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Indicators to Evaluate Elements of Industry 5.0 in the Textile Production of MSMEs

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Abstract

Textile MSMEs are going through a period of instability and greater difficulty in executing their operations due to factors derived from the pandemic, globalization, policies, and environmental and social needs. This is driving companies to abandon classic methods and turn to the use of innovative concepts as manners to promote sustainability and resilience. One of these concepts is Industry 5.0, which, according to the European Commission, focuses on sustainable manufacturing and operator well-being and complements Industry 4.0 as it seeks to improve factory efficiency through technology by placing the human being at the center of development. At the same time, it minimizes environmental and social impacts and enhances resilience. Aware that implementing these new trends is a challenge for MSMEs, this study contributes to the generation of indicators to evaluate elements of Industry 5.0 in the textile production of MSMEs, supporting the development and implementation of strategies focused on this area. The construction of the set of indicators is based on a 3-phase framework that consists of doing a systematic literature review, selecting the indicators by a process of analysis and comparison, and expanding their characteristics through elaborating data sheets. As part of the results, 172 indicators completed a rigorous selection and validation process. These will serve as the basis for developing sustainable, resilient, and human-centered production models that can be carried out in future research. © 2022, The Author(s), under exclusive license to Springer Nature Switzerland AG.

Author keywords

Indicators; Industry 5.0; MSMEs; Sustainability; Textile industry

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