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Relationships of lean, green manufacturing and sustainable performance: Assessing the applicability of the proposed model (Conference Paper)

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Abstract

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While Lean Manufacturing (LM) focuses on minimization of wastes, Green Manufacturing (GM) emphasizes on achieving zero emissions. Little is known about the linkage between these two initiatives and their integration. Furthermore, it is also not clear whether these two initiatives can coexist in the same organization or not. To address the gaps, this paper highlights the potential synergic effect and proposes a multi-dimensional model based on assumptions (1) GM is represented by the soft aspects of Environmental Management System (EMS), (2) the EMS is the possible mediator in the relationship between LM and Sustainable Performance (SP), and (3) the mediating model can be examined using bootstrapping technique within Structural Equation Modeling (SEM). The contributions of this paper are theoretical in nature which include (i) proposal of a conceptual approach comprising of three integrated models (ii) introduction of the lean manufacturing with four bundles namely, problem solving, process, philosophy and people (LM 4P). Four hypotheses were postulated for the research. The preliminary results indicate that the model is validated by conducting semi structured interviews in few industries in Malaysia. The future direction of this paper is to empirically investigate the model for hypotheses testing through the techniques employed in SEM. © IEOM Society International. © IEOM Society International.

Author keywords

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