Integrated Performance Index in Collaborative Design from Value Chain Respective

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ABSTRACT

From the beginning of the twenty-first century, global market has changed rapidly and is becoming very competitive. The challenge for a company is to reduce the design, development and manufacturing time in line with demands of the market. As a result, companies select variety methods to collaborate with suppliers and customers designing together. In every industry, to achieve a collaborative design, most companies apply Product Data Management (PDM) system to improve the new product development flow. However the new flow is whether better than the original flow? From value chain viewpoint, this paper proposes an Integrated Performance Index (IPI) which for analyzing the collaborative development flow. It is consisted of merit index of project, risk index of project, category bias index of project, progress deviation index of project, cost deviation index of project, decision effectiveness index of project, customer commitment index of project, cost effectiveness index of project and production preparedness index of project. Finally a footwear company in Taiwan was studied, it revealed that the PDM application can significant enhance the collaborative design processes.

Keywords : New product development, collaborative design, value chain, Integrated Performance Index, product data management system.

Table of Contents

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