IMPACT OF VIRAT KOHLI ON TEAM INDIA'S PERFORMANCE

TEAM MEMBERS

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WHY THIS PROJECT???

- Sports Analytics is an interesting field that aims to help management to make decisions using data related to any sport.
- Cricket is a very watched sport in India and people are interested to know what would happen in the game before it starts.
- Virat Kohli is a stalwart of Indian cricket and has had a huge impact on Team India's performance.
- So this work will visualize Virat Kohli's stats and derive a conclusion on his impact.

SCOPE

- Batting statistics: This would involve analyzing individual player statistics such as batting average, strike rate, number of boundaries, etc. to assess their overall batting performance.

- Impact on team score: This would involve analyzing the impact of individual batsmen on the team's overall score. For example, how much does the team score increase or decrease when a certain batsman is playing?

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- Match outcomes: This would involve analyzing the impact of individual batsmen on the team's chances of winning matches. For example, does a team have a better chance of winning when a certain batsman is playing?

- Role in the team: This would involve analyzing the specific role that a batsman plays in the team, such as opening batsman, middle-order batsman, or finisher, and how their performance in that role affects the team's overall performance.

VISUALIZATION TECHNIQUES

- 1.**Bar charts:** Bar charts are a simple and effective way to compare the performance of a batsmen in different matches across the years. This work includes plot of the runs scored by the player on the y-axis and the year on the x-axis. This compares the contribution of the player to the team's overall performance.

- 2.**Line charts:** Line charts can be used to show the trend of a batsman's performance over time. You can plot the runs scored by the batsman in each match on the y-axis and the match dates on the x-axis. This can help you identify patterns in the batsman's performance

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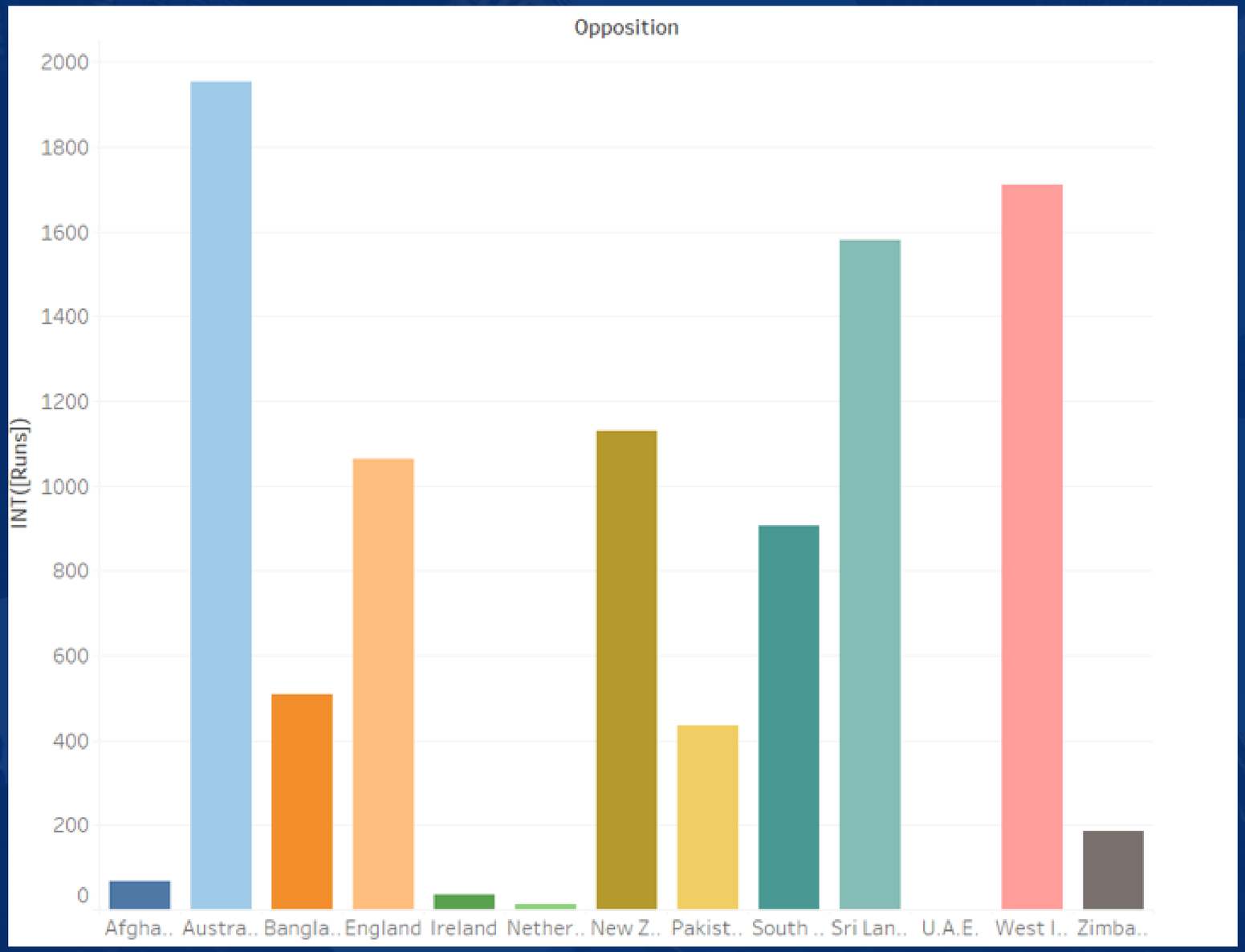
- 3.**Bubble charts:** Bubble charts can be used to show the relationship between different variables, such as runs scored and strike rate. You can plot the runs scored on the x-axis, the strike rate on the y-axis, and the size of the bubble can represent the number of matches played. This can help you identify players who score runs quickly but may not have played as many matches.

- 4. **Pie charts:** A pie chart is a circular graph that is divided into sectors, with each sector representing a proportion of the whole. The size of each sector is proportional to the quantity it represents. It could be an effective way to visually represent the impact of Virat Kohli on team India by highlighting the different aspects of his contribution and their relative importance.

ML MODELS

- Machine Learning models used in this work are:
  a. Decision Tree
  b. Logistic Regression
  c. SVM
  d. Neural Network

RESULTS



As we know, Virat Kohli has been a nemesis to Australia and has scored the highest runs in his career against Australia as visualized in the Figure. Following Australia, he has scored many runs against Sri Lanka and West Indies.
So, it can be said that Virat Kohli is a major impact player for Team India when playing against Australia, Sri Lanka and West Indies.

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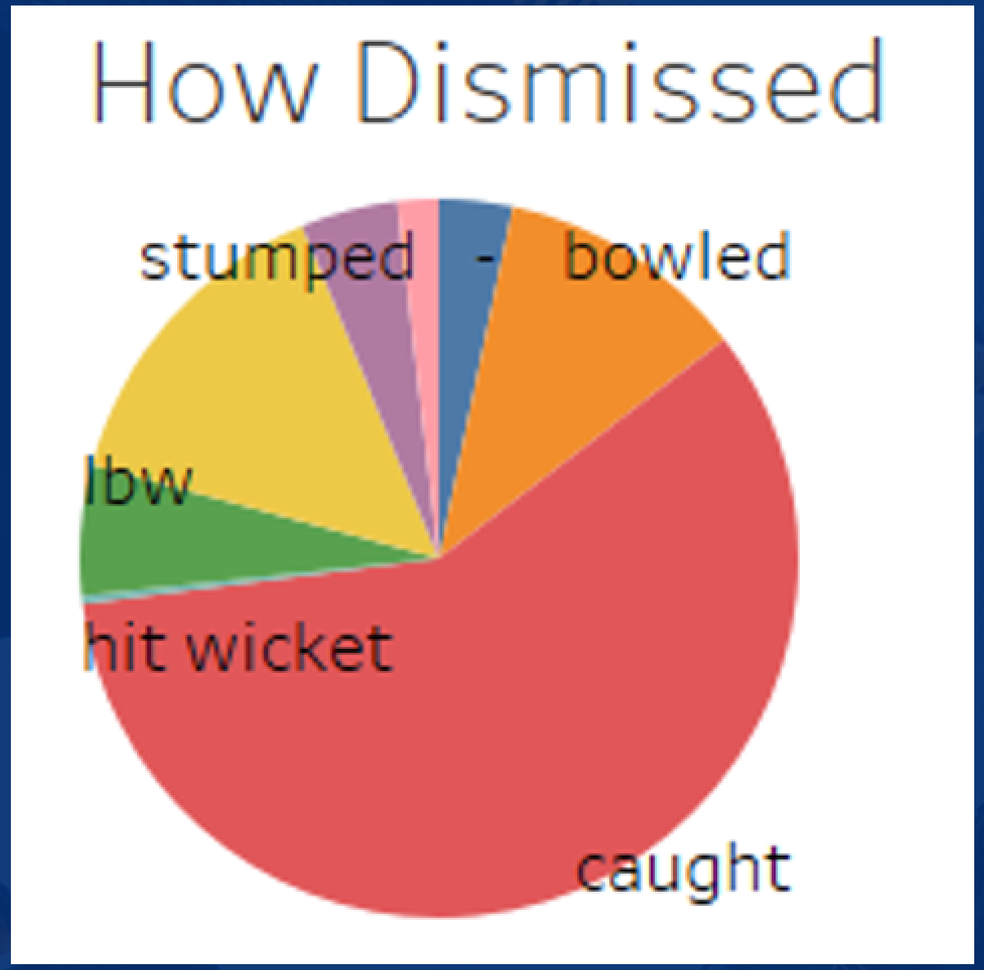

As most of the bowlers from different countries know that Virat Kohli edges ball outside off and the pie chart in the Figure showing that “caught” has been the major form of dismissal. He has rarely been run out indicating that he is very fit cricketer and runs well between the wickets.

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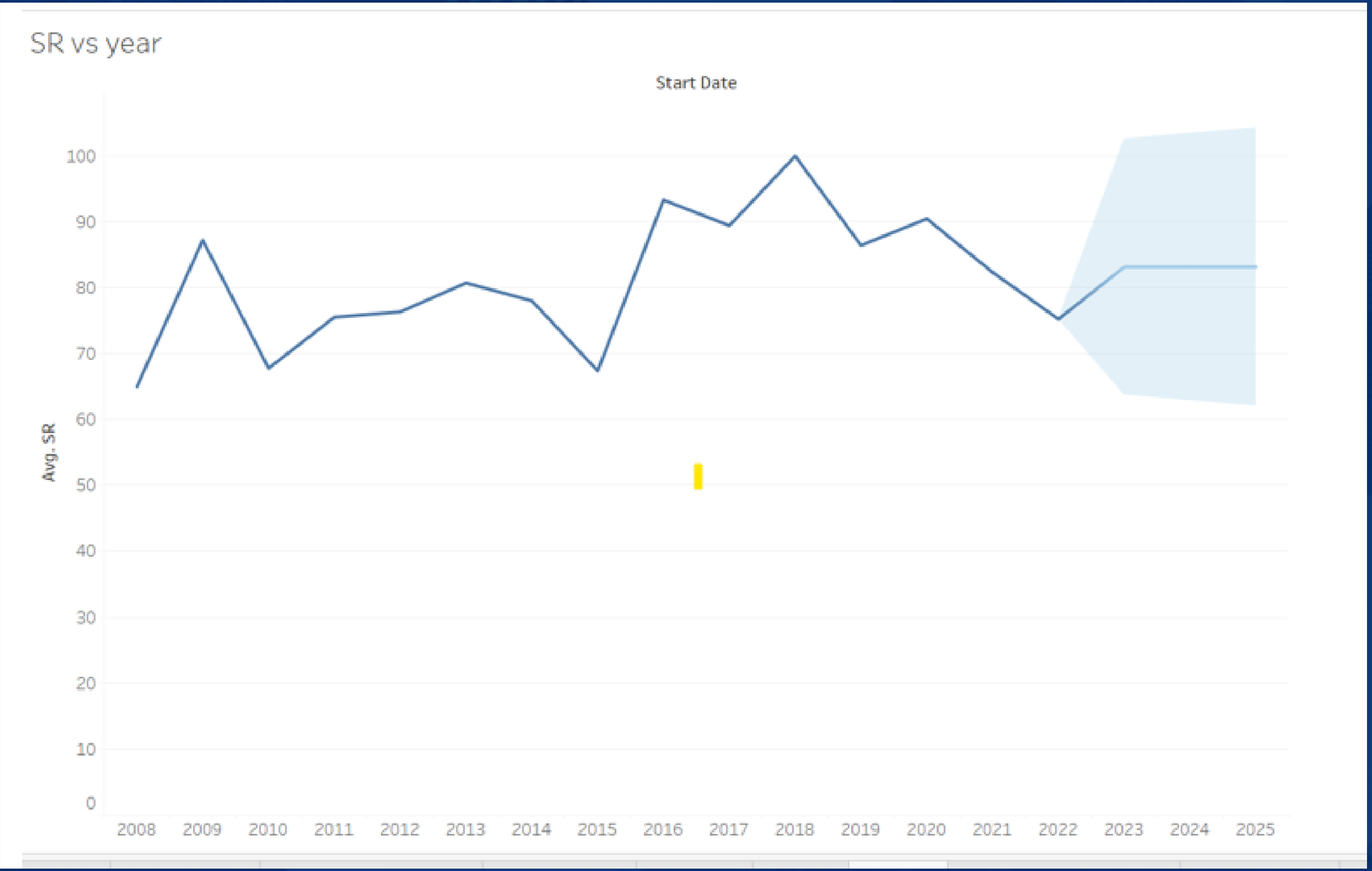

The Figure depicts that from 2016-2019, the runs have come at a quick pace as he was in the form of his life. The Strike rate drastically reduces in 2021 and our forecast says that his Strike rate might average in the mid-80s in the upcoming years.

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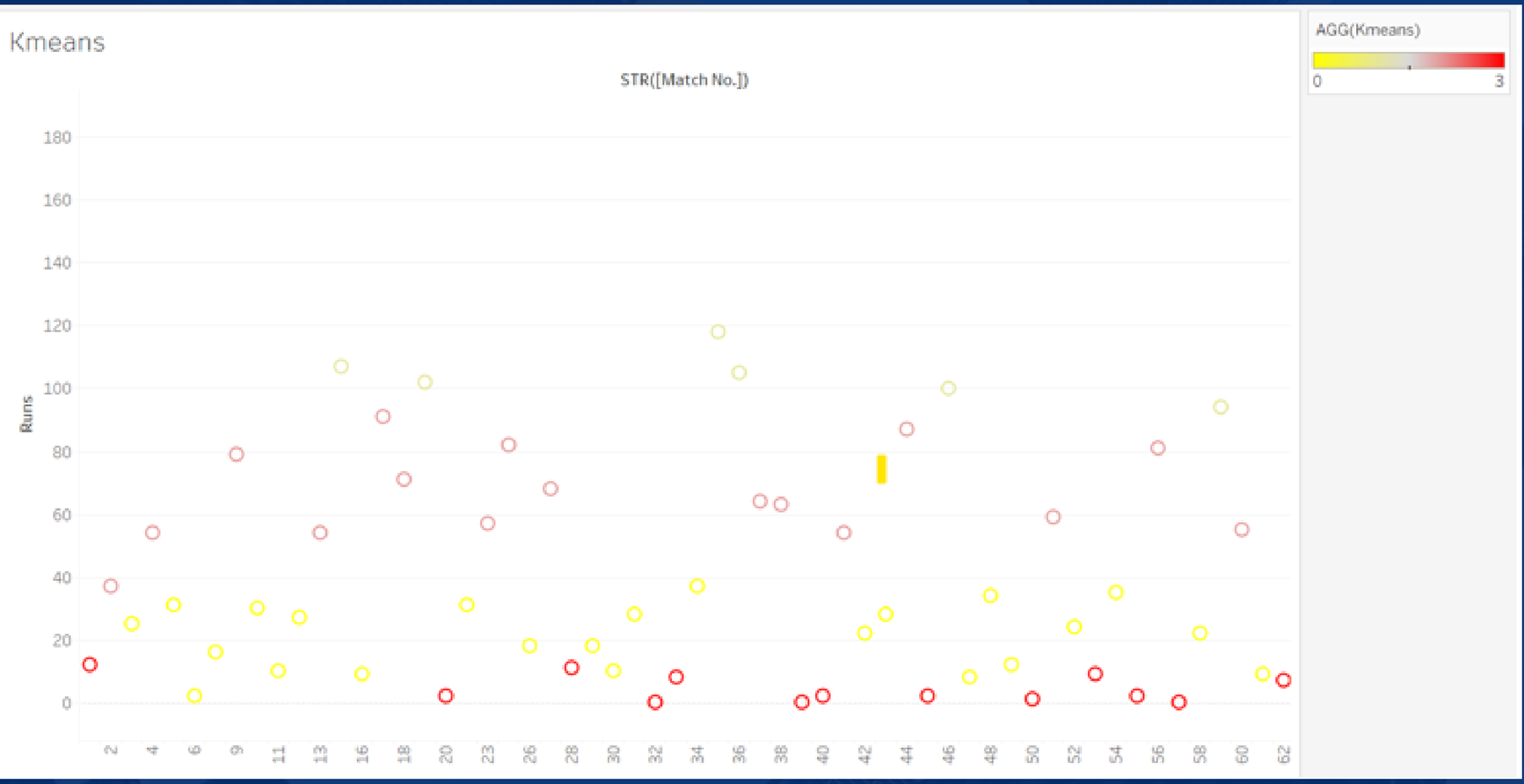

In the above Figure, Runs vs Match No. is plotted using bubble chart and kmeans algorithm is applied using the Tabpy open-source tool (which is an integration of Python and Tableau). The features considered for the kmeans algorithm are Runs, Balls Faced and Strike Rate. From the visualization, it can clearly be seen that it has been grouped into 4 clusters based on the number of runs, balls faced and strike rate.

Thank You