Research Note

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Integrated Vendor-Buyer Production and Inventory Policy: A Critical Review

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Abstract: Tough competition in the current global economy has been forcing vendors to collaborate with buyers in managing their material flows to achieve a higher level of customer satisfaction. Integrated production and inventory policies between vendors and buyers could provide significant operational cost savings. Despite its potential saving, however, no up-to-date review which provides a picture of how far such integration has been achieved. Therefore, this study fulfils this need by presenting a thorough literature survey on integrated vendor-buyer (IVB) production and inventory policy based on supply chain structure, uncertainty factors, transportation issues and coordination mechanisms aspects. Two areas of IVB, namely the Joint Economic Lot Sizing Problem (JELSP) and the Economic Lot and Delivery-Scheduling Problem (ELDSP) are covered. The review reveals that significant gaps between current research and real industrial problems are found. The majority of previous works tend to oversimplify industrial practices in the concerned aspects. Hence, potential works to be addressed in future studies are proposed to bring those areas closer to real life industrial problems.

Keywords: Vendor-buyer integration, inventory policy, finite production-rate, JELSP, ELDSP, lot sizing

INTRODUCTION

Fierce market competition nowadays has driven every company to seek better methods in optimizing their operational activities to achieve a higher level of

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