Comm 399

Discussions are permitted within a group of at most 3 students, but everyone has to submit their own assignment and it cannot be an identical copy! A Paper version is preferred. For your convenience, I have prepared a spreadsheet. It may save lots of your time if you work on the excel. If you choose to use excel, be sure to include the excel spreadsheet when you submit your assignment. Please use hints that are provided below. In comparing different options (localization of a generic printer at DCS or not), you need to quantify the benefits from each. The best way to do that is to use the inventory models to calculate the total cost of inventory per unit (for all DeskJet models) under different options.

Use demand data from the exhibit 13. 16.

For your convenience, the monthly and weekly mean and standard deviation for six models as well as generic printers have been calculated in the spreadsheet. Assume 1 month = 4. 33 weeks. Assume a 98% service level. The z value to ensure a 98% Service level is 2. 06. Note that this is a fixed time period (R, T) model with review period T= 1 week. Lead time for ocean transit = 5 weeks. While calculating annual inventory costs, remember to include pipeline (in-transit) inventory, safety stock, and cycle stocks (because in this case, HP is responsible for all these costs).

The annual average inventory cost is computed as follows:

Annual Average Inventory Cost = (Safety Stock + Average In-Transit Inventory + Average Cycle Inventory)? (unit cost) ? (percent carrying cost).

Note that in a fixed time period model, the ordering cost is fixed and can therefore be ignored. We can find the average inventory cost per printer by

dividing the annual average inventory cost by mean annual demand (mean monthly demand).

The total supply chain cost per printer sold is given by (unit cost) + (average inventory cost per printer) + (transportation cost per printer).

For question 4, your recommendation to HP should use the option that minimizes the total supply chain cost per printer.

Suggested length: If you use excel (Recommended Approach), then submit the spreadsheet plus a one-page report that briefly explains your result; otherwise, you may submit a report which includes 2-3 page solution details.