

***Ranking cricket players according to their efficiency of performances: a criterion formulation for Minimum error team selection.***

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Abstract

This research suggests a new criteria for cricket team selection using Data Envelopment Analysis (DEA) with the objective of selecting a team which has minimum error in terms of team selection. It propose a DEA formulation for evaluation of cricket players in different capabilities and their efficiencies of performances 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 basis 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 dataset, associated with the one day matches played by Sri Lanka between the 2011 ICC cricket world cup to 2015 ICC cricket world cup. Cricket players having various capabilities is used to choose the best cricket team. For this purpose the secondary data were derived from ESPN *Cricinfo* website. 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 proposed DEA method can be used to form a national cricket team from several clubs or a team of top cricketers.

Keywords: Cricket, DEA, Linear programming, Player performance, Team selection

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