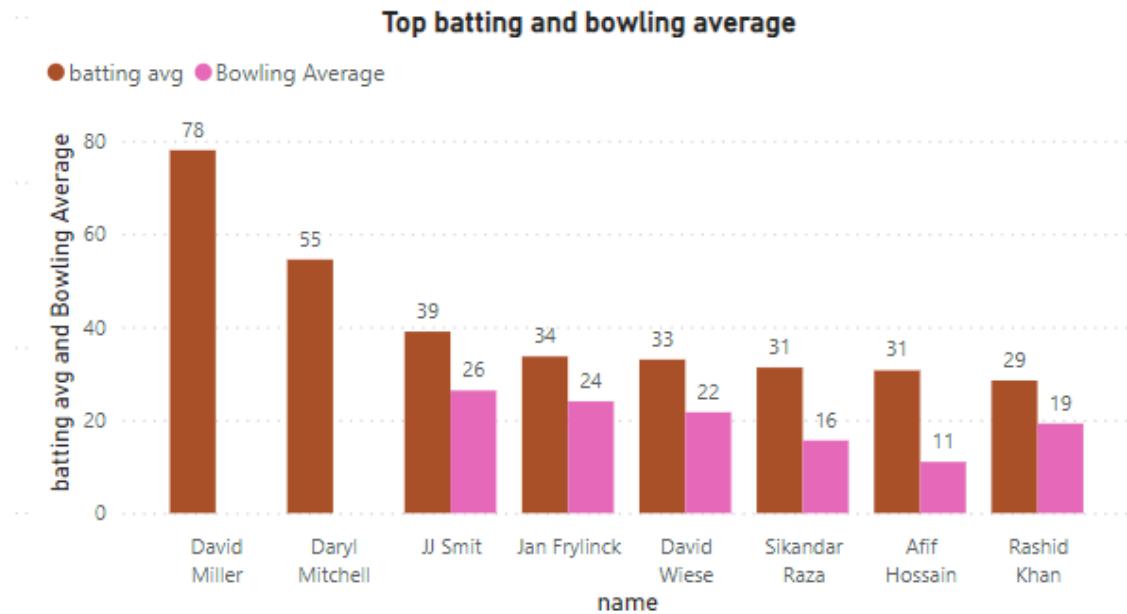
# Top middle order strike rate analysis with stacked bar chart



**Observation-** in the stacked bar chart we clearly show that middle order batsman who is on the top in the world. In this stacked bar Dawid Malan has a highest striking rate 300 about 40% more compared to second wesley Madhevere (194),these players have capability to boost the run meter .

**Conclusion-**if the opener failed to do their job these players are the next pillars of the team so the ipl selector maintains the order so they have to be more focused on these players.

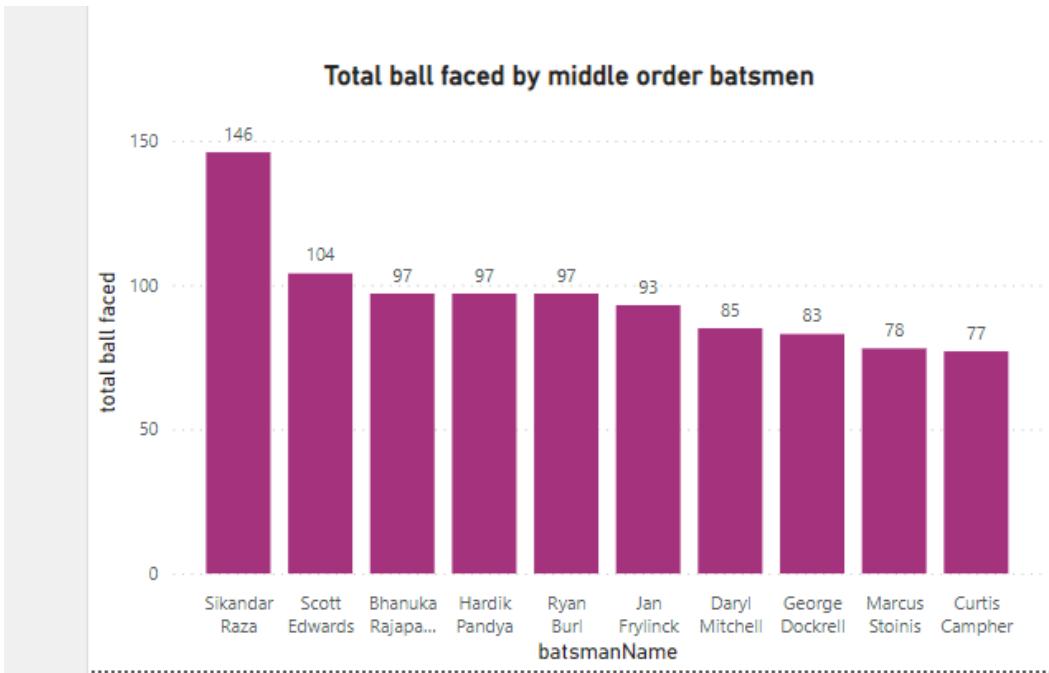
# Top batting and bowling average analysis with clustered chart.



**Observation-**in this clustered chart explains A cricket player who can bat, bowl and field is an asset to any cricket team. Traditionally, a cricketer who can bat and bowl is identified as an all-rounder, although wicket keeper-batsmen are now listed as all-rounders.here in clustered chart david miller has best middle order batsmen average also he is wicket keeper having 78 average is excellent as a middle order batsman.however in this clustered chart we are more focused on those who have remarkable average in both area jj smit is on top comparing both attributes (batting 39 and bowling 26).

**Conclusion-**these players are the most expensive players in ipl because of their versatility in both fields. By this clustered chart we are able to select which all rounder needs in our team.

# Total ball faced by middle order batsman analysis with stacked column chart.



**Observation** - in this stacked columns chart we distinctly apparent that which batsmen faced the more balls in the tournament ,this chart gives relevant insight of the players who spend the most of the time the field ,sikandar raza faced most balls (146) in the middle order second is scott edwards and fourth is hardik pandya(97 balls).

**Conclusion** -these are most experienced in the pressure condition if the team falls apart they are key players to maintain stability in the match.

We created all the diagrams that we need for the dashboard.

## Dashboard 2- middle order



**Observation-** in this designated dashboard we use filter for batting position from 5 to 8 moreover,use batting style slicer because it aid to give us best stats with different batting style,in the middle order dashboard these designed chart specified the term we need in our team ,it provide the structure by analyzing various aspects like (time in field ,player versatility ,and average score).

**Conclusion-**this dashboard provides ipl selector their wished middle order team nevertheless,they can develop their team preference according to graphs .

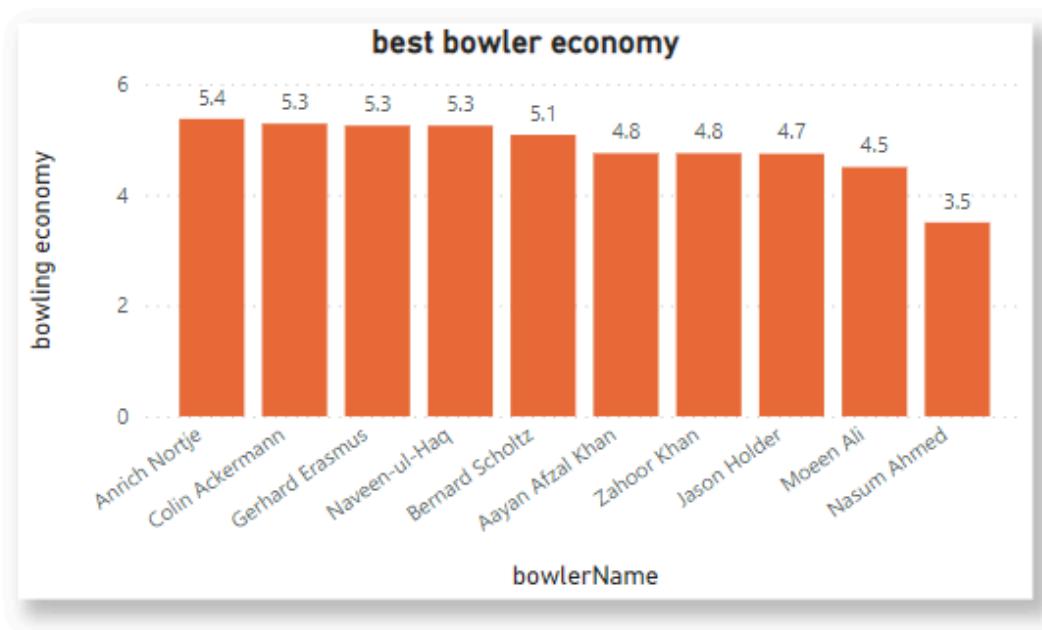
## Dashboard 3- tailenders or bowlers

The **lower order** is defined as the batters batting at positions 9, 10 and 11. It is usually made up of players who have average or poor batting skills,

commonly known as **tailenders** (**tail-enders** or **tail-ender**). These players are the team's specialist bowlers.

They are the shield and the run defender or wicket takers of the team.

## Best bowler economy analysis with stacked column chart



**Observation** - in the bowler economy stacked chart we have insight of the bowler who has the best economy. In cricket, a bowler's economy rate is the average number of runs they have conceded per over bowled. In most circumstances, the lower the economy rate is, the better the bowler is performing. We use bowling economy measures in the chart, we found out Nasum Ahmed has the most effective economy (3.5) .despite that they are slightly different in other's bowling economy.

**Conclusion-**if there is a condition of super over these bowlers is more effective in that period of time .

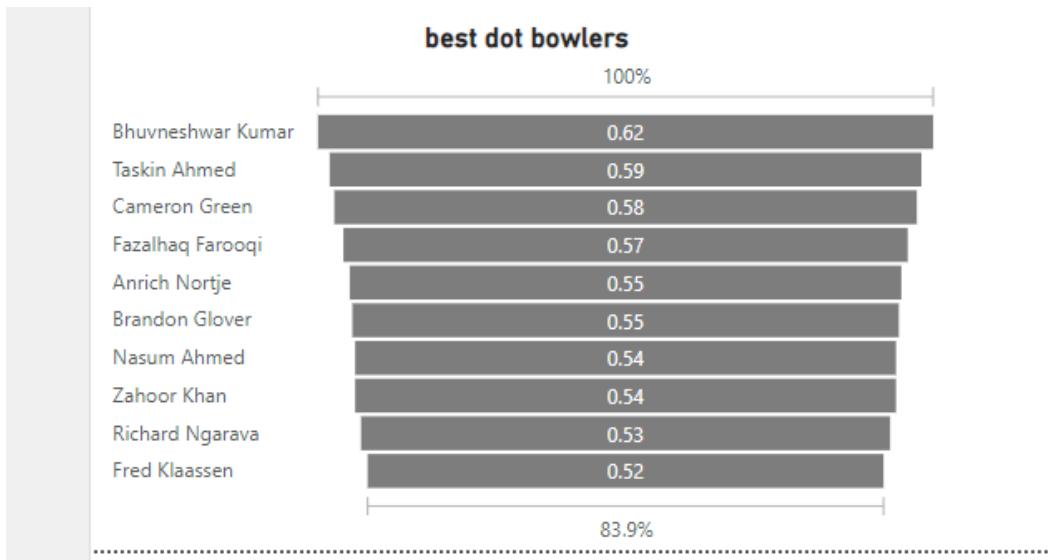
## Wicket takers analysis with heatmap

Top wicket takers				
Wanindu Hasaranga de Silva	Blessing Muzarabani	Paul van ...	Shadab K...	Shaheen ...
15	12			
Bas de Leede	Anrich Nortje			
13	11	11	11	11
Sam Curran	Josh Little	Arshdeep Singh	Sikandar Raza	
13	11	10	10	

**observation-**Bowlers have proven that even in the shortest format of the game, where batsmen attack from the start of the innings. In addition attack bowlers play a vital role in the game,we use wicket measure to know the top wicket taker in t20 format.furthermore the darker area of heatmap shows de silva taking most wicke(15)t in the format moreover sam curran and bas de leede took same number of wickets(13) .

**Conclusion-** they are players selector or bidder favor the most, they are the players who are able to stop the batting pace of the rival team,by taking crucial wickets for their team in a match.

## Best dot bowlers analysis with funnel chart



**Observation-** in the funnel chart we use dot% measure for recognise which player delivered most dot balls in the match.beside that , we have a insight of top players ,bhuvneshwar kumar has highest percentage (62%) of dot balls furthermore fred klassen last in top having(52%).

**Conclusion** -those player mostly delivered the first ball in match additionally,they have the responsibility to slow batsmen in the first powerplay.

## Dashboard 3- tailenders or bowlers



**Observation-** in this designated dashboard we use filter for batting position from 8 to 11 means all the bowlers moreover,use team slicer because it aid to give us statistics of every teams players and card provide the detail of wickets and dot ball percentage of players ,dashboard these designed chart specified the term we need in our team ,it provide the structure by analyzing various aspects of bowlers.

**Conclusion -** the dashboard supports the management for investment in those bowlers who perform stunningly able to take purple cap for their team.

**Lastly ,these are my top picks players.**

**Player's Name-**

Jos Buttler-Wicket Keeper Batter  
Rilee Rossouw-Top order Batter

Virat Kohli-Top order Batter

Suryakumar Yadav-Batter

Glenn Phillips-Wicketkeeper Batter

Marcus Stoinis-Batting Allrounder

Sikandar Raza-Batting Allrounder

Shadab Khan-Allrounder

Sam Curran-Allrounder

Shaheen Shah Afridi-Bowler

Anrich Nortje-Bowler