

ALKO Team Case Writeup:

ALKO imports Kona coffee beans from Hawaii. Currently, they rent four spaces in San Mateo, Oakland, Fremont, and Dublin, in the bay area. Typically, customers who are the small local coffee shop owners come and pick up coffee beans from one of those four small warehouses. The weekly demand data for each warehouse for the past four years can be downloaded from Canvas.

Since they order the coffee beans from a grower in Hawaii, there is a 3 week lead time to replenish the stock once an order has been placed. Furthermore, it costs \$100 per each shipment regardless of shipment size, while the wholesale price they pay for the beans is only \$6 per pound. They estimate that the annual unit holding cost is approximately 20%. Each warehouse makes separate orders for beans from the supplier in Hawaii.

After taking data over the last four years, they estimate that any given warehouse stocks out quite often. In fact, the service level is only 90%. They want to improve this service level by stocking more beans. However, they are concerned about the inventory holding costs, especially since they maintain four warehouses.

Recently, they became informed that a larger facility in Hayward was available. This facility is a bit newer and more expensive. They estimate that the annual unit holding cost would increase to 35% at this new facility. On the positive side, they might be able to carry less inventory if they aggregated demand and served the customers out of this single warehouse.

ALKO company spoke to most of their customers, and they seemed to be willing to drive a bit further in order to pick-up their coffee beans, but only if they could improve the service level to 99% as an incentive. ALKO would certainly be willing to do so, but they cannot afford to increase the costs.

Will the savings resulting from having less cycle inventory and safety inventory as a result of centralization offset the higher costs associated with the new warehouse and higher service level provided? Then, and only then, will ALKO close four warehouses and operate solely out of Hayward.

In the team case write-up, answer the four questions below:

- (1) Currently, on average, how much inventory does ALKO maintain at each location?
- (2) Summing across all four locations, what is the total annual ordering and holding costs? (excluding cost of materials)
- (3) Suppose ALKO centralizes the inventories into Hayward. Then, how much inventory would ALKO carry on average, and what would the total annual ordering and holding costs be?
- (4) Should ALKO centralize? If so, how much would ALKO save? If not, how much would ALKO lose?