Process Optimization and Identification of Franchising Opportunities for Flower Shop, Inc. in Puerto Rico

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Abstract

Flower's Culture is a luxury flower shop established in 2018 which is in continuous growth. In 2020, the company experienced a 603% increase in demand, for which it was decided to move from a carriage shop to a full-size establishment. These changes have caused certain irregularities in customer service and waste of raw materials. The first irregularity identified is that 18.4% of flowers bought are disposed of because they were never used, and they perished. The second irregularity found is that the service time increased by 13.7% due to wastes in transportation. Identifying the root causes of these problems through a cause-and-effect diagram, the problems were divided into three sub-problems which each have three to five proposed solutions. The subproblems in the first problem are no maintenance standardization, economic loss mitigation, and no demand estimation logic. Furthermore, for the second problem the subproblems are transportation, motion, and waiting. To meet the demand, increase the annual profit of the company, and meet standards to solve defined problems, two objectives were identified. The first objective seeks to reduce the scrap rate to 20% - 50% or more. The second objective is to seek a 5% - 20% reduction in customer service time. To achieve these objectives, industrial engineering concepts and different ergonomic, statistical, facilities, time studies, and economic analysis were applied. In addition to this, control measures were taken to maintain the sustainability of the project by carrying out simulations, the creation of different work instructions, a franchise plan, a smart calculator, and a Gantt chart. After all the decisions and implementations, it was calculated an 85% reduction in scrap and a 9.9% reduction in customer service time. These increases in the reduction percentages will be reflected after the proposed implementations, which have a duration of three months and a positive return on investment (ROI), which indicates that the profits exceed the initial costs.

Keywords
Five keywords

Biographies

Dianeliz Ortiz Martes is

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