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Industry 4.0 and its Management vis-à-vis Horizontal and Vertical System Integration

Khristian Edi Nugroho SOEBANDRIJA
Industrial Engineering Department,
Faculty of Engineering, Bina Nusantara University
Jakarta, Indonesia, 11480
Knugroho@Binus.Edu

Abstract

Industry 4.0 and its management within industrial management are deemed an indispensable combination to achieve sustainable competitive advantages and sustainable development goals, within horizontal and vertical system integration. To some extent, industry 4.0 is deemed broad disciplines ranging from processes of production, efficiency, effectiveness, database management system and management information systems toward the broad stakeholders. Simultaneously, Industry 4.0 is becoming new buzzword for corporate world and requiring further contribution in management literature. In industry 4.0, there are several techniques to be used and not limited to value stream mapping (VSM), Kanban, total preventive maintenance (TPM), lean six sigma, overall equipment effectiveness (OEE), Kaizen and Smart Internet of Things (IoT). The mentioned techniques are subsequently synergized into accumulating sustainable competitive advantages and sustainable development goals, as the objective of using Industry 4.0 in management and engineering perspectives within horizontal and vertical system integration. The research methodology on this paper emphasizes a quantitative approach. Yet, a qualitative approach is welcome to be applied if it is deemed significant.

Keywords
Industry 4.0, Industrial Engineering, Management, System Integration, Sustainability