Optimization of Labor Productivity by Using Neural Network: Case Study on Fouman Chimie Industrial Group

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Iran's industry faces severe of efficiency related crises during the sanction and Post sanction period. Effective and efficient use of resources such as labor, capital, materials and energy is very effective in advancing the organization's economic goals and increasing labor productivity. Considering the fact that the Fouman Chimie Group is one of the important industrial giants in Gilan, the assessment of its manpower efficiency can be considered as an important step forward in achieving the goals of the managers. In this study, a model using Artificial Neural Network optimization algorithm was designed considering a wide range of influential factors on human resource performance. First, through relevant study and investigation, factors affecting labor productivity have been identified in this industry. Then, the required data for modeling are obtained through the distribution of the questionnaire. The questionnaire consists of four parts: personal information, productivity structure, effective factors and productivity enhancement tactics. The sample population of the research is 300 employees of the Fouman Chimie Group. After designing and optimizing the network in MATLAB software, the network in the testing process with an acceptable error of 1.54 × 10 (^ 3) was able to measure the productivity of manpower Modeling. Keyword: Human Resources Productivity, Neural Network, Meta-Innovative Algorithm, Industry.

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