

Reducing Finished Cardboard Carton Inventory: A Case Study

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Abstract

This work describes a case study of a Mexican company that manufactures a numerous number of cardboard carton box sku's. The firm has the strategy of producing to order 26% of its sales and the rest is fabricated to stock. The main problem that requires the attention of upper management corresponds to the high level of finished goods inventory maintained by the company. After an exhaustive stage of analysis, it was found that the main aspects that contribute to the huge inventory levels are; poor handling of demand forecasting; deficient coordination with the area of production planning and control and; customer service management. The paper describes in a detailed basis the initiatives designed to improve the root causes. Also, it provides a summary of the results obtained in pilot testing.

Keywords

Finished product inventory, Postponement, Forecasting error reduction, Production programming

Biographies

Bernardo Villarreal is a full professor of the Department of Engineering of the Universidad de Monterrey. He holds a PhD and an MSc of Industrial Engineering from SUNY at Buffalo. He has 20 years of professional experience in strategic planning in several Mexican companies. He has taught for 20 years courses on industrial engineering and logistics in the Universidad de Monterrey, ITESM and Universidad Autónoma de Nuevo León. He has made several publications in journals such as Mathematical Programming, JOTA, JMMA, European Journal of Industrial Engineering, International Journal of Industrial Engineering, Production Planning and Control, Industrial Management and Data Systems and the Transportation Journal. He is currently a member of the IIE, INFORMS, POMS, and the Council of Logistics Management.

Gabriel Schroeder is a CUM LAUDE Industrial Engineer graduated from Universidad de Monterrey (UEM). His specialty is strategic planning and the operations and logistics improvement. She has participated on several projects such as The Redesign of the Supply Process of Drugs on a Medical Center and the Improvement of the routing operations of a soft drink bottling firm. Nowadays, He works at FEMSA S.A. de C.V., developing operations strategies for improving quality and productivity. Gabriel is a member of the IISE, ASQ and APICS Societies.

Karen Treviño is a CUM LAUDE Industrial Engineer just graduated from Universidad de Monterrey (UEM). She has participated on several projects such as the Improvement of the routing operations of a leading convenience store firm. She also applied Lean Thinking principles for Improving the Productivity of several metal assembly lines for a Mexican metal mechanic company. Currently, she has started to work at a Mexican firm leader in the manufacturing of frozen and refrigerated food as a transportation and traffic analyst. Mariana is a member of the IIE and ASQ Societies.