

عنوان مقاله:

Assessment and Improvement Performance of Gas Transmission Refineries Based on Various Decision Styles by an Adaptive Intelligent Algorithm

محل انتشار:

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خلاصه مقاله:

This study proposes an Adaptive Network Based Fuzzy Inference System (ANFIS) algorithm for assessment and optimization of Gas Transmission Systems Performance based on dynamic decision styles and ISO systems. To achieve the objectives of this study, a standard questionnaire with respect to dynamic decision styles and ISO standards is completed by operators. Decision. Decisive, hierarchical, flexible and integrated were standard categorization of human decision style. The six categories of indicators which are related to decision styles are used as inputs and effectiveness of ISO systems (ISO 1800, ISO 1400 and ISO 9000) are used as outputs for the algorithm. The ranking and efficiency of the organization will be assessed and optimized by ANFIS as a complementary tool for performance assessment and improvement of units. The proposed approach is applied to units in an actual Gas Transmission Refinery in Iran to show its applicability and superiority. The dominant decision style in discussed plant was recognized hierarchical decision style. Moreover, the results show that efficient decision style in discussed plant is the hierarchical decision style, too. Therefore, operators had acceptable efficiency at present. Moreover, conventional regression approaches are applied to verify and validate the results of the intelligent algorithm. It was shown that the relative error of the proposed algorithm is much smaller than conventional regression. Results of this research will be effectively useable for managers. This is the first study that proposes an intelligent algorithm for assessment and optimization of Gas Transmission Systems, Performance based on dynamic decision styles and ISO systems.

کلمات کلیدی:

Dynamic decision styles; ISO systems; Adaptive Network Based Inference System Algorithm (ANFIS); Assessment and Optimization; Gas Transmission Refinery

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