Business Requirements Document (BRD)

Soccer Player Performance Analysis

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1. Project Overview

The **Soccer Player Performance Analysis** project focuses on analyzing soccer player performance metrics using **Python**, **SQL**, and **Power BI**. The goal is to uncover insights related to player skills, market value, and trends, enabling clubs and analysts to make data-driven decisions for **scouting, training, and strategy optimization**.

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2. Business Objectives

1. **Player Scouting:** Identify high-potential and undervalued players based on performance metrics.
2. **Performance Analysis:** Evaluate player skills to support team selection and tactical planning.
3. **Injury Prevention:** Analyze physical data (like stamina, strength, and balance) to identify players at risk of injuries.
4. **Fan Engagement:** Use insights to create engaging content and marketing campaigns.
5. **Contract Negotiation:** Use data-driven performance metrics to justify salary and transfer discussions.

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3. Data Source & Description

Dataset:

Fifa Olympics dataset.csv

Description:

The dataset contains detailed information about soccer players, including demographics, physical attributes, financial details, and in-game statistics.

Key fields:

- **Wage (€):** The player's salary in euros.
- **Value (€):** The estimated market value of the player in euros.
- **Name:** The full name of the player.
- **Age:** The player's age.
- **Nationality:** The country the player represents.
- **Overall:** The overall skill rating of the player.
- **Potential:** The highest skill rating the player can achieve.
- **Club:** The current football club of the player.
- **Special:** A special skill or attribute identifier.
- **Performance Metrics:** Various attributes such as acceleration, agility, dribbling, and shooting stats.
- **Position Columns (e.g., CAM, CF, LW):** Indicates the player's preferred positions on the field.

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4. Technology

- **Python (Pandas, NumPy, Matplotlib):** Used for data cleaning, handling missing values, and preprocessing to prepare the dataset for analysis.

- **SQL (SSMS Tool):** Used for data extraction, aggregation, and transformation to organize and structure the data effectively.

- **Power BI:** Used for data visualization and dashboard creation to present insights and performance trends through interactive visuals.

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5. Analysis & Visualizations

1️⃣ Overview

KPIs

- **Average Rating** – Indicates the overall skill level of players in the dataset.
  → DAX: `Avg Rating = AVERAGE(Fifa Olympics dataset[Overall])`
- **Average Age** – Reflects the general maturity and experience level of the players.
  → DAX: `Avg Age = AVERAGE(Fifa Olympics dataset[Age])`
- **Average Value (€)** – Shows the mean market value of players to assess financial worth.

→ DAX: `Avg Value = AVERAGE(Fifa Olympics dataset[Value])`

- **Average Wage (€)** – Reveals the salary trend across leagues and clubs. →
  DAX: `Avg Value = AVERAGE(Fifa Olympics dataset[Value])`

A: Wage Distribution

Objective:
Visualize how player wages vary among top players or clubs to identify the highest earners and salary distribution trends.

Chart Type: Clustered Bar Chart

Insights:

- Clearly displays top-paid players and wage hierarchy.
- Helps compare salary structures across clubs.
- Supports decisions in salary benchmarking and budgeting.

B: Top 10 Players by Market Value

Objective:
Highlight the players with the highest estimated market value to understand transfer potential and player worth.

Chart Type: Treemap

Insights:

- Quickly identifies top-valued players in the dataset.
- Visual hierarchy helps compare player market worth at a glance.
- Useful for scouting and contract negotiations.

C: Highest Rated Players by Overall and Potential

Objective:
Compare current skill ratings (**Overall**) with potential ratings to identify future stars and development opportunities.

Chart Type: Clustered Column Chart

Insights:

- Highlights players with high growth potential.
- Enables clubs to identify young prospects.
- Useful for recruitment planning and performance forecasting.

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2 Nationality

A: Player Value by Country

Objective:
Display the total player market value across countries to pinpoint major talent-producing nations.

Chart Type: Filled Map / Bubble Map

Insights:

- Shows talent concentration by nationality.
- Reveals top-value producing countries like England, Spain, and Brazil.
- Useful for regional scouting and investment decisions.

B: Average Rating per Country

Objective:
Show which countries produce higher-rated players on average.

Chart Type: Bar Chart

Insights:

- Highlights football-strong nations like Portugal, France, and Germany.
- Demonstrates effectiveness of national training systems.
- Useful for international scouting analysis.

C: Players per Country

Objective:
Compare the total number of players from each country to understand dataset diversity.

Chart Type: Column Chart

Insights:

- Shows player representation by nationality.
- Highlights the dominance of key countries in global football.
- Useful for understanding player demographics.

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3 Club

A: Clubs with Highest Market Value

Objective:
Identify top clubs with the highest combined player market value.

Chart Type: Bar Chart

Insights:

- Real Madrid, Liverpool, and Manchester City lead in market valuation.
- Mid-tier clubs maintain strong performance despite smaller wage budgets.
- Highlights the financial hierarchy among European clubs.

B: Average Player Rating by Clubs

Objective:
Visualize average player ratings across clubs using color intensity.

Chart Type: Treemap

Insights:

- Clubs like Real Madrid and FC Barcelona show the highest squad quality.
- Quickly identifies top-performing teams.

- Useful for evaluating squad depth and performance consistency.

C: Wage Bills by Clubs

Objective:
Show wage expenditure patterns among clubs to compare financial spending and efficiency.

Chart Type: Line Chart

Insights:

- Real Madrid, Liverpool, and Manchester City top the wage chart.
- Some clubs achieve strong performance with moderate wage costs.
- Demonstrates spending vs. performance efficiency.

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6 . Conclusion & Recommendations

- The Power BI dashboard integrates Python-cleaned and SQL-processed data for reliable, actionable insights.
- It enables real-time monitoring of player performance, market value, and club expenditure.
- Recruiters can identify top talents; clubs can optimize formation and salary planning; analysts can track national and club-level performance.
- The use of interactive Power BI visuals enhances decision-making, storytelling, and stakeholder engagement.