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Title: Home sweet home: Assessment of Readiness of Croatian Companies to Introduce I4.0 Technologies

Abstract:

The main topic of this paper is to estimate the possibility and inclination of Croatian companies towards technology and innovation as well as to analyze advantages, limitations and risks involved with this significant technological leap. In this paper, we analyzed 7.147 of Croatian business entities operating in different industries. Starting point in this research is to identify other subjects which could be users of I4.0 or its elements, based on the similarity of indicators with indicators of a sample of 58 identified I4.0 companies. We developed machine learning model by using extreme Gradient Boosting algorithm (XGBoost) for this purpose, an approach which has not been used in any similar researches. This research shows that the main difference between I4.0 and traditional industry is mostly observable in significantly better business performance of investment indicators, cost efficiency, technical equipment and market competitiveness. Riskiness of I4.0 companies is significantly lower than the riskiness of traditional ones. We identified 141 companies (1,97% of total analyzed sample) as potential users of I4.0, which make around 27% of total assets of the analyzed sample and around 26% of revenues.

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