

New technique developed to evaluate basketball players

June 5 2009

A team of Spanish and American researchers has developed a method to evaluate basketball players that will, they say, better meet the requirements of the sport's trainers and experts. The technique uses mathematical models designed to measure productivity.

"Efficiency and productivity in companies is often measured using the Data Envelopment Analysis (DEA) technique, and what we have done is to apply the same method to basketball players," José Luis Ruiz, a researcher at the Miguel Hernández University (UMH) and co-author of the study published this week in the *European Journal of Operational Research*, tells SINC.

"We have based this new technique on the same data used by the ACB League (the Spanish basketball league) in order to assess players, but we obtain more information, and this is better adapted to what basketball trainers and experts are looking for", says the researcher.

Until now, the evaluation index for players has been calculated using statistical performance indicators. Each positive aspect (shooting, rebounds or assists) is scored as +1, while negative aspects, such as losing possession of the ball, result in a point being removed (-1).

"This traditional form of evaluation assigns the same value to all the factors, but people from the world of basketball do not believe that all faults merit losing the same amount of points to those gained for scoring or recovering a rebound, and that's why we've incorporated the opinion

of these experts", explains Ruiz.

The mathematical models applied encompass aspects such as points scored, hat tricks, free shots, scoring percentage, rebounds, assists, "ball stealing" and other factors, as well as their relative importance, and also depend upon whether the player is a centre or a point guard, for example.

The researchers used the method to analyse all the players in the ACB League, by position, for the 2003-2004 season, although it could be applied to any other. The results show, for example, that of the 41 players analysed in the point guard position, Elmer Bennett and Louis Bullock were the most effective, while the best centres were Kornel David, Rubén Garcés, K. Kambala, Brent Scott and Kevin Thompson.

"In general, the DEA classifies companies or, as in this case players, as efficient if they produce the best results with equal or less resources, and as inefficient if their performance is far behind that of the first group", Ruiz concludes. The co-author of the study stresses that this technique has also been used "successfully" in evaluations of the relative efficiency of various countries in terms of productivity, and in similar studies on universities and hospitals.

Source: FECYT - Spanish Foundation for Science and Technology

Citation: New technique developed to evaluate basketball players (2009, June 5) retrieved 24 April 2024 from <https://medicalxpress.com/news/2009-06-technique-basketball-players.html>

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