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# **Comprehensive Cricket League Analytics and Data Visualization**

Data analysis and visualization on Cricket.

Project Guide: **Mr. B. A. Deshpande**

# Group Members

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# INTRODUCTION

## Abstract

- **Cricket Data Analysis with Power BI**
- **Data to Insights** – Transforming raw stats into actionable insights.
- **Performance Analysis** – Analyzing players, teams, and match trends.
- **Interactive Dashboards** – Visualizing cricket data clearly.
- **Granular Breakdown** – Detailed views of leagues, teams, and players.
- **Informed Decisions** – Empowering strategic choices for teams and fans.

## PROBLEM DEFINITION

Current cricket data systems lack interactive visualization and granular insights, making analysis difficult. Our Power BI dashboard enables seamless data exploration and advanced analytics for better decision-making.

## BACKGROUND

Cricket generates vast data from leagues like IPL, BBL, and PSL, covering player stats, team performance, and match outcomes. However, this data is often in raw formats like CSV or Excel, making analysis difficult for stakeholders. Our solution provides a Power BI dashboard for seamless cricket data visualization and insights.

# AIM

To create an interactive, comprehensive, and user-friendly cricket analytics dashboard using Power BI to provide deep insights into player performance, team strategies, and match trends for informed decision-making and strategic planning.

# OBJECTIVES

1. Develop a dynamic, user-friendly cricket dashboard for interactive data analysis.
2. Ensure smooth navigation through leagues, teams, and match details.
3. Offer detailed, granular analysis of player and team performance.
4. Leverage historical data for better strategic planning and decision-making

# **LITERATURE REVIEW**

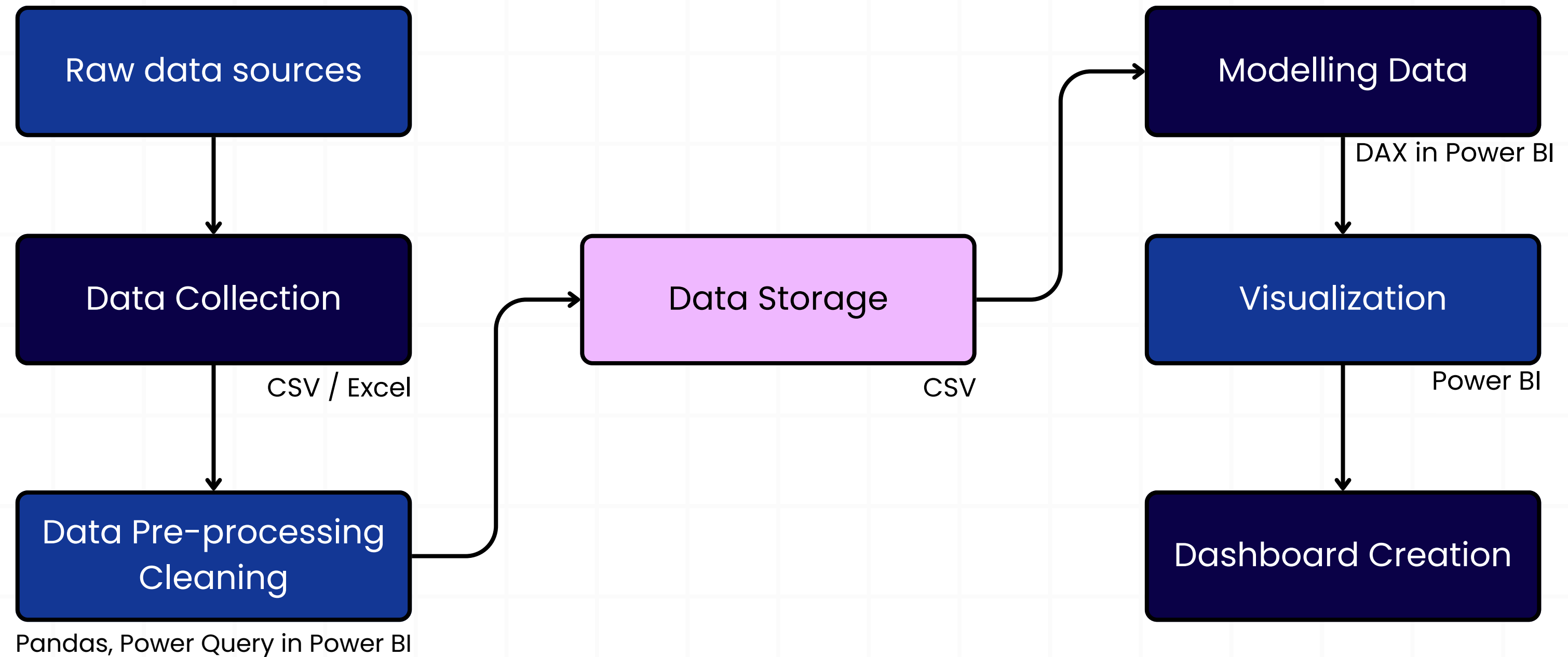
## **Cricket Data Analytics using POWER BI International Journal Of Creative Research Thoughts (IJCRT) (April 2024) Proposed by Vishal Kumar Yadav, Nishant Tiwari, Swati Tiwari, Rohini Rathod**

- Uses Power BI for cricket data visualization and analysis.
- T20 International Men's World Cup data is used.
- Collection of data- ESPN, Cricinfo (web scraping).
- DAX for batting averages, strike rates, and bowling economy.
- Uses machine learning for match outcome predictions.

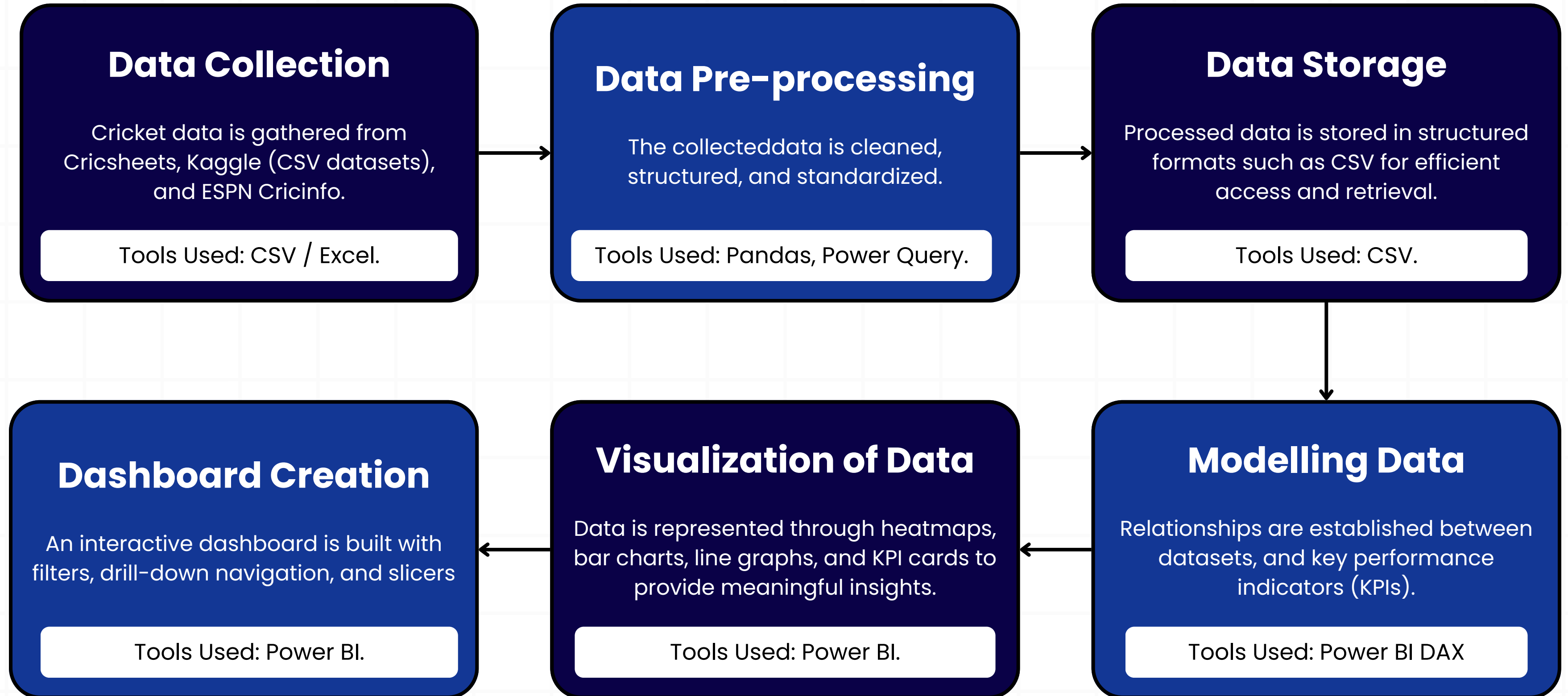
## **Beyond Boundaries: A Comprehensive Cricket Analytics Dashboard Journal of Emerging Technologies and Innovative Research (JETIR) (October 2023 ) Proposed by Shruti.C.S, Deepak Raj. A, Dr. V. Radhamani.**

- Uses Power BI and Streamlit for cricket data analysis.
- Focuses on T-20 World Cup and IPL data.
- Data collected via web scraping from ESPN Cricinfo.
- DAX modeling in Power BI for deep insights.
- Streamlit integration for a user-friendly interface.
- Data cleaning and transformation using Pandas and Power Query.

# PROPOSED APPROACH AND SYSTEM ARCHITECTURE



# SYSTEM WORKFLOW





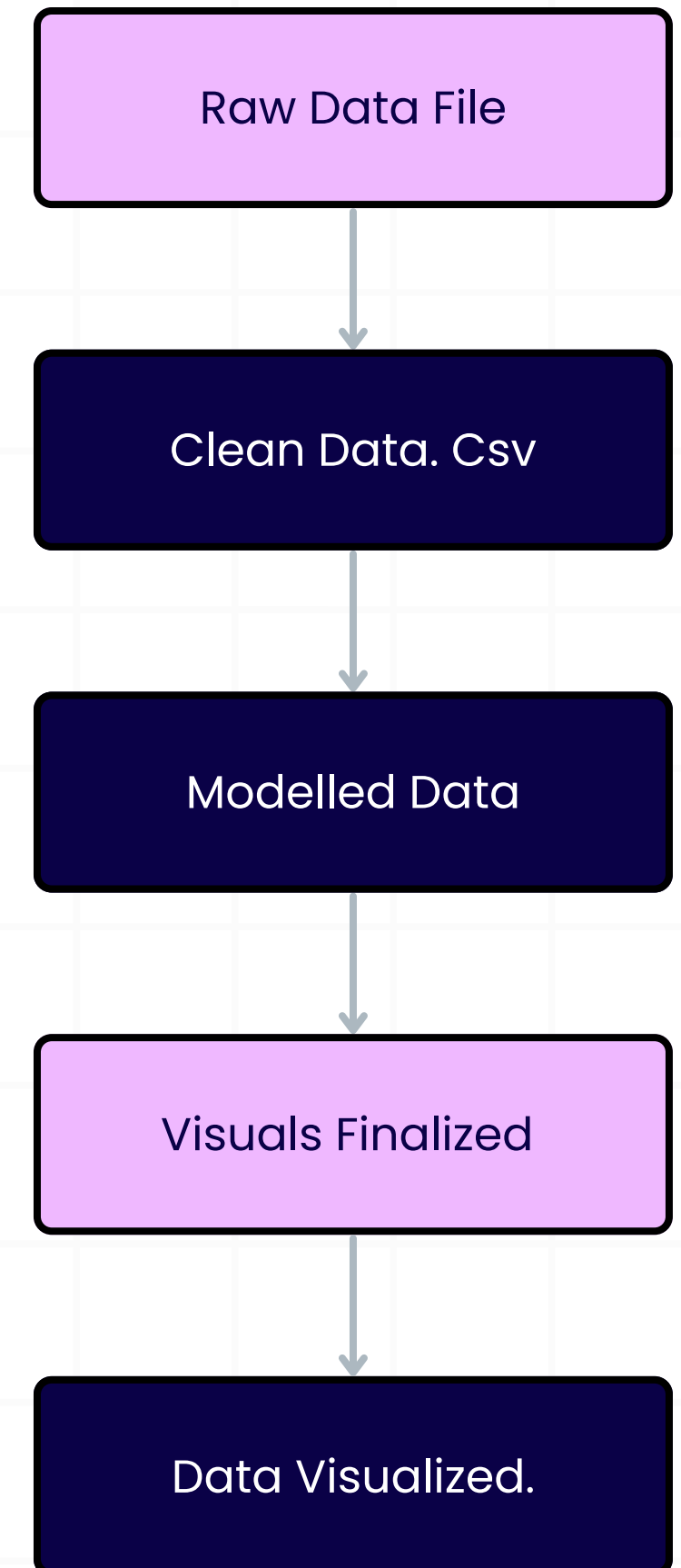
# IMPLEMENTATION

## Data Processing & Storage

- Data Sources: Kaggle, Cricsheets
- Tools Used: Pandas, Power Query for data cleaning & structuring, excel
- Process:
  - a. Removed inconsistencies & null values
  - b. Standardized formats (team names, player stats)
  - c. Stored structured data in CSV format for easy retrieval

## Data Modeling & Analysis

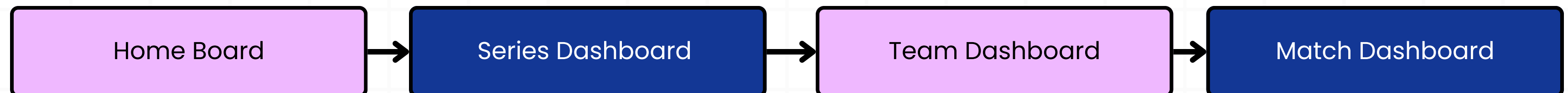
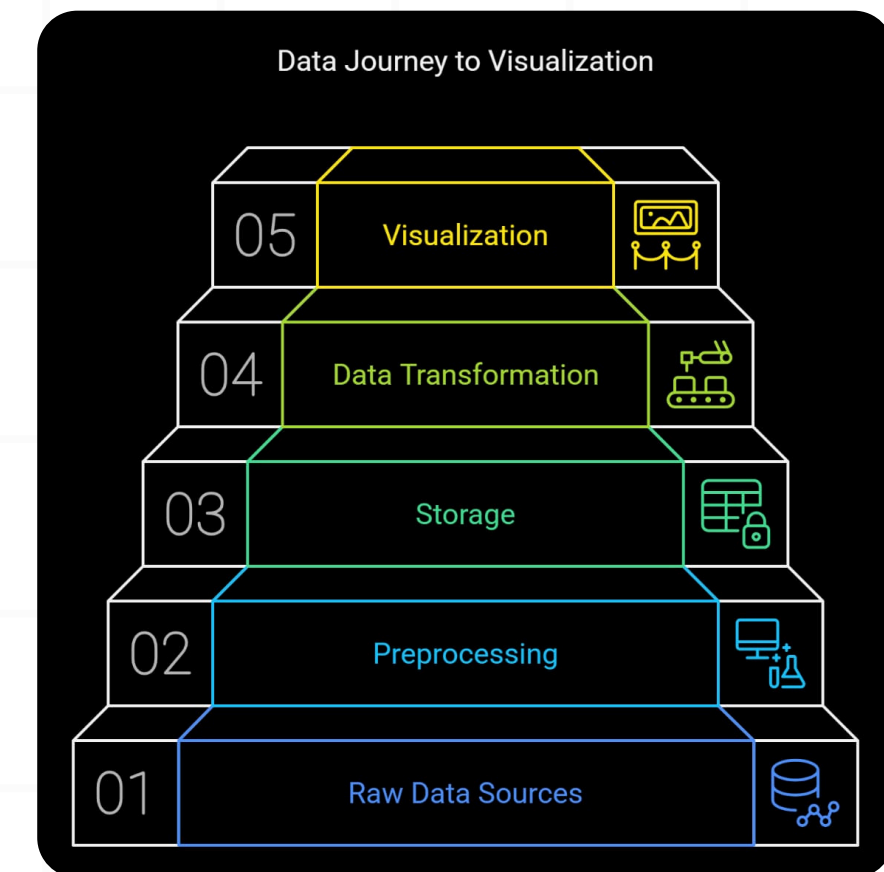
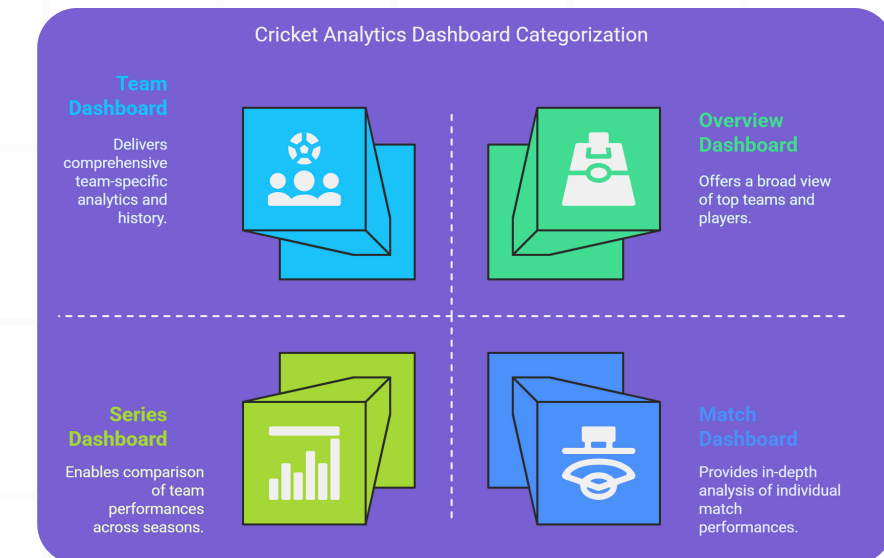
- Power BI used for data relationships & modeling
- DAX functions applied for:
  - Player batting & bowling averages
  - Team performance metrics (win/loss ratio, net run rate)
  - Match statistics (run rate trends, partnerships)
- Created KPIs to track performance insights



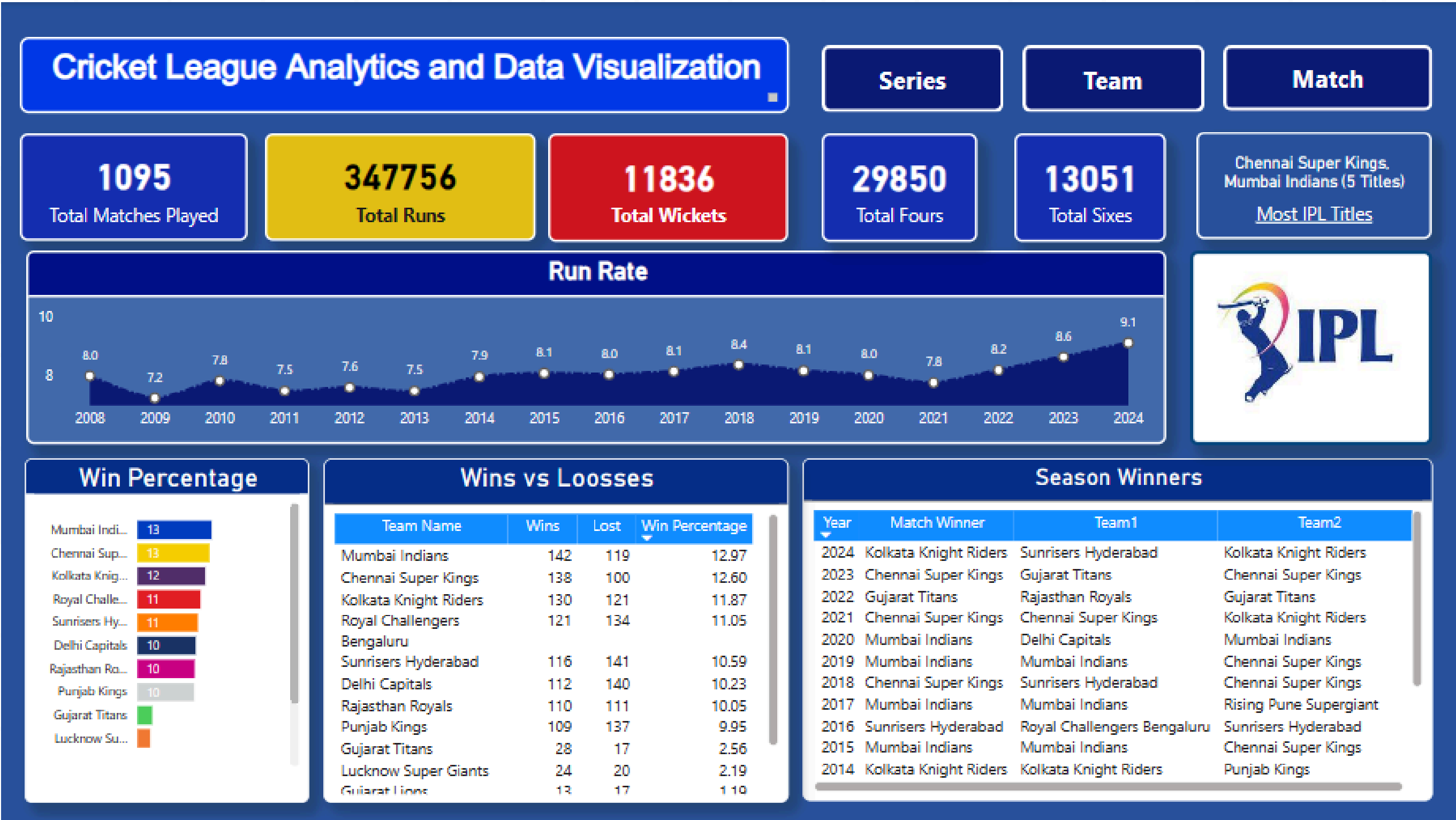
# IMPLEMENTATION

## Dashboard Development

- Built 4 Interactive Dashboards in Power BI:
  - a. Overview Dashboard – League-wide trends & stats
  - b. Series Dashboard– Individual series performance & insights
  - c. Team Dashboard– Team-wise analysis & match history
  - d. Match Dashboard – Match-specific performance tracking
- Features implemented:
  - Filters & slicers for custom views
  - Drill-down functionality for deeper insights
  - Visual charts (bargraphs, line charts, piecharts) for trends



# EXAMPLE DASHBOARD



# **RESULTS**

1. Improved data accessibility for stakeholders
2. Enhanced player & team performance insights
3. Granular match analysis for better strategies
4. Historical data trends for predictive analysis
5. Improved Decision-Making
6. Comparative Analysis
7. Customizable Views

# **SCOPE OF WORK**

1. Integration of Live Match Data
2. Machine Learning for Performance Prediction
3. Automated Data Extraction from Cricket APIs
4. Expansion to More Cricket Leagues & Tournaments
5. Advanced Visualizations with Interactive Elements
6. Predictive Analytics for Team Strategy Optimization
7. Mobile App or Web Integration for Accessibility

# **CONCLUSION**

The project successfully demonstrates how Power BI can be leveraged to analyze and visualize cricket data, transforming raw statistics into meaningful insights. By offering detailed performance metrics for players, teams, and matches, the dashboards enhance strategic decision-making for analysts, coaches, and cricket enthusiasts.

The system is designed to be scalable, allowing future integration of real-time updates, predictive modeling, and AI-driven insights. With its ability to provide granular and interactive analysis, this project marks a significant step toward data-driven decision-making in cricket analytics.

# REFERENCES

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**THANK YOU**