

عنوان مقاله:

Decision Support Approach to Occupational Safety Using Data Mining

محل انتشار:

فصلنامه بین المللی مهندسی صنایع و تحقیقات تولید، دوره 30، شماره 2 (سال: 1398)

تعداد صفحات اصل مقاله: 17

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خلاصه مقاله:

For an industry to develop, occupational safety is a key factor in protecting the worker s health, achieving organizational goals, and increasing productivity. Therefore, research is required to investigate those factors affecting occupational safety. Based on the information gathered from the paint halts of an industrial unit in Tehran, this research uses data mining technique to identify significant factors. First, based on a literature review up to 2018, an insight into existing approaches and new ideas were obtained. Then, with significant 5600 units of data, the results of the charts, association rules, and K-means algorithm were used to extract the latent knowledge with the leaserror without human intervention by a six-step Crisp methodology. The results of charts, association rules, and K-means algorithm for clustering are in line and have been successful in determining effective factors such as important age groups and education and identifying important events and the halls; finally, the root causes of major events were the research questions. The results reveal the significant trace of very young and young age with often diploma education and low experience in major accidents involving bruising, injury, and torsion, often due to self-unsafe act and unsafe conditions such as slipping or collision with things. In addition, the important body members, hands, and feet in color retouching and surface color cabins are at risk. This paper uses a real case study and applies different approaches to improve safety strategy, which has received insignificant attention in this literature. Finally, suggestions for future research are presented

کلمات کلیدی:

Occupational safety, Data mining, CRISP, Association rules, K-means algorithm

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