Proposal for a Conceptual Model for Evaluating Lean Product Development Performance: A Study of LPD Enablers in Manufacturing Companies

Daniel Osezua Aikhuele and Faiz Mohd Turan
Faculty of Manufacturing Engineering, Universiti Malaysia Pahang, 26600 Pekan, Pahang, Malaysia

ABSTRACT
The instability in today's market and the emerging demands for mass customized products by customers, are driving companies to seek for cost effective and time efficient improvements in their production system and this have led to real pressure for the adaptation of new developmental architecture and operational parameters to remain competitive in the market. Among such developmental architecture adopted, is the integration of lean thinking in the product development process. However, due to lack of clear understanding of the lean performance and its measurements, many companies are unable to implement and fully integrate the lean principle into their product development process and without a proper performance measurement, the performance level of the organizational value stream will be unknown and the specific area of improvement as it relates to the LPD program cannot be tracked. Hence, it will result in poor decision making in the LPD implementation. This paper therefore seeks to present a conceptual model for evaluation of LPD performances by identifying and analysing the core existing LPD enabler (Chief Engineer, Cross-functional teams, Set-based engineering, Poka-yoke (mistakeproofing), Knowledge-based environment, Value-focused planning and development, Top management support, Technology, Supplier integration, Workforce commitment and Continuous improvement culture) for assessing the LPD performance.

DOI: 10.1088/1757-899X/114/1/012047