

Rolling horizon production and order planning in a cooperative supply chain relationship with quota agreements

by

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Manufacturing industrial companies are increasingly focusing on their core competencies and are outsourcing the production of basic production factors to suppliers. Therefore frame contracts are often concluded which can contain quota agreements to determine the share of individual suppliers on the total amount of orders. For a supply chain section which consists of several companies, a cost minimal planning of the whole section can theoretically be achieved by a central planning approach which considers all costs and all interdependencies of the involved companies simultaneously. But for that approach the companies have to be willing to exchange their sensitive data.

In his dissertation Tobias Rust analyzes a holistic scenario where a rough and a fine planning from both customer and supplier side takes place under consideration of a quota agreement and a rolling horizon planning. He assumes that no sensitive data is exchanged and that all companies are acting egoistically and planning autonomously. The order planning respectively the delivery planning are integrated in the production planning of each company to consider the interdependencies of the normally isolated planning steps. Mr. Rust develops methods and analyzes arrangements which can save money for all involved companies under realistic circumstances.