Universiti Teknologi MARA

Basketball Player Selection Using Fuzzy Analytic Hierarchy

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STUDENT'S DECLARATION

I certify that this report and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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ABSTRACT

Selection of basketball players is a one-way process to choose the best players representing the teams. It helps every coach to find the eligible players in the teams. In order to do so, this study was intended to assess the weight of all the criteria identified in the evaluation of basketball players playing in the main Spanish basketball league, the Association of Basketball Clubs (ACB) and determine the most relevant selection criteria to be considered when selecting the best player using the Fuzzy Analytic Hierarchy Process (FAHP). Fuzzy Analytic Hierarchy Process (AHP) implies one multi-criteria decision-making process by determining the relative weights of each selection criterion. Through Microsoft Excel and formula, the data set was obtained involving ten players randomly chosen from 286 players. Data were then obtained from experts who ranked critical criteria through questionnaires to pick the best basketball players. Eight criteria were Years of Experience, Cost of the player, Games played, Minutes Played, Maximum Points, Blocked Shots, and Fouls performed. Based on the results, Based on the result, 'Maximum Points' was ranked first. The second rank was 'Height', followed by 'Games Played' in the third rank. Nonetheless, 'Cost of the player' was the least essential for selecting the best basketball players. 'Player 4' was rated first with a normalised 0.1738 for the best basketball players in the Spanish Basketball Club Association (ACB). The second rank was 'Player 9' with a normalised 0.1687, followed by 'Player 7' with a normalised 0.1352 in the third rank. 'Player 2' was the least among the ten players with a normalised 0.0390. As a result, basketball coaches could utilise this method to select eligible players as representatives in their teams.

Keywords: Basketball Player Selection, Fuzzy Analytic Hierarchy Process, Criteria, Decision makers, Best Basketball player.

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