

A photograph of a lush green lawn, viewed from a slightly elevated angle. The grass is vibrant and well-maintained. In the lower right portion of the image, there is a semi-transparent dark green rectangular area containing white and yellow text.

*An analytics based strategy to draft  
players during **IPL Auction.***

**ThinkQuant** is a technology & analytical consulting firm focused on providing quantitative strategies to achieve client objectives around business goals & financial optimization with an emphasis on Sports & Ancillary business.

We are a team of **Strategists & Technologists** with rich background in financial markets and consulting, looking to draw the experience and learning from therein to the Sports business. We have a collaborative approach to solving problems, getting involved with clients, from problem formulation, analysis, recommendation to final execution.



The methodology of bidding and arriving at a right price for a player is probably one of the most convoluted processes as seen during the previous auctions. There are multiple challenges when trying to price right during an auction due to myriad of objectives which might be conflicting at times.

### **Representational Faces**

Given the history of IPL, some players have risen to cult level status and franchises need to accommodate players with good fan base.

### **On Field Performance**

The squad being assembled needs to be optimised to have a good on-field performance accounting for different qualities of batsmen and bowlers.

### **Foreign Player Constraint**

The playing 11 can have a maximum of 4 foreign players.

A pricing arbitrage based on foreign batsmen and Indian bowlers & all rounders will be exploited



**High Velocity Spending**

A large part of franchise's expenditure during the season is the salaries (11 million each during IPL 2017) spent in a few hours. The need for quick action might also result in some costly mistakes.

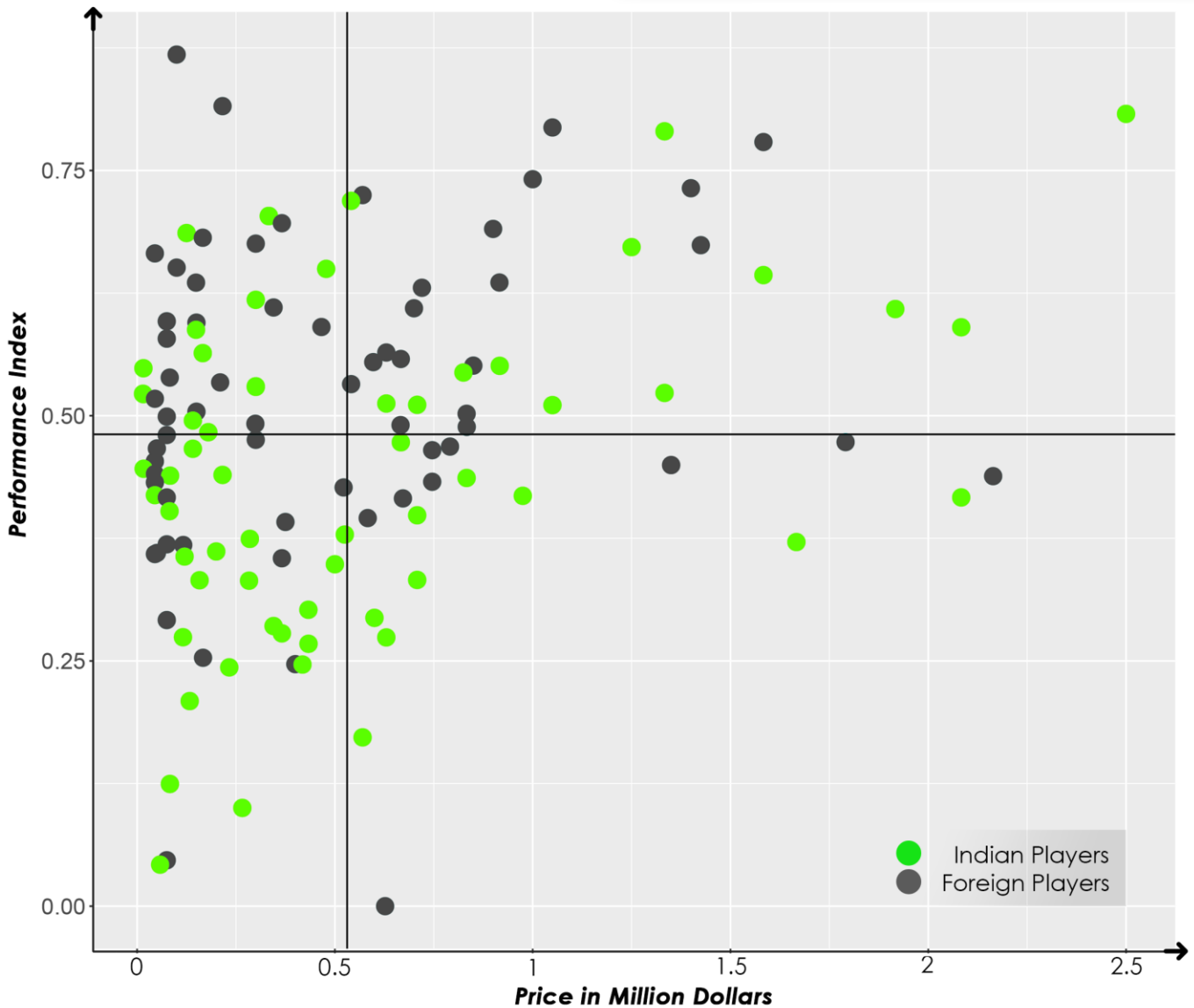
**Rigidity vs. Flexibility**

The right approach is neither too flexible nor too rigid thereby allowing a franchise to build a more directed team but at the same time take advantage of any arbitrage that might come up.

**Dynamic Needs**

Even with a well set out plan and potential squad members, the nature of process requires need for quick thinking and smart wits while bidding.

*To be able to understand & gauge a player's utility and performance, we developed a custom all in one statistical index to quantify a player.*



**The division on top left corner has good players at discount.**

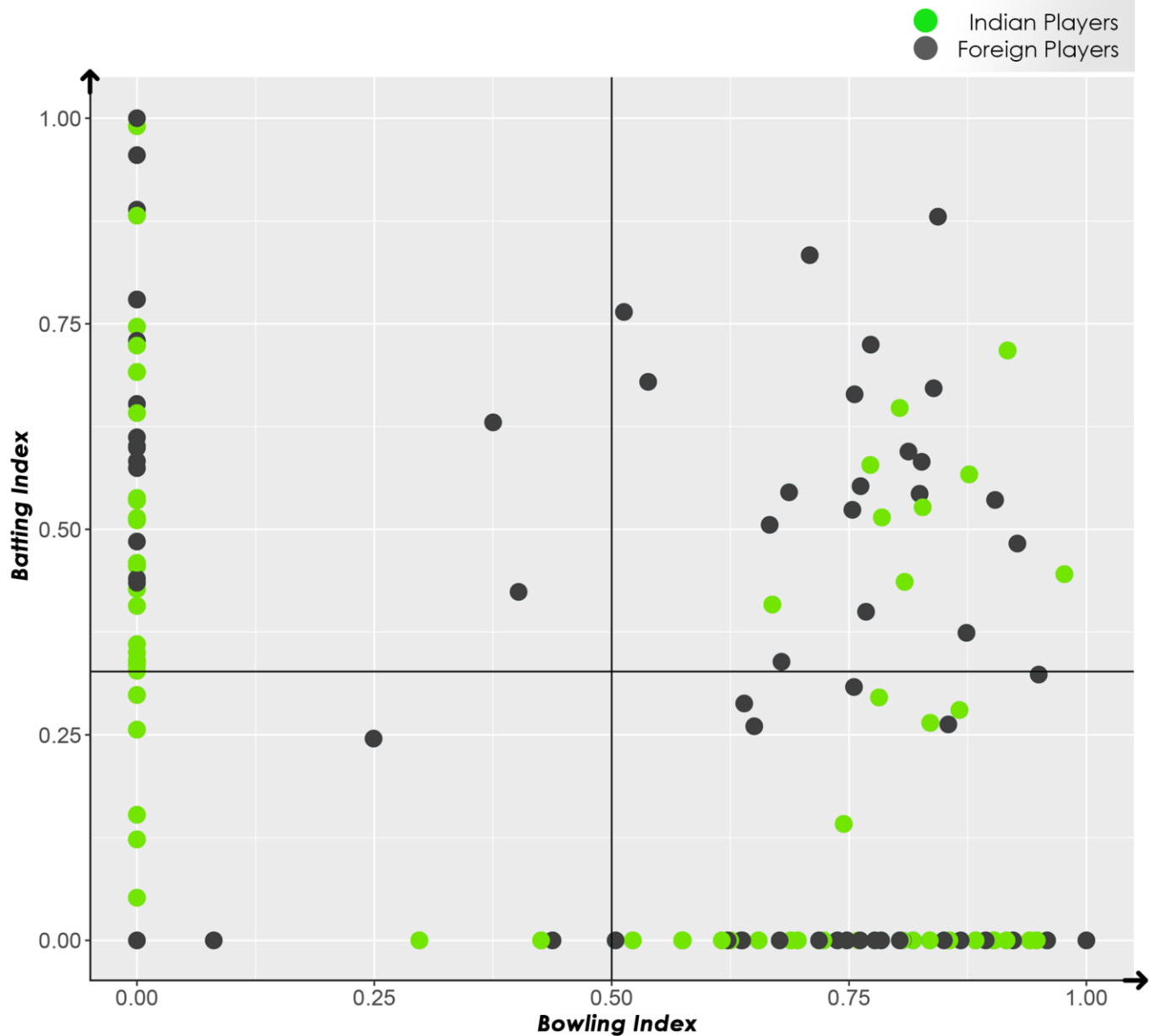
Only Data prior to IPL 2017 Auction was used for any kind of analysis

There are two dimensions to the game. Batting to score runs & bowling which gives away runs.

Primarily the game is transactional in nature, where batsmen consume resources to make runs and bowlers take away resources from opponents in lieu of runs.

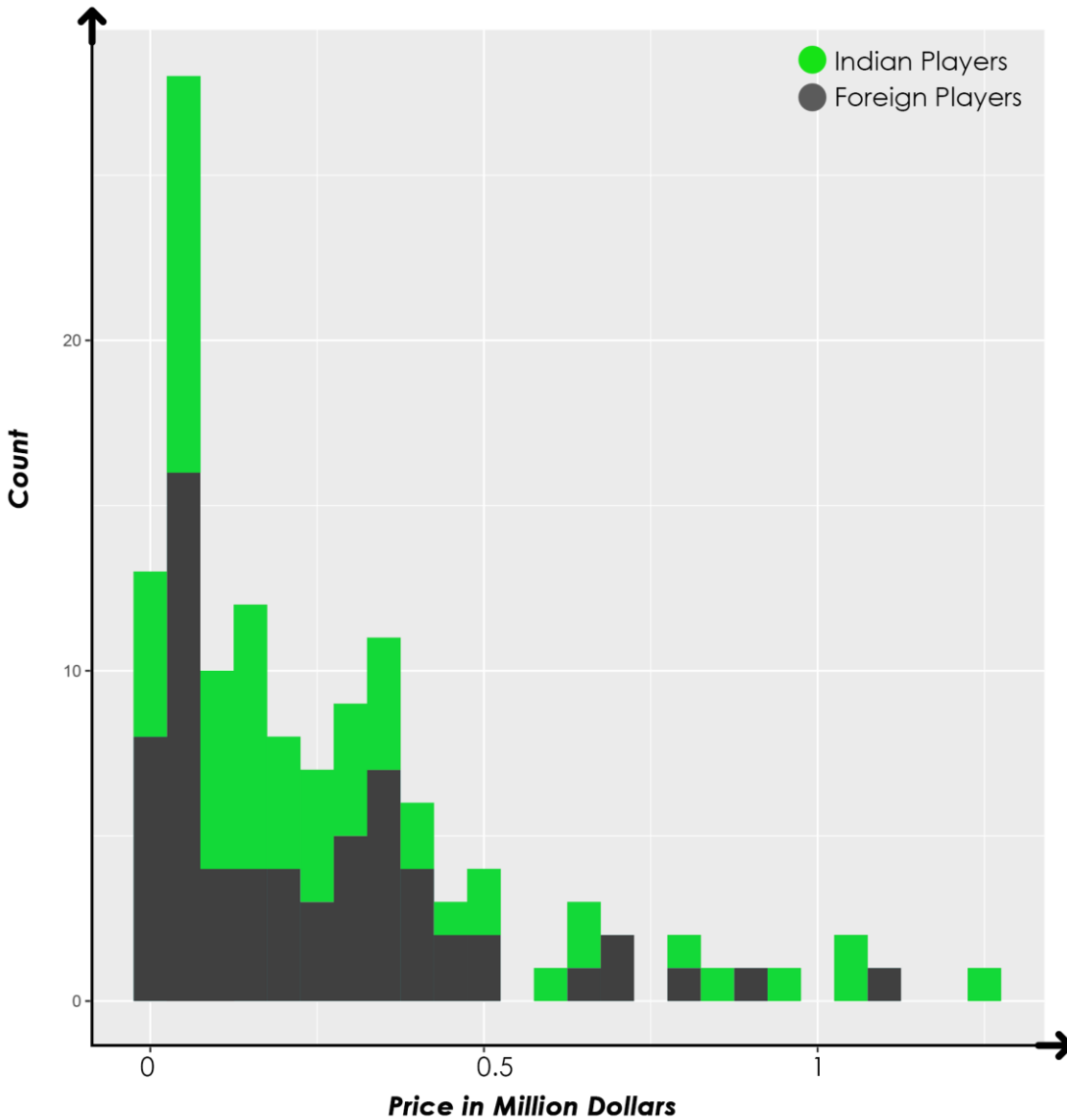
A pure batsman lies on the batting axis and a pure bowler on the bowling axis. An all-rounder meanwhile has both aspects and thus lies somewhere on the middle of the chart.

**We combine all this into a single Performance Index where in batting & bowling represent two dimensions.**



**Differential Scarcity:** The distribution for batting is very uniform and extends from good to bad while for bowlers, it's largely concentrated in smaller region. Thereby, we need to weigh the batting aspect higher.

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The price trend for IPL 2016 followed an exponential curve. As we observed, trend remains same for both Foreign & Indian players but Foreign players are priced at a discount throughout.

IPL Expensive 11	Performance Index	Price [in million USD]		Price [in million USD]	Performance Index	TQ 11
V Kohli	0.81	2.50		1.58	0.78	ABD Villiers
S Dhawan	0.44	2.08		0.22	0.82	CA Lynn
RG Sharma	0.61	1.92		0.54	0.72	YK Pathan
ABD Villiers	0.78	1.58		0.10	0.87	AD Russel
MS Dhoni	0.59	2.08		0.16	0.56	KL Rahul
BA Stokes	0.44	2.16		1.05	0.79	CH Morris
S Watson	0.67	1.43		0.33	0.70	KM Jadhav
TS Mills	0.47	1.79		1.33	0.79	Harbhajan Singh
Harbhajan Singh	0.79	1.33		0.02	0.52	J Yadav
R Ashwin	0.67	1.25		0.02	0.55	YS Chahal
MM Sharma	0.42	0.98		0.30	0.53	DS Kulkarni
<b>Sum</b>	<b>6.69</b>	<b>19.10</b>		<b>5.64</b>	<b>7.63</b>	

ThinkQuant 11 has all those players whose recommended bid price is less than the IPL 2017 salary.

A B De Villiers and Harbhajan Singh are common to both the teams.

ThinkQuant 11 is able to outperform IPL 11, while spending one third of the amount spent by IPL 11.

*To have representational faces in our squad, we had an excess budget of roughly 5 million USD to spare.*

*Our arbitrage was based on Indian bowlers and Foreign batsmen & All rounders.*

Search **AUCTION MODEL**

Player Type: Player Rating:

CALCULATED PRICE    OUR BID    OUR MAX BID

**SIMILAR PLAYERS ( )**

0.0    **BUY**    **OUT**

**HIGH NEED** (MONEY/PLAYERS) **SPENT** : RS. 0CR / 0  
**REMAINING** : 7.199999999999999 / 27

**XP**    **BATTING**    **BALLING**

CA Lynn	MP Stoinis	MA Agarwal	TBD	TBD	TBD
			TBD	TBD	TBD
KK Nair	PA Patel	HH Pandya	TBD	TBD	TBD
			TBD	TBD	TBD
TG Southee	CJ Anderson	AR Patel			
	IR Jaggi		TBD	TBD	TBD
MJ Henry	J Yadav	Z Khan	TBD	TBD	TBD
			TBD	TBD	TBD
DJG Sammy	UT Yadav	R Tewatia	TBD	TBD	TBD
			TBD	TBD	TBD

**MEDIUM NEED**

**LOW NEED**

*Our Auction Web Application with ability to recommend dynamic Bid prices and help construct appropriate Squad.*

For more information on ThinkQuant's capabilities for analytical assistance and consultancy services, contact:

Abhinav Unnam,  
Data Scientist  
abhinav@thinkquant.in  
+91-7579086926

Alok Noronha,  
CEO  
alok@thinkquant.in  
+91-9953916443