

Dashboard Design Insights

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Perform the following tasks:

1. Write down clearly what insights did you gain through each dashboard / chart
2. Write down clearly what recommendations you have after analysing your data visualizations and insights
3. Write down clearly if you have tried out techniques beyond what has been taught in the BI practicals, to earn bonus marks

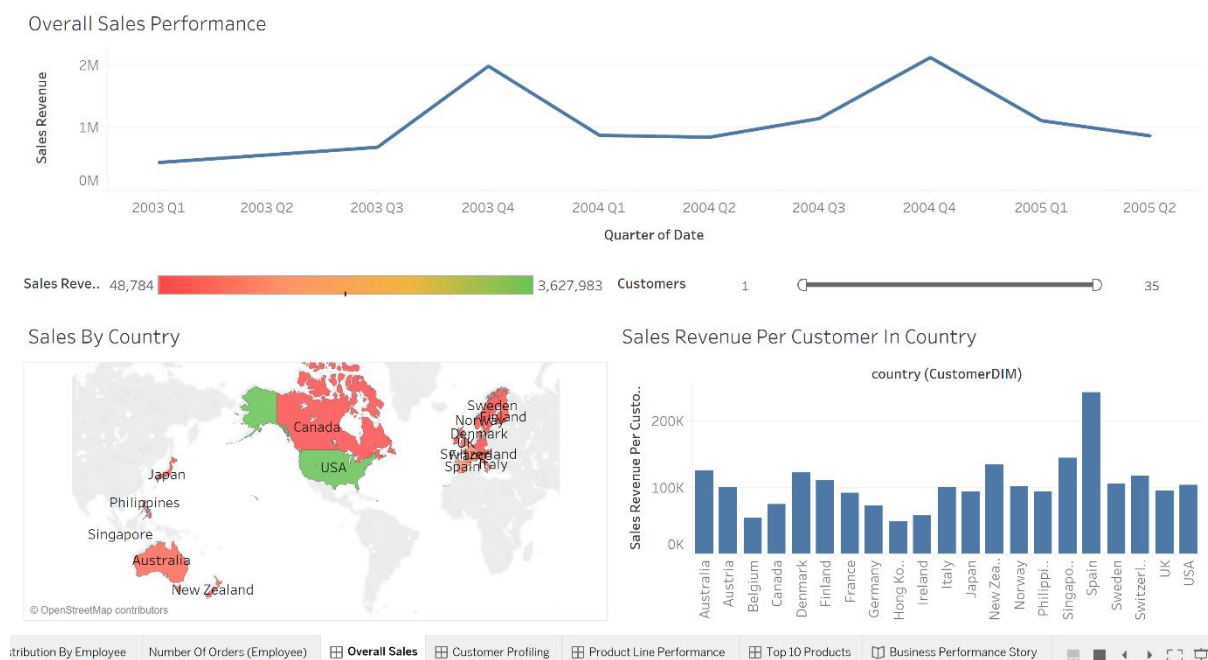
Beyond The Class

Beyond the techniques taught in the practical lessons, I have researched and experimented on techniques such as the making of donut chart. It is essentially the same as a pie chart but it is more aesthetically pleasing to the eye. I took the time to try out making a donut chart as I believe a good user interface is essential in data visualization. Apart from the donut chart, I also used a combination chart of bar and line graph. This bar-line chart allows putting two important aspects such as sales and profit margin together, to facilitate the analysis of sales and profitability of a product. In addition, I created my own custom palette to enable clearer visualization of an array of sales revenue. I have also uploaded my tableau workbook online at Tableau Public.

Link to online submission of Tableau Storyboard:

https://public.tableau.com/profile/lim.jing.jie#!/vizhome/LIMJINGJIE_1626386_CA2/BusinessPerformanceStory?publish=yes

Dashboard 1 - Overall Sales Performance

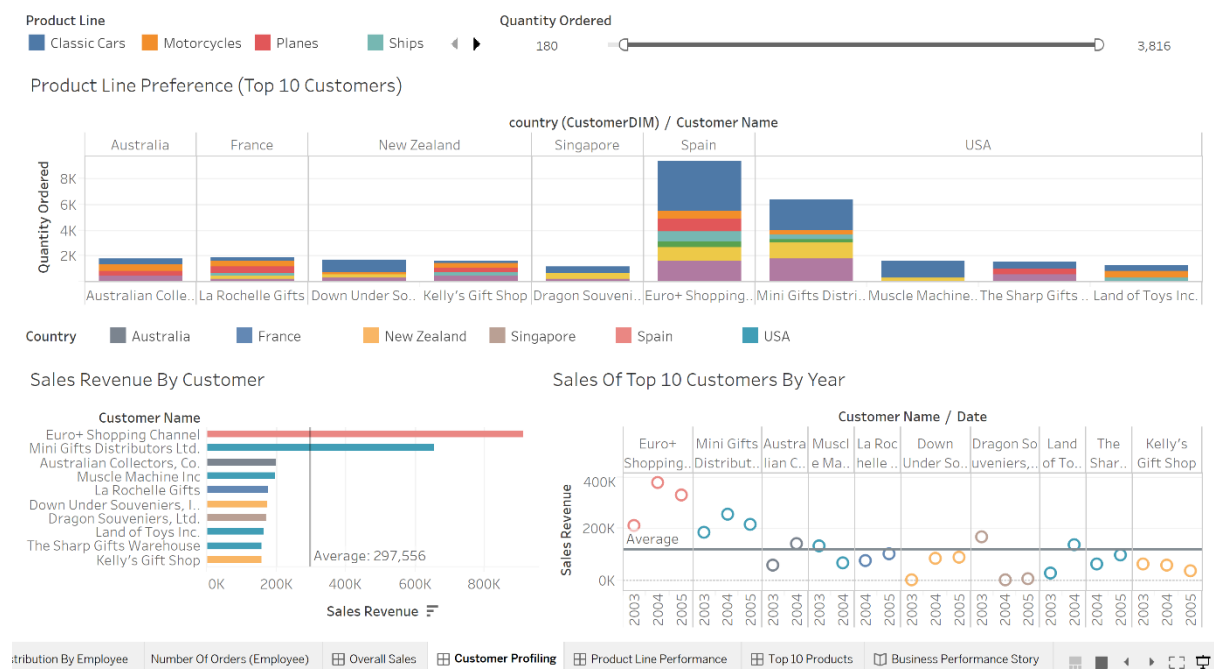


My first dashboard provides an overview of sales performance of the company from 2003-2005. The 3 charts in the dashboard contribute towards an in-depth analysis of the sales gained from each country. Not only does it provide insight on the trend of overall sales performance, it also empowers the company

to compare the sales gained from each country. The line graph is intuitive in displaying the trend of overall sales performance through the years. On the other hand, the geographical map graph allows business users to gain insight on the amount of sales revenue earned from each country. Using an array of colours – red, orange and green, business users would be able to distinguish the least, average and the most sales revenue earned from the countries. As each country consists of a different number of customers, the last chart serves to provide further analysis on the sales performance. It displays the average sales revenue gained by the country. With such analysis, the company would be able to learn more about their sales performance.

During the first and second quarter of the year, less sales are made. As such, I propose that the company manage their product inventory more wisely; distributing the inventory according to the charts. For instance, they could distribute less amount during the first and second quarter, especially to countries like Hong Kong or Belgium, to improve their inventory turnover ratio. In cases where there are too many inventory stock, the inventory may remain stagnant due to lack of demand. Hence, leading to unnecessary losses that could be avoid through business intelligence.

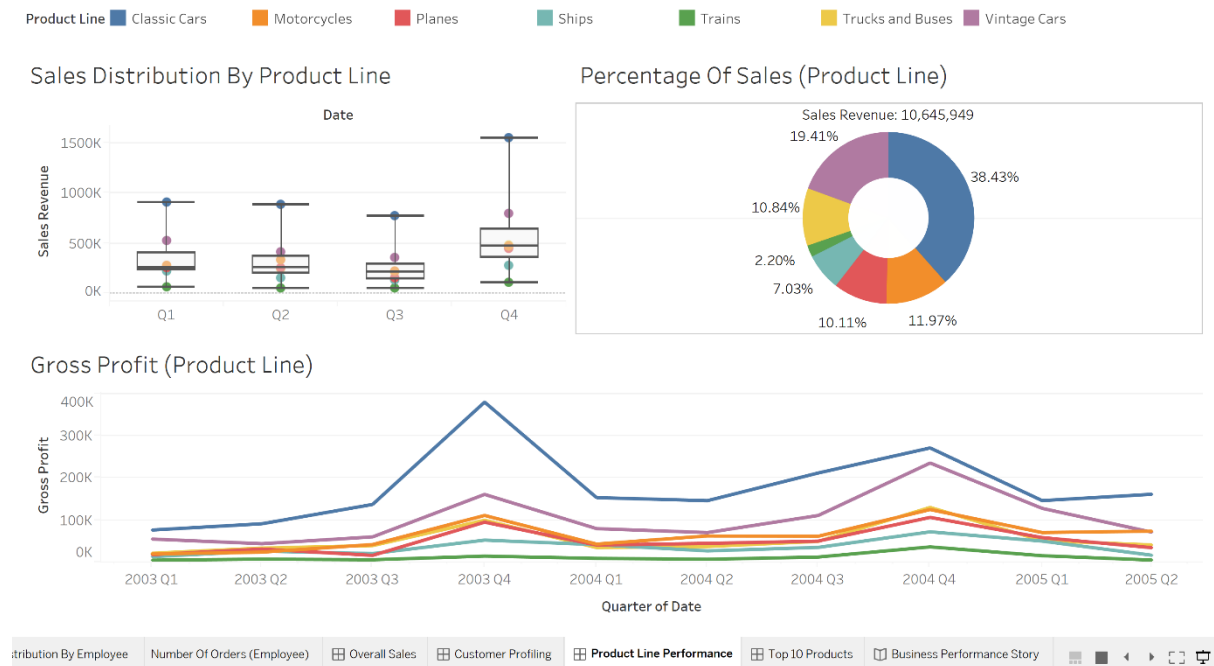
Dashboard 2 - Customer Profiling



The following dashboard is a customer profiling dashboard that tracks the sales gained by the customer, the preferences of customers, the frequency of sales by the customer each year. Customer satisfaction is the most important aspect of a business. The first bar chart exhibits the preferences of product line of the top 10 customers. In order to drive customers back to the business, customer profiling is essential in engaging the customers. Understanding the customer's preferences, we can attract the customers by sending product advertisements that they would find relevant. The next bar chart displays the total sales gained while the last bar chart shows the sales gained from each customer by year. Tracking of customer activity is essential in growing the business as it enables better engagement with the customers. Not only does it allow us to determine the customers' preferences, it also allows us to track the frequency and volume of orders made throughout the years.

As such, I recommend that the company upsell products of a product line that customers would find relevant, such as classic cars for Euro+ Shopping Channel.

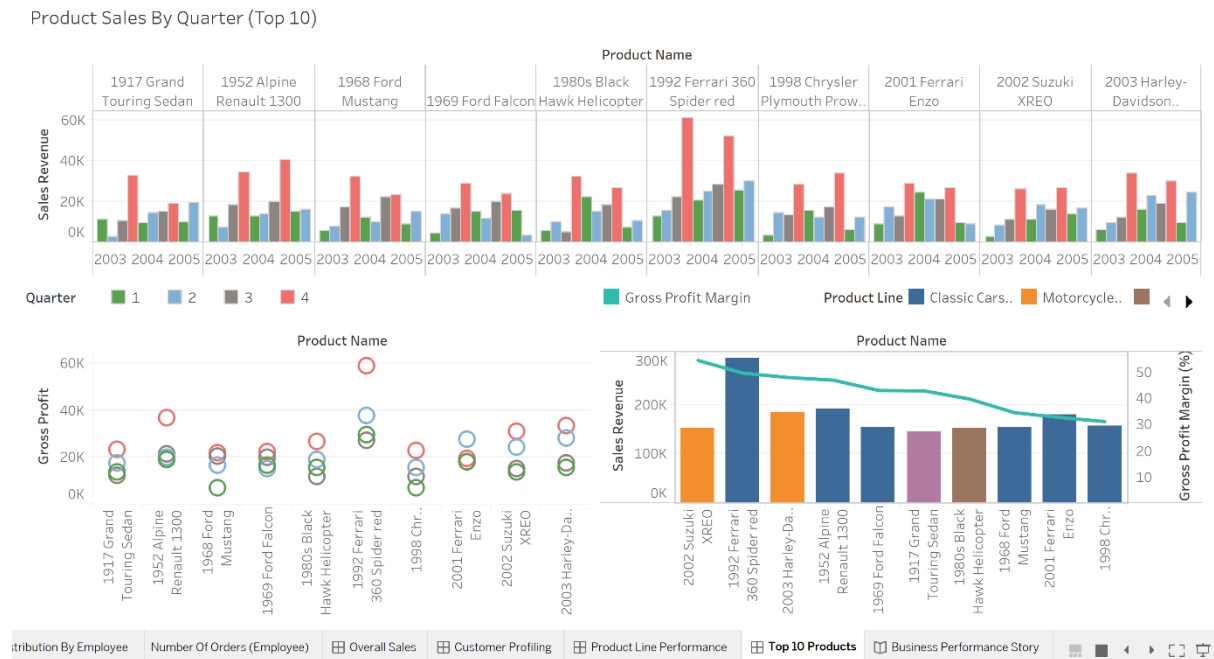
Dashboard 3 - Overview Of Performance Of Product Lines



This dashboard presents an overview of the sales by product lines. By analysing the sales performance of each product line, the company would be able to determine the more popular and more profitable product lines thus being able to manage their inventory better. Stock management is essential in a business as poor management of stock may lead to profit losses. It is required to avoid situations where a product goes out of season or if there is insufficient inventory to fill an order. In order to facilitate the analysis of product line sales, a box and whiskers plot was used to depict the sales distribution of product lines. It reflects the sales performance of a product line as it shows the sales revenue gained; identifying the better-performing product lines through the interquartile range plotted on the graph. With the use of a pie chart, it also provides further analysis on the distribution of sales as it determines the percentage of sales each product line constitutes. The line graph provides insight on the trend of sales performance of each product line with a forecast functionality. By analysing the trend, the company would be able to optimise their inventory management, preventing unnecessary losses.

Based on the analysis of this dashboard, I can draw the conclusion that the classic cars and vintage cars product lines constitutes most of the sales and is the most profitable while the trains product line has the least sales. According to the trend of the line graph and the forecasting made from it, the classic and vintage cars would have a rise in demand in the third and fourth quarter of 2005. However, in the first quarter of 2006, there may be a decrease in demand for classic cars. Thus, I would suggest that the company manage their inventory according to the sales during those periods for the product lines mentioned.

Dashboard 4 - Top 10 Products' Sales Performance Through Quarters



The last dashboard provides insights on the profitability of the top 10 products through each quarter. It empowers the business to analyse the trend of sales of the top 10 products through the quarters. As there may be seasonal trends, it is important to identify these trends to determine the sales performance of a product seasonally. Analysing the sales performance of the product through quarters for each year, we can determine the trend of its performance. Thus, we can forecast the amount of sales gained from each product, facilitating inventory management. Using a bar-line combination chart, it empowers the company to analyse the profitability of each product as well, with the total sales revenue as the bar graph and the gross profit margin as the line graph. As such, the company can determine the profitability of a product from its sales and the profit margin it has. The last graph provides further analysis on the profitability of each product by presenting the gross profit gained from the sales of each product quarterly.

There is typically a trend of higher sales during the fourth quarter of the year. Thus, I would recommend the company to increase their inventory for the fourth quarter while reducing most of their inventory for the first quarter for those products shown. In addition, the motorcycle model '2002 Suzuki XREO' has an especially high margin of 54.41% while having only about \$150,000 of sales revenue. Hence, I strongly recommend that the company reduce the price of this particular model in order to drive more sales.

Note: The recommendations made after analysis of the data visualization and insights is part of the dashboard section.