

The derivation of EOQ/EPQ inventory models with two backorders costs using analytic geometry and algebra

[Cárdenas-Barrón, L.E.](#)^{a,b,c}

^aDepartment of Management, School of Business, Instituto Tecnológico y de Estudios Superiores de Monterrey, Itesm, Campus Monterrey, Mexico

^bDepartment of Industrial and Systems Engineering, School of Engineering, Instituto Tecnológico y de Estudios Superiores de Monterrey, Itesm, Campus Monterrey, Mexico

^cE.Garza Sada 2501 Sur, C.P. 64 849, Monterrey, N.L., México

The EOQ model will have a century of its discovery in two years, and recently still, many researchers have been using alternative approaches to model and solve inventory systems. The EOQ/EPQ models have been developed using different optimization methods. However, in many of the works that deal with the EOQ/EPQ with backorders only linear backorders cost is considered. This paper proposes another easy method which uses basic concepts of analytic geometric and algebra. The proposed method finds the optimal lot size and backorders level considering both linear and fixed backorders costs. Additionally, this paper presents a review of the different optimization methods utilized in inventory theory. © 2010 Elsevier Inc.

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