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Occupational Accidents as Opposed to Country's Region: The Case of Poland Using Unsupervised Learning*

Michał PAJĘCKI and Katarzyna KILIAŃSKA

Faculty of Management and Computer Modelling, Kielce University of Technology, Kielce, Poland,

Correspondence should be addressed to: Michał PAJĘCKI; m.pajecki@tu.kielce.pl

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Abstract

Occupational accidents constitute a serious social and economic problem, causing physical and psychological pain of the casualties and their families, as well as financial losses. This article concentrates on indicating the differences in the structure of occupational accidents between different regions of the country, using Poland as an example, based on data from 2017-2021. The task of collecting data on such incidents in Poland is carried out by the Statistics Poland (GUS). The main objective of the article is to identify the group of voivodeships where the risk of occupational accidents and death of an injured person is the lowest and the highest. To tackle the aim, selected data mining techniques were used – in this case k-means clustering. Finally, four separate clusters covering the voivodeships were obtained and then characterized. The study suggests that the safest voivodeships in Poland in the context of occupational safety hazards are Małopolskie and Mazowieckie. The obtained results can be useful for employers and occupational safety and health services.

Keywords: occupational accidents, voivodeships, Poland, clustering

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