IPL 2022 Match Data Analysis Report

1. Dataset Description

1.1 Source:

- IPL 2022 ball-by-ball dataset (17,912 records).

1.2 Columns:

- ID – Unique delivery identifier
- innings – Match innings (1st/2nd)
- overs, ballnumber – Over and ball identifiers
- batter, bowler, non-striker – Player names
- extratype – Extra run type (leg byes, wides, etc.)
- batsmanrun, extrasrun, totalrun – Run details
- nonboundary, isWicketDelivery – Additional delivery info
- playerout, kind, fieldersinvolved – Wicket/dismissal details
- BattingTeam – Team batting that delivery
- 17 columns in total.

1.3 Data Quality:

- No missing/null values observed
- Player and team names standardized
- Robust structure for player, event, and match analytics.

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2. Operations Performed

2.1 Data Loading & Exploration

- Data imported/validated with schema checks
- Unique categorical value checks (players, teams, dismissals)
- Summary statistics for numeric fields (balls, runs).

2.2 Descriptive Analytics

- Top batters by total runs and balls faced (JC Buttler, KL Rahul, etc.)
- Top bowlers by wicket count (YS Chahal, PWH de Silva, K Rabada)
- Team-wise total run and ball statistics (Rajasthan Royals, Gujarat Titans lead)
- Dismissal types (caught, bowled, lbw, etc.).

2.3 Relationship Analysis

- Team vs. run and ball distribution
- Batter vs. total runs scored, balls faced

- Bowler vs. wickets taken
- Dismissal method frequency.

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3. Key Insights

3.1 Player Performance

- Batting: JC Buttler was the top scorer (863 runs/596 balls), followed by KL Rahul.
- Bowling: YS Chahal stood out with 29 wickets, with several others above 20 wickets.

3.2 Team Trends

- Rajasthan Royals posted the highest team runs (2943 runs in 2107 balls), followed by Gujarat Titans and Royal Challengers Bangalore.
- Striking differences visible in batting productivity across teams.

3.3 Dismissal Insights

- Most common: Caught (625), Bowled (123), Run out (61), LBW (57).
- Shows T20 match focus on aggressive play and fielding impact.

3.4 Distribution & Patterns

- Run distributions indicate power hitters shaped many games.
- Wicket distribution highlights pivotal bowling contributors per team.

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4. Recommendations

4.1 Player Strategy

- Analyze top batters' tactics for effective ODI/T20 play replication.
- Encourage bowlers to diversify wicket-taking methods, as caught dominates dismissals.

4.2 Team Planning

- Leverage data to drive player selection (in-form batters, bowlers), opening partnerships, and death overs strategies.
- Use team batting/ball stats for targeted coaching and practice.

4.3 Performance Analytics

- Build predictive models for player form, emerging talent, and match outcomes.
- Use clustering to highlight similar player roles (finishers, openers, strike bowlers) for adaptive team management.

4.4 Future Analytics Opportunities

- Enrich with bowler economy and batter strike rate analytics.
- Compare with historical IPL datasets to track season-over-season changes and performance evolution.

This report aligns closely with the analytical and insights-driven approach of your previous Employee Data Analysis, making it suitable for both documentation and presentation contexts using the IPL 2022 dataset.