Weekly Exercise 6-P2
Group Exercise

1. A story from a new group dataset
   1) On the Internet find a new dataset (not any prior dataset used earlier in this class) that meets the following requirements:
      a. It can tell an interesting story
      b. At least 100 records and 10 columns
      c. It must have at least 3 numerical columns, 4 categorical columns, and a date column
      d. You will be able to derive at least 2 new measures (at least one measure is a percentage) and a new column
   2) Import this dataset into your team database, e.g. SUM19_MIS422_A
      a. If the dataset is in a text file (.txt or .cvs), open it in Excel, then save the file as an Excel file (.xlsx)
      b. Following the instructions in "Import Data Into SQL Server.pdf" to import the Excel file as a table in your team database
   3) Load the imported table into a Power BI file named WE6-P2-YourTeamName.pbix. Create at least 6 report pages
      a. Name the first report page as Introduction. This page only needs a text box containing the description of the story you are going to tell, including the topic, the audience (one specific audience only), questions to answer, the data, and the conclusion. Make your story for just ONE audience, such as business executive, school administrator, or visitors to a city, etc., since the visuals, questions, and the conclusions should all be created for that specific audience. State what measures and columns in which tables have been created
      b. Each of the next four or more report pages should be treated as a dashboard, meaning that the page should have a main theme. For example, the main theme of a page may be the cost of product. You may have multiple visuals on this page, but each visual depicts one aspect of product cost, such as cost of labor, cost of material, cost of marketing, etc. Give these pages appropriate names.
      c. Name the last report page as Conclusion. This page only needs a text description of your conclusions/recommendations and summary of reasons for the conclusions/recommendations. Your conclusions/recommendations should be based on the points/evidences presented on the prior pages. It should be a synthetization of all points supported by your data and/or proven theories and beliefs. The conclusions/recommendations need to be reasonable and thoughtful. Conclusions are not repeats of findings. You may need to combine the findings from your data analysis with other published research to support your conclusions. The important grading criteria include the new and valid insights provided by the analyses (not just the obvious patterns) and the creative use of different charts and analytical capabilities.
2. Data mining project
   If you can ask an interesting question and use the data in the new table in your team database for the data mining project, you can do so. If not, browse the tables in the

"MIS422Dataset_IBM_SampleForDataMining" database and find a table for a data mining project that can help with making decisions

1) Create a data mining project in SSDT to analyze the data in the table using at least two algorithms
2) Write a report in the Word document: WE6-P2-DM Report-YourTeamName.docx. In the report (no more than two pages)
   a. Describe a scenario where data mining can help and business questions that can use the results of data mining for answers
   b. Describe what tasks (classification, prediction, clustering, etc.) need to be undertaken for the business questions
   c. What learning algorithms you used for the models
   d. Examine the results on different tabs of a model viewer and summarize the insights you may get from the results
   e. Which model you may choose for making predictions and why you choose the model (Lift chart, classification matrix, recall, specificity, precision, etc.)

3. Create a Power Point presentation: WE6-P2-TeamName-Presentation.pptx to present the project to the class (10-15 minutes)
   a. The story
   b. The data mining results
      • Business question
      • Learning algorithms and model results
      • Conclusions

Submission: submit the following three files to Canvas
   1. WE6-P2-YourTeamName.pbix
   2. WE6-P2-DM Report-YourTeamName.docx
   3. WE6-P2-TeamName-Presentation.pptx