



SYNOGIZE

# **SALES PERFORMANCE**

Analysis Report

2023

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## Welcome to the Sales Performance Analysis Report.

This analysis report delves into the comprehensive examination of data derived from three key tables: ORDERS, CUSTOMER, and PRODUCT. The dataset comprises a plethora of information, including sales, customer profiles, and product details.

Our goal is to distill actionable insights from this dataset, shedding light on patterns, trends, and relationships within the data. By leveraging the power of data analysis, we aim to provide valuable business intelligence and facilitate informed decision-making, allowing key stakeholders to better understand their business. By conducting a methodical investigation of this data, we aim to uncover significant discoveries that help propel strategic plans and improve overall operational effectiveness.

This report will address various aspects, including descriptive analysis, checking average delivery date for each type of ship mode, sales by product statistics, analyzing average profit ration by product, exploring profit by segment and ship mode, explaining correlation between profit and discount, seeing the distribution of total orders by state and city.

# METHODOLOGY

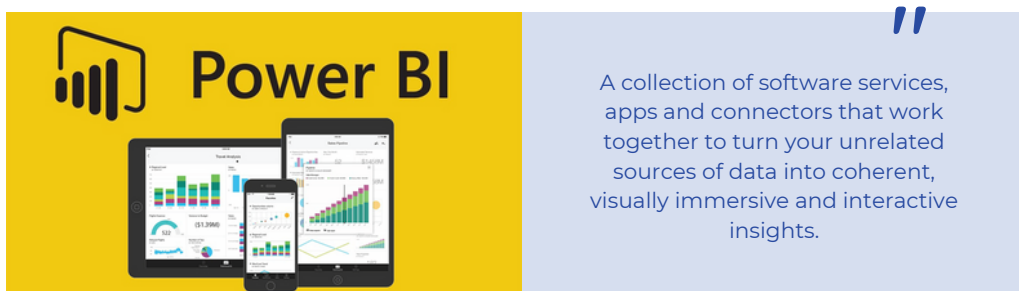
This section describe the research methods, data sources, and tools used in the analysis

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The main research method in this analysis report is Historical research. This method often involves looking at data that has been collected in the past to study trends, variations, and correlations over time. The main tool to perform this reporting is Microsoft's Power BI reporting tool which is a collection of software services, apps and connectors that work together to turn your unrelated sources of data into coherent, visually immersive and interactive insights.

This analysis report also integrates steps such as performing checks, cleaning and transforming data in accordance with mining conditions. Specifically, this project checked the relationship between tables to make sure they are linked, using changes such as using first row as header, changing the data category of geographic variables to match the meaning, for example State, Region and City. Besides, use the DAX function to create other columns, including the 'Profit\_Ratio' column calculated by the formula 'Total Profit' divided by 'Total Sales' and multiplied by 100, the 'Day\_Ship' column with the meaning of approximately time from 'Order\_Date' to 'Ship\_Date'.

For the presented dashboard, they are used a variety of charts including card, pie chart, donut chart, bar chart, stacked bar chart, filled map, treemap, scatter plot and so on to analyze sales performance. Additionally, this dashboard uses multiple tooltips for each chart to make the data appear more detailed to users, along with the ability to slicer or filter data to help users interact and better understand the entire data. Next, we make findings through data exploration and then analyze the issues in depth. Finally, there is the discussion section with the purpose of providing limitations and weaknesses that need to be improved in the data set, as well as providing recommendations to contribute to promoting sales performance.



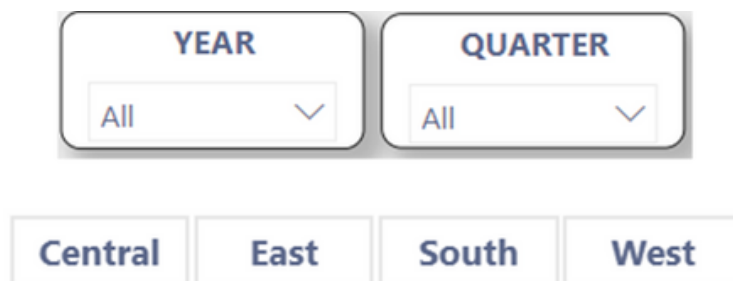
A collection of software services, apps and connectors that work together to turn your unrelated sources of data into coherent, visually immersive and interactive insights.

# FINDINGS & ANALYSIS

This section will present the findings through data analysis and visualization, providing an in-depth analysis. Explain the importance of data, trends and patterns and explore their meaning.

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- **Note** that all the analysis below is an overview of all data from 2014 to 2017, users or tactical analysts can use slicers or filters to get more accurate information for each period of time. Some outstanding filters are 'YEAR', 'QUARTER' for time or 'REGION' for location.



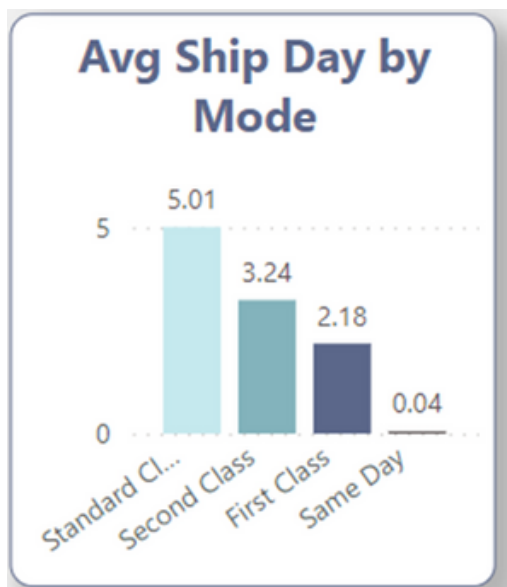
## 01 Descriptive analysis

Within 4 years, from 2014 to 2017, total sales reached 2.3 million USD, of which the total profit recorded was 286.4 K with a total number of customers of 793 people. More details, when users hover over the Card, specifically for 'Total Sales' card will display the top 5 customers with the highest sales number. Similarly, for the 'Total Profit' card will display the top products that bring the highest profit within 4 years and the top 5 customers with the most orders when hovering over 'Total Customer'.

# FINDINGS & ANALYSIS



## 02 Average delivery date for each type of ship mode



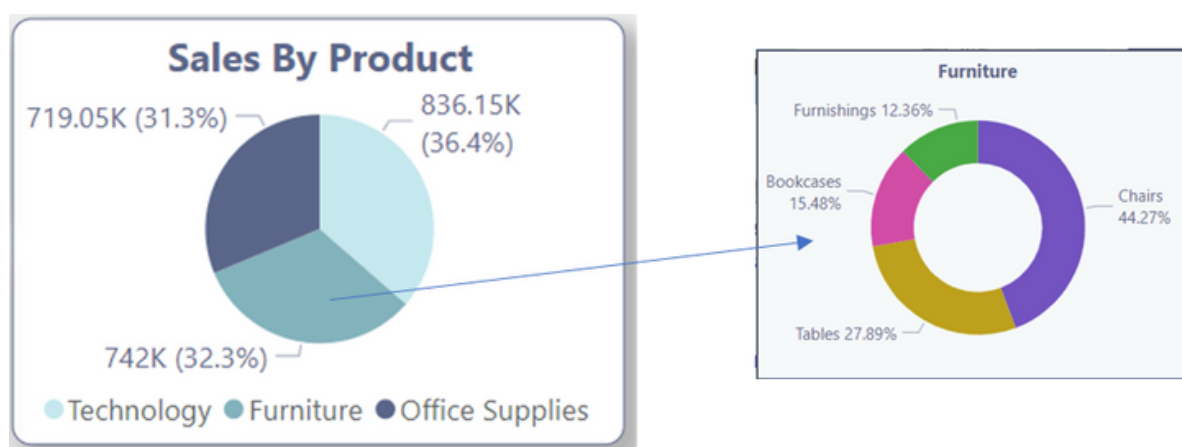
Shipping time is calculated by the time difference between the order date and the shipping date. As can be clearly seen, Ship mode is divided into four levels with clearly distinct time periods. For example, ship mode is classified as Same Day, delivery time is less than one day with delivery speed almost in just one hour. Next, when the order is classified in First class, the time to wait for the product to arrive will be on average more than 2 days and will be more than 3 days if this transaction is classified in Second class. Finally, for orders classified as Standard class, delivery time is up to 5 days.

# FINDINGS & ANALYSIS

## 03 Sales by Product

The total sales amount by each product category has not differenced much, with the highest number belonging to Technology products with 836.15K, equivalent to 36.4%. Next are Furniture products and Office Supplies, not far apart with 742K and 719K respectively.

In addition, when hovering over each pie in the chart, a donut chart will appear to display more detailed information about the sales section of the subcategory for each category. For example, in Furniture, Chairs are the most sold product, accounting for 44.27% while Furnishings is only 12.36%.



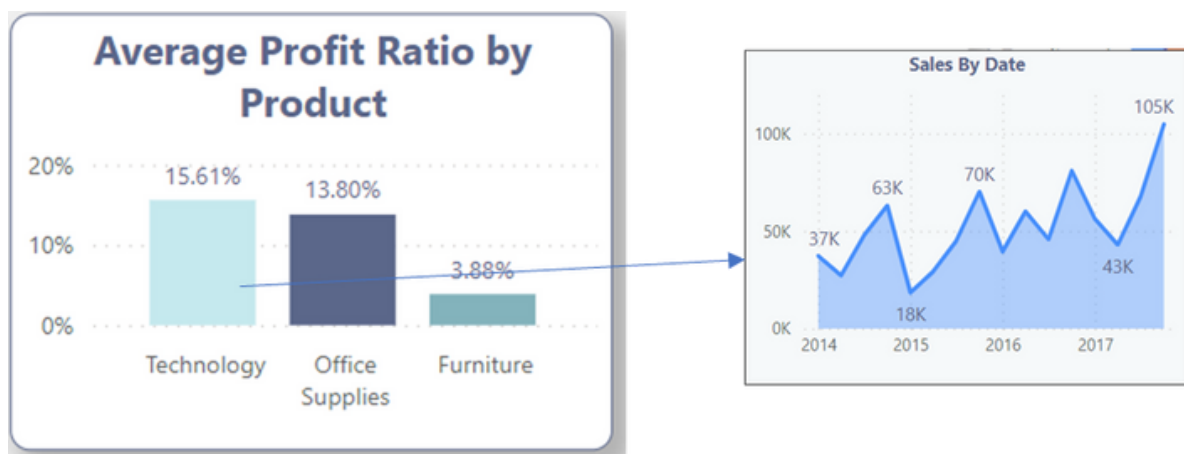
## 04 Distribution of city of residence and nationality

To calculate Profit Ratio, using the DAX function to calculate total Profit divided by total Sales. We know that a high profit margin proves that the business operations of the enterprise are stable and profitable. Besides, high profit margin means low fee ratio, showing that the business is managing costs well and optimizing budget for operations.

# FINDINGS & ANALYSIS

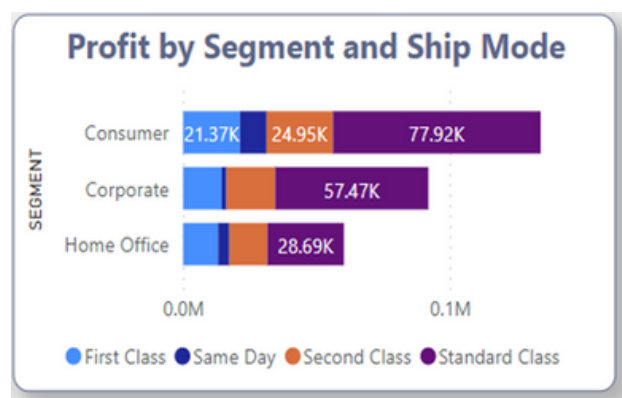
Based on the chart showing average profit ratio by product category, technology products bring the highest average profit margin at 15.61%, which means that 1 dollar of revenue from the product generates 0.1561 dollar in net profit. Office supplies products also bring a good profit ratio, specifically 13.8%, while furniture products only bring about 3.88%, a very low number compared to the rest.

For column charts, when the user hovers over the bar, an area chart will appear showing how that product's sales data changed from the beginning of 2014 to the end of 2017. Specifically, when hovering over the column technology products show that sales of this product tend to increase over the years with only 37K from the first quarter of 2014 to more than 100K by the end of 2017.



## 05 Profit by Segment and Ship Mode

To find out which type of customer segment and which shipping mode the most profit comes from, look at the stacked bar chart below. It is noticeable that the profit comes mainly from the consumer department, while the corporate department is only two-thirds and the home office is only one-third of the profit from consumer.





# FINDINGS & ANALYSIS

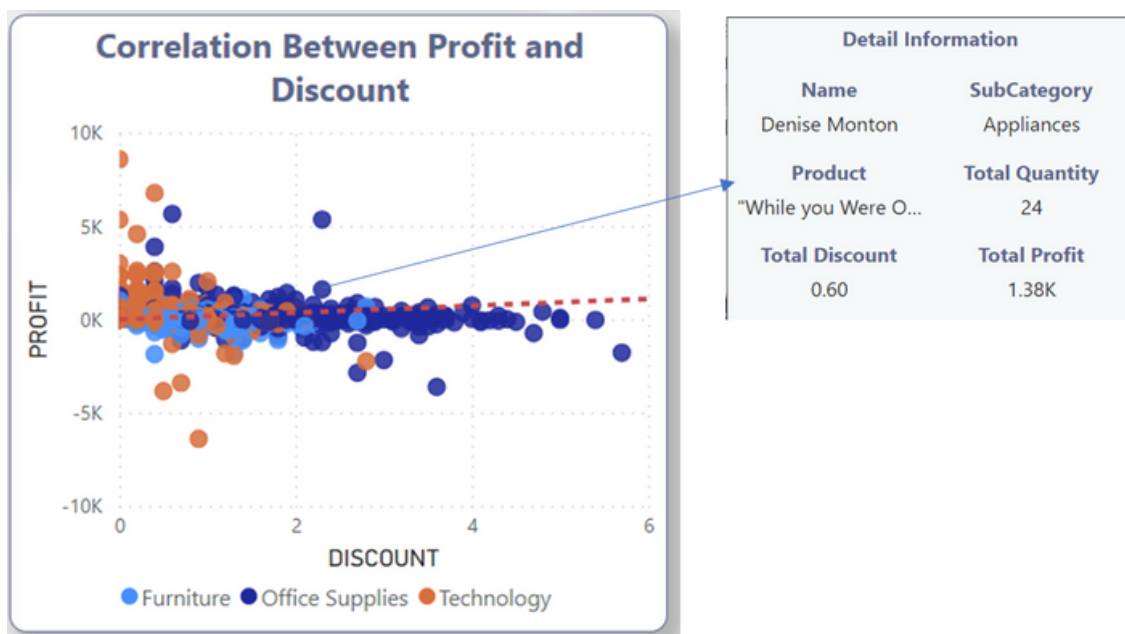
Additionally, for ship modes, profits are mainly from standard class, with the largest number coming from the consumer department at 77.92K. On the contrary, the smallest profit probably comes from ship mode same day in corporate segment.

## 06 Correlation between Profit and Discount

The correlation between profit and discounting in business can be very important and can affect the financial performance of a business. Usually, there is a negative correlation between discounts and profits. This means that when discounts increase (i.e., a business reduces the price of a product or service), profits can decrease.

However, when plotting the relationship between profit and discount, these points lie almost on a horizontal line, meaning there is no absolute correlation between them. This can have many causes, for example, profits can vary regardless of the discount applied. There may be many other factors that are affecting profits.

For points on the chart, there will be user information including name, subcategory name and product they ordered, along with information about the total quantity, discount and profit that this user purchases.

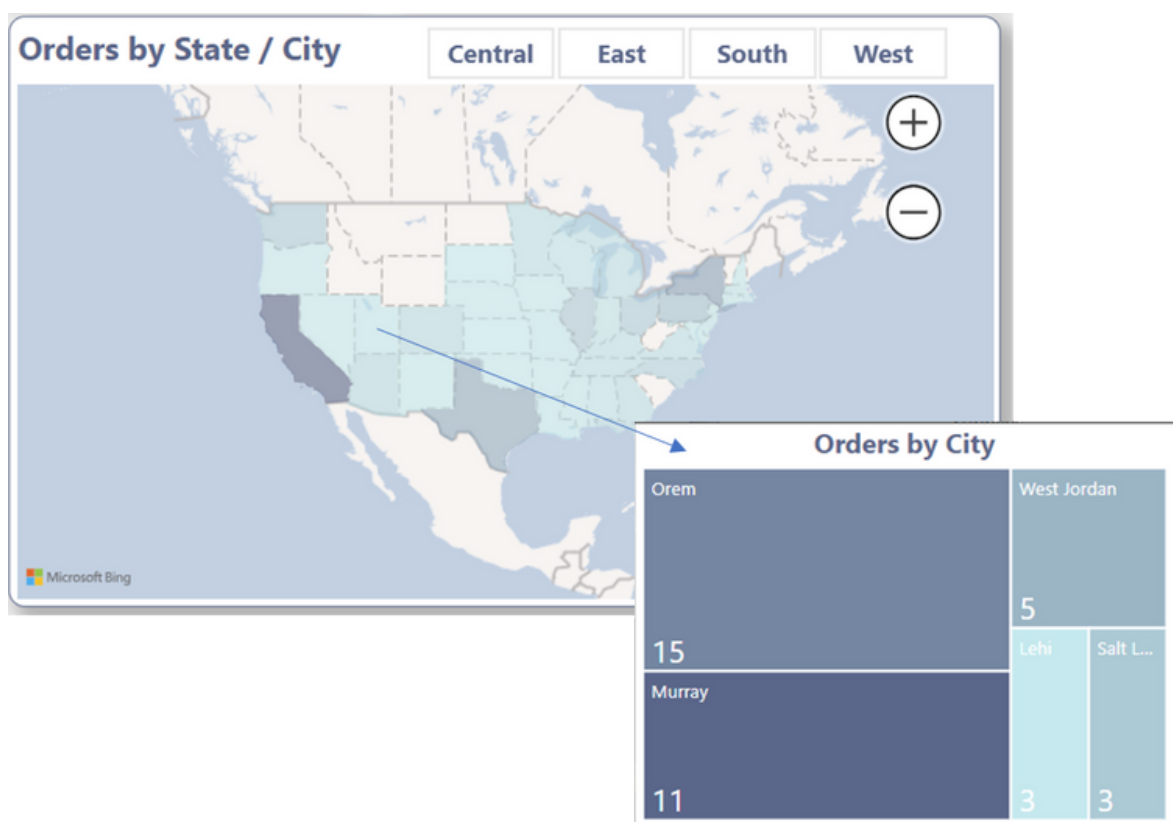


# FINDINGS & ANALYSIS

## 07 Total orders by State and City

The filled map below will help keep track of which regions receive the most product orders. Specifically, the total orders within 4 years recorded here are concentrated in North America, divided into 4 main regions: central, east, south and west. As can be observed, the state of California is filled with the darkest color, which means this state has the highest number of orders compared to the other states.

In addition, to track detailed product orders of which cities in these states, we use the tooltip which is a treemap that shows a quick look at the city names and their corresponding order quantities.



# DISCUSSION

This part discuss the broader context of the analysis. Address any limitations or constraints, and compare the results to the objectives and expectations outlined in the introduction.

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## Product strategy management

We already understand the distribution of sales between product types, understand which categories have high performance, no need to run advertising or marketing for that product anymore, a specific example in this analysis article is a Technology product with a stable profit ratio. Instead, focus on items that have less profit like Furniture.

## Effective discount management

To better understand the correlation between profits and discounts in specific cases, relevant ministries should carry out detailed financial analysis. As well as ensuring profits are not unduly impacted, careful discount management and pricing strategies are important. Consider using other measures, such as increasing product prices or improving production efficiency, to maintain or increase profits.



## Improve delivery time



For the above analysis, the consumer segment is considered the segment that brings in the most revenue, but most of these segments are in the standard class in ship mode. The average time for delivery is more than 5 days. If the time is reduced, it will bring a number of benefits, such as increasing the number of orders to help boost revenue, while also creating trust from customers. users contribute to increasing user experience.

# RECOMMENDATIONS

This section provides specific, actionable recommendations based on the analysis or that can be applied to the future.

## Customer-Centric Approach

01

The dataset that details the importance of customers to sales performance. Specifically, which consumer segment brings the most profit, the top customers who spend the most on purchases and what products they buy. That's why identifying and nurturing relationships with top customers can help increase loyalty and longer-term value, which will help marketing optimize customer acquisition.

## Expanding business geography

02

As shown, most orders will focus on North America, and only on certain states. It is necessary to deploy marketing strategies in regions that record lower orders and other countries to promote globally.

## Improved Pricing Strategy

03

Understanding the effects of discounts and taking the profitability analysis into account can help the company adjust your pricing tactics. Based on the category and consumer segment, strike a balance between maximizing profitability and maintaining competitiveness in pricing.

# CONCLUSION

The process of analyzing data has given the business an overall picture of its operations and relationships with its clients. The acquired insights present chances for focused marketing campaigns, better decision-making, and operational improvements. It is advised that the company use these insights to customize plans for boosted sales, enhanced client connections, and operational efficiency in light of these results. Furthermore, continuous data analysis and observation are necessary to maintain flexibility and adaptability to shifting market conditions.

For stakeholders, this analysis report is an invaluable tool that offers a path for well-informed decision-making and corporate expansion through insights derived from data.

