

Design for Six Sigma and lean product development

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Abstract

Purpose

Six Sigma and lean production are established concepts in industry and academia. Both have given rise to associated concepts that have been applied in product development: Design for Six Sigma (DFSS) and Lean Product Development (LPD), respectively. Proposals are being published for the merger of DFSS and LPD, and the purpose of this paper is to discuss potential benefits and risks of such proposals.

Design/methodology/approach

The paper is based on an interview study encompassing 11 interviews at seven companies.

Findings

The results show that a possible merger of DFSS and LPD could prove beneficial in providing guidance both on the structure and the content of improvement efforts. Further, a merger has a potential of supporting radical, as well as incremental, improvements. However, differences in industrial practices that should be considered in applications of a merged initiative are the overall goal of the improvement work (cost reduction versus waste reduction), the emphasis on what to do or on how to do it, and the documentation demanded (extensive versus short and visual).

Research limitations/implications

This study has taken DFSS and LPD applications as its starting point, as the merged initiative of DFSS and LPD has started to develop further studies based on the implementation of the merged initiative would be of value. These studies could especially focus on the organisation of improvement work, identified in this paper as a potential area of conflict.

Originality/value

This paper discusses potential benefits as well as risks of merging DFSS and LPD based on industrial experiences. Consideration of the differences addressed, by practitioners as well as academics, will contribute to a well thought-out design of a merger of the two concepts.

Keywords

Six Sigma

Lean production

Design for Six Sigma

Lean product development

Six Sigma and lean production

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Lean Product Development. IPD is a methodology that attempts to apply the principles learned in lean manufacturing in the PD area. These are made to create a flow in PD that will help the PD process to go faster. This possibility to realise new product faster will enhance the reactivity of a company in the market (Einhartsen, 2002). Design for Six Sigma 1 from the viewpoint of robust Design methodology, Journal of Six Sigma and Competitive Advantage, 9(1), Go D, pp 20-22. Barry, Daniel, Schroeder, Richard, Six Sigma, the 2-year through, Management, Strategy, +evolutionizing the worlds (op Corporation, Currency, Gew Lor?arlsson, Christer, @lhstrAm, PNr, ...), The Difficult Path to lean. Lean Six Sigma really is about getting key principles and concepts into the DNA and lifeblood of your organisation so that it becomes a natural part of how you do things. This book seeks to help managers and team leaders better understand their role and improve organisational efficiency and effectiveness. If you want to change outcomes, you need to realise that outcomes are the result of systems. Not the computer systems, but the way people work together and interact. And these systems are the product of how people think and behave. When you need to develop a new process, the Design for Six Sigma method comes into play. Known as DMADV (Define, Measure, Analyse, Design and Verify), we provide an introduction to this method in Chapter 12. Lean Six Sigma combines the strategies of Lean and Six Sigma. Lean principles help to reduce or eliminate process wastes. Six Sigma focuses on variation - reduction in process. Thereby, the principles of Lean Six Sigma help to improve the efficiency and quality of the process. Source: www.circle6consulting.com. Why is Lean Six Sigma gaining the importance in today's scenario? All rights reserved. IASSC® is a registered trade mark of International Association for Six Sigma Certification. Certified ScrumMaster® (CSM) is a registered trade mark of SCRUM ALLIANCE®. CISSP® is a registered mark of The International Information Systems Security Certification Consortium (ISC)2.