

Reduce Fast Food Shrinkage due to Distribution: A Case Study

Paola B. Lomas, Alejandra Ahumada, Lucia Flores & Bernardo Villarreal

Department of Industrial Engineering

Universidad de Monterrey

San Pedro Garza Garcia, N.L.

paola.lomas@udem.edu, alejandra.ahumada@udem.edu, lucia.flores@udem.edu,
bernardo.villarreal@udem.edu

Abstract

Perishable products management has become a challenge for supply chains due to the special properties and factors that need to be controlled among the processes. Likewise, the waste recovered it's hardly ever reused, contributing to food waste. The main challenge has been to get to the customer with a non-expired product because of the short shelf life and temperature requirements and the handling and transporting of delicate items. This work is developed with the objective of decreasing the generation of shrinkage of fast food items due to improper handling procedures during their transportation to convenient stores of an important Mexican company. The main initiatives considered include the redesign of the basket and the layout of the truck container for transporting items, and the improvement of handling procedures by the operators during transportation and at the store. The results of a pilot program are presented along with recommendations for future implementation.

Keywords

fast food waste; shrinkage; lean approach; packaging; food handling

Biographies

Paola B. Lomas is a CUM LAUDE Industrial Engineer graduated from Universidad de Monterrey (UDEM). Her 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, She works at FEMSA S.A. de C.V., developing operations strategies for improving quality and productivity. Paola is a member of the IISE, ASQ and APICS Societies.

Alejandra Ahumada is a CUM LAUDE Industrial Engineer just graduated from Universidad de Monterrey (UDEM). 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. Alejandra is a member of the IIE and ASQ Societies.

Lucia Flores is a CUM LAUDE Industrial Engineer just graduated from Universidad de Monterrey (UDEM). 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. Lucia is a member of the IIE and ASQ Societies.

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.