

Service Rate Improvement through Workforce Optimization: The Case of Mang Inasal, Lahug, Cebu City

D. C. David¹, V. A. Lubguban², M. C. Perez³, A. T. Liggayu⁴

Department of Industrial Engineering, University of San Carlos, Cebu City, Philippines
dandavidjr@yahoo.com¹, lubguban.ven@gmail.com², maracielo_perez@yahoo.com³,
liggayualaine@gmail.com⁴

Abstract

Especially in fast food restaurants, a factor that would create an impact to the customers' satisfaction is the timely delivery of the product and the availability of the service. Wait time is affected by the design of the queuing system, which is defined by two elements: the population source of its customers and the service system itself, which largely dependent on the labor resources. This research intends to optimize the current manpower capacity of the restaurant. This is in order to improve the customers' wait time experience and increase customer satisfaction. It is directed at applying customer service expectations to the restaurant's labor resource planning and allocation. The results of the simulations of the current system at the counter station and at the dining area reveal the degree of non-conformance of the wait times with respect to the customers' acceptable wait times. Such results affirm that there is a significant room for service rate improvement through optimizing the workforce. The optimization involves assigning the appropriate number of employees at each workstation within specific periods of time, proposing valid solutions to minimize the occurrences of prolonged waiting, and minimizing costs. The results of the workforce optimization models through integer programming show that there is a need to fully utilize the existing employees and to reschedule each employee's shift in order to accommodate the expected demand.