

# Methodology

## Data Collection and Sources

### Fanbase Data:

- **Data Source:** SBRnet's study of American soccer fans who support foreign teams
- **Sample Size (by year):** 3,475 respondents in 2021+ 6,426 in 2022 + 6,330 in 2023 + 6,666 in 2024 + 7,064 in 2025
- **Collection Period:** January of each following year (e.g., January 2021 for 2020 calendar year)
- **Units:** Thousands of American fans (e.g., 1,000k = 1 million fans)
- **Scope:** Adjusted for ~277 million Americans aged 13 or older

### Performance Data:

- **Sample Size:** 25 teams across the English soccer pyramid
- **Metric:** Final league position at the end of each previous season (2019-20 through 2023-24)
- **Timing:** Final positions correspond to the same calendar year as the January fan data
- **Coverage:** Premier League positions (1-20) and Championship/League One positions (21+)

## Statistical Methods

### Correlation Analysis:

- **Method:** Pearson correlation coefficient
- **Formula:**  $r = [n(\sum xy) - (\sum x)(\sum y)] / \sqrt{[n(\sum x^2) - (\sum x)^2][n(\sum y^2) - (\sum y)^2]}$
- **Interpretation:**
  - $r > 0.7$ : Very strong correlation
  - $r > 0.5$ : Strong correlation
  - $r > 0.3$ : Moderate correlation
  - $r < 0.3$ : Weak correlation

- **Group Analysis:** Separate correlations calculated for team subsets (Big 6, position tiers, growth categories)

#### **Growth Calculations:**

- **Year-over-Year Growth:**  $[(\text{Current Year} - \text{Previous Year}) / \text{Previous Year}] \times 100$
- **Total Growth:**  $[(\text{Final Year} - \text{First Year}) / \text{First Year}] \times 100$
- **Absolute Change:** Final Year Fans - Initial Year Fans

#### **Team Categorization:**

- **Big 6:** Manchester United, Manchester City, Liverpool, Arsenal, Chelsea, Tottenham Hotspur
- **Position Tiers:** Top (1-6), Upper Mid (7-10), Lower Mid (11-14), Bottom (15+)
- **Growth Groups:** High (>50%), Moderate (0-50%), Negative (<0%)

#### **Sample Composition**

- **Valid Teams for Correlation Analysis:** 18 teams with complete position and fanbase data
- **Total Teams in Dataset:** 25 teams
- **Missing Data Handling:** Teams with insufficient data points are excluded from specific analyses but are included in overall trends where applicable

#### **Key Assumptions and Limitations**

##### **Data Quality Assumptions:**

- Fanbase estimates represent reasonable approximations of American support
- Timing of January collection captures fan reactions to major events from previous season
- Final league positions provide objective performance indicators and do not leave room for bias

##### **Analytical Limitations:**

- **Sample Size:** Limited to 5-year period, constraining long-term trend analysis
- **External Factors:** Analysis doesn't account for specific events (ownership changes, major signings, scandals) beyond their reflection in final positions

- **U.S. Population:** Sample size relatively small when compared to the number of potential fans
- **Promotion/Relegation Effect:** Teams' data availability varies based on survey sample and may not account for all English clubs with American support

#### Statistical Considerations:

- **Outlier Impact:** Manchester United's exceptional fanbase relative to performance significantly affects overall correlations
- **Small Sample Bias:** Some team categories have limited observations, reducing statistical reliability
- **Temporal Alignment:** Six-month lag between January fan data and May position finalization may affect correlation strength

#### Sensitivity Analysis:

- Alternative correlation calculations performed with and without outliers
- Group definitions tested with varying threshold boundaries

This methodology provides the foundation for analyzing the complex relationship between team performance and American fanbase development in the Premier League ecosystem.

---

#### Key Findings

- **Total Market Growth:** American Premier League fanbase expanded by **62.3%** from 2020-2024, growing from 18.6 million to 30.2 million fans
- **Growth Pattern:** Peak expansion occurred in 2022 (+35.0%), followed by stabilization and the first decline in 2024 (-1.0%)
- **Performance Correlation:** Strong negative correlation (-0.676) between league position and fanbase size, indicating American fans strongly favor successful teams
- **Market Concentration:** Top 6 teams dominate with average fan bases of 3.8 million vs. 245k for mid-tier teams
- **Notable Performers:** Newcastle United achieved extraordinary growth of 970% following ownership change, while relegated teams like Leeds United and Sheffield United suffered severe losses of American fans