**SAP Assignment: Data Visualization**

**MGIS3310**

* In this assignment, you will use SAP Predictive/Expert Analytics to discover interesting trends in the provided sales data. Please Watch the videos posted in the "SAP" module on the Blackboard to understand how to complete this assignment.
* Students need to use SAP Predictive Analytics software remotely by using this link.
* <https://www.shsu.edu/dept/it@sam/tech-tutorials/remote-desktop-connection/index.html>
* Open this link and read the given instructions carefully.
* You can install the **VMware** app or use the **browser** option to use a remote desktop.
* Download the ***SalesData\_SAP.xlsx*** file from Blackboard and save it on your Desktop or **network drive**.
* In the **remote desktop**, Click Start > All Programs > SAP Business Intelligence > SAP Predictive Analytics
* Click **Expert Analytics** on the left and again at the center of the screen. It may take a while to load.
* Then, click **Acquire** Data. Then, in “Add new dataset”, click Microsoft Excel and Next.
* Browse to the Desktop or folder that you saved the *SalesData\_SAP.xlsx* file and select the file.
* Click Create. This will take you to the **Visualize** tab where you will be building visualizations.
* After acquiring the sales dataset, click **Price** under **Measures** and its wrench icon to change the aggregation to **Max**. You can begin building the following visualizations now!
* SAP Expert Analytics will automatically categorize columns in to measures & dimensions.
* A **measure** is a field on which calculations can be made. These are fields of business interest for analytics. e.g., revenue, profit, quantity sold. The calculations can sum, min, max, average, count etc. Measures are also called key figures or facts.
* A **dimension** is reference information about a measure. It provides context for the measures. E.g., customer, time, product. Revenue by product is an example of how you would report a measure by a dimension.
* An **aggregate function** performs a calculation on a set of values and returns a single value. For example, sum, min, max, count etc. are aggregate functions

**Chart1: Revenue by Team (0.5 point)**

Which team had the highest revenue? What was the revenue?

Hint: Use a **column** chart. From Measures on the left panel, drag Revenue into Y-Axis. From Dimensions, drag Team into X-Axis. Under Measures on the right panel, Y axis, place your mouse over Revenue and then click on Settings gear icon; then, click Sort descending (or click the sort button () located toward the top).

* Click File menu > **Save** to save the visualization as **Your Name**. Then, click the **+ button** at the bottom panel to create new chart for the next question.

**Chart2: Revenue by Product (0.5 points)**

What product had the highest revenue?

Hint: Use a **column** chart. Y-Axis – Revenue, X-axis – Product. Click Save.

**Chart3: Revenue by Round and Team (0.5 points)**

Which team’s revenue fluctuates the most between round 3 and 5?

Hint: Use a **line** chart. Y-Axis – Revenue, X-Axis – Round, Legend Color – Team. In the legend for team, you can focus the analysis by selecting one of the teams (e.g. R). Click Save.

**Chart4: Revenue by Product and Team (0.5 points)**

What is the market share of each team by product? What product of team R1 has the highest revenue?

Hint: Use a **stacked column** chart. Y-Axis – Revenue, X-Axis – Product, Legend Color – Team. Click Save.

**Chart5: Revenue by Distribution Channel and Product (0.5 points)**

Are there any products that don’t sell in specific distribution channels? For example, 500g Original Biscuits.

Hint: Use a **heat** map. Color – Revenue, AreaName(X-Axis) – Distribution Channel & AreaName2(Y-Axis) – Product. Click Save.

**Chart6: Price by Team and Product (0.5 points)**

What were the highest prices paid for various products per team? Which team sold the most expensive Biscuits?

Hint: Use a **column** chart. Y-Axis –Price, X-Axis – Team. Legend Color – Product.

**Chart7: Quantity by Team and Product (0.5 points)**

Which team sold the most quantity of Biscuits? For that team, what was the most sold product?

Hint: Use a “**tree** **map” (not just “tree”)**. Measures: Area Weight – Quantity, Dimensions: Area Name – Team. Filter to the highest team, then add Product as another dimension. Click Save.

**Chart8: Revenue and Price by Product (0.5 points)**

What products generates the lowest revenue?

Hint: Use a **bubble** chart. Measures: X-axis: Price, Y-axis: Quantity, Bubble Width: Revenue. Dimensions: Legend Color: Product. Be sure there are no filters applied. Click Save.

**Chart9: Highest revenue on a day (1 point)**

Show the days on which individual teams did not have any revenue. What team made the highest revenue on a single day (what round and day)?

Hint: Use a **heat** map. Measures: Area Color: Revenue. Dimensions: Area Name: Round and Team. Area Name2: Day. Click Save.

**Create a story and export the file(1 point)**

* After you have created all the charts, click **Compose** tab at the top. For each page, choose **Board** > **Blank**. To add a page, click **Add Page** at the bottom. Be sure to click Save as you go.
* Place **one chart per page**. Be sure all the charts are large enough to show details (fit with the page); otherwise, you may receive zero.
* For the Title of each page, you must use the “Text” on the left to type your full name and the chart numbers e.g. the title of the first page will be “ **Chart1 by YourName”**, the title of the second page will be “**Chart2 by YourName**”, and so on. **No points** if you don't put your name of each page.
* When finished, click **File** menu > **Export As File**. This will create a **PDF** file for you to submit.
* **Double check** that all the charts appears in the pdf file. If any is blank, your grade on that chart will be **zero**.
* If it is blank, try to re-do the chart and/or re-export it. You can also place all the screenshots that also show your name in a Word file and submit it, instead of the pdf file.

**How to submit the assignment**

* Go to the "SAP" module on the Blackboard. Submit the assignment using the link given there.
* You need to submit PDF file with all the charts to get full points.