THE GEOMETRIC MEAN CONCURRENT CONVERGENCE METHOD

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ABSTRACT

This study develops an error model of dominant AHP, and the geometric mean concurrent convergence method (GMCCM). The dominant AHP was originally developed by Kinoshita and Nakanishi. The dominant AHP focuses on a specific alternative and refers to the relative importance of the criteria from the specific alternative. The specific alternative is called the regulating alternative. Furthermore, Kinoshita and Nakanishi developed the concurrent convergence method (CCM) for the case that several regulating alternatives exist and relative importance from each regulating alternative is inconsistent. Kinoshita, Sekitani and Shi proved the convergence of CCM. In this study, a multiplicative error model for the case where several regulating alternatives exist and are inconsistent is made and then, from least-square regression of that model, GMCCM is derived.

Keywords: dominant AHP, multiplicative error model, geometric mean concurrent convergence method

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