

# **Measuring The Maturity of Digitalization Transformation from Operational Excellence's Perspective**

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## **Abstract**

Operational Excellence (OE) means the development of innovative sustainable production science and technologies that cover the entire live cycle of products but also of services. The food-packaging industry examined in this paper so far lacks a comprehensive yet consensual framework that encompasses all aspects of measuring the maturity of digitalization transformation from an Operational Excellence perspective. Consequently, this paper aims to show the significance of the application of Industry 4.0 technologies in a lean environment. When looking at OE initiatives, the main question is the inefficiencies that occur at different stages of production. The goal is to enable the actual analysis of OE initiatives so that their digital maturity can be determined. The basis for the development is a systematic literature analysis to identify existing maturity models in the context of the research fields of digitization, Industry 4.0, and in particular the process digitization. Based on this, a maturity model will be designed and evaluated in a company-related application context. With certain modifications, Industry 4.0 concepts and technologies can be applied to the observed case plants. Combining these advanced technologies with lean principles can lead to better OE initiatives than applying these concepts alone. As a result, the integration of Industry 4.0 technologies into a lean environment can be proposed as a viable solution to improve OE performance. This paper presents the results of a comprehensive and systematic literature review in the areas of OE performance improvement, Industry 4.0, lean management, and food packaging. The paper provides insight into the current state of knowledge in the respective areas and suggests the way forward for future research.

**Keywords:** maturity model, digitalisation, operational excellence, food-packaging