# Analysis on an Eyewear Company

Project Brief:
The purpose of this project is to analyse the inventory and sales records of an eyewear company in Singapore. Additionally, recommendations were provided to simplify the company's tedious procurement process and a guideline on reordering of inventories was also created to minimize potential issues of overstocking and understocking. Analysis was done for the all eyewear brands that the companies carries to distinguish between the best and least performing brands, as well as to identify stock turnover and contribution to sales by all brands and outlets. Lastly, a sales forecast has been done for all stocks and outlets according to their historical performances.

Inventory Dashboard
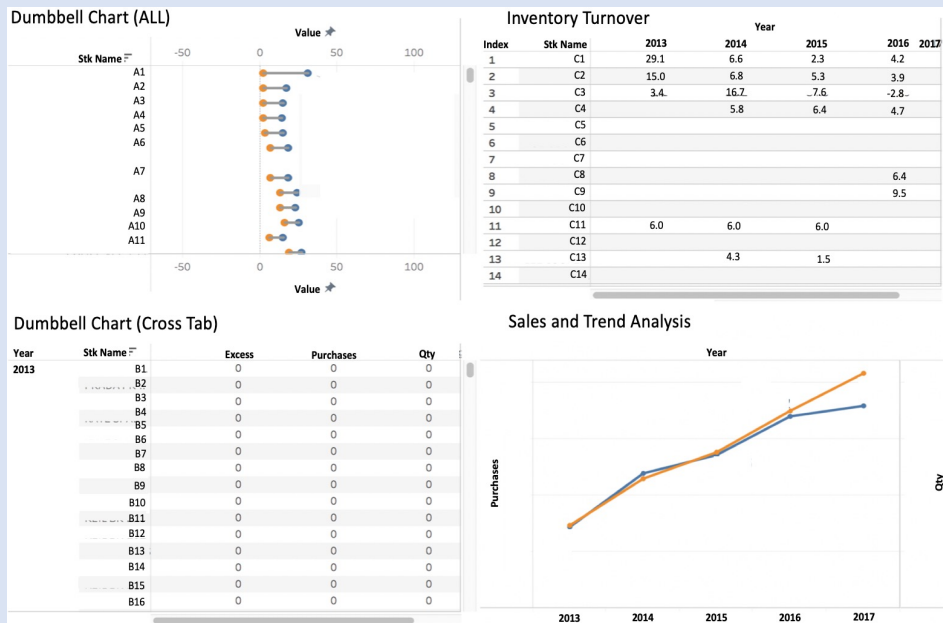
Sales and Purchases Trend Analysis
The Sales and Purchases Trend Analysis chart shows that the overall trends in sales and purchases are aligned over the years. Furthermore, the close gap between the trend lines represent that the excess units procured are under control. Even though, in 2017, there are higher excess units as compared to the other years, but this is attributed to the fact that only Stock Keeping Units (SKUs) in 2017 are used in this project analysis. Thus, the company has been procuring at an optimal level with a reasonable amount of excess quantity left.

Dumbbell Chart
The Dumbbell chart identifies the SKUs with the highest amount of excess units purchased in each of the years for each SKU in each outlet. In 2017, the overall analysis throughout the period from year 2013 to 2017, shows that stock A has the highest excess units purchased. Moreover, it was observed that the excess units of the top SKUs do not accumulate and roll over to the subsequent years. This shows that the company has displayed great improvement in its procurement process. The dumbbell chart allows the company to monitor procurement and maintain the excess units at low levels so as to prevent inventory obsolescence and reduce inventory holding costs for the company.

Inventory Turnover
The stock turnover shows how many times the company has sold and replace the particular product. The company can focus on selling products with high turnover as the high turnover means a strong sales which would allow the stocks to be cleared quickly and reduce the risk associated with prolong storage such as obsolescence, damage, and theft.

Sales Dashboard
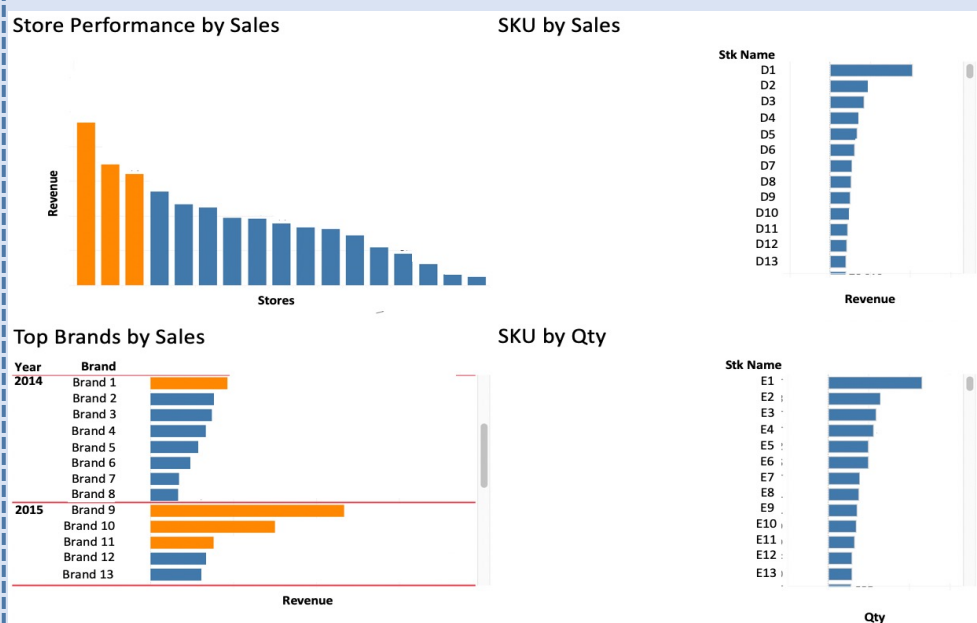
Store Performance by Sales
This chart illustrates store performance over the years which are ranked according to sales. Based on this chart, we have further carried out a store location analysis by looking into the store placement within a mall to determine if it has a big impact on store performance. Following which, we found that the top performing stores are often situated at locations with high traffic and with many other popular stores and restaurants nearby. Thus, this chart allows the company to determine its best and least performing stores, which helps them to formulate their short-term and long-term plans for each store accordingly.

Top Brands by Sales
This chart displays the top performing brands for each year, with the top three brands highlighted in orange. Users can adjust the number of brands to be displayed for each year using the filter or select any store on the filter to view brand performance for the selected store. This chart enables the company to determine the best or least performing brand in any outlet, and to see if there is consistency throughout the years for each brand, which assists them in deciding how much marketing effort to put in per brand.

Overall Dashboard Analysis
This dashboard allows users to adopt the top down approach in their analysis, whereby it is recommended for users to first select an outlet in "Store Performance by Sales", followed by a brand in "Top Brands by Sales" and a SKU in "SKU by sales". By doing so, analysis is first performed at the store level and subsequently, users can narrow down their analysis to a brand or a SKU.

Inventory Recommendations

1. Inventory Management System
- Data collected in company's current inventory management system does not allow for accurate analysis

2. Template for Collecting Data More Effectively and Efficiently
- To improve company's data collection and reduce cost of collecting unnecessary data

Sales Recommendations

1. Mixed Concept of Both Open and Close Store Layout
- Involves the use of sensory marketing (targeting the touch and sight senses) to stimulate customer purchase

2. Customer Retention Programme
- There is a 60% - 70% chance of selling to an existing customer as compared to a 5% - 20% chance of selling to an existing customer.

3. Reduce Number of Carrying Brands
- According to the pareto chart, only 6.65% of the brands that the company carries contribute to 80% of their sales. The remaining brands contribute less than 1% each.

4. Virtual Try Out Tool for Eyewear on Website
- Enhance customer shopping experience and reduce inventory holding costs