

Factors affecting Quality 4.0 implementation in Czech, Slovak and Polish organizations: Preliminary research

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ABSTRACT

With the proliferation of the Industry 4.0 paradigm, the inadequacy of conventional quality management tools has become increasingly apparent. The preliminary investigation presented in this paper focuses on the identification of the Quality 4.0 readiness level of organizations operating in the Czech Republic, Poland, and Slovakia, as well as affecting factors. The study is based on the review of relevant literature. The web-based questionnaire enabling organizations' representatives through Computer-Assisted Web Interviewing (CAWI) to take part in the study was used. Data from 298 completed responses were subjected to comprehensive analysis. Descriptive statistics and hypothesis testing were applied to analyse the data. Small and medium-sized organizations achieve low levels of Quality 4.0 readiness. Large organizations are better prepared. The study confirmed the dependence between the Quality 4.0 readiness level and whether the organization operates in automotive, while automotive organizations achieved a higher level of Quality 4.0 readiness than other organizations. The significant relationship between the Quality 4.0 readiness level and whether the organization has a certified management system was also confirmed. Received data also enabled the identification of the main barriers and benefits of Quality 4.0 implementation perceived by the organizations. The research findings identify the challenges that enterprises face regarding the Quality 4.0 implementation and the necessary support that organizations require. These findings can be a foundation for developing novel research initiatives and implementation programs. The research results contribute to the existing body of knowledge and bring new information and insights into the field of quality digitalization.

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