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Sustainable Performance: A Paradigm Inducing New Needs of Interoperability Between Maintenance and Scheduling Activities in Manufacturing

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Abstract

Sustainability, or more precisely the sustainable performance as the social, economic and environmental balance, is a new paradigm for production systems having consequences on their management. In this context, the split of performance in the three dimensions efficiency-effectiveness-relevance, find a new utility to build decision supports for this management. In this paper, we firstly show what are the new stakes related to these three dimensions. We then point the impact of two short-term activities on these dimensions of sustainable performance: scheduling of manufacturing tasks and maintenance of manufacturing systems. We review some scientific works on these subjects, and we show how some of them could contribute to needed efficiency, effectiveness and relevance. This review leads us to discuss the needs of interoperability of maintenance activities and manufacturing scheduling, to underline scientific issues related to this interoperability, and to propose future research directions to improve it.

Keywords: *sustainability, manufacturing scheduling, maintenance, interoperability, ontology.*

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