**Project 11-11: Investigating Data-Driven Analytics in Sports**

**1. Understanding the Problem**

The goal of this project is to explore how **data and analytics** are used in sports to improve team performance and increase event ticket sales.

**2. Task Overview**

* Form a team with **three or four classmates**.
* Choose a sport such as **football, baseball, basketball, or soccer**.
* Conduct **online research** to find how data analytics is applied in the chosen sport.
* If possible, use **Google Docs, Google Drive, or Google Sites** to collaborate and create a **presentation** of your findings.

**3. Step-by-Step Research and Analysis**

**Step 1: Choosing a Sport and Researching Data Analytics Applications**

* **Football (American NFL/College Football)**: Use of player tracking, AI-based strategy planning, injury prediction.
* **Baseball (MLB)**: Sabermetrics, player performance analysis, game strategy optimization.
* **Basketball (NBA)**: Shot efficiency tracking, defensive impact analysis, fan engagement data.
* **Soccer (FIFA, Premier League, MLS)**: GPS tracking, team formation optimization, injury prevention.

**Step 2: Gathering Data Analytics Use Cases**

1. **Performance Improvement**
   * **Wearable technology** (GPS, heart rate monitors) tracks player movements and health.
   * **AI and Machine Learning** predict player fatigue and injury risks.
   * **Statistical modeling** for game strategies and in-game decision-making.
2. **Increasing Ticket Sales and Fan Engagement**
   * **Data-driven marketing** strategies based on fan demographics and purchase behaviors.
   * **Social media analytics** to measure engagement and adjust marketing campaigns.
   * **Dynamic ticket pricing** based on demand forecasting and competitor analysis.

**4. Organizing Findings into a Presentation**

* **Introduction**: Explain the sport chosen and why data analytics is important.
* **Case Studies**: Include real-world examples from professional teams.
* **Technologies Used**: AI, machine learning, wearable sensors, and predictive analytics.
* **Conclusion**: Future trends and how teams can continue to benefit from data analytics.

**5. Tools and Platforms for Collaboration**

* **Google Docs**: Write and organize research findings.
* **Google Drive**: Store research materials and presentation files.
* **Google Sites**: Create an interactive site to showcase findings.
* **Canva/PowerPoint**: Design the final presentation.

**6. Conclusion and Key Takeaways**

**Data analytics is transforming sports** by improving player performance, optimizing game strategies, and increasing fan engagement.

**Teams that use analytics effectively** gain a competitive edge and boost ticket sales. **Collaboration and technology tools** help present findings in an engaging way.

**Leveraging sports analytics allows teams and organizations to make data-driven decisions that enhance both performance and business success!**