Topic: FIFA World Cup

Source: <https://www.kaggle.com/datasets/abecklas/fifa-world-cup>

Team 10, Spring 2022

1. Goal
   1. Introduction
      1. With the 2022 FIFA World Cup approaching, we thought why not talk about the futbol/soccer phenomenon as we are big fans of the game.
      2. We noticed an interesting trend in the prior world cup that raised our interests for this project
         1. Italy won 2006 World Cup but unqualified for 2010
         2. Spain won 2010 World Cup but unqualified for 2014
         3. Germany won 2014 World Cup but unqualified for 2018
         4. France won 2018 World Cup, will they be unqualified in 2022?
   2. KPIs:
      1. We want to take a look at the historical data on past World Cups.
      2. We want to see:
         1. Which teams are powerhouses?
         2. What titles have each country/team won and how many have they won?
         3. How popular is the World Cup?
         4. How are the scores distributed? Anything interesting?
2. Data Setup
   1. We found our datasets through Kaggle.
   2. Established relationships to connect datasets.
   3. We needed to have a recursive relationship, since there are two teams: Away and Home.
   4. From there, we created our sheets and formulated our dashboards.



1. Championships
   1. First, we take a look at a timeline of championships:
      1. Each point highlights when a champion has won a title.
      2. Highlighting the points also show the runner-up (second place), third place and fourth place followed by the host year.
   2. The accompanying charts help visualize the number of championships each champion has won:
      1. The bar chart helps visualize the numbers better.
      2. The packed bubble chart helps visualize “powerhouses”, if we only consider championships
2. Powerhouse Assessment
   1. Helps expand the metrics of what a powerhouse should be.
   2. Illustrates teams, who recurrently win titles or place second:
      1. Being first or second consistently really establishes a team’s place as a force to be reckoned with.
   3. We can see recurring teams winning titles such as Brazil, Germany and Italy, etc. or place second such as Germany, Argentina, Netherlands, etc.
3. Attendance
   1. These dashboards help illustrate the popularity of the World Cup if we measure by attendance. We also added the average to see how often people attend.
   2. We picked a line chart to help us see a series of data points through time. We can see a significant increase of attendance year over year, starting with only 591K people from 1930, the first year of the World Cup, and increasing to 4.3M people in 2014, the latest World Cup in the dataset.
   3. Supplementary Charts:
      1. The bar chart helps illustrate the attendance by stages:
         1. This can be misleading as the attendance numbers are affected by the number of games played per round, which can fluctuate.
      2. Also, there is a filter on the top right where you can:
         1. Filter by year to see the attendance by stage in the “Stage” chart.
4. Stats Per Country
   1. The goal here is to illustrate a list of countries that have the most engagement with the World Cup, then we will show the top 5 cities that hosted the World Cup. It will help us understand their passion and love for futbol more.
   2. The Heatmap helps illustrate where the World Cup has had the most attendance by country:
      1. Most of the powerhouse countries have the highest attendance:
         1. Futbol/Soccer has already been ingrained in their culture.
      2. Mexico and the US surprisingly have high attendance numbers:
         1. Being popular tourist destinations can be a factor.
         2. We can also infer from this that there may be a rising soccer popularity in these 2 countries.
   3. The World Cup City Bar Chart:
      1. Simply illustrates the top 5 cities that hosted the World Cup over the years.
      2. In order to do so, we created a set of two parameters: Top n and Bottom n to show only 5 cities that hosted the World Cup the most.
      3. Based on the chart, Mexican, other South American cities stand out.
   4. Home Team Games Hosted:
      1. Shows which countries/teams have had the chance to host home games throughout history.
      2. Many factors can impact on the reason why a team gets to host a home game.
      3. Common Denominator: Interests in Football or how ingrained Football is in their culture, etc.
         1. Teams with the most home games, usually are powerhouses (Brazil, Germany, Italy, Argentina, etc.).
   5. From these graphs, we can sense the palpability of futbal in these parts of the world.
5. Team Results
   1. This Dashboard breaks down the records between Home and Away teams.
      1. The visuals breakdown by stages, the teams playing (away vs home), their amount of scores per game, and their results (win, lose or tie).
         1. Matches can show 2 records, most likely during first rounds.
            1. This is due to the structure of the round, elimination by records in a group.
   2. Filter can drill down the records:
      1. By Stage (Finals, Semi Finals).
      2. By Year.
      3. By home vs away teams.
   3. Records are marked with simple color codes for ease of recognition.
   4. From this dashboard, we can see that in most cases, the Home team would win against the Away Team.
      1. A potential factor for this is Home-Court Advantage.
         1. Fans supporting the Home team can easily access the venue.
            1. Away team fans have to travel and are less likely to access the venue for the game.
6. Goals Breakdown
   1. This dashboard dives into Goals.
   2. The line chart visualizes the change in total goals scored per World Cup.
      1. We can see a positive trend in scoring increases:
         1. This can mean that:
            1. The offensive skill levels of players/teams are increasing due to the trend of coaches to implement and focus on offensive strategy training.
            2. There’s a trend towards more offense in games such as offense excited audience or offensive based which is similar to how Basketball is today.
   3. We also have visualizations to compare Home and Away teams in terms of goals, able to drill down by stages:
      1. Total Goals per World Cup:
         1. Initially, there was a big gap between home and away teams’ field goals.
            1. This supports the Home-court advantage.
         2. Gap has closed, over the years, almost nonexistent.
            1. Home-court advantage may have lost its effectiveness in terms of offense.
            2. Increased competitiveness.
      2. Average Goals per World Cup:
         1. The average line chart also tells a similar story like the Total Goals.
7. Home-Field Advantage
   1. This dashboard drills down deeper and helps visualize the effects of Home Team Advantage.
   2. Filter to isolate and study effects on a team by team basis.
   3. Historical Home Teams Performance:
      1. Shows the relationship of a home team’s goals vs goals scored on them:
         1. We can see that there’s not a sharp correlation.
         2. Home Team’s goals get exponentially higher for the top teams.
            1. They happen to be powerhouses! This is not a coincidence.
      2. Can drill down on a case by case basis.
   4. Home Team: Matches vs Goals
      1. More of an individualized graph.
      2. Shows us the number of matches a home team has had and the total goals they scored.
      3. Shows us how potent and effective a team’s offense can be:
         1. In the context of home teams, this can be a support for the home-field advantage.
         2. Fans of home teams boost the team's morale, heighten their performances.
8. Conclusion
   1. Some key insights we have gathered from this project:
      1. Powerhouses teams are Brazil, Germany and Italy.
      2. Futbol’s increasing popularity through the increasing popularity of the World Cup.
      3. Home-Court Advantage is a real factor until recently.
      4. Positive Trend in Offense in the World Cup.
   2. These insights might be limited by the datasets, but the methodology and the logic derived are potentially valuable.

**Question dashboard:**

The World Cup in Qatar will have 32 teams. The picture shows 29 qualified teams in the World Cup in Qatar. The result of the other 3 teams hasn’t been decided yet. We could start our presentation with two questions. Which qualified team has scored the most?(the answer is Brazil) Which qualified team has scored the least? (The answer is Canada and Qatar.)Qatar never attended any world cup so we don’t have data about this team. Canada has played in the world cup before but never scored a goal. We could use dashboard world cup 2022 qualified team performance to answer these two questions.

**Championship dashboard:**

This dashboard is about all the champions in the world cup.

The bubble chart shows the total matches that champions played.

Total goals: shows total goals when champions played (including goals for and goals against)

Title winners shows champion over time (I used this graph as filter)

**Attendance dashboard:** (Tam created all graphs here )

**Team results dashboard:**

Total goals by home teams : show total goals by selected home team and the total match that home team played. This graph is interactive with the drop-down menu home team.

**Goals breakdown dashboard:** (Tam created all graphs here )

**World cup 2022 qualified team performance dashboard:**

In this dashboard I only want to see the performance among qualified 29 teams in the World cup 2022.

So, I filtered out data based on this condition (created a set that including the qualified 29 teams)

Bar chat 2022 world cup home team average goals :show the average goals that home team scored

Bar chat 2022 world cup away team total goals :show the total goal that away team scored

Home team total games: show the total game that home team played.

Away team total games: show the total games that away team played

A country could be a home or an away team. For example, if we select home team as Brazil and away team as Brazil, the total games of Brazil is the result shows in “Home team total games” + the result shows in “Away team total games”=78+26=104

**Bump chart:**

From the bar chart, we know Brazil as the home team that scored the most goals per game. What about total goals? From the bump chart ,we can see the rank of the home team’s total goals from 1930 to 2014. Compared with other teams, Brazil always ranks around Top 3 and its performance is very consistent. Therefore, we may conclude that Brazil’s scoring ability is strongest and its goal ability is consistent in the World Cup