**Assignment: Analyzing Data Cubes using Pivot Tables**

***(Sunday, Mar 26, 9:00am)***

You’ve been asked to help better understand sales patterns for Vandelay Interactive, an online retailer for clothing. They sell a variety of fine products, such as The Human Fund T-Shirt, the Schmoopie Bracelet, and Cougar 9000 Boxers.

The company has collected sales information for every line item (product sold, price, and quantity) for all 28,990 orders during 2013. Each order has multiple line items, for a total of 47,301 records. Vandelay Interactive also knows the referral source (how the customer got to the site), whether a Groupon was used, the product color and category, and the vendor that makes the product.

You will perform the quantitative analysis to answer each of the questions below. They can all be answered by constructing pivot tables and pivot charts in Excel. The Excel spreadsheet “Assignment #5 - VandelaySales2013.xlsx” has already been created for you. This is the single-table, joined data cube and is ready for analysis.

Here are some tips:

1. You will need to create multiple pivot tables to answer all the questions.
2. For each answer, you must include the answer along with the Pivot Table – you can copy and paste it directly from the Excel spreadsheet.
3. You won’t need to create additional measures. The data in the table is all the data you’ll need. But you may apply formulas to the results of your Pivot Table analysis (for example, problems #4 and #5).
4. To answer some of these questions, you may need to perform several steps. For example, you may need to create one pivot table, and then use that information to filter data in a second pivot table.
5. The tab in the spreadsheet called “Legend” contains a brief description of each data label.

**Guidelines**

* You must submit your answers electronically in a single Word document.
* You must include your name at the top of the document.
* The email must be sent by the time the assignment is due.

***If you do not follow these instructions, your assignment will be counted late.***

**Evaluation**

Your submission will be graded based on (1) whether the answers provided for each question are correct and (2) the inclusion of a correct Pivot Table or Pivot Chart (unless otherwise specified).

**Questions**

1. What are the five best-selling products based on quantity sold?
2. What are the five worst-selling products based on quantity sold?
3. Which referral source brings in the highest revenue (i.e., highest total product price)?
4. What’s the average order price (in dollars)? [you don’t need to include the Pivot table]  
   (BIG HINT: Look at the total product price for each order and then use the Excel AVERAGE function to average those values for each order in a separate cell ***outside*** the Pivot Table)
5. What’s the average quantity sold per order? [you don’t need to include the Pivot table]  
   (BIG HINT: Look at the total quantity sold for each order and then use the Excel AVERAGE function in to average those values for each order a separate cell ***outside*** the Pivot Table)
6. What color product was sold most often in the Summer months (June, July, August)?   
   What color product was sold most often in the Fall months (September, October, November)?  
   (BIG HINT: For each question, the answer should be for all three months together; don’t do the computation for each month separately.)
7. What are the two best months for sales in 2013 based on both total sales (in dollars) and quantity sold?  
   (You can include either a Pivot Chart or a Pivot Table that answers the question.)
8. The store is concerned that their Groupon promotion creates one-time customers that just use the Groupon and never come back. Is this true? Explain why you came to this conclusion.

(Provide evidence using a few customer examples from your Pivot Table – you don’t need to include the entire table.)

1. The most revenue is generated from products sold by which three vendors (by Total Product Price)?
2. What are the three most popular products (by quantity sold) from those three vendors listed in #9?  
   (Your table should have three products total, not three products from each vendor)