



## IPL: ANALYSIS OF NATIONALITY OF CAPTAIN AND SUCCESS OF THE TEAM

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**Abstract:** The carnival of cricket, the Indian Premier League, is a franchise based cricket tournament held in the months of April and May annually. The league was founded by the Board of Control for Cricket in India in 2007. It is a cash rich league and large amounts of money are involved in making the event a success. The teams fight tooth-and-nail to get their hands on the coveted trophy. In this paper, the patterns seen in the last 10 seasons of IPL in terms of nationality of the captain and success of the team have been analysed and discussed. The success of a captain has been analysed on the basis of number of times the team he led, reached the Top 4 of the tournament. The odds discussed are about the probability that a captain of a particular nationality had at the beginning of the tournament.

**Keywords:** IPL, Probability, Top 4

## I. INTRODUCTION

The Indian Premier League is among the top franchise based leagues in the world and is extremely popular in the Indian Subcontinent, Australia, South Africa, West Indies and England. The IPL is the most-attended cricket league in the world and ranks sixth among all sports leagues[2]and it has helped India emerge as a preeminent nation in international cricket[1].The levels of popularity translate directly into the volumes of money generated[8]. Thus the league is a lucrative option for both players and franchise owners[3]. Recently, Star India bagged the IPL media rights for five years for a whopping ₹163.475 billion[19][20] and Vivo retained the title sponsorship rights for five seasons by shelling out nearly ₹4.4 billion for every season[21][22]. When such large amounts of money are involved, it only makes sense to keep the form of players in mind as well as popularity while making teams.

Good team selection is of foremost importance for the team owners, and much work has been done on use of statistics for selecting players in a team[9][18].

A captain is a vital part of any team. The success or failure of the team depends a lot on the competency of the captain. In this paper, the captains and their nationality and its effect on the success of the team, has been analysed.

This paper has been divided into four sections, Section I is about introduction to the topic, Section II discusses the motivations behind the paper, Section III, which is further divided into 4 parts, namely Data Collection, Techniques Used, Results, and Result Analysis; discusses the experimentation and results. Section IV concludes the paper.

## II. MOTIVATION

Statistical and probabilistic analysis has long been used in sports. These have helped team owners in planning and developing strategy for better performance of teams[10][11]. Let us take an example of Kolkata Knight Riders (also KKR), a team in the IPL. Statistical analysis has been a key for Kolkata Knight Riders rise from a mediocre star studded team to one of the most successful team in the IPL. The team management took the help of SAP Labs India, a market leader in enterprise application software, and used their analytical tools, like the SAP Auction Analytics, SAP Game Analytics, and SAP Lumira; to evaluate players during the auction, derive post-game analytics following each of the team's games, and drive fan engagement respectively, during the IPL 2014. The move really helped in giving KKR an edge over other teams, and they won the IPL in 2014[23][24].

Another example is Sports Mechanics Pvt. Ltd.[26], a sports analytics firm, founded by S Ramakrishnan, India's foremost cricket analyst. It has helped several IPL team like Mumbai Indians, Delhi Daredevils, Chennai Super Kings, Deccan Chargers, Royal Challengers Bangalore and others in performance analytics and fan engagement as a Strategic Analyst partner[27].

Analysis has been used in sports where numbers play an important role, like cricket[12][25], football[13][14], and basketball[15][16][17].

Nowadays, statistical analysis based on past performances, recent history, and player impact and valuation, is being widely used in cricket[12][25].

As the IPL completes ten seasons, we have seen many big wickets, stunning catches and huge sixes. On one hand, we have seen teams losing matches when everybody thought

they would win and on the other, teams have snatched victories from the jaws of defeat; like in the 2017 IPL final, Rising Pune Supergiant were cruising towards a win when a brilliant last over by Mitchell Johnson, changed the fortunes in the favour of Mumbai Indians who ended up winning the match and the tournament by one run[4].

But the motivation behind this paper has been an analysis of the success of any particular team with respect to the nationality of the captain leading it. The analysis has resulted in uncovering of some interesting patterns, which will be discussed in the paper.

In the 10 seasons, Indian Captains have won the IPL 7 times and 3 times it was an Australian captain who got to hold the coveted trophy.

### III. EXPERIMENTATION

As only Indian and Australian captains have won the IPL, we would limit our area to only Indian and Australian captains. In fact only one non-Indian and non-Australian captain has ever managed to reach the Top 4[5] and the finals (Daniel Vettori, New Zealand, captain of Royal Challengers Bangalore in 2011). Thus, we will limit our study to only Indian and Australian captains.

#### A. Data Collection

The data required for the analysis was fetched from online sources[5][6][7]. We found some anomalies in the data as well. In some cases, the captain of the team was changed midway through the series; in those cases, the captain who led the team in the semi-finals was considered.

Table 1 shows that how successful the Australian captains have been in the IPL, despite the odds being overwhelmingly against them.

TABLE 1: Probability of winning at the start of the season and the actual winner[5]

Year	P(AUS)	P(IND)	Winner	Runner-up
2008	0.125	0.875	AUS	IND
2009	0.250	0.625	AUS	IND
2010	0.250	0.625	IND	IND
2011	0.200	0.500	IND	NZ
2012	0.111	0.667	IND	IND
2013	0.222	0.556	IND	IND
2014	0.250	0.625	IND	AUS
2015	0.375	0.500	IND	IND
2016	0.125	0.750	AUS	IND
2017	0.375	0.625	IND	AUS

#### B. Techniques Used

The probabilities have been calculated by dividing the number of captains of a particular nationality with total number of teams in that season. The formula used is as follows:

$$P(N) = \frac{\text{num}(N)}{T}$$

Here,  $N$  represents a nationality of the captain,  $T$  represents the total number of teams,  $\text{num}(N)$  represents the number of

captains of nationality  $N$ , and  $P(N)$  represents the probability of winning the IPL for a captain of nationality  $N$ .

The formula can also be interpreted as:

$$P(\text{Captain of nationality } N \text{ wins the IPL}) = \frac{\text{Number of Captains of nationality } N}{\text{Total number of Teams}}$$

#### C. Results

On a careful study of Table 1, the best chance any Australian captain has ever had is 0.375 (3/8) in 2015 and 2017. One Australian captain managed to reach the Top 4 in 2015 and two reached Top 4 in 2017, with one going to the Finals.

The winning probabilities of an Australian captain have fluctuated between 0.11 and 0.25 for rest of the seasons. Despite the odds being increasingly against them, they have won the IPL trophy 3 times and have been runner-up 2 times.

Now, if we consider the captains of the teams that have reached Top 4 in the last 10 seasons, another interesting stat comes up.

Out of the 40 captains possible to reach the Top 4, 30 times an Indian captain, 9 times has an Australian captain and once a captain from New Zealand has reached the Top 4. This fact may seem highly favourable for Indian captains but if we also study the actual captains who reached Top 4, as is done in Table 2 and Table 3, we find some more useful data.

TABLE 2: When a non-Indian captain reached Top 4[5][6][7]

Captain	Number of times in Top 4
Adam Gilchrist (AUS)	2
Steven Smith (AUS)	2
David Warner (AUS)	2
Shane Warne (AUS)	1
Daniel Vettori (NZ)	1
Cameron White (AUS)	1
George Bailey (AUS)	1
7	10

Table 2 shows the non-Indian captains who have managed to reach Top 4 and the number of times they have reached that level.

TABLE 3: When an Indian captain reached Top 4[5][6][7]

Captain	Number of times in Top 4
Mahendra Singh Dhoni	8
Gautam Gambhir	5
Rohit Sharma	4
Virender Sehwag	3
Anil Kumble	2
Sachin Tendulkar	2
Virat Kohli	2
Yuvraj Singh	1
Harbhajan Singh	1
Rahul Dravid	1
Suresh Raina	1
11	30

Table 3 shows the Indian captains who have managed to reach Top 4 and the number of times they have reached that level.

#### D. Result Analysis

From Table 1, we can see that Australian captains have been largely successful despite the odds being heavily against them.

From Table 2, we can see that 7 non-Indian (6 Australian and 1 New Zealander) captains have made it to the Top 4 in a total of 10 times. This shows there are many cases of a different captain reaching the Top 4.

From Table 3, we can see that 4 Indian captains have alone made it to the Top 4 twenty times. When we compare this with Indian captains, they have reached the Top 4 30 times, and these 30 times have been divided into only 11 captains.

In fact, for Indian captains, it has been about some few captains reaching the stage again and again.

We can summarise the results with the following points:

- 1) Australian captains have been largely successful in the ten seasons of IPL, despite the odds being heavily against them.
- 2) For Indian captains, it has been about the same captain reaching the Top 4 again and again.
- 3) Whereas, for Australian captains, there has been more variety, statistics show that a randomly picked Australian captain has been much better than a randomly picked Indian captain.
- 4) The successful Indian captains have been consistent in the long term, but this consistency has been missing in the Australian captains.

Based on the above points, we suggest that more Australians should be given an opportunity to lead a team.

#### IV. CONCLUSION

##### V.

IPL is the most popular cricket league in the world[2]. A lot of money is spent on the organisation of the event. The teams comprise of some of the best players in the world. When high amounts of money are involved, it is also important that effort is put in making the best possible team. In this paper, we have studied the past results and discussed that nationality of the captain can also be an important factor for the success of the team. The results have shown that Australian captains have been successful despite the odds being against them[5][6][7]. We suggest that an Australian captain would be even more successful if the odds are equal (same number of Indian and Australian captains).

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