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Using Comparative Cost Model to Optimize the Production Decisions in a Food Factory

Santiago Najera and Paola Herrera

Universidad de las Americas, Ecuador

Corresponding author's Email: santiago.najera@udla.edu.ec, paherrerasa@uide.edu.ec

Abstract: Companies always face a restriction of resources to produce at minimum cost to satisfy the market requirements (Cachon & Terwiesch, 2012). However, trying to match production and demand always generate decision problems due to multiple restriction that don't allow companies to produce everything in the exact amount need it and under specific time. The present works propose a model to optimize the decision done by companies at the time they must decide which products must be produced and which products not. Once a production facility is saturate or close to be fulfil their overall production capacity, it is important to define the importance or hierarchy of their products (APICS, 2012). Most of the times companies weight the importance of products by the gross margin of each product; nevertheless, the calculation of costs done lack of enough rigorous approach due to unawareness about the production process by the financial department. For this reason, this paper suggests an approach to this problem using comparative costs. These means, calculating the cost of a product in the amount of production of another item. Through comparative cost, a company can determine how many times more a product cost in comparation of other production. When a company hast defined their comparative cost matrix, it is possible to optimize the production of a saturate facility by defining the limits of demand and the size of each production batch (Krajewski, Malhotra, & Ritzman, 2016).

Keywords: Comparative Cost analysis, optimization, production constrains, food industry

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