**What does it take to survive in the English Premier League**

By: Patrick Sullivan

**Background:**

The English Football Pyramid is one of the most interesting pyramids in World Football. You have people like Ryan Reynolds buying teams in Tier 5 of the Pyramid just for a chance to the top of the Pyramid. When you get to the top of the pyramid, you get into the EPL. Getting promoted into the EPL can make a team $211 million[1](https://www.cnn.com/2023/05/27/football/championship-playoff-2023-final-luton-coventry-preview-spt-intl/index.html). If you stay in the EPL for one full season, you then can receive as much as $360 million[1](https://www.cnn.com/2023/05/27/football/championship-playoff-2023-final-luton-coventry-preview-spt-intl/index.html). Due to the amount of money at stake, Directors of Football or Team Executives need to understand what it takes to stay in the EPL and why do teams get relegated?

**Data**

The EPL was created in 1992. Therefore, since 1992, I will be using historical Premier League results to look at who has been relegated and who has stayed up. I will use Premier League Match Results to create a table that will show me what position each team was in, how many Goals were scored, how many Goals were allowed, what each team's Goal Difference (Goals Scored-Goals Allowed) was.

**Research Questions:**

To understand what is needed to stay in the EPL, here are the research questions I want to understand:

1. Do you need the magical 40 Points[2](https://thefootballfaithful.com/premier-league-clubs-fewest-points-to-survive/) in order to stay in the Premier League?
   1. **Test Hypothesis:** You do need over 40 points in order to stay in the EPL
   2. **Null Hypothesis**:You do not need over 40 points in order to stay in the EPL
2. Do you need to have someone score over 10 goals in order to stay in the premier league?
   1. **Test Hypothesis:** You do need 10 or more goals from someone in order to stay in the EPL
   2. **Null Hypothesis:** You don’t need 10 or more goals from someone in order to stay in the EPL
3. Goals Against is more important than Goals For
   1. **Test Hypothesis:** Goals Against has a higher correlation between being relegated and not being relegated than Goals For
   2. **Null Hypothesis:** Goals For has a higher correlation between being relegated and not being relegated than Goals Against
   3. **Null Hypothesis** Goals Against and Goals for are equally important and Goal Difference will have a higher correlation than both Goals For and Goals Against

**Research Methodology:**

Addressing the research questions:

1. Do you need the magical 40 Points[2](https://thefootballfaithful.com/premier-league-clubs-fewest-points-to-survive/) in order to stay in the Premier League?
   1. Take a look at the highest relegated team and put into a histogram where would a side be “comfortable” if they did not want to be relegated
2. Do you need to have someone score over 10 goals in order to stay in the premier league?
   1. Will look at the correlation between the top goal scorer with Position in the league along with correlation between teams who almost got relegated and who did get relegated
3. Goals Against is more important than Goals For?
   1. Will look at the correlation between Goals For, Goals Against, and Goal Difference with Position in the league along with correlation between teams who almost got relegated and who did get relegated

**Where Data is Found:**

* [github.com/footballcsv/england/tree/master](https://github.com/footballcsv/england/tree/master): Captures match results from 1992-1993 to 2020-2021.
* [api.football-data.org](https://api.football-data.org): Captures match date from 2021-22 to 2022-23
* [fbref.com](https://fbref.com): Captures specific data like who was the top scorer for each team each season

**Citations:**

[1]:Morse, B. and Lewis, D. (2023) *Luton Town vs. Coventry City: Soccer’s ‘richest game’ offers winner of play-off final a $360 million Premier League jackpot*, *cnn.com*. Available at: <https://www.cnn.com/2023/05/27/football/championship-playoff-2023-final-luton-coventry-preview-spt-intl/index.html> (Accessed: 25 November 2023).

[2]: McGovern, S. (2023a) *The Premier League clubs with the fewest points to survive*, *The Football Faithful | Football News | Premier League News | Football Opinions | Football Analysis | Football Betting Tips | Football Transfers | The Football Faithful*. Available at: <https://thefootballfaithful.com/premier-league-clubs-fewest-points-to-survive/> (Accessed: 25 November 2023).