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## **Ranking Cricket Players According to Their Efficiency of Performances: A Criterion Formulation for a Minimum Error Team Selection**

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This research suggests a new criterion for cricket team selection using data envelopment analysis (DEA) with the objective of selecting a team which has a minimum error in team selection. It proposes a DEA formulation for evaluation of cricket players in different capabilities and their efficiencies of performance using multiple outputs. For instances, batting, bowling all rounding, wicket keeping, and fielding capabilities. This evaluation determines efficient and inefficient cricket players and ranks them on the basic of DEA scores. The ranking can be used to choose the required number of players for a cricket team in each cricketing capability. A real data set which belongs to Sri Lankan Cricket team during ICC world cup 2015 is associated with the data analysis process. Cricket players having various capabilities is used to choose the best cricket team. For this purpose, the secondary data were derived from "ESPN" cricinfo web site (Which is reputed web site for international cricket data). The proposed method has the advantage of considering multiple factors related to the performance of players in multiple capabilities and aggregates their scores using a DEA model in linear programming frame work. This DEA aggregation gives the scores of players objectively instead of using subjective computations. The findings of this study suggest that DEA has the potential to select players to the Cricket team fairly. There for these findings can be used to player's selection in local and national cricket team selection as objective selection criteria.

**Key words:** *Cricket, DEA, Linear Programming, Player Performance, Team Selection*

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