

Fight evaluation of NBA teams — application of grey relational analysis

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Abstract

United States professional basketball league (NBA) is a professional basketball game with the highest level in the world and the most popular attention. The team which obtained the world champion not only can attracts more supports from fans, but also can brings unlimited business for the team. Therefore, the managers of teams think about ways of increasing of odds all the time to enhance the winning records of teams.

Based on the performance information of all NBA teams in the season 2003-2004, we choose 9 evaluation indexes and do grey relational analysis on the eastern and western regions separately to rank the teams. Then we compare the teams of the first 8 rankings with the teams which actually enter the playoff. There is one mistake in the western region and there are also only two mistakes in the eastern region. The results show that the grey relational analysis possess pretty good precision. Besides, we try to do cluster and discriminant analysis as a contrast of the grey relational analysis to discuss which teams have closer fighting abilities or which teams can enter the playoff. We distribute teams into the playoff group and the non-playoff group. The results of cluster analysis show that there are two wrong classifications on both regions. But in discriminant analysis, the classification in the western region is 100% correct and the classification in the eastern region is also 93.3% correct.

Keywords : Grey relational analysis, cluster analysis, discriminant analysis.

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