

A DATA-DRIVEN INDICATOR FOR IDENTIFYING CROSS-DOCK ITEMS

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ABSTRACT

Cross-docking facilities provide supply chains with a flexible strategy for meeting end-customer order fulfillment timing requirements by facilitating transportation consolidation and reducing warehousing time. Previous research has indicated that items that experience stable demand patterns may be candidates for cross-docking. This paper develops a different indicator for whether an item should be cross-docked by using operationally available shipping patterns as well as demand. The paper describes the decision-making context for the problem including a very realistic minimal set of data requirements needed to compute the indicator metric. Then, the use of the metric is illustrated on actual supply chain data. The key contributions of the work include the proposed metric as well as an operationally useful methodology for computing implied ordering costs.

Keywords: Cross docking, Transportation, Warehousing, Logistics, Supply Chain