

Amornrat Duangkaew 2011: Optimization of Demand Allocation for Semiconductor Supply Chain with Multi-Criteria under Multiple Products. Master of Engineering (Engineering Management) Department of Industrial Engineering. Thesis Advisor: Associate Professor Patcharaporn Yanpirat, D.Tech.Sc. 159 pages.

This study was aimed at to propose the aggregate production planning with the benefits consideration for the entire supply chain of the semiconductor industry. The case based study was conducted. The large scale mathematical model was developed by using Multi-Objective Mixed-Integer Non-Linear Programming technique. Demand for products; which have short product life, were forecasted using Genetic Algorithm based Grey Method (GAGM) as well as manufacturing and capacity constraints with no advanced production planning constraints were assumed under the entire supply chain's profit maximization. The result revealed the efficient solution with the acceptable profit level under alternated demand allocations within the chain.

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Thesis Advisor's signature