Name
Tim Dames

Project Name
Quantifying Star Player Impact on Team Success

Link to GitHub Repository
https://github.com/TKDames/SQL_Project

Job Description

I selected the Sacramento Kings Business Intelligence Analyst role because it merges my passion for sports and data-driven decision-making. This position aligns closely with my long-term goal of working in sports analytics, applying statistical methods and business intelligence tools to drive revenue and optimize fan experiences. I'm particularly interested in the role's emphasis on leveraging SQL, data visualization, and Python to uncover insights into fan engagement and market strategies.

Problem

The Problem:
This project investigates how heavily NBA teams rely on one or two "star" players — defined by advanced performance metrics — and how that reliance correlates with team success. The goal is to determine whether concentrated player impact helps or hinders season outcomes such as win totals or playoff appearances.

Relevance to the Job:
This analysis mirrors the real-world questions a BI analyst might face in a front office: how much of team success depends on a few individuals vs. balanced depth? For a team like the Kings, these insights could guide roster building, salary cap allocation, and performance evaluation strategy.

Feasibility:
I will extract advanced player performance data via an NBA API and combine it with team-level data scraped from trusted basketball sources. Using SQL, I will calculate metrics such as each team's top-2 player Win Shares and analyze their share of total team value, then correlate this with win/loss outcomes.

Data Sources

1. NBA REST API (API Source):

- **Method:** I will use `rest.nbaapi.com/api/PlayerDataAdvanced/team/{team_code}` to collect advanced player metrics (e.g., Win Shares, Usage %, PER) across multiple NBA teams.
- **Link:** http://rest.nbaapi.com/index.html
- **Relevance:** These stats allow me to quantify each player's individual impact and determine which teams rely most on their stars.

2. Basketball-Reference Team Pages (Web Scrape):

- **Method:** I will scrape team win totals and playoff appearances from https://www.basketball-reference.com/teams/ for the 2023 season.
- **Relevance:** These outcomes are essential to assess whether heavy star reliance correlates positively or negatively with success.

Solution

Approach:
I will extract, clean, and store both player-level and team-level datasets into a PostgreSQL database. Using SQL, I will calculate each team's reliance on its top 2 players by Win Shares and create ratios comparing their contributions to overall team production.

SQL Queries & Visualizations:
I will write descriptive queries (e.g., average star contribution by team) and diagnostic queries (e.g., correlation between star reliance and team wins). Visualizations will highlight the most top-heavy teams, how they performed, and which franchises balanced their production more effectively. These findings will offer actionable insights for front offices like Sacramento's.