

عنوان مقاله:

Developing a Decision Support System for Extracting Knowledge to Improve the Quality of the Production Situation by
Focusing on Big Data in Industry

محل انتشار:

مجله آنالیز غیر خطی و کاربردها، دوره 10، شماره 0 (سال: 1398)

تعداد صفحات اصل مقاله: 14

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خلاصه مقاله:

Abstract The use of energy in industry affects every single citizen directly through the cost of goods and services, the quality of manufactured products, the strength of the economy, and the availability of jobs. In addition, big data and analytics play an important role in the way of using energy in different industries. Therefore, the purpose of this paper is to extract knowledge from big data of industry by using a decision support system. The mentioned data which acquired from IOT sensors is used to improve production situation. This post-processing information, with the help of a decision support system provide valuable information for the manager in their decision-making process. The proposed system of this research can be used by managers even without the technical knowledge in order to produce better quality product with lower cost and usage of energy. Due to the growing trend of industries and their competitiveness in the world and especially in Iran, companies must pay attention to quality of production, lowering costs and reducing energy consumption in order to maintain their position and stay in competitive market. Thus, considering the purpose of this research, HORMOZGAN cement company from Iran has been studied as a case study for the implementation of the mentioned system of this research. MATLAB software is used for design GUI of this system. As a result of this research, the electrical energy data received by IOT sensors created the opportunity of the knowledge extraction. A complete set of reports, the analysis of data in dashboards, process of optimization and long-term planning and using what-if analysis are some capabilities of this system. The results of this system compare with current method in HORMOZGAN company indicates improving quality of production, cost reduction, lower energy consumption and better planning.

کلمات کلیدی:

Internet of Things (IoT), Big Data, Decision Support system, Extracting Knowledge, Energy reduction

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