L.l. bean case study essay

Question 1: How does L. L. Bean use past demand data and a specific item forecast to decide how many units of that item to stock?

L. L. Bean uses several different calculations in order to determine the number of units of a particular item it should stock, whether it is a new item or a never out item. The first piece of data that is required is a point forecast for the item in the future period. This comes from the forecasting department, and is based off of the book forecast and past demand data. For a new item, there is a lot more judgment involved, especially with trying to estimate how much demand this new product will generate.

This point forecast is then used in conjunction with the A/F ratio, which looks at an individual item’s past season’s forecast and actual demand. By calculating the A/F ratio, L. L. Bean can find the range of inventory that the product will be in the upcoming season after converting the point forecast into a demand distribution. For example, if there was a 50% chance that the forecast errors for last season were between . 5 and 1. 5, then it follows that those same distributions would occur in the future period. So in this example, the stock amount to order would be between 500 and 1500 units of that item.

The third step in forecasting demand is to find the service level based off a profit margin calculation. L. L. Bean wants to look at what the probability of each unit bought is versus the amount they would lose if the unit were to be liquidated. They can then use this to calculate a fractile, which is used to determine the actual order size as long as it falls within the past period’s distribution. The fractile calculation must be done so we can see at what

point it is optimal to hold the stock in order to balance overstocking and understocking costs, which then determines the number of units to stock.

Question 2: What item costs and revenues are relevant to the decision of how many units of that item to stock?

There are essentially three pieces of data that L. L. Bean needs in order to make a decision regarding how many units of an item to stock. They first need to know what the cost is to make an item. They also need to know the selling price of the item. From these two pieces of data, they can then calculate the profit generated from each individual item (profit = selling price – cost of item). The third piece of data they need is the price if they item becomes liquidated. Thus, they can calculate the loss of an individual item if it becomes liquidated. Using these calculations, they can use the methods mentioned in Question #1 to make a decision of how many units of a particular item to stock.

Essentially, we need to compare the costs associated with understocking and overstocking inventory. The costs of understocking, as mentioned above, not only includes short terms losses like the loss of the sale for that item at that time, but also include loss of future business due to customer dissatisfaction. We must also consider that if a particular item is not in stock, the entire purchase orders may be cancelled as per the terms and conditions not being met. The costs of overstocking include the cost to hold that inventory but we also need to consider that it might change if the salvage value of a product leftover depends on the number of units remaining at the end of the season. If we have a lot of product leftover, then the liquidation value might be a lot

less. We have to take all these factors into consideration when making the decision of how many units of a particular item to stock.