Final Assignment – Overview

Analysing car sales and profits for each dealer

You have been hired by *SwiftAuto Traders*, a chain of car dealerships, as a data scientist. Your first task is to analyze car sales and profits for each dealer. You need to create some visualizations and present them as a dashboard/report to your regional manager for better understanding on car sales and profits for each dealer.

This assignment will be completed in 2 parts:

- Part 1: Create Visualizations using Excel
- Part 2: You can either choose to use *IBM's Cognos Analytics* tool **(part 2a)** to create a dashboard
  OR
  you can create visuals and submit a report using *Google's Looker Studio* tool **(part 2b)**.

NOTE: For part 2, you can choose the tool to create dashboards

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About the dataset

The dataset used in this lab comes from here in the **IBM Accelerator Catalog**. The Terms of use for such are located at https://developer.ibm.com/terms/ibm-developer-terms-of-use/.

We are using a modified subset of that dataset for the lab, so to follow the lab instructions successfully, please use the dataset provided with the lab, rather than the dataset from the original source.

PART 1: Create Visualizations using Excel

Objective:

The objective of this part of the Final Assignment is to analyze the historical trends in car sales for *SwiftAuto Traders*. The goal is to provide insights on car sales and profits for each dealer.

In this lab you will create visualizations using *Excel*.

Task Information

TASK 1: Develop a bar chart to capture **Quantity Sold by Dealer ID** sorted in either ascending or descending order of quantity sold

TASK 2: Develop a line chart to capture **Profit by Date and Model**

TASK 3: Develop a column chart to capture **Profit by Year and Dealer ID**

TASK 4:Deelop a line chart to capture **Sum of Profits for Hudson model cars by Dealer ID**

TASK 5: Save your workbook as **CarSalesByModelEnd.xlsx**

PART 2: Create Visualizations using IBM's Cognos Analytics (OR Google's Looker Studio)

Objective:

The objective of this part of the Final Assignment is to analyze the historical trends in car sales for *SwiftAuto Traders*. The goal is to provide insights on car sales and profits for each dealer.

In this lab you will create a dashboard or report using either *IBM's Cognos Analytics* or *Google's Looker Studio*.

Task Information

TASK 1: Create a dashboard/report page titled as **Sales** to capture the following KPI metrics:

- Capture **Profit** (formatted to 1 decimal place in millions of US dollars)
- Capture **Quantity sold**
- Create a bar chart to capture **Quantity sold by model**
- Capture **Average quantity sold**

TASK 2: Develop a column chart to display *Profit* by *Dealer ID* in the **Sales** dashboard/report page sorted in ascending order.

TASK 3: Create another dashboard/report page titled as **Service** and capture the following KPI metrics as visualizations:

- Create a column chart to capture the number of recalls per model of car
- Create a treemap to capture the customer sentiment by comparing positive, neutral, and negative reviews.
- Create a line and column chart to capture the quantity of cars sold per month compared to the profit.
- Create a heatmap (in Cognos) / Pivot table with heatmap (in Looker) to capture the number of recalls by model and affected system

TASK 4: Export the dashboard/report as a PDF to your *Downloads* folder.

Instructions for submission

You will be required to upload images showing your charts, dashboards or reports, for your peers to review and award points. For each part of the assignment you will be directed to save the visuals locally with a specific name. We rcommend that you create a local folder and save all your images there for easy reference.

PART 1 Submission: For your assignment to be graded in a subsequent step in the course, you will be required to upload the completed Excel for the web workbook that you saved in Task 5.

PART 2 Submission: For your assignment to be graded in a subsequent step in the course, you will be required to upload the PDFs of your Cognos Analytics dashboards or Looker Studio reports that you exported to your Downloads folder in Task 4.

NOTE: You will upload these exported PDFs to the Coursera platform as part of your submission.

(Important: If you cannnot export your dashboards/reports as PDFs for any reason, then you must take screenshots of your dashboards/reports, and submit these for grading instead).

Grading Information

The **main grading criteria** will be:

- Have you used the correct visualizations?
- Have you titled the charts correctly?
- Have you formatted the chart elements as directed?
- Have you saved the workbook for grading?

You **will not be judged** on:

- Your English language, including spelling or grammatical mistakes.
- The content of any text or image(s) or where a link is hyperlinked to.

Good Luck!!

Author(s)

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Changelog

Date	Version	Changed by	Change Description
2023-09-30	0.2	Steve Ryan	ID review/edit
2023-09-30	0.1	Dr. Pooja	Initial version created