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Facility Layout Design in Textile MSMEs. Literature Review of Resilient Indicators

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Abstract

The capacity to respond and adapt to risks and problems in an organization is critical for business success. Any type of weakness causes inefficient use of resources. On the contrary, flexible facilities can ensure the continuity of operations in the face of disruptive events, which significantly harm the

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company. However, flexibility is not achieved only with the optimization of facilities, as resilient approaches can enhance it. This research synthesizes the variables and indicators with greater use in three different areas, business resilience, textile industry, and the facility layout problem (FLP). A systematic literature review was conducted, considering 99 studies published in 2010–2021. The documents were analyzed using the Atlas.ti software, a 4W (When, Who, What, and Where) analysis, and three research questions posed through the PICO strategy. The findings indicate that the scientific interest regarding resilience has been increasing in the last six years, specifically in evaluation methods and approaches to identify resilience factors and indicators in the industry through fuzzy mathematical models. It is also highlighted the scarcity of resilient FLP studies the importance of indicators for an accurate model. Finally, a set of possible indicators for the facility layout design with a resilient approach based on FLP factors is proposed. © 2023, The Author(s), under exclusive license to Springer Nature Switzerland AG.

Author keywords

Facility layout problem; Indicators; Resilience; Textile MSMEs

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