Analysis of Sales Performance

**Business Scenario:**

Mike Goodman, the head of Product Management of a retail products company, is responsible for determining which products his company should continue to offer for sale and which products should be discontinued from the company’s product catalogue.

Mike wants to build dashboards that will present Years sales performance by product segmentand product category.

Domain: Ecommerce

Dataset Description: We will be using Superstore Dataset which covers Orders data from 2014 - 2017.

**Task needs to be achieved**:

1. Acquire the data, dump the data into some of the databases (SQL, MongoDB, Casandra local or cloud version).
2. Connect with the business user and try to get the understanding of the data attribute.
3. Connect with the business user and try to get the understanding about the KPI (Key performance indicator).   
   (A Key Performance Indicator (***KPI***) is a measurable value that demonstrates how effectively a company is achieving key business objectives.)
4. Connect with the business user with raw visualization and gather user experience and expectations feedback based on ease of use.
5. Decide total number of dashboards based on user hierarchy and organization.
6. Start building a production-based dashboard.
7. Below are the KPI which need to be captured.

**Tasks Analysis:**

1. Use the Superstore dataset.

2. Create a Chart for KPIs. Add filters by Region, Segment, Category and Subcategory.

3. Create a Chart for Sales and Profit by Month and Year.

4. Category and Subcategory by Sales and Category and Subcategory by Profit.

5. Side by Side comparison of Sales and Profit of Category and Subcategory.

6. Differentiate Category and Subcategory by Discount.

7. Create a chart with Category and User Segment by Sales and Profit.

8. Create a Forecasting chart (Segment and Category).

9. Create Trend Line chart for Sales and Profit.

10. Create a Map for States by Sales.

11. Add the year of sales to the view to identify trends and outliers.

12. Add a filter so that the user can select one, more than one, or all years.

13. Top 10:

* Top 10 Products (By Sales and Profit)
* Top 10 Subcategories (By Sales and Profit)
* Top 10 Customers (By Sales)
* Top 10 States (By Sales)

14. Create dashboards and Create a Story.

* Send the Dashboard for a review for the stockholders.
* Performed UAT (user acceptance testing)
* Go for the random test
* Make it live
* Share link and authorization for the user
* Keep it in Hypercare for any modification

**Lastly, as a chronic overachiever:**

* Find at least two unexpected phenomena in the data and provide a visualization and analysis to document their presence.

**Considerations**

Remember, the people reading your analysis will NOT be data analysts. Your audience will be the general public. Your data and analysis need to be presented in a way that is focused, concise, easy-to-understand, and visually compelling. Your visualizations should be colourful enough to be included in press releases, and your analysis should be thoughtful enough for dictating programmatic changes.

**Assessment**

Your final product will be assessed on the following metrics:

* Analytic Rigor
* Readability
* Visual Attraction

**Hints**

* You may need to get creative in how you combine each of the CSV files. Don't just assume Tableau is the right tool for the job. At this point, you have a wealth of technical skills and research abilities. Dig for an approach that works and just go with it.
* Don't just assume the CSV format hasn't changed since 2013. Subtle changes to the formats in any of your columns can blockade your analysis. Ensure your data is consistent and clean throughout your analysis. (Hint: Start and End Time change at some point in the history logs).
* Consider building your dashboards with small extracts of the data (i.e., single files) before attempting to import the whole thing. What you will find is that importing all 20+ million records of data will create performance issues quickly. Welcome to "Big Data."
* While utilizing all of the data may seem like a nice power play, consider the time-course in making your analysis.
* Remember, data alone doesn't "answer" anything. You will need to accompany your data visualizations with clear and directed answers and analysis.
* As is often the case, your clients are asking for a LOT of answers. Be considerate about their need-to-know and the importance of not "cramming in everything". Of course, answer each question, but do so in a way that is organized and presentable.
* Keep a close eye for obvious outliers or false data. Not everyone who signs up for the program is answering honestly.
* In answering the question of "why" a phenomenon is occurring, consider adding other pieces of information on socioeconomic or other geographic data. Tableau has a map "layer" feature that you may find handy.
* Don't be afraid to manipulate your data and play with settings in Tableau. Tableau is meant to be explored. We haven't covered all that you need -- so you will need to keep an eye out for new tricks.
* The final "format" of your deliverable is up to you. It can be an embedded Tableau dashboard, a Tableau Story, a Tableau visualization + PDF -- you name it. The bottom line is: This is your story to tell. Use the medium you deem most effective. (But you should definitely be using Tableau in some way!)
* Treat this as a serious endeavour! This is an opportunity to show future employers that you have what it takes to be a top-notch analyst.
* Good luck!

### **REQUIREMENTS**

Submissions must meet the following requirements:

* Include a Project built with the required developer tools and meets the above Project Requirements.
* Include a text description that should explain the problem your Project is attempting to solve and its features and functionality.
* Include a demonstration video of your Project. The video portion of the submission:
* Should be less than three (3) minutes
* Should include footage that shows the Project functioning on the device for which it was built
* Must be uploaded to and made publicly visible on YouTube and a link to the video must be provided.
* Must not include third party trademarks, or copyrighted music or other material unless the Entrant has permission to use such material.
* Include a URL to a code repository on GitHub or another code repository platform. If the code repository is private, Entrant must provide access to the GitHub account
* Include a list of the APIs and Development tools used within the project.
* Include potential further improvements to your Project if more time were permitted.
* Be the original work of the submitter, be solely owned by the submitter, and not violate the IP rights of any other person or entity.
* Multiple Submissions: An Entrant may submit more than one Submission; however, each submission must be unique and substantially different from each of the Entrant’s other Submissions.