

Title: The scope of demand-driven material requirements planning in operative purchasing of a multi-national company: A case study

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Abstract: The objective of this study is to address existing study gaps by defining what materials are demand-driven material requirements planning (DDMRP) suitable and building a tool that helps to identify such materials. The research problems are approached with three different questions about suitability, features of the identification tool, and financial impact. The research methodology consists of a mixed method case study approach, where semi-structured interviews were conducted with supply chain professionals from the case company, and quantitative data related to the case company's operations was analyzed. The data consisted of the relevant data of over 10,000 purchased materials. The findings of this study suggest that there are no certain characteristics that materials suitable for DDMRP have, but the potential must be defined individually in the case of every purchased material. The tool initially developed in this study helps to identify materials that meet the requirement of providing potential positive financial impact if brought into DDMRP scope by analyzing historical demand data, lead times, and inventory carrying costs.

Keywords: Demand-Driven Material Requirements Planning (DDMRP) Material suitability assessment Supply chain optimization Inventory management Mixed-method case study Semi-structured interviews

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