OPTIMIZING INVENTORY/TRANSPORTATION

Assignment

EBBD EMAIL – for Internal Use Only

To: You

From: Danny Wilco <*dwilco@ebbd.com*>

Subject: Re: Quarterly Ordering Decisions

Here is what we would like you to do. We want you to use the Import Beer product line as a test case for developing an optimization program. Use the Excel file that we have developed with the forecast information for the import beer product line. Other information that you will need has been provided by Accounting: inventory holding costs, product costs and price markups.

**This information with the Sales Forecast and costs and prices has been provided in the Excel file.** [[*EBBD-ImportsData*](https://tlc.trident.edu/content/enforced/6833-LOG501/Modules/Module3/EBBD%20Imports%20Data.xlsx?_&d2lSessionVal=o27AgRpV2y03cSvUMUpm3YY3s&ou=6833&_&d2lSessionVal=uXAQ2Gn1TArWFcttgQMUtXrjK&ou=77468)] (Attached)

We want you to develop a method that will determine the optimal ordering quantities so that we maximize the gross profits and also take into account inventory holding costs.

After you have developed this method, write a short report to management explaining what you did and how this method can be used **going forward on a quarter by quarter basis and for the other product lines.**

Also attach any calculations or analysis that you did in an Excel file.

Let me know if you have any questions.

~DW, VP LogOps.

**Learning Wizard**

If you have done all of the exercises successfully you should be able to easily complete the EBBD assignment from Wilco. **Be sure to watch the videos.**

Download the **EBBD-ImportsData** Excel (click on link above) file and look at how it compares to the practice examples in the EBBD Exercises spreadsheet.

Setup the decision cells, the inventory cells and inventory constraints. Then add the calculations for income and costs. Make sure you get the timing right for which inventory is sold in which quarter. You could develop intermediate cells that calculate the costs, just to help you keep track of this. Be sure to use the quarterly inventory holding cost rate. Then calculate the gross profit cell.

**Then, open up Solver**and add the aspects to it. Make sure that you add a constraint that keeps your inventory values positive.

Once you have the correct solution, save your Excel file and write the report.

***Upload the Report and the Excel file with the solution to Case 3 Dropbox.***

**Assignment Expectations of the written report - write the report to your boss, Danny Wilco**

The report should thoroughly address these aspects in depth and breadth:

* Problem situation: clearly elucidate the problem situation at EBBD
* Assumptions: what are the assumptions that need to be made and your critical evaluation
* Solution: What is your solution for Order Quantities? Discuss how you developed the Solver solution. Keep in mind that your audience is not too technical and do not need a lot of detail on this.
	+ Make sure you attach the Excel file.
	+ You should refer to the Excel file when necessary.
* Recommendations: what do you propose for EBBD in terms of using this method in the future and for the other product lines?
* Justification & Explanation: clear reasoning as to why the recommendations were made
* Writing style & Organization: well-formed sentences and paragraphs, well organized with flow of reason, and good use of language that pertain to concepts and terminology
* Use of references & citations