DEVELOPMENT OF LOT SIZING INTEGRATION MODEL FOR PRODUCER AND DISTRIBUTOR USING IMPERFECT QUALITY ITEM, TWO WAY IMPERFECT INSPECTION, AND SALES RETURN CONSIDERATION

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Abstract
In the traditional inventory management, production and ordering lot sizing are determined independently. It can make economic production lot size not equal with economic ordering lot size. Because of this condition, it need to determine integration lot sizing model both of them which can measured their need. Lot sizing model which considering together need is called Joint Economic Lot Size (JELS).

Inspection, is done by producer for knowing what is the quality of the product. In inspection process there’s an error and can be misclassification product. An error type II will generate defect sales return from distributor. In the producer, defect sales return and defect item will be reworked and salvage. Inspection process, sales return, and reworked process will add cost component. Based on this condition, this research wiling to make lot sizing integration model between producer and distributor with considering of imperfect quality product, two way imperfect inspection, and sales return.

From the calculation result, total cost with independent system is higher than joint system, and the total cost with rework joint system is higher than standar joint system.

Keyword: inventory, imperfect quality, inspection error, defect return, rework, salvage, lot size, JELS
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