



# Business Performance

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USING POWER BI

# Introduction

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- This was a project created to showcase knowledge of how to analyse a company's financial data using Power BI.
- The sample dataset within Power BI was used for this project and consisted of a fictional company's sale performance.
- The project was designed to develop skills in data cleansing using the Extract, Transform and Load (ELT) processes and creating new measures to develop visualisations to answer the following key business questions:
  1. What are the total sales and profit trends over the years?
  2. Which product or segment is generating the most profit?
  3. How have discounts impacted the overall sales?
  4. Which month has the highest sales performance?

# ELT Processes

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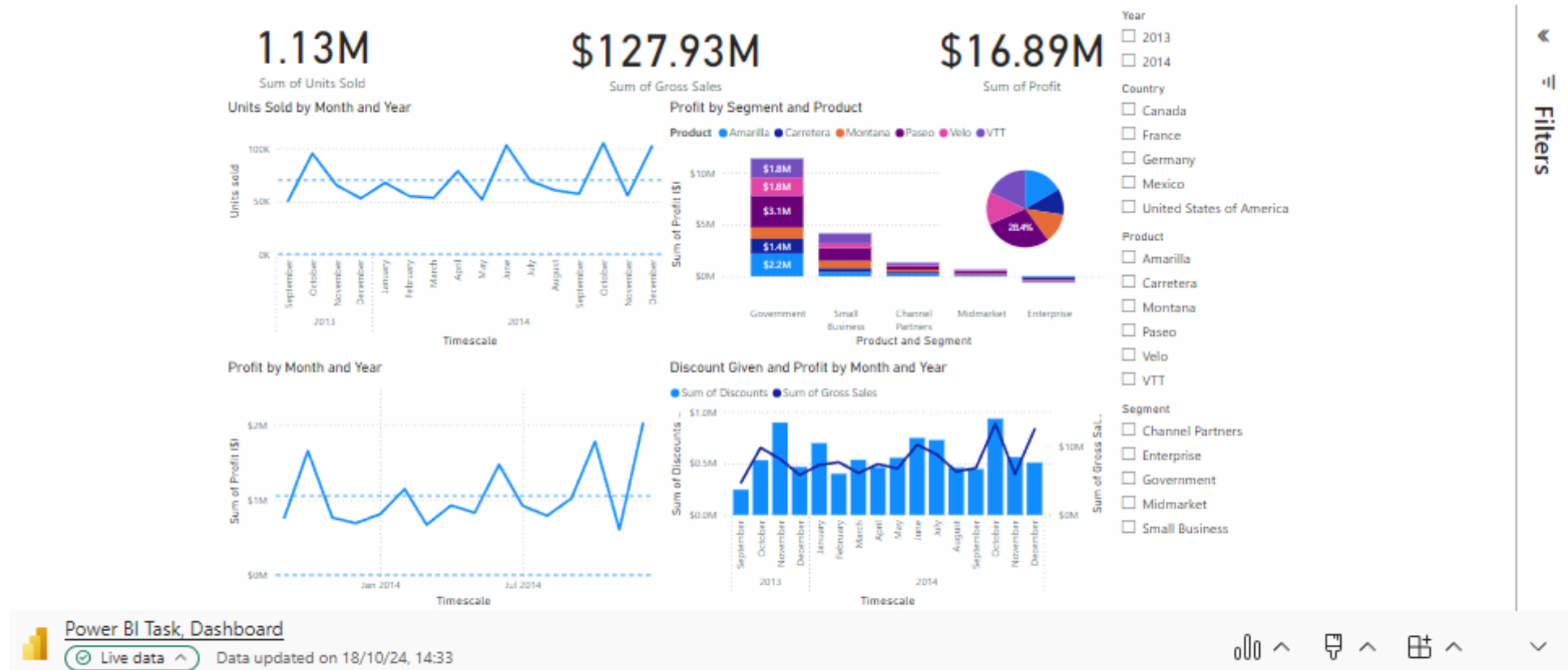
- The Extract, Transform and Load (ELT) processes consisted of using Power Query:
  - To check for incomplete data (such as null values),
  - For inconsistencies in the data (such as multiple terminology of for the same thing, etc USA vs. United States of America
  - Ensuing data was correct assigned to the right categories, such as currency and date.
- Once quality checked the data was loaded into Power BI.

# Data Analysis and Dashboard

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- Three slicers were added to the dashboard to allow for the data to be interactive and for figures to be manipulated by year, country, product and segment.
- Three key KPIs were created to allow for a striking visual snapshot of company progress, these used the sum of units sold, the sum of the gross sales and the sum of the profit for the company (profit was calculated measure, created by using the company's gross sales figures and subtracting this from the company's Cost of Goods Sold (COGS) measure).
- Three column charts were created to analysis performance of units sold, sum of profit and discounts given across a timeframe of September 2013 to December 2014.
- A final column chart was created that looked at profit across various business segments and products, although the graph is somewhat difficult to read for figures for Small Business, Channel Partners, Midmark and Enterprise, the chart is fully interactive with the slicers.

# Report

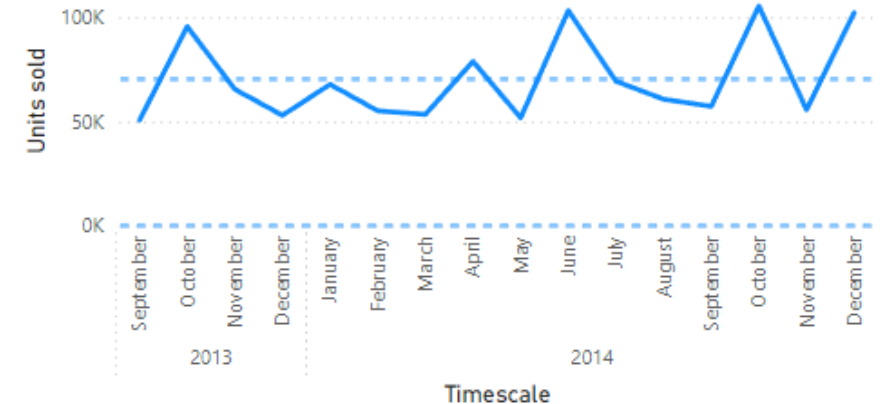


# Visualisations: Units Sold

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- One of the key performance questions asked was: “What are the total sales and profit trends over the years?” in order to answer this question the number of units sold was plotted by month in a column chart.
- The chart shows that the lowest performing month was September 2013 when 50,601 units were used.
- The best performing month was October 2014 when 105,482 units were sold.
- Taking the total number units sold (1,125,806) divided across sixteen months (the timeframe of the dataset) gives an average of 70,363 units sold per month. Using this calculation, it can be determined that five months (October 2013 and April, June October and December 2014) had above average sales.

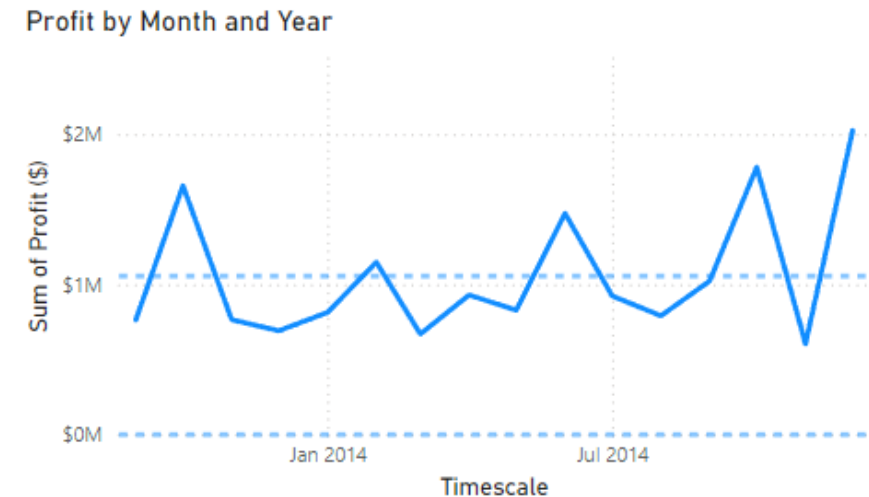
Units Sold by Month and Year



# Visualisations: Profit over Time

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- To complete the performance question: “What are the total sales and profit trends over the years?” a second chart was created to look at profit over time.
- The chart shows that the lowest performing month was November 2014, when the total profit was \$604,600.
- The best performing month was December 2014 when the total profit was \$2,025,766.
- Taking the total profit (\$16,893,702) divided across sixteen months (the timeframe of the dataset) gives an average of profit \$1,055,856 per month. Using this calculation, it can be determined that five months (October 2013, February, June, October and December 2014) had above average profit.

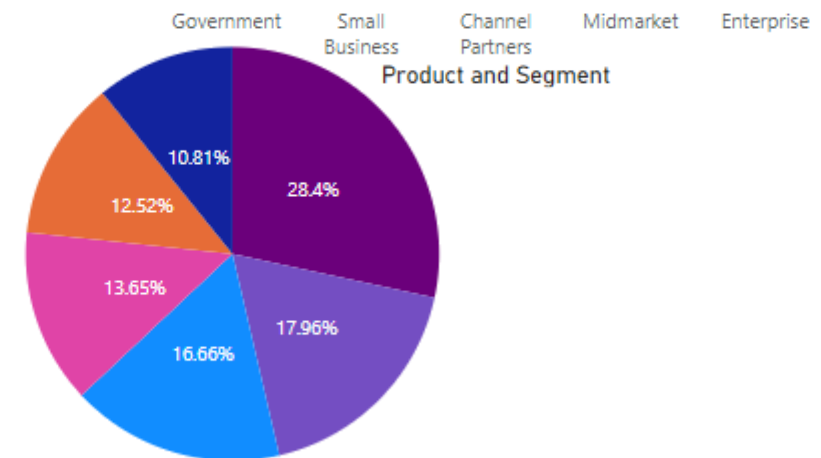
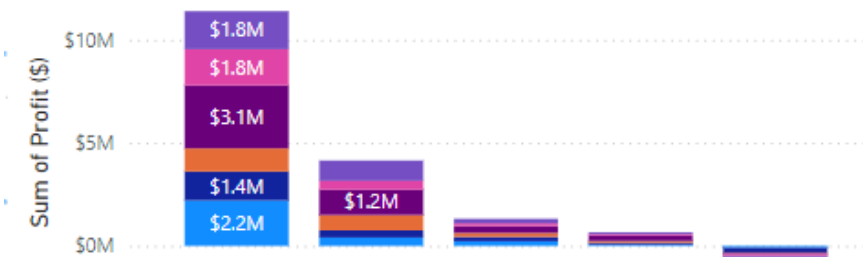


# Visualisations: Profitability Breakdown

- To answer the question: “Which product or segment is generating the most profit?”
- The column chart shows that by far the most profitable segment is Government, which generated over \$10 million in profit. This is over double the next segment of Small Business. Within this segment Paseo was the product that generated the most profit, with \$3.1 million. This is the key take home message, with the dashboard reflecting this.
- However, to answer the question with regards to product profitability a smaller pie chart was added to show that Paseo is the most profitable product overall.

Profit by Segment and Product

Product ● Amarilla ● Carretera ● Montana ● Paseo ● Velo ● VTT



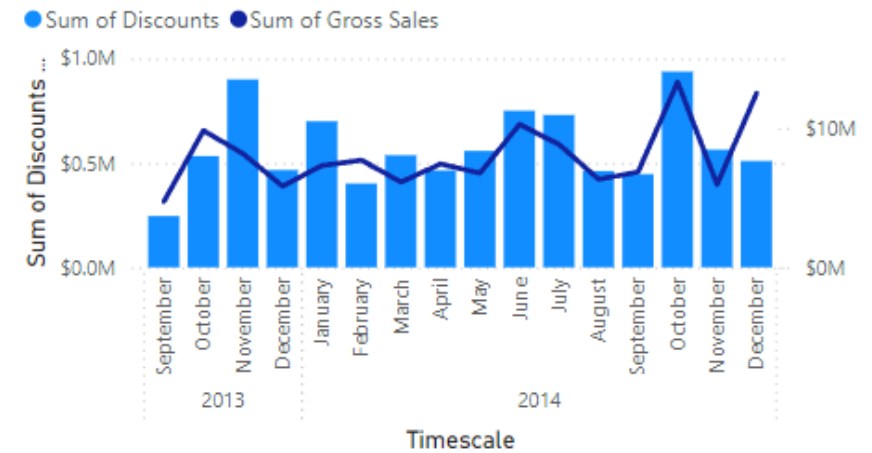


# Visualisations: Discount Impact

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- To answer the question: “How have discounts impacted the overall sales?”
- The column chart shows the sum of discounts given by monetary value. In addition, a gross sales line was added to a secondary access. This shows that the general trend is that as discount increases sales increase.
- According to the data the average cost of discounts was 7.35% of the cost of gross sales. The lowest impact discounts had on gross sales was December 2014, when it was 4.07% of gross sales, and the highest was November 2013 when it was 11.02% of gross sales,

Discount Given and Profit by Month and Year



# Business Questions and Insight

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1. What are the total sales and profit trends over the years?

Although the number of items sold and profit have increased over the timeframe, this is due in part to particularly good months in October 2013, June, October and December 2014. These are considered outlier months. Removing this from the equation would indicate that there is a much slower rate of growth to the business.

# Business Questions and Insight

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2. Which product or segment is generating the most profit?

Government is by far the most profitable segment to the business, which accounts for 65% of profit.

Paseo is the most profitable, accounting with 28% of the revenue generated by this product.

# Business Questions and Insight

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How have discounts impacted the overall sales?

The chart indicates that when discounts are increased sales increase as well. The R squared relationship for these two factors is 0.35, which indicates that 35% of the variance in the gross sales can be explained by this size of the discount given.

# Business Questions and Insight

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4. Which month has the highest sales performance?

In terms of units sold and highest sales performance by best performing month was October 2014.

In terms of profit the best performing month was December 2014.

# Conclusions

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- Growth of the business over the timeframe has increased, but this is due in part to four good sales months which are acting as outliers on the data. This should not give a false confidence in the growth of the business, which is generally more muted and slower, with more peak and trough variation. It is not a display of month-on-month growth.
- The most profitable segment of business is government and the best performing profit is Paseo.
- The amount of discount given does play a factor in the increase in rise in gross sales.
- The business could look at streamlining products offered by removing products not performing well and look to target generating growth outside of local government, whilst maintaining a good existing relationship with the government segment.
- A pricing restructure could be of benefit, or a strategic plan to offer discounted products to target audiences could yield a better month-on-month growth moving forward.