**Indian Premier League Teams Performance**

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**Introduction:**

**Indian Premier League (IPL)** is a professional men’s T20(Twenty 20) cricket league based out of India; teams named after the cities of India. The league was founded by Board of Control for Cricket in India (BCCI) in 2007.

**Tournament Format:**

Currently, with ten teams, the round-robin format was replaced with two virtual groups of five were introduced like the 2011 season in the league phase. After the league stage, the top four teams will qualify for the playoffs. The top two teams from the league phase will play against each other in the first Qualifying match, with the winner going straight to the IPL final and the loser getting another chance to qualify for the IPL final by playing the second Qualifying match. Meanwhile, the third and fourth place teams from the league phase play against each other in an eliminator match and the winner from that match will play the loser from the first Qualifying match. The winner of the second Qualifying match will move onto the final to play the winner of the first Qualifying match in the IPL Final match, where the winner will be crowned the Indian Premier League champions.

**Player Acquisition, Squad Composition and Salaries:**

A team can acquire players through any of the three ways: the annual player auction, trading players with other teams during the trading windows, and signing replacements for unavailable players. Players sign up for the auction and set their base price and are bought by the franchise that bids the highest for them. Unsold players at the auction are eligible to be signed up as replacement signings. In the trading windows, a player can only be traded with his consent, with the franchise paying the difference if any between the old and new contracts. If the new contract is worth more than the older one, the difference is shared between the player and the franchise selling the player. There are generally three trading windows—two before the auction and one after the auction but before the start of the tournament. Players cannot be traded outside the trading windows or during the tournament, whereas replacements can be signed before or during the tournament.

Team compositions Rules are as follows

* The squad strength must be between 18 and 25 players, with a maximum of 8 overseas players (players who are not based out of India)
* Salary cap of the entire squad must not exceed Rs.85 Crore (US $11 million)
* Under-19 players cannot be picked unless they have previously played first class or List-A cricket
* A team can play a maximum of 4 overseas players in their playing 11

**Match Rules**

IPL is a T20 format, each team bats for 20 overs, the team batting first will set the target and the team that bats second must chase the target set by the team batting first. The chasing team will be considered winner if the team batting second chases the target successfully and the other team is considered winner in other case. If both the teams end up with the equal scores, Super over will be considered to declare the winner. Super over is a mini match organized with each team playing 6 balls and only 3 three batsmen are allowed to bat. The team scoring highest will be considered winner. If the super over ends in a draw again, another super over will be organized until a winner is decided with a rule that the players involved in the earlier super over should not be involved in the following one.

**Awards**

**Orange Cap:** The Orange Cap is awarded to the top run-scorer in the IPL during a season.

**Purple Cap:** The Purple Cap is awarded to the top wicket-taker in the IPL during a season.

**Most Valuable Player:** The award was called the "man of the tournament" till the 2012 season. The IPL introduced the Most Valuable Player rating system in 2013, the leader of which would be named the "Most Valuable Player" at the end of the season.

**Fairplay Award:** The Fair Play Award is given after each season to the team with the best record of fair play. The winner is decided based on the points the umpires give to the teams. After each match, the two on-field umpires, and the third umpire, scores the performance of both teams.

**Emerging Player Award:** The award was presented for the "Best under-19 player" in 2008 and "Best under-23 player" in 2009 and 2010, being called "Under-23 Success of the Tournament". In 2011 and 2012, the award was known as "Rising Star of the Year", while, in 2013, it was called "Best Young Player of the Season". Since 2014, the award has been called the “Emerging Player of the Year”.

**Ambitiousness of the Project:**

IPL has been one of the most successful cricket leagues in the world. Starting with the team’s performance in terms of wins at Home, Away, and Neutral venues, I have included the success rate of the teams when the team was successful at the toss. This project also covers how successful a team has been against each of its opponents. As an extension to this, I have also visualized the top 10 batsmen and bowlers’ pay/salary/price and their performance across seasons.

**Research Questions:**

The motive behind this research is to address/answer the following questions

1. How successful were the teams when playing at home and when played at an away venue?
2. How Successful were the teams against each of their opponents?
3. How many times does a team win a match after winning the toss?
4. Salary VS Performance of the top 10 performers with both Bat and Ball

**Methodology:**

**Teams Data:**

The performance of all the teams across all seasons has been stored in the Teams data set. This dataset set has the data of the matches played at a home venue, away venue and at a neutral venue by a team. Few of the teams in the dataset has played a very a smaller number of matches comparatively, this is because few teams have been at the IPL for very few years. They had to be removed/suspended from the league for multiple reasons.

**Matches and Winners:**

Matches and winners datasets consists of data related to the matches across all seasons. The datasets include the season and location in which the match was organized, teams participated, team which has won the toss and the winner of the match along with the best performer of the match. The datasets also provide the data of the win margin in terms of runs and wickets.

**IPLAuctionData:**

The IPL Auction data consists of the data of the auction summary of the top 10 batsmen and top 10 bowlers across 10 seasons. In addition, the dataset includes the team name that was successful in acquiring the player.

**Batting:**

Batting dataset consists the data of the top 10 performers with the bat. The dataset also has the data of the team the player has played for in addition to the player stats across seasons that include data regarding the matches played, runs scored, and the boundaries the player has hit.

**Bowling:**

Bowling dataset consists the data of the top 10 performers with the ball. The dataset also has the data of the team the player has played for in addition to the player stats across seasons that include data regarding the matches played, the number of overs the played has bowled, wickets taken in addition to the economy rate(the rate at which the player has conceded runs per over).

**Analysis:**

Chart, bar chart

Description automatically generated

Since the existence of the IPL, only two teams have surpassed the 100 wins mark with Mumbai Indians being the most successful teams followed by Chennai Super Kings with 106 wins. Kolkata Knight Riders stands in the third place with 99 wins. Considering Gujarat Lions, Kochi Tuskers Kerala, Pune Warriors and Rising Pune Supergiant as exception since the franchises were a part of IPL for a brief period, Rajasthan has been poor performer in terms of wins. Despite the rankings the difference in the number of wins has been very small between teams which shows that all the teams has been very competitive which is one of the reason for the event to be such a success.

Chart, bar chart

Description automatically generated

Mumbai Indians and Chennai Super Kings leads the chart with highest number of wins at the home venue with 56 and 55 wins respectively. Kolkata Knight Riders stands in the next place with 48 wins. All the major teams which were part of IPL for longer periods has the number of wins with a small difference.

Chart, bar chart

Description automatically generated

Mumbai Indians has the greatest number of wins playing away as well, which is also the main reason behind being the most successful team in the IPL. As a change Kolkata stands in the second place with 39 wins in the away games. Sunrisers Hyderabad/Deccan Chargers in third place with 36 wins. Rajasthan stands in the last place with 24 wins (Considering full time teams), which is also the reason for their last place in the total wins.

Chart, bar chart

Description automatically generated

All the fulltime teams have almost equal number of wins at a neutral venue. IPL has been played outside India for few years. All the locations outside India have been considered as neutral venue. All teams with almost equal wins show us that all the teams have been performing well at neutral and home venues. The fate of the teams at the league depends on how well the team performs at an away venue. As observed Mumbai Indians, who has been performing better in away games has 5 titles to their name which is also evident to the above-mentioned observation.

Chart

Description automatically generated

The above dashboard has all the details of team’s performance across venues.

Below visualizations display each of the team’s performance against all their opponents across all seasons.

**Chennai Super Kings:**

Chart, bar chart

Description automatically generated

**Deccan Chargers/SunRisers Hyderabad**

Chart, bar chart

Description automatically generated

**Delhi Dare Devils/Delhi Capitals**

Chart, bar chart, funnel chart

Description automatically generated

**Gujarat Lions**

Chart, bar chart, funnel chart

Description automatically generated

**Kings XI Punjab**

Chart, bar chart

Description automatically generated

**Kolkata Knight Riders**

Chart, bar chart

Description automatically generated

**Mumbai Indians**

Chart, bar chart

Description automatically generated

**Rajasthan Royals**

Chart, bar chart

Description automatically generated

**Royal Challengers Bangalore**

Chart, bar chart

Description automatically generated

Above visualizations show us each of the teams has been successful against one of their opponents and no team has been underperforming against all teams. The team with the least number of total wins has also been dominant on the team with third highest wins which also shows us that all the teams has been competitive across seasons.

**Instance of Team Winning Both Toss and Match:**

Scatter chart

Description automatically generated with medium confidence

The Inaugural edition of the IPL in 2008 has been exception with a very less instances of a team winning both toss and match, but the following seasons has witnessed a spike in such instances. As evident from the above visualization, the toss plays an important role in the match outcome. Even though winning a toss is a matter of luck, the factor has played a major role on the outcome. So the teams winning the toss has higher probability of winning the match.

**Top 10 Batsmen Price VS Performance**

Chart, bar chart

Description automatically generated

Virat Kohli has been the best performer with the bat for a while now. He has been performing consistently across seasons and has repaid the faith, the franchise has put on him. As a result, he has been one of the most paid players in the league. The visualization also shows us that the players who has been performing consistently has received big pay cheques.

**Top 10 Bowlers Price VS Performance**

Chart, line chart, histogram

Description automatically generated

Cricket has been called a batsmen’s game for years now. The pay cheques the players receive also shows us the same. Bowlers has been paid less than the batsman even though the bowlers handle the pressure situations of the game by bowling in the Powerplay (2 fields allowed outside 30yards of the ground) and in the death overs (final overs). The above visualization shows that the bowlers who has been performing well has received good salary but when compared to the batsmen, the best bowlers has been receiving considerably less salary.

**IPL Locations:**

Map

Description automatically generated

The above locations in India have been hosting IPL matches from 2008.

**Conclusion:**

1. All the teams have been competitive and the difference in the wins has been very less. It was evident from the observations that performing better at the away venues has higher scope of leading the charts and this is considering that the team’s performance at the home venue does not dip. This observation has been supported by the fact that all the teams have equal number of wins at the neutral venue.
2. All the teams have been dominant on at least one of their opponents and at the same time no team has been dominated by all the teams.
3. On majority of the cases the team winning the toss has managed to win the match. This shows us that the luck factor in winning the toss also plays a major role in winning the contest.
4. All the best performers at the marque event has been paid a huge amount and the players has been successful in performing right from their recruitment.

**Follow up Questions:**

1. Does choosing to field after winning the toss favors the fielding side?
2. Since the overseas players number is limited, how to chose the best performers from the other countries

**References:**

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