

The Effect of the Learning Curve on Production of
New Products with Short Life Cycle

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論文題目和訳 「短いライフサイクルを持つ新製品製造における学習曲線の影響」

Abstract

It is well recognized that manufacturers of consumer goods throughout the world are facing new challenges, including global mega-competition and shorter product lifecycles. In response, companies are restructuring and moving away from traditional practices so as to establish efficient ways of managing global-scale value chains. In this regard, it is crucial to develop production management systems capable of achieving reduced lead times and production costs for products of short lifecycle. The purpose of this thesis is to propose a cost minimization method for the assembly of such products, where the effect of the learning curve is taken into account in the workforce allocation problem for line balancing for the first time. Numerical experiments were conducted using Xpress-MP, a mathematical modeling and optimization software, demonstrating the importance of the effect of the learning curve in cost reduction.

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