

## A Method for Application of Lean Techniques and Queuing Theory in Food Services

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**Abstract:** Manufacturing and services organizations confront problems related to variability in demand; causing the occurrence of the waiting waste, the main responsible for the generation of queues, which impacts not only on quality, but also on the possible loss of customers. Therefore, it is important to seek opportunities to reduce, or even eliminate such waste. In this article, we propose a methodology that includes Lean principles jointly with queuing theory to address this problem. This methodology is applied to queues within a Mexican university cafeteria which, during rush time, it blows up due to variability in demand, being evident confusion and disorder in the cafeteria. The methodology has three phases: first the Current process analysis, second the Arrival analysis and, finally Improvement analysis. Using a simulation model and, encompassing both the current and future desired situations, the analysis is carried out, giving as results some strategies to deal with this problem.

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