

Apply the learning curve theory 8



**ASSIGN
BUSTER**

Apply the Learning Curve Theory Brandi Parkmond OPS/ 571 August 26, 2010 Apply the Learning Curve Theory The saying “ practice makes perfect” coincides with the learning curve theory businesses use today. Individuals and businesses use the learning curve theory for pricing strategies, capital investments, and operating costs. As Mario’s only grandchild, I have been given the opportunity to operate the famous pizzeria for two months. During this time, I will face the challenges of decreasing wait times, increasing production, and expanding the business.

My goal is to measure the performance of the pizzeria and apply learning curve concepts to improve the existing processes of the company. Mario’s pizzeria uses performance metrics to gauge areas of improvement for the future. Process performance metrics allow managers to evaluate the efficiency of a process and productivity changes over time (Nicholas J. Aquilano, Richard B. Chase, and F. Robert Jacobs, 2005) . In the simulation, process performance data is the number of weeks, number of customers for Groups of 2, number of customers for Groups of 4, the average wait time (min), queue length, and profit.

We view efficiency (actual output/standard output), throughout time (average time for a unit to move through the system), productivity (output/input), operation times (setup time + run times), and cycle times (average time between completion of units). Currently the throughout time for each server is eight minutes from taking an order to presenting the customer with the bill. The efficiency is below is average considering the long wait times and customers who leave before receiving service. The

operation time can increase with the purchase of a Plax oven in comparison to the manual ovens which can only produce four pizzas in eight minutes.

The pizzeria's productivity needs improvement to meet the future demand of customers. The pizzeria use learning curves concepts to test alternatives against the existing processes. My two months of operation reveals the company is not operating at an optimal rate of efficiency. The key concepts of the learning curve include the time required to perform a task decreases as the task is repeated, the amount of improvement decreases as the number of units increase, and the rate of improvement has sufficient consistency for use as a prediction tool (Aquilano, Chase, & Jacobs, 2005). The initial process takes about 1. 2 hours from the moment a customer enters the pizzeria until the customer leaves. On average 11 of those minutes are for waiting. My decision to change the table distribution, results in a reduction of 99. 56% to 95. 51% utilization tables sitting a group of four. The average waiting time shortens to 5. 56 minutes and we earn a profit of \$1509. 00. This decision proves to be optimum in decreasing wait time, improving the utilization of the servers, and reducing costs. The slowing down of the manual ovens causes a decrease in production. We began to show improvement by adding more tables, but the manual ovens cannot handle the current demand.

My decision to keep one of the manual ovens and purchase one of the Plax ovens can results in a bottleneck for the store. The manual ovens processing time is 15 minutes in comparison four minutes of processing time with the Plax oven. The MenuPoint System cuts the server's processing time from 13 minutes to eight minutes which is significant for the company. To meet in

the increase in demand from the mall's new campaign, I recommend renting Creme Puffs, the bakery next door to the pizzeria. The rental increases the number of tables available for customers to 11, waiting time decreases to 3.29 minutes, and the average queue length is 2.1. We can apply the logarithmic scales to graph the learning curves for the pizzeria to track the productivity of the new processes. Mario's pizzeria's success over the years reflects hard work, dedication, and excellent customer service. As his only grandchild, my initial goal is to increase customer satisfaction and decrease the wait times for service. The old process incorporates manual ovens, longer waiting times, and over utilization of tables and servers for the pizzeria.