ABSTRACT

Restaurant Design: An Industrial Engineering Perspective

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The objective of this paper is to design a health food restaurant using current industrial engineering tools and practices. This includes creating a menu, determining the average gross profit per customer, determining the location, designing a 3-d layout, simulating service, and analyzing local food supply chains. Using a simplified menu and pricing quotes from a food distributor, the average gross profit per customer is estimated to be $3.50. Location is determined by comparing the predicted number of customers and the cost to rent at two different areas. A downtown location is determined to gross approximately $5,200 per month over a residential location in addition to having increased exposure. The 3-d layout promotes flow of customers while reducing the amount of distance employees must travel by placing items and food storage where they are needed. The simulation predicted that 2 servers will be optimal for 20 to 40 customers per hour whereas 3 servers will be optimal for 40 to 60 customers per hour. Using a local supply will be ideal only when supplemented with a food distributor. The viability of this restaurant is more dependent on business principles and is outside the scope of the project.