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## **Statistical Analysis of Service Times in the Puebla and Tlaxcala Branches of an International Fast Food Company Using a $\bar{X} - S$ Chart**

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**Abstract:** The Mexican division of an international fast food restaurant received some complaints related to large service timeouts in several branches. The company decided to hire mystery shoppers in order to obtain reliable first-hand information about why their service was taking too long, and why were there so many complaints. This study shows the results of the evaluation made based on the times taken by the mystery shoppers for 13 different branches located in the states of Tlaxcala and Puebla, Mexico, for the first half of 2013 with two samples per branch. The results were analyzed and they revealed that the average of the service time since customers get in the line until they receive their complete order is 3.5 minutes. Although the process is in statistical control, the variation in service times is significant and it is close to its control limits. Customers' specifications and process capability were also taken on account. Some samples were analyzed individually to find out special causes of variation that might affect the process and customer satisfaction. In order to reduce the complaints and increase customer satisfaction, the entire process was analyzed and based on the results some improvement strategies were proposed.

*Keywords:* Fast food, statistical control, process capability.