

Studies on Manufacturing Logistics by Using Data Mining Approach

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Abstract - In the early stages of the design process, concurrent engineering plays a major role in various product design attributes such as aesthetics, durability, ergonomics, interchangeability, logistics, maintainability, marketability, manufacturability, procurability, reliability, remanufacturability, safety, schedulability, serviceability, simplicity, testability and transportability. The greatest impact and benefits of concurrent engineering are evaluated at the design stage of product development. This paper supports the manufacturing logistics involvement in the early phases of product design and development in a concurrent engineering environment. A concurrent engineering model (CEM) developed by using a data mining approach. The CEM forms a clustering algorithm and it helps in decomposition of complex design problems into simple and manageable sub design problems. A study is presented to test the model and it achieves reduction in design cycle time drastically and it improves better system effectiveness.

Keywords

Concurrent Engineering, Manufacturing Logistics, Data Mining, Product and system design, Design and Manufacturing Interface.