**Cricket Analytics**

Business Requirement Document

* **Introduction**

Cricket Analysis is a project which will be related to IPL where we are to determine the best players from the point of view of the team owner who buys the player in the auction. The players will be judged based on their past performance and their data will be analysed accordingly to decide which players would fit best for the team.

* **Problem statement**

The owners and the management of Mumbai Indians want to identify the best possible players suitable for them for the next auction. They have hired you as an Analyst to help them identify the best IPL team for the 2022 auction. You need to analyse the IPL data from 2008 to 2020, and perform the following tasks:

1. Rank batsmen by year and overall based on ability
2. Rank bowlers by year and overall based on ability
3. Rank the most valuable player in IPL over all the years
4. Visualize this in an intuitive Power BI Dashboards
5. Find Similar Batsmen and Bowler

* **Project objectives**
  + Data Pre-processing & Exploratory Data Analysis
  + Complete the stats creation of KPIs for batsmen, bowler, team and all the matches. Also set up Power BI and import summarized data
  + Create the dashboard and publish it to be shared with the public

* **Project Scope**
  + Create a dashboard to show player-wise charts and analysis against a particular player or a team or aggregate.
  + Noting the KPIs for Batsman, Bowler and Team to find out the value of that player for the team.
  + We will also find which players have the quality of the required skill set.
  + Filtering the players performance according to a season/year.
  + Win and toss analysis of a particular team (Win or lose and option choose after winning or losing the toss)

* **Out of scope**
  + Not taking fielders and wicket keepers into consideration
  + We cannot take retirement or injury of a player into consideration

* **Existing System**

It is a familiar sight for the IPL viewers to look at the team owners, managers, coaches, and at times, analysts sitting at the assigned tables during the multi-day IPL auction going live on television. These analysts have analysed many different players who could fit into the team perfectly if the selected players are opted for by the other team.

A budget is given to each team within which they have to buy all their players.

There are 3 types of player-:

1.Capped

2. Uncapped

3. Foreign Players

* **Dataset Details**
  + **id:** Unique number forMatches
  + **inning:** Inning attribute (1 or 2)
  + **over:** Over count (0 to 19)
  + **batsman:** Batsman on the Strike
  + **non\_striker:** Batsman on the Non-strike
  + **bowler:** Bowler bowling that particular over
  + **batsman\_runs** : runs scored by batsman (0 to 6)
  + **extra\_runs:** Extra runs scored in that ball
  + **total\_runs:** runs scored by batsman + extra runs
  + **non\_boundary**: Boundaries (4s or 6s)
  + **is\_wicket :** 0 - not out / 1 - out
  + **dismissal\_kind :** Type of dismissal (Wicket)
  + **Player\_dismissed:** Name of Dismissed Player
  + **fielder:** fielder's name

* **Key Performance indicators**
  + Batsman
    - Runs
    - Strike rate
    - Average number balls taken to hit a Boundary
    - Average number balls taken to hit a Six
    - Percentage of times dismissed (Out/Wicket)
    - No. of centuries or half centuries
    - Most Runs scored - total or against a team/player
    - Least Runs scored - total or against a team/player
    - Average Runs scored - total or against a team/player
* Bowler
  + Wickets
  + Economy
  + Strike Rate (Runs per Ball)
  + Maiden Overs
  + Average
  + Hattricks

* Teams:
  + Percentage win
  + No of toss won/lost
  + Highest/lowest Score
  + Percentage win against a particular team