



# Analysing the Data Behind the Season Review Tool

(<https://web.archive.org/web/20201003061937/https://fplreview.com/2019/05/analysing-the-data-behind-the-season-review-tool/>)

Fantasy Premier League is a cruel game like no other. Every week millions of people set their teams with high hopes and expectations only for most to end up feeling they have seemingly been slapped silly by the FPL Gods.

While it seems totally intuitive that unpredictable random events impact FPL, how can you know how it's effected you relative to others- almost everyone believes they have been robbed. Doesn't it all just even out in the end anyway?

Over the course of the year the FPL Review [Season Review](#)

(<https://web.archive.org/web/20201003061937/http://www.fplreview.com/season-review>) tool has been developed to determine how skilled a FPL Manager is and the level of distortion caused by random events (ie. luck/over-performance). This post will give a quick summary of whats going on behind the scenes before running through an extensive analysis of the data and some of the valuable trends it reveals.

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## Analysis Summary

FPL Pts	xG xPts	Odds xPts	Fair xPts	Luck
2252	2176.3	2160.51	2168.4	83.6
15,300	44,350	31,230	30,640	93%
FPL Rank	xG Rank	Odds Rank	Fair Rank	Luck Rank



Example Output from Season Review Tool

## The FPL Review Model

The [Season Review](https://web.archive.org/web/20201003061937/http://www.fplreview.com/season-review) (<https://web.archive.org/web/20201003061937/http://www.fplreview.com/season-review>) Tool measures FPL performance in two ways- how well your team is expected to perform based on pre-match bookmaker odds and how good the situations they found themselves in were based on post-match xG data. Both have value in determining expected performance levels.

- Odds Perspective: Implied probabilities can be deduced from bookmaker odds. Gambling markets are notoriously brilliant forecasters and it's a non-biased way of determining a fair pre-match expectation. For example choosing an in-form Salah at home against poor opposition would have high probability of returns and can be considered a good decision- it is unlucky if he performs way below expectations in that match.
- xG Perspective: This is effectively a clever version of hindsight and is more intuitive for managers to understand. If a player who is normally a good finisher misses a chance that is scored 90% of the time- you really are unlucky especially if our mini-league rival has players scoring screamers.
- The Season Review Tool uses both perspectives when determining luck (both have justifiable arguments)- the 'Fair Points' score is simply  $(\text{Odds Points} + \text{xG Points}) / 2$ . Luck is equal to the deviation

of FPL Points from the 'Fair Points' expectation.

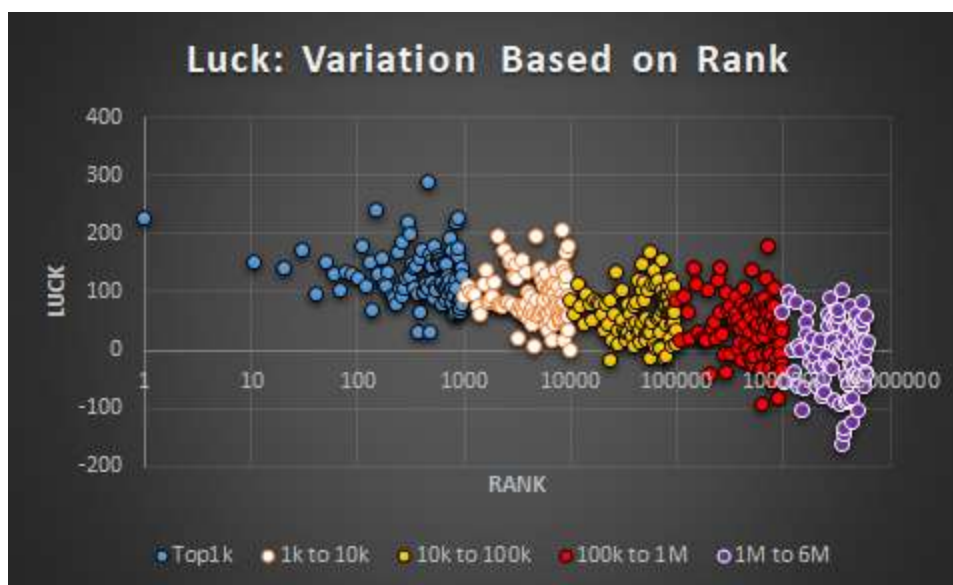
Of course it is not as simple as just this, the data must be handled very carefully to deal with all of the things that impact FPL Points (Cards, OGs, Penalties, Bonus, Saves etc.) and a good understanding of bookmaker margins and markets is required. Going into detail on this would require a post of it's own (and a pretty dull one at that), so I'll jump right into the analysis.

## Analysing the Data

Of course the theory and data treatment in the model could be totally wayward, so below I'm going to put a few significant samples through different key tests. The samples collected are as follows:

- 100 random teams from the Top 1k
- 100 random teams from 1k to 10k Rank
- 100 random teams from 10k to 100k Rank
- 100 random teams from 100k to 1M Rank
- 100 random teams from 1M to 6M Rank
- 36 veterans outlined by a Reddit user at the start of the season  
([https://web.archive.org/web/20201003061937/https://www.reddit.com/r/FantasyPL/comments/96aufs/a\\_list\\_of\\_former\\_champions\\_veterans\\_and\\_pundits/](https://web.archive.org/web/20201003061937/https://www.reddit.com/r/FantasyPL/comments/96aufs/a_list_of_former_champions_veterans_and_pundits/))
- 13 past winners from the same post  
([https://web.archive.org/web/20201003061937/https://www.reddit.com/r/FantasyPL/comments/96aufs/a\\_list\\_of\\_former\\_champions\\_veterans\\_and\\_pundits/](https://web.archive.org/web/20201003061937/https://www.reddit.com/r/FantasyPL/comments/96aufs/a_list_of_former_champions_veterans_and_pundits/))
- 4000 random teams from Team ID 1 to 5,000,000

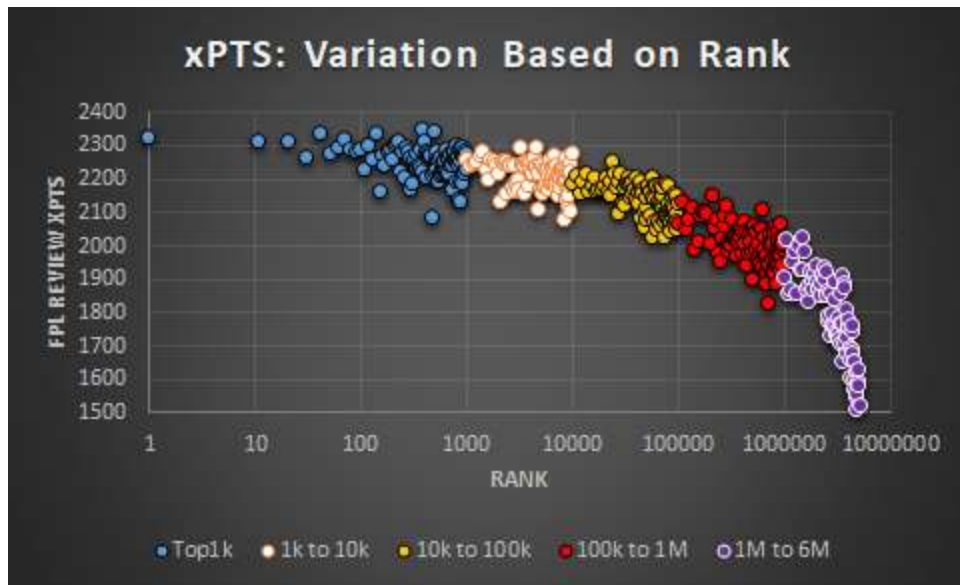
Picking these specific samples allows for some very interesting tests to be performed which shine a light on FPL success and failure. The first test below looks at how much luck teams at various ranking levels received this season (up to the end of GW36). It's quite clear from the data that teams at ultra high ranks get more than their fair share of luck (typically ~100pts better off than the mean)- but is it all really just luck?



Relationship between Luck and FPL Rank

The 'Fair Points' score is the indicator of skill using the Season Review Tool. Looking at the 'Fair Points' score of the same team samples as above creates an idea of how skilled managers are based on rank typically. Thankfully this produces a more hopeful note, skill really does matter but the rankings are quite distorted based on luck and the distance of a 100k team to a 1k team is not as large as FPL Points suggest at first.

An extreme example of the distortion caused by luck is that there are a few teams in the Top 1k who have had lower 'Fair Points' expectations than some teams ranked outside the Top 100k. For many managers that is the difference between a tremendous season and a non-notable one, but it's really not common things go that badly.



Relationship between Fair Points expectation and rank

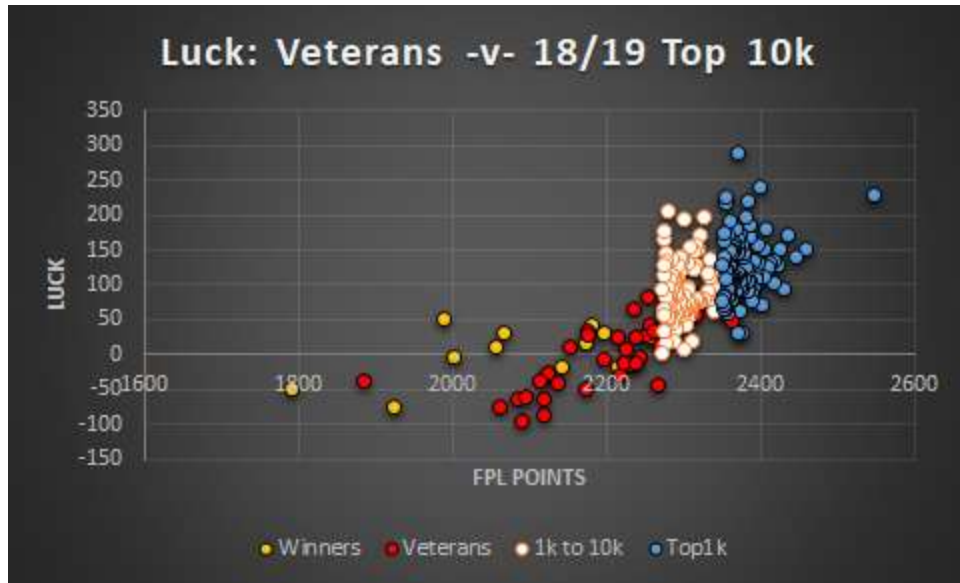
## Are the Veterans Any Good?

Now some obvious questions arise, for example maybe it is not luck that is being measured. Perhaps the best managers are simply making better decisions and the [Season Review](https://web.archive.org/web/20201003061937/http://www.fplreview.com/season-review) (<https://web.archive.org/web/20201003061937/http://www.fplreview.com/season-review>) model is mistakenly picking it up as luck.

To analyse this I had to find a non-biased way of determining who were considered the experts at the start of the season (it would be easy for anyone to cherry pick managers that in hindsight suit their own agenda). Thankfully a [post on Reddit](https://web.archive.org/web/20201003061937/https://www.reddit.com/r/FantasyPL/comments/96aufs/a_list_of_former_champions_veterans_and_pundits/) ([https://web.archive.org/web/20201003061937/https://www.reddit.com/r/FantasyPL/comments/96aufs/a\\_list\\_of\\_former\\_champions\\_veterans\\_and\\_pundits/](https://web.archive.org/web/20201003061937/https://www.reddit.com/r/FantasyPL/comments/96aufs/a_list_of_former_champions_veterans_and_pundits/)) at the start of the season did this for me, listing out 13 past Winners and 36 Veterans, and all that was required was to collect the FPL Team IDs.

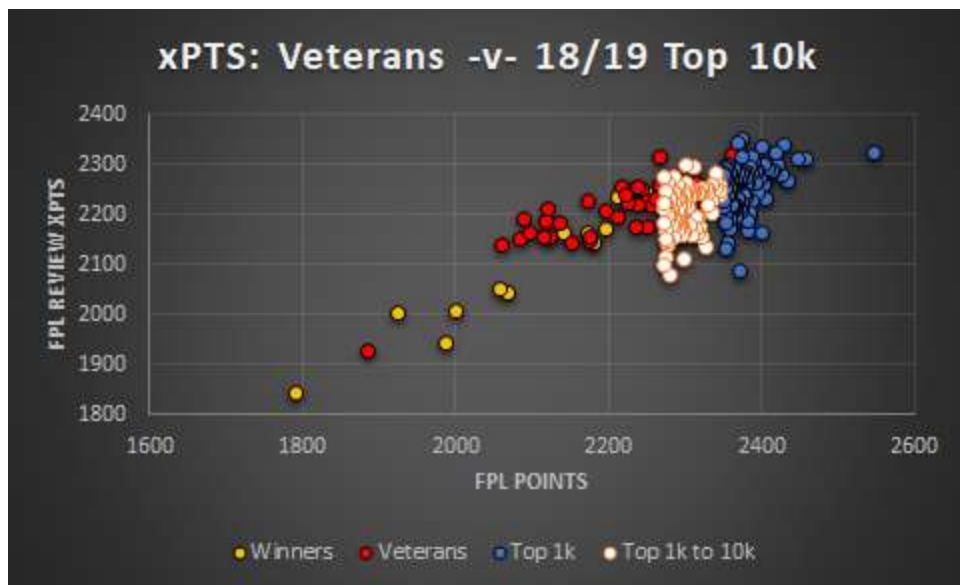
Looking at the data both Veterans and past Winners experienced totally normal luck with a mean score extremely close to 0 Points- which is in line what the typically random manager would expect. Whereas the Top 1k experienced a mean of 126 Points of luck and ranks 1k to 10k averaged 89 Points more than

expected. This strongly indicates that the Top 10k while being generally highly skilled also have just had things going their way more than most.



Comparison of Past Winners & Veterans Luck against the Top 10k

On top of this it can be verified whether or not the Veterans and past Winners are worth listening to. Quite clearly the Veterans are very skilled, with 'Fair Points' expectation at a similar level to the Top 10k (in fact only 1 of the 36 has not been performing at least reasonably well). Past Winners interestingly are less reliable, some look to have been making great decisions whereas others look about as good as a typical active manager (perhaps due to inactivity on their part?).



Comparison of past Winners & Veterans Fair Points against the Top 10k

The table below summarises all the data taken from the Samples. The 'Fair Points' model has been finding that the average team basically experiences no luck but as you go up the rankings teams typically get more and more of a rub of the green.



Sample Size	Sample	Ave FPL pts	Ave Fair Pts	Ave Luck
100	Top1k	2379.23	2253.47	125.76
100	1k to 10k	2300.76	2211.46	89.30
100	10k to 100k	2198.76	2138.27	60.49
100	100k to 1M	2039.09	2006.80	32.29
100	1M to 6M	1634.49	1643.64	-9.15
36	Veterans	2203.08	2203.20	-0.12
13	Winners	2087.38	2087.21	0.17
4000	Randomised	1823.14	1821.91	1.24

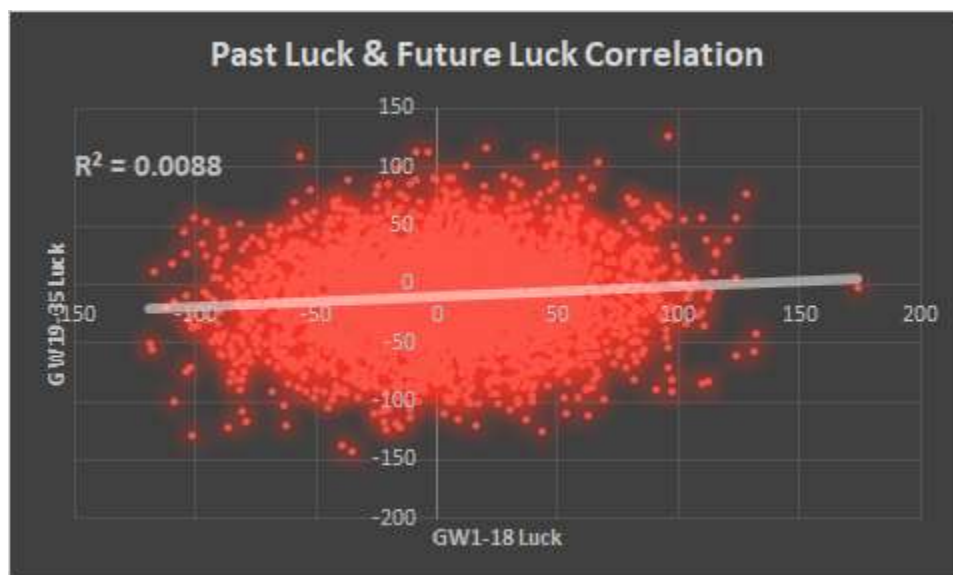
Analysis Summary

## Stress Test: Is 'Luck' Really Luck?

The output of this tool is labelled luck- others may called it over-performance (which is also an accurate description) or nonsense (no harm in being skeptical). Some people have justifiably wondered whether the tool is just measuring a managers ability to 'beat the odds'.

It is a fair question and while theoretically the model seems sound this needs to be investigated. To do so I created a simple test using the random 4,000 team sample

- Used the sample of 4,000 random teams
- Ran them through the FPL Review analysis script
- Determined the Teams 'Luck' in GWs 1-18 and GWs 19-35
- If 'Luck' is actually the 'Beat the Bookies' skill or similar, it's past measure should have correlation to it's future results. ie. people are doing something to cause a positive/negative luck result



Analysis of the relationship of past luck against future luck (N=4000)

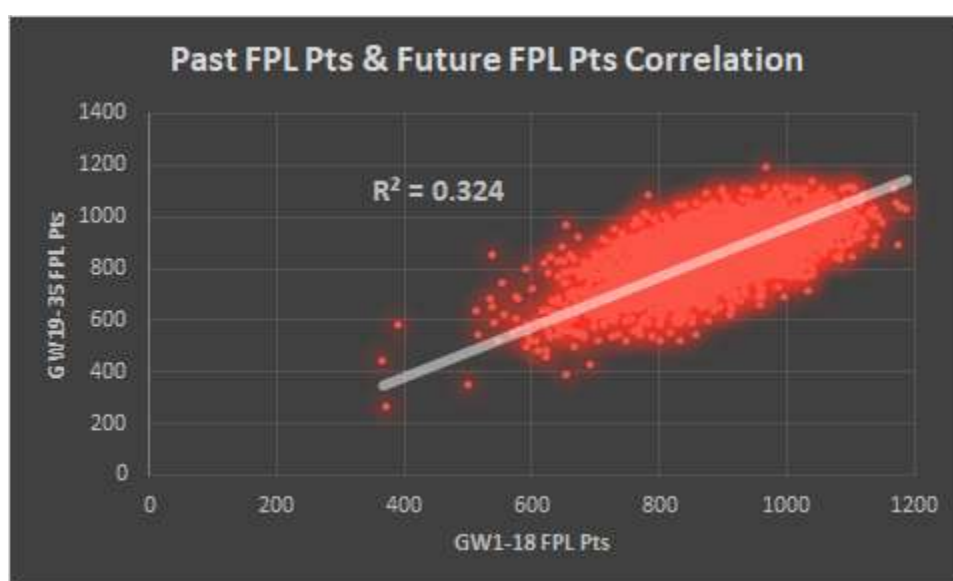
The result quite clearly shows no meaningful relationship between past luck measure and future luck measure. Past 'luck' is not an indicator of future 'luck' (which will be a relief to many). When this is compounded on top of the fact that Veterans and past Winners don't seem to have an ability to gain anything out of this it would very strongly suggest the model is able to determine an indication of a managers skill and luck levels.

# What is the best Future FPL Performance Indicator?

With all this data at hand there is also the capability to see what the best indicator of a managers FPL performance is. This test is similar to the analysis on luck above.

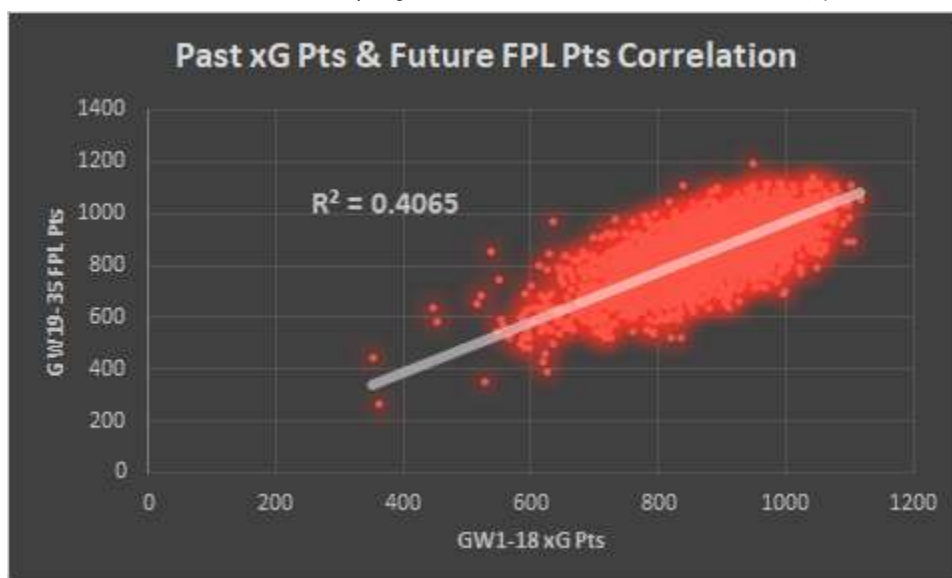
- Determined the Teams 'Odds Points', 'xG Points' & FPL Points in GWs 1-18
- Compared the result against the same teams FPL Points in GWs 19-35
- Check whether past (GW1-18) 'Odds Points', 'xG Points' or FPL Points have the highest correlation to future (GW19-35) FPL Points
- 

The first test compares Past FPL Points to Future FPL Points. There is a definite correlation which shouldn't be a huge surprise. A manager who performs well in the first half of the season is more likely to do well in the second half- but is there a better way to predict future performance?



Relationship between past FPL pts [GW1-18] & future FPL pts [GW19-35]  
(N=4000)

The second test shows that there is. Past xG Points determined by the [Season Review Tool](https://web.archive.org/web/20201003061937/http://www.fplreview.com/season-review) (<https://web.archive.org/web/20201003061937/http://www.fplreview.com/season-review>) more strongly correlate to Future FPL Points. This is because it trims away at a layer of random luck that distorts how well a manager is performing. But this is not the best indicator of future performance...



Relationship between post xG pts (from the FPL Review model) [GW1-18] & future FPL pts [GW19-35] (N=4000)

Past Odds Points are the strongest predictor of Future FPL Points. This should not be a surprise, the bookmakers make a living from determining probabilities. Past Odds Points seem to be the best indicator of FPL Skill level that currently exists.

The reason this works so well is because it totally cleans a past managers FPL Points of luck and does not work on hindsight, which xG data does to an extent. This is an extraordinarily strong argument for referring to Odds (in an intelligent way) when making decisions.



Relationship between past Odds pts (from the FPL Review model) [GW1-18] & future FPL pts [GW19-35] (N=4000)

It's quite clear from these plots why data based managers are so successful. Odds & xG data gives a big edge to what really is a game of numbers. Both sources of information are useful so while Odds data seems to be a better predictor it would be a mistake to write off well treated xG data.



# Summary & Conclusion

So what is the point of all this data? Well using this tool there is now the capability to pin-point periods during the season that worked or didn't work based on more fundamental data than the resultant FPL Points, on top of that there are many other powerful benefits:


- Veterans can be verified quite quickly using this tool- what appears to be an off season, may not be as off as it first appears
- It appears data based models and in particular Odds based models work extremely well (may be worth trying out the [FPL Review Team Planner](https://web.archive.org/web/20201003061937/http://www.fplreview.com/team-planner) (<https://web.archive.org/web/20201003061937/http://www.fplreview.com/team-planner>), which is built from Odds and xG data if this interests you)
- You can pinpoint which strategies work/don't work, rather than leaving a great strategy behind during a rough patch
- You can now call out that person who lucked their way ahead of you in your mini-league. Or just smugly know it quietly.
- If you were unlucky you can have hope next season things will turn around (the Liverpool fan lifestyle)
- If you are 'lucky' you can call this nonsense and cling onto your high overall rank


FPL can be considered similar to Poker. Skill is undoubtedly the biggest component but there can be no doubt a season can be derailed by random events. Based on the data Top 10k is about as high as can be reasonably be targeted if you are very skilled without hoping for things to go your way at least somewhat more than everyone else. Massive success such as coming Top 1k requires both significant skill and luck.

If you wish to give yourself the best chance for 2019/2020 or just wish to check out the tools go to [www.fplreview.com](http://www.fplreview.com) (<https://web.archive.org/web/20201003061937/http://www.fplreview.com/>).

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Deon says:



14/06/2019 at 22:48

(<https://web.archive.org/web/20201003061937/https://fplreview.com/2019/05/analysing-the-data-behind-the-season-review-tool/#comment-305>)

Hi,

I was just wondering if the model accounts for good money management in "skill", or is that accounted for in "luck". Consistently having more to spend because you followed the pricing movements could be significant (although I am not so sure how significant).

I used your tool in the latter parts of last season, and it really did help alot.

All the best,

Deon

Reply

**fplreview**

(<https://web.archive.org/web/20201003061937/https://fplreview.com/user/fplreview/>)

says:

15/06/2019 at 00:15

(<https://web.archive.org/web/20201003061937/https://fplreview.com/2019/05/analysing-the-data-behind-the-season-review-tool/#comment-308>)

Hey Deon,

Good financial management would be considered skill in this algorithm – as effectively a manager with more money can get in the higher points expectation players (so long as they are actually buying these players).

Glad to hear it helped! It will be even stronger next year thanks to some data driven tweaks and there will be some transfer optimisation tools that should come in really handy!

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