Guidelines for Data Visualization and Analysis Project

About the Project:

In this project, you will be working with a dataset from the Superstore, aiming to answer 30 scenario-based questions through data visualisation and analysis. Your objective is to select the best chart for each question, explain your choice. This project will showcase your proficiency in data visualisation, critical thinking, and effective communication.

Skills Required:

- Proficiency in data visualisation concepts and techniques.
- Familiarity with Tableau or a similar data visualisation tool.
- Strong analytical and problem-solving skills.
- Ability to choose appropriate charts based on data characteristics and question requirements.
- Clear and concise communication skills.

Deliverables:

- A Google document containing solutions to the scenario based questions including the screenshot of relevant charts picked for each scenario, presented in a concise and well-structured format. Make sure to provide explanations that highlight your problem-solving skills.

Rubrics for Assessment:

Question Responses:
- Accuracy and completeness of answers for all 30 questions.
- Clear and concise explanations that address the question's context.

Chart Selection and Explanation:
- Thoughtful rationale for choosing specific chart types.
- Justification based on data characteristics, context, and communication goals.

Creative Enhancements:
- Effective use of creative elements to enhance visualisation quality.
- Enhancements that contribute to better understanding or engagement.

Note:
- Duplicate this document and proceed to write your solutions.
- For each scenario and question, provide a justification for the choice of chart type. Explain why it is the best option to visualise the data effectively.
- Attach screenshots of the charts you have created in Tableau for each scenario and question using the Superstore dataset. Label them clearly to match the corresponding questions in the Google Document.
- Submit the duplicated google doc file after completion.

Use these guidelines to structure your data visualisation and analysis project. Remember to maintain consistency in your responses, explanations, and visualisation styles. This project will not only demonstrate your skills but also your ability to effectively communicate complex information through visualisations. Good luck!

Problem Statement: Choose the Best chart for any 30 scenario based questions from Superstore Dataset.

Imagine you are a data enthusiast aiming to excel in data visualisation and analysis. In this task, you have been given any 30 scenario-based questions derived from the Superstore dataset, and your objective is to provide insightful answers using appropriate charts. For each question, you need to select a chart that best represents the data, explain why you chose that specific chart, and then proceed to build the chosen chart using Tableau.

Your responses should be succinct, organised, and illustrative of your problem-solving capabilities.

Dataset Link:

https://community.tableau.com/s/question/0D54T00000CWeX8SAL/sample-superstore-sales-excelxls

Please keep in mind:

1. **Answer Completion**: Ensure that you furnish answers for all 30 questions and build charts for them.
2. **Encouraged Creativity**: Don't hesitate to employ visuals, creative elements, or any other innovative approaches to enhance the quality of your responses.

By completing this task effectively, you'll not only demonstrate your proficiency in data visualisation and analysis but also showcase your ability to effectively communicate complex concepts through both text and charts.

Good luck!

Questions:

1. Which product categories have the highest total sales in the "Superstore" dataset?

2. How do the monthly sales amounts change over the course of a year?

3. How is the total sales amount distributed among different product categories?
4. Can we analyse the sales performance of individual customers over time?
5. How do sales vary based on different days of the week and product categories?
6. Can we visualise the sales growth of different product categories over time?
7. How does the sales distribution vary across different regions in the "Superstore" dataset?
8. Can we visualise the composition of profits across various subcategories within different customer segments?
9. What is the percentage contribution of each region to the overall sales?
10. Can we visualise the profit margins associated with different shipping modes and customer segments?
11. How long does it take to process orders for different product categories?
12. How do discounts affect overall profit?
13. Can we visualise the relationship between product sales and profitability for different product categories?
14. What is the distribution of order quantities for products in the dataset?
15. How do the profit distributions vary across different product categories?
16. Can we compare the shipping time distributions for different shipping modes?
17. What is the monthly trend in the number of orders shipped?
18. How do different customer segments perform in terms of sales and discount rates?
19. What are the sales and profit trends across different product subcategories and regions in the Superstore dataset?
20. What is the average delivery duration for different regions and ship modes?
21. How has the average order quantity changed over the years for various product categories?

22. Can we visualise the correlation between discount rates and order quantities for different customer segments?

23. What is the proportion of orders returned in each region within the Superstore dataset?

24. Can you compare the profit of different products for different subcategories?

25. Which shipping mode is the most commonly used in the Sample Superstore dataset?

26. How does the sales performance of different regions evolve throughout the quarters of a year?

27. What is the distribution of order priorities across different product categories?

28. What is the relationship between discounts and sales?

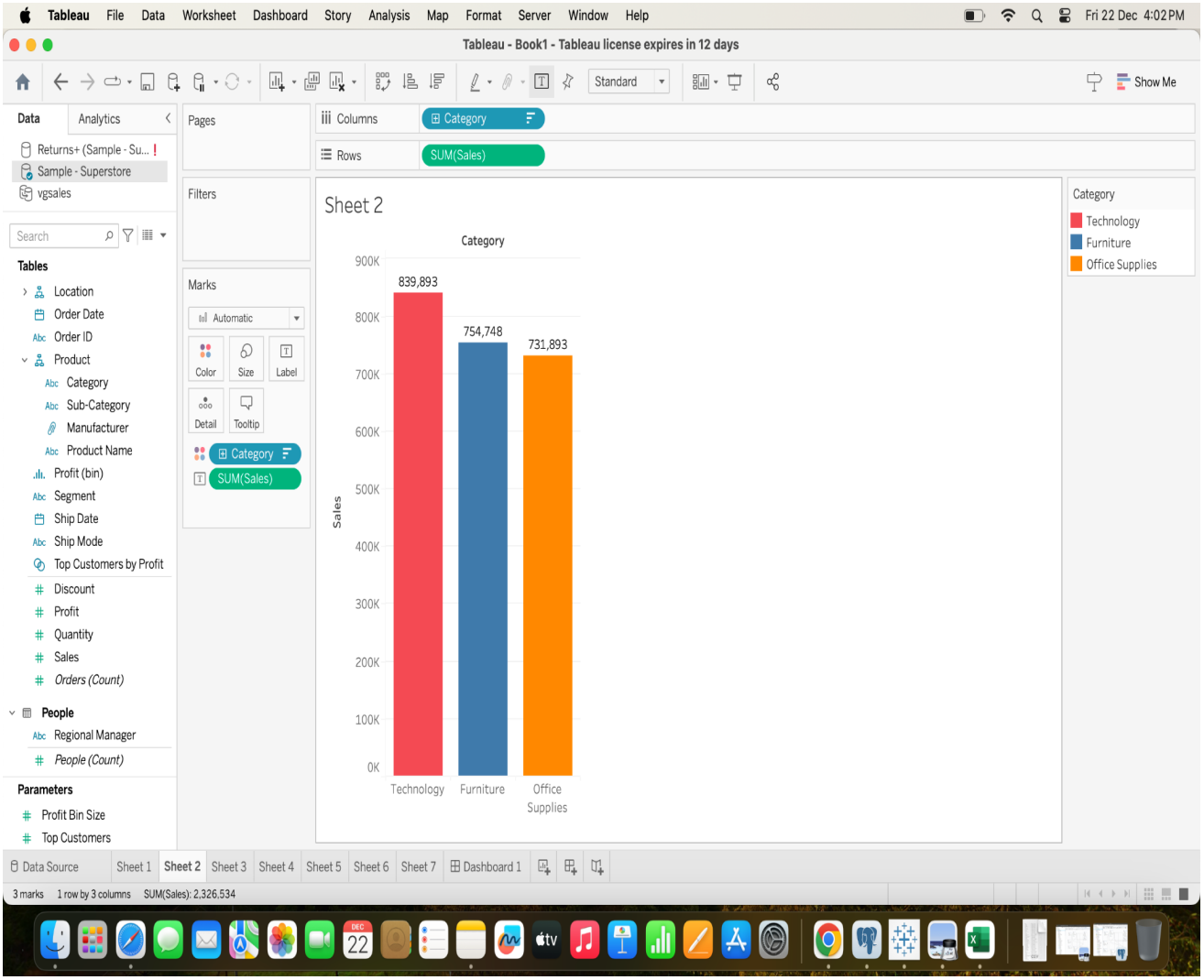
29. How does the average order value differ between repeat customers and new customers?

30. What is the geographical distribution of returns and its impact on overall profitability?

Question 1. Which product categories have the highest total sales in the "Superstore" dataset?

Answer1: As we can see from the bar chart **Technology** category has the highest total sales followed by **Furniture** and **Office Supplies**.

The chart used here is a vertical bar chart as it is well-suited for comparing the number of observations or total sales across different categories, making them an effective visual representation in this scenario.

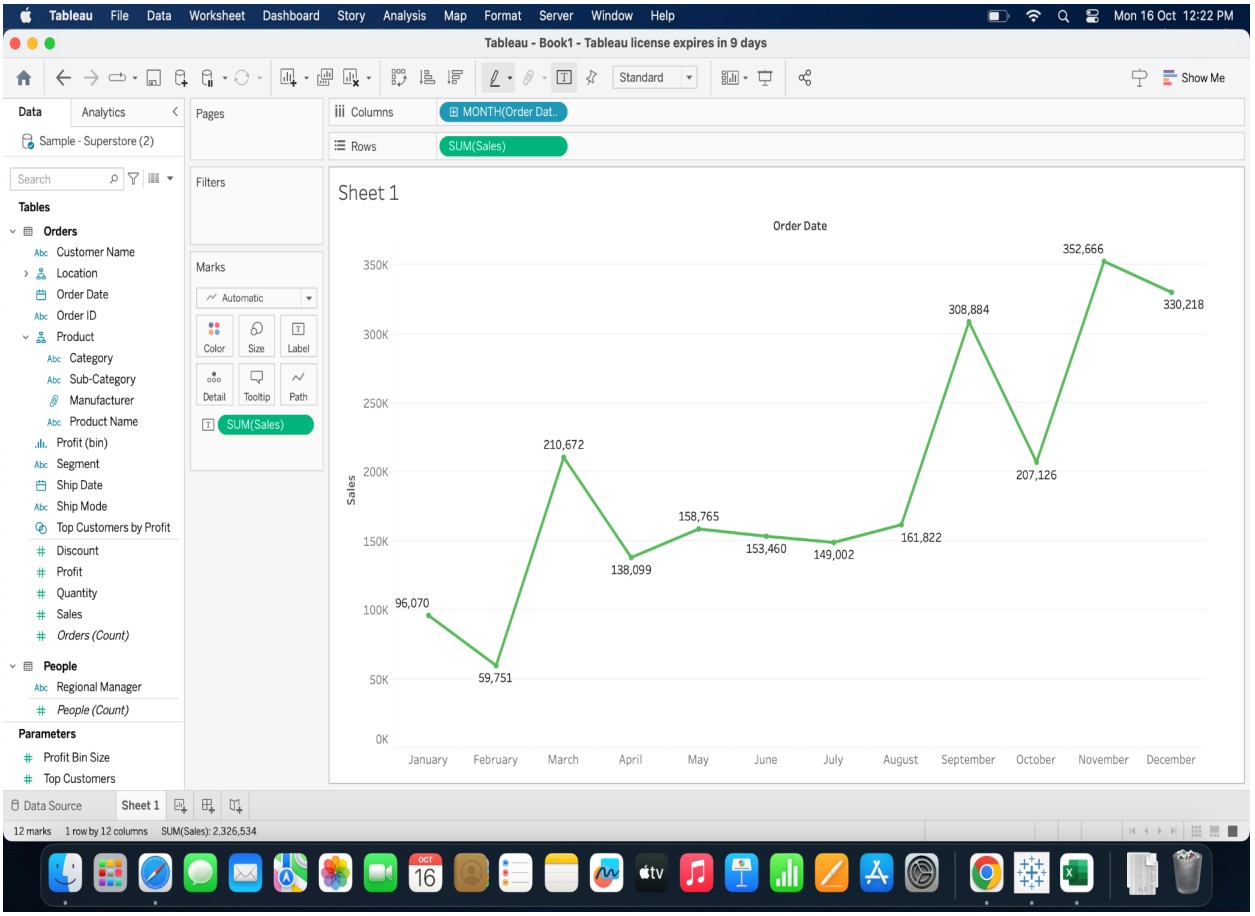


This chart proves to be incredibly beneficial for the superstore as it allows them to identify categories that are experiencing high demand, enabling them to efficiently manage their stock levels and meet customer needs.

Question 2. How do the monthly sales amounts change over the course of a year?

Answer 2 : As we can see from the chart sales surges during the month of **March**, **September** and **November**.Holiday season of November and December is the peak time of the sales.

The specific chart used here is a line chart because it is an excellent tool for visua--lizing trends over the time.Here as we wanted to see trends of sales over the months of the year so the line chart is ideal for it.

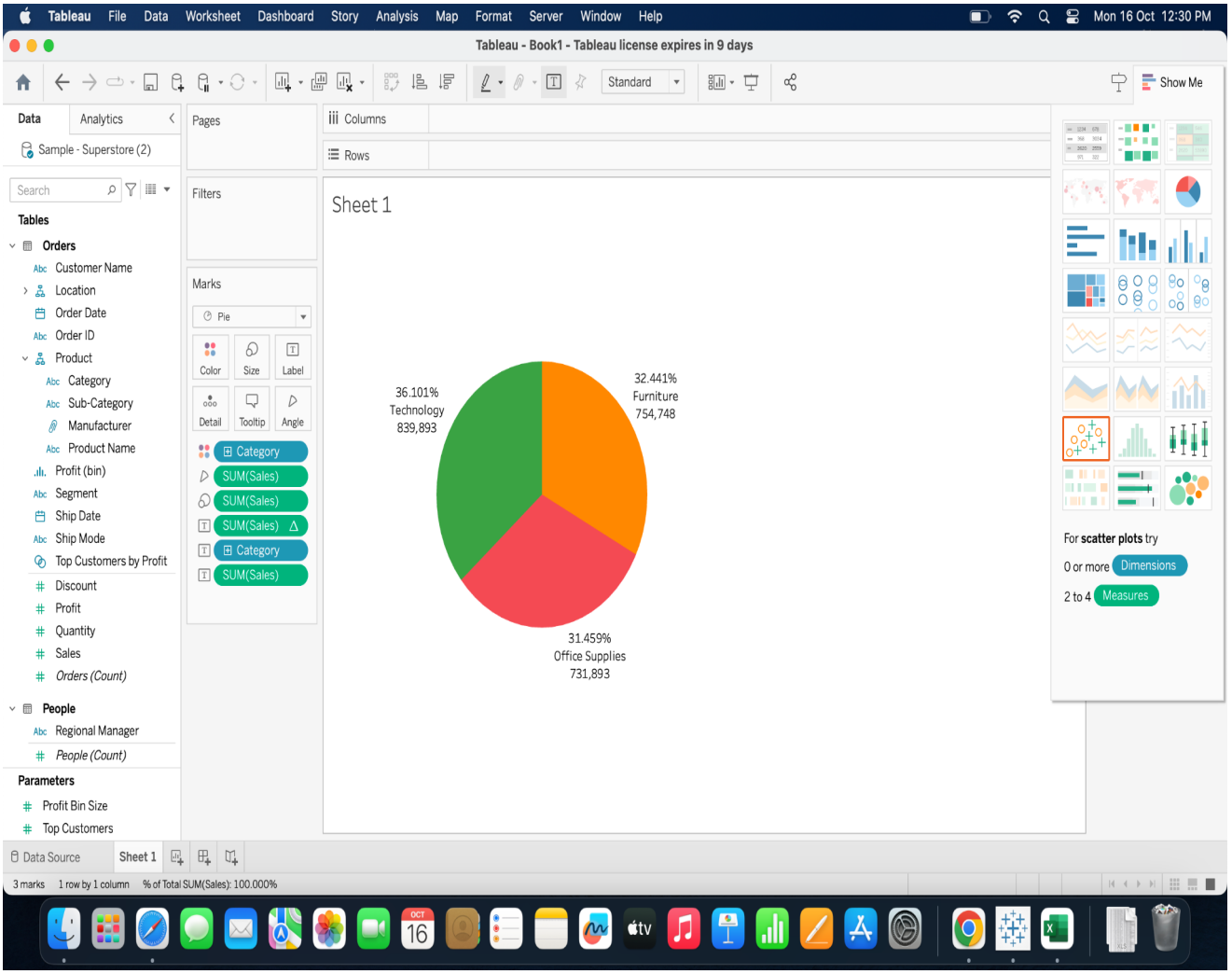


This chart serves as a useful resource for the superstore to determine the specific periods throughout the year when they should replenish their inventories and the optimal levels required to effectively fulfil customer demands.

Question 3. How is the total sales amount distributed among different product categories?

Answer 3: As we can see from the chart around **36 percent** of the total sales amount comes from **Technology**, **32.5 percent** from **Furniture** and around **31.5 percent** from **Office Supplies**.

Here Pie chart is chosen as an effective way to represent the distribution of total sales amount among different categories. This type of chart is well-suited for showcasing categories as a percentage of the whole, making it an ideal choice in this context.

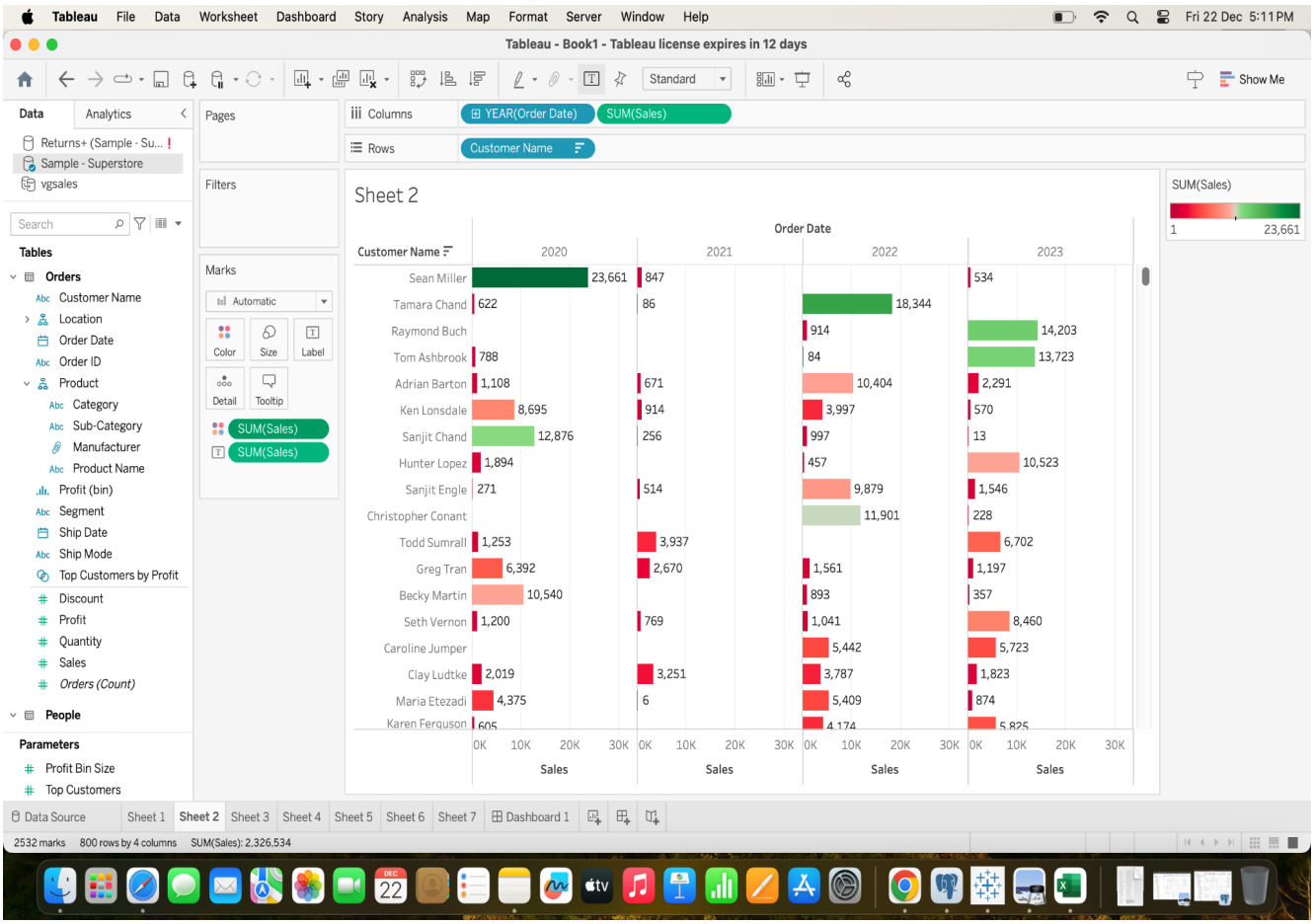


This chart proves invaluable for the superstore in identifying the highest revenue-generating category, while also highlighting the categories where additional efforts are needed to boost sales. It provides crucial insights to guide strategic decision-making and focus on areas with untapped potential for revenue growth.

Question 4. Can we analyse the sales performance of individual customers over time?

Answer 4: From the chart below we can see sales performance of individual customers over the years.It is visible from the chart that sales performance of customers is not uniform throughout the 4 years for eg . customer **Sean Miller** had done almost his entire purchase in **2020**.

The chart used here is a bar chart as it is the most appropriate for the categorical data (customer names) and sum of sales along with years.

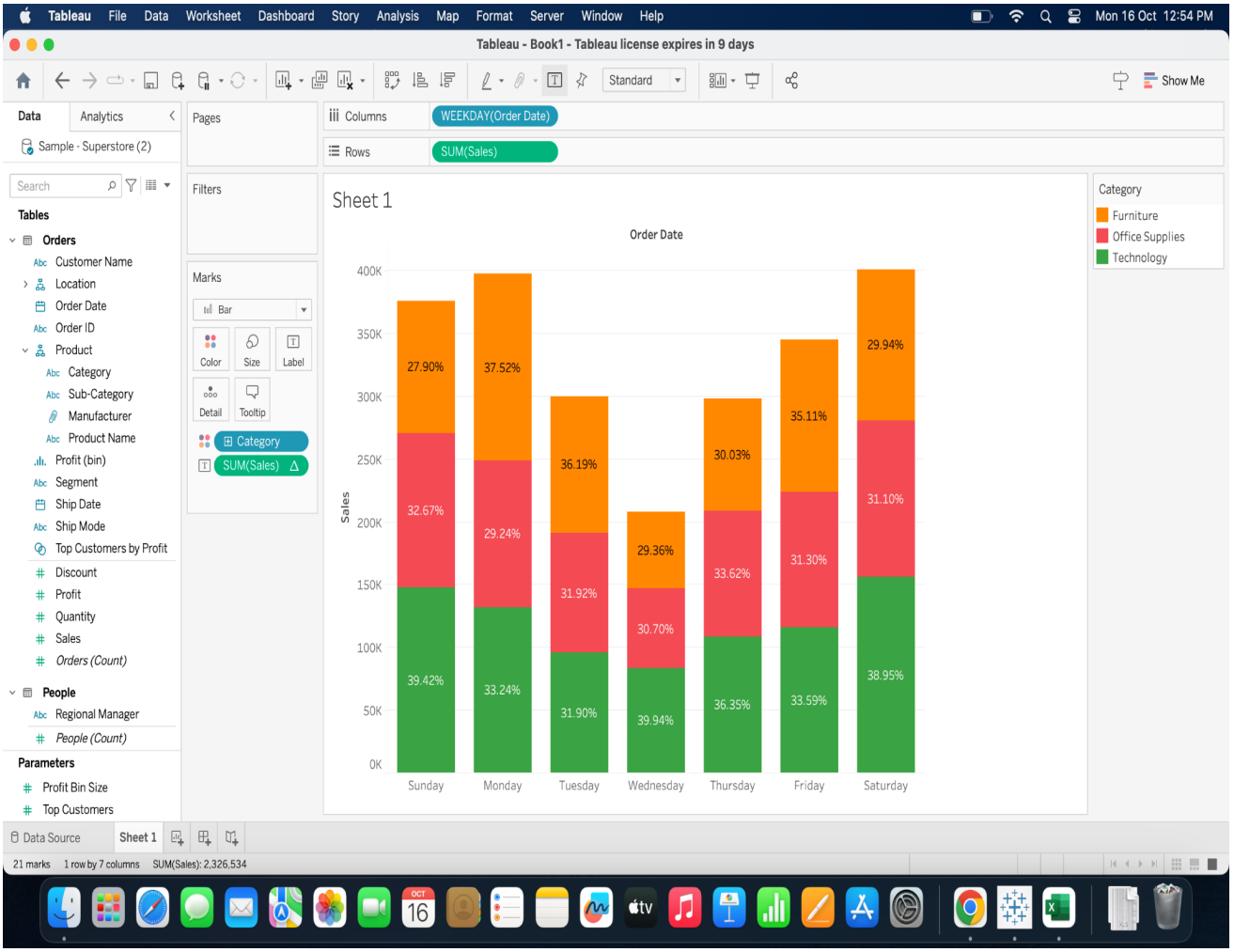


This chart proves highly valuable for the superstore in gaining insights into customer behaviour and purchase patterns over the years.

Question 5. How do sales vary based on different days of the week and product categories?

Answer 5 : As we can see from the chart sales are high on **Monday**,**Saturday** and **Sunday** and sales of different categories also vary as per the day.

The chart used here is a stacked bar chart because it is optimal for the comparison of sales across different categories throughout the weekdays, enabling a comprehensive understanding of sales distribution over the course of the week.

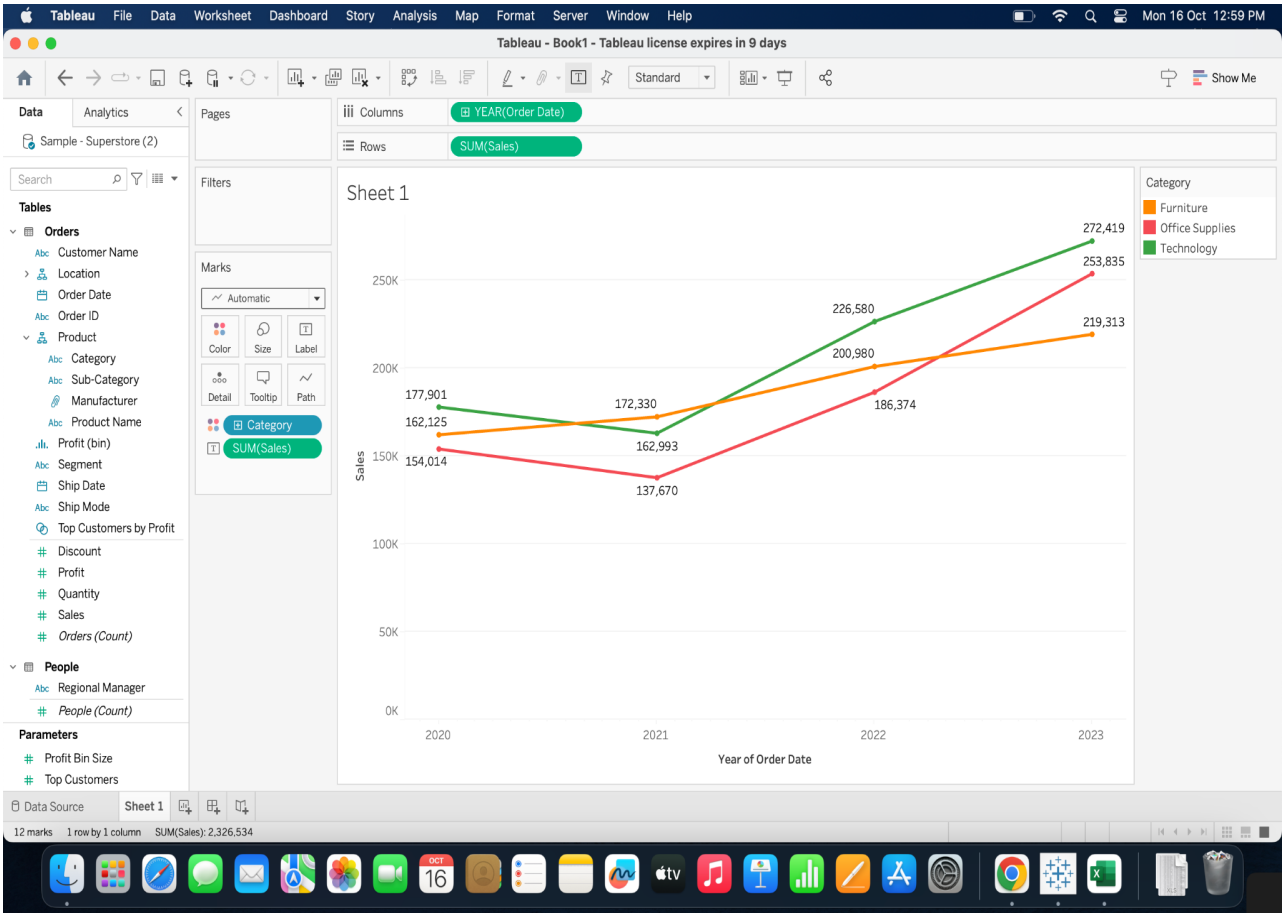


This chart serves as a valuable tool for the superstore to meticulously analyse the sales performance of various categories on a weekly basis.

Question 6. Can we visualise the sales growth of different product categories over time?

Answer 6: The chart clearly depicts a consistent upward trend in the sales growth of categories over time, with a noticeable decline in **Office Supplies** and **Technology** occurring solely in **2021**. This dip can be attributed to the adverse impact of the COVID-19 pandemic, which significantly affected consumer behaviour and purchasing patterns. It is evident that the overall trend of increasing sales growth reinforces the resilience of the superstore, despite the temporary setback experienced during the pandemic.

The chart used here is a line chart because it is an excellent tool for visualising trends over the time.Here as we wanted to see trends of sales over the years of different product categories so the line chart is ideal for it.

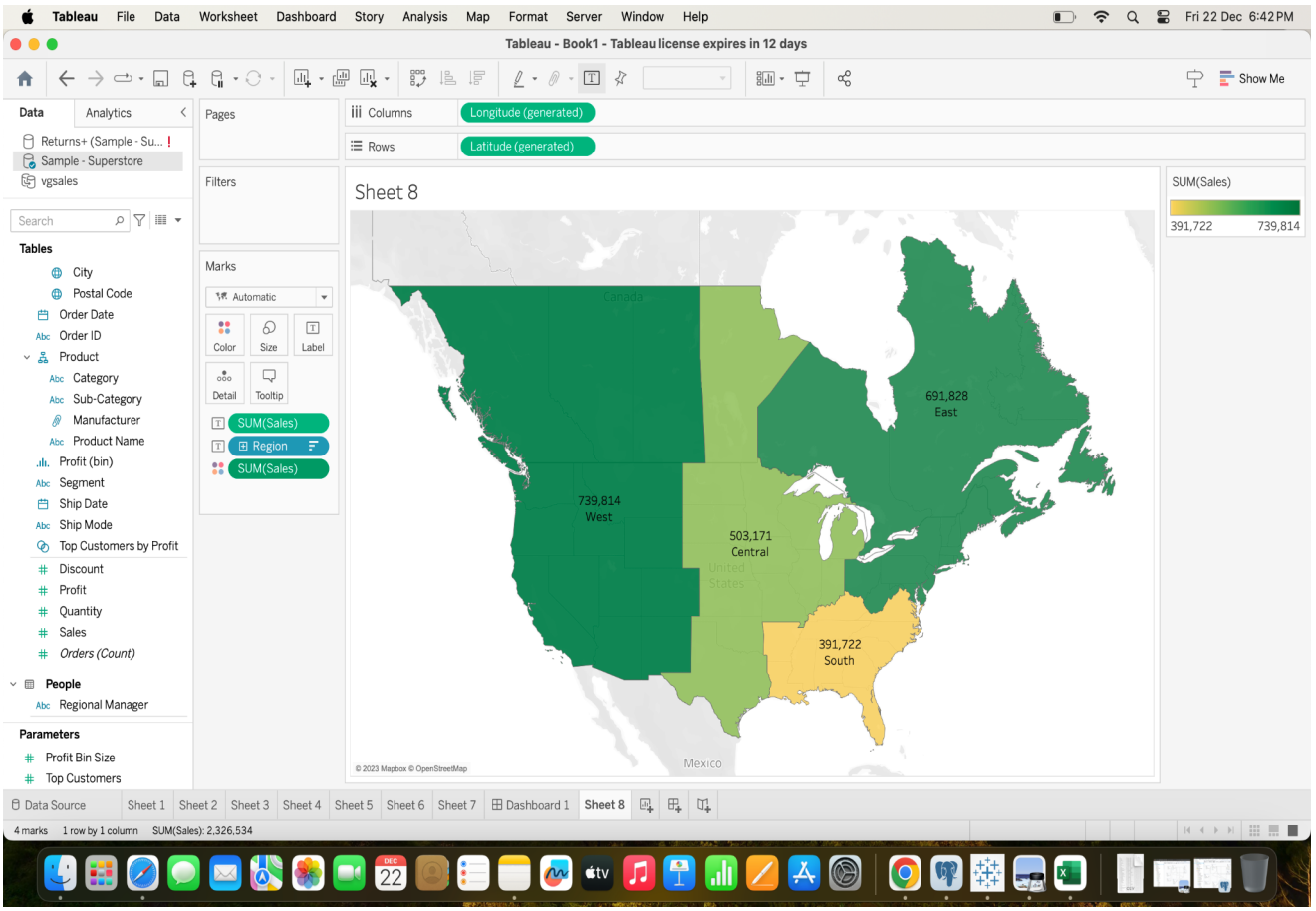


The above chart provides essential information regarding the sales growth of different categories over time, highlighting patterns and trends that can aid in decision-making and strategic planning. The identification of the dip in sales during a specific period, potentially due to the COVID-19 pandemic, further emphasises the chart's usefulness in understanding the impact of external factors on the business.

Question 7. How does the sales distribution vary across different regions in the "Superstore" dataset?

Answer 7: From the chart, it is evident that the **Western**, **Central**, and **Eastern** regions encompass both the United States of America (USA) and Canada, while the **Southern** region comprises only the USA. Among these regions, the **Western** region registered the **highest sales**, followed by the East, Central, and Southern regions, in that order.

The chart used here is a choropleth map.The above is tied to geographic locations(Regions here).A choropleth map is a good choice for displaying how a measurement varies across a geographic area or for showing the level of variation within the regions.

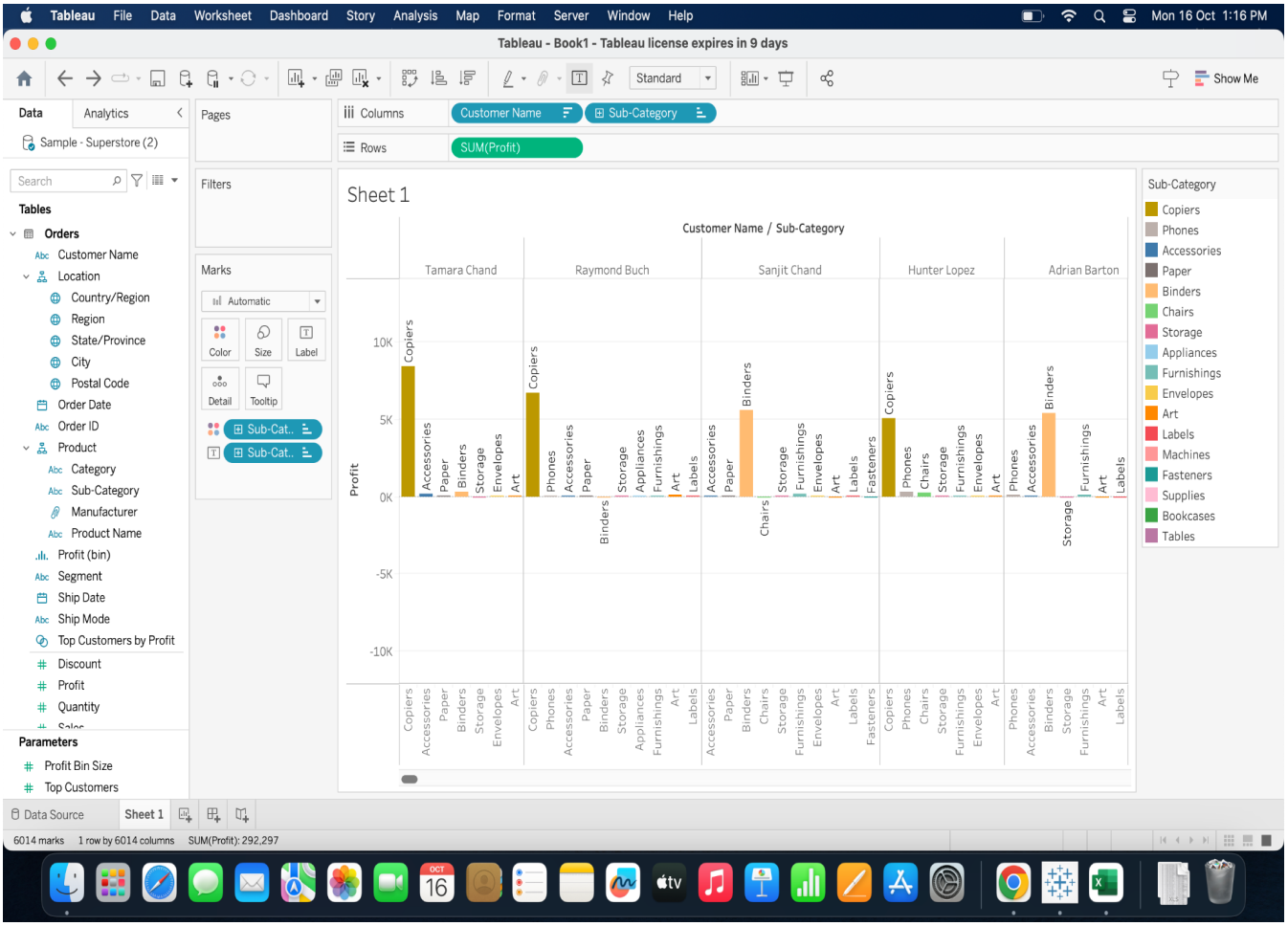


This chart helps the superstore to understand the sales performance across different regions and identify potential opportunities for growth or areas that may require additional attention.

Question 8. Can we visualise the composition of profits across various subcategories within different customer segments?

Answer 8: The chart clearly indicates that the **Copiers subcategory** is the highest profit generator for the superstore, while **Binders** also contribute significantly to the overall profitability. Additionally, it highlights that customer **Tamara Chand** has generated the maximum profit for the superstore.

A bar chart was selected as the most suitable option to depict the sub-categories alongside the corresponding profit for each customer. It allows for a clear and concise representation of this information, making it an ideal choice for this purpose.

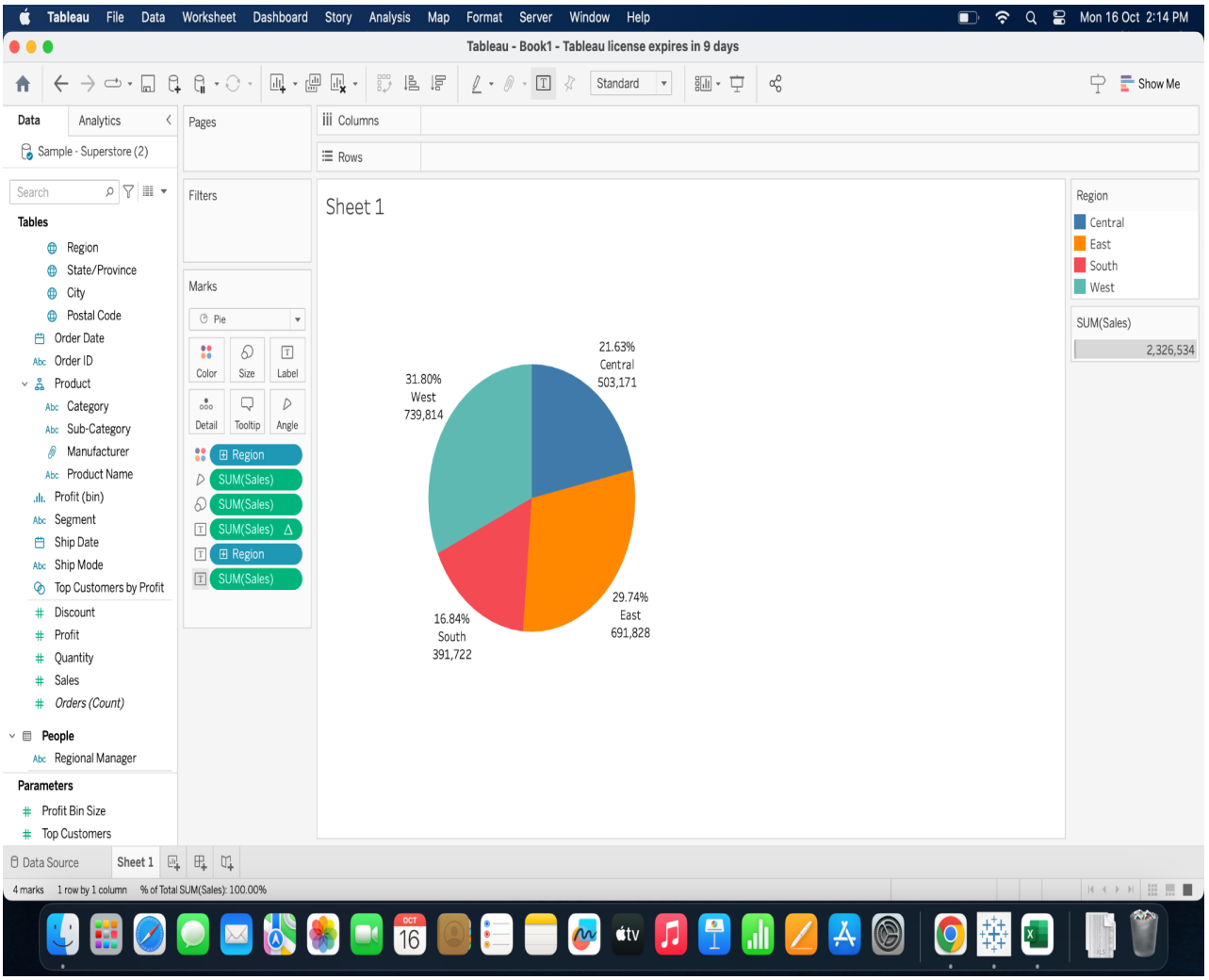


This chart can enable the superstore to recognize the products and customers that are driving the most profitability, allowing them to make strategic decisions to further capitalise on these trends and build upon their success.

Question 9. What is the percentage contribution of each region to the overall sales?

Answer 9: As observed from the chart, it becomes apparent that the **West region** contributed around **32 percent**, closely followed by the **East region** with around **30 percent**. The **Central region** accounted for approximately **22 percent** of the contribution, while the **South region** generated around **17 percent**.

Here Pie chart is chosen as an effective way to represent the distribution of total sales amount among different regions. This type of chart is well-suited for showcasing regions as a percentage of the whole, making it an ideal choice in this context.

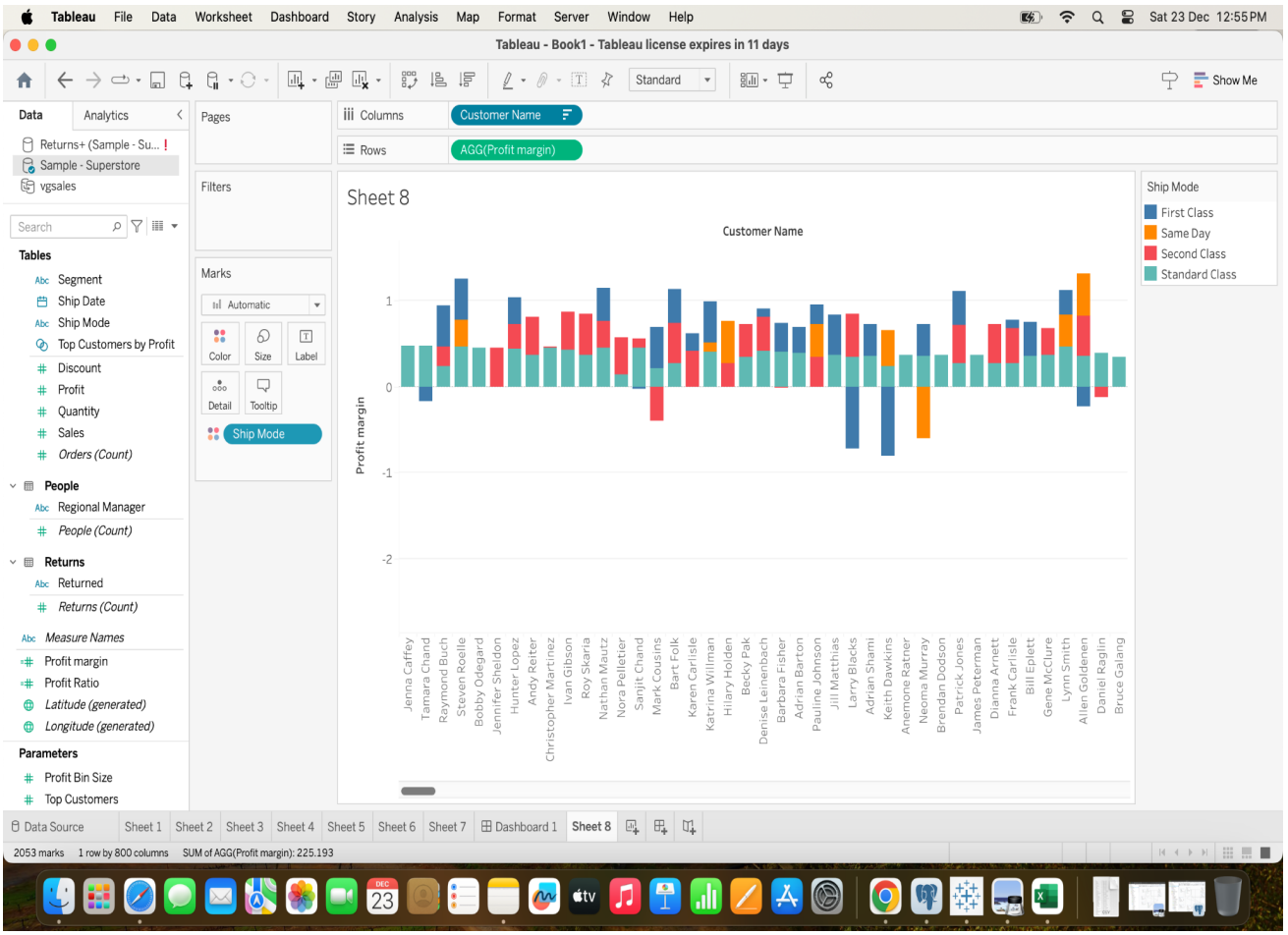


This chart is valuable to see the relative contribution of each region towards the overall sales amount.

Question 10. Can we visualise the profit margins associated with different shipping modes and customer segments?

Answer 10: In order to determine the **profit margins**, we need to create a calculated field called "**Profit Margin**" by dividing the sum of profit by the absolute value of the sum of sales. After analysing the chart, it becomes evident that the **standard class** ship mode generated the highest profit margin, followed by **second class**, **first class**, and **same day** ship mode, in descending order of profitability.

The chart used here is a stacked bar chart because it is optimal for the comparison of profit margins across different ship mode categories throughout the customer segment, enabling a comprehensive understanding of profit margins over the course of the ship mode.

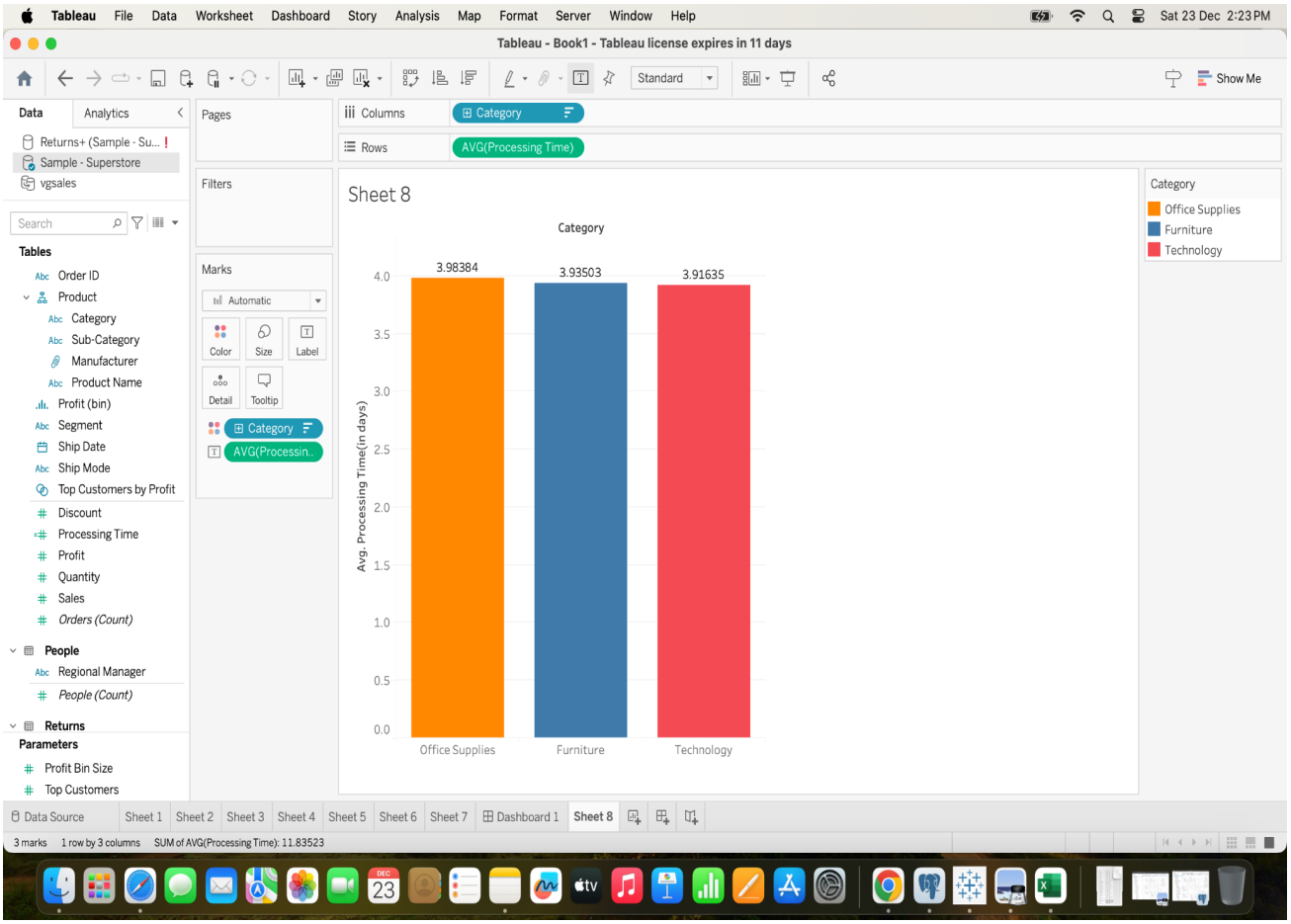


This chart is useful to highlight the varying profitability levels associated with the ship mode along with the customer segment.

Question 11.How long does it take to process orders for different product categories?

Answer 11: In order to determine average processing time in days , we need to create Calculated field by the name of "**Processing Time**" by calculating the difference in days between the **order date** and the **ship date**.After analysing the chart it becomes evident that the average processing time of **Office Supplies** is highest, followed by **furniture** and **technology**.

The chart used here is a vertical bar chart as it is well-suited for comparing the number of observations(average processing time) of different categories, making them an effective visual representation in this scenario.

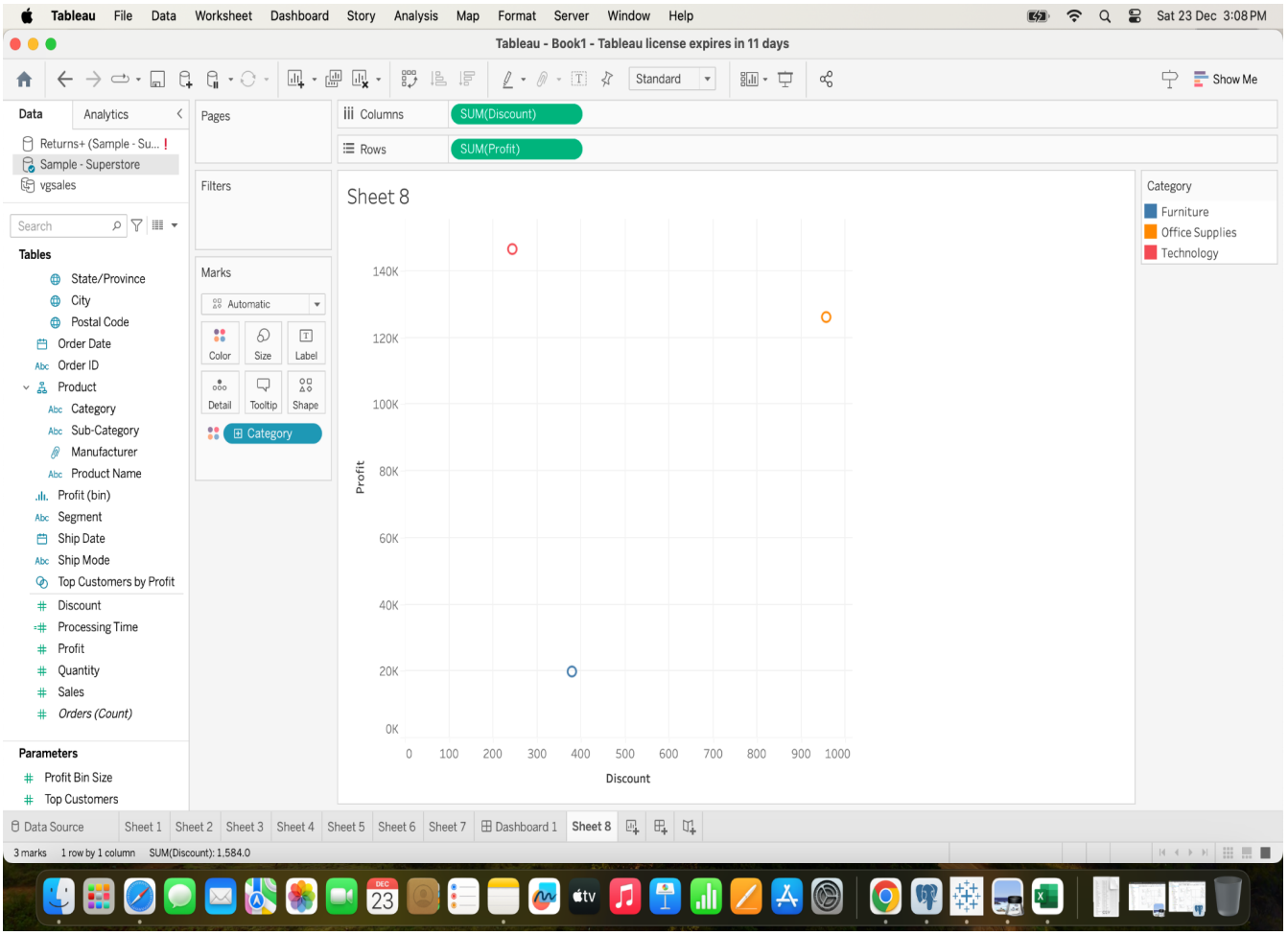


This chart is helpful in identifying potential areas for improvement in processing times across different product categories.

Question 12. How do discounts affect overall profit?

Answer 12: The graphical representation clearly illustrates distinct trends in discount offerings across various categories. Notably, in the **Technology category,** a profit exceeding **$140K** correlated with a discount of approximately **$200**. Meanwhile, within the **Furniture** category, achieving a **$20K** profit aligned with a discount of approximately **$400.** In the realm of **Office Supplies**, a profit hovering around **$120K** was associated with a substantial discount of approximately **$950**.

The chart used here is a scatter plot, as it is useful for visualising the interplay between two numerical variables, profit and discount, within distinct product categories. The utilisation of varied colours effectively distinguishes each category, enhancing the clarity and comprehension of the data, providing a concise and informative representation.

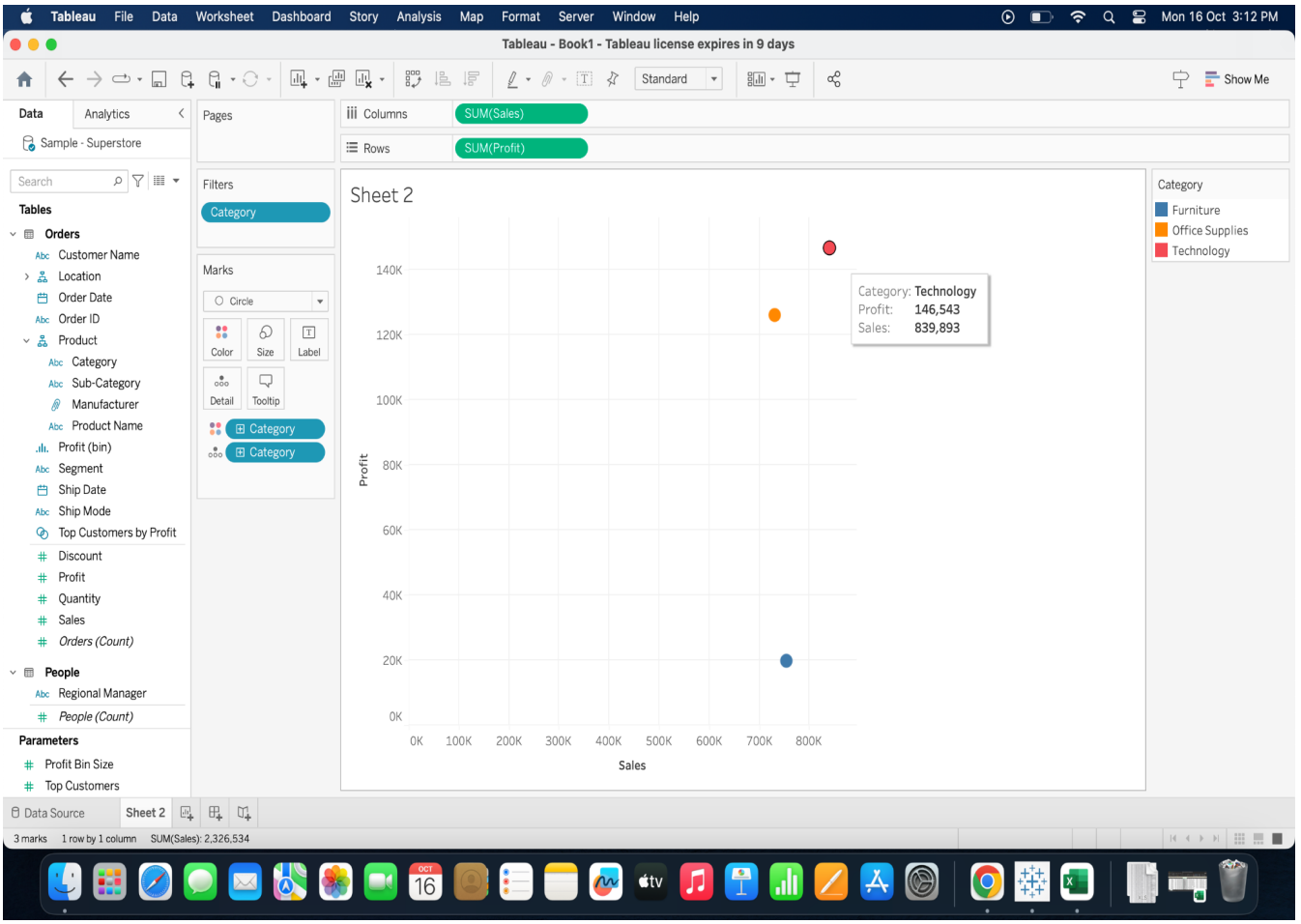


This chart underscores the nuanced relationship between profit margins and corresponding discount strategies within each product category.

Question 13. Can we visualise the relationship between product sales and profitability for different product categories?

Answer 13: The chart illuminates key insights into **total sales** and associated **profits** across different categories. Notably, within the **Technology category**, total sales of approximately **$840K** correspond to a profit of around **$146.5K**. Similarly, in the **Office Supplies** category, with total sales reaching around **$720K**, the earned profit amounts to **$125K**. Meanwhile, the **Furniture** category, boasting total sales of approximately **$750K**, yields a profit of around **$20K**.

The chart used here is a scatter plot, as it is useful for visualising the interplay between two numerical variables, profit and total sales, within distinct product categories. The utilisation of varied colours effectively distinguishes each category, enhancing the clarity and comprehension of the data, providing a concise and informative representation.

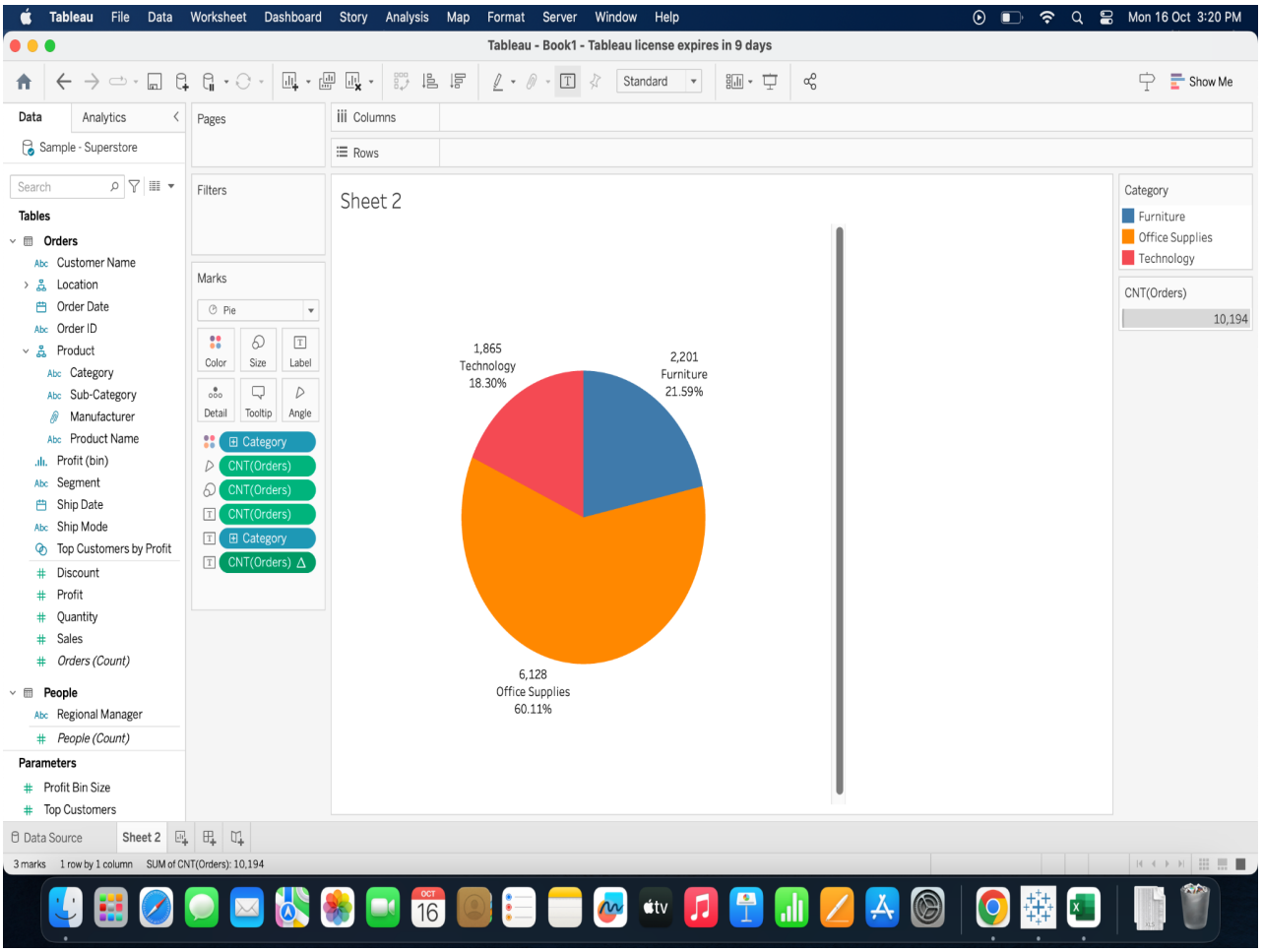


By highlighting the relationship between total sales and associated profits, the chart aids in strategic decision-making. Understanding how different categories contribute to profits allows for targeted adjustments in pricing, marketing, or inventory management, enabling Superstore to optimise their overall performance and enhance financial outcomes.

Question 14. What is the distribution of order quantities for products in the dataset?

Answer 14: The chart provides a clear distribution of order percentages across product categories. Notably, **Office Supplies** dominate with approximately **60%** of the total orders, followed by **Furniture** at around **21.5%**, and **Technology** at approximately **18%.** Overall Count of orders is **10,194**.

The chart used here is a Pie chart ,as it provides an effective way to represent the distribution of total orders among different categories. This type of chart is well-suited for showcasing orders as a percentage of the whole, making it an ideal choice in this context.

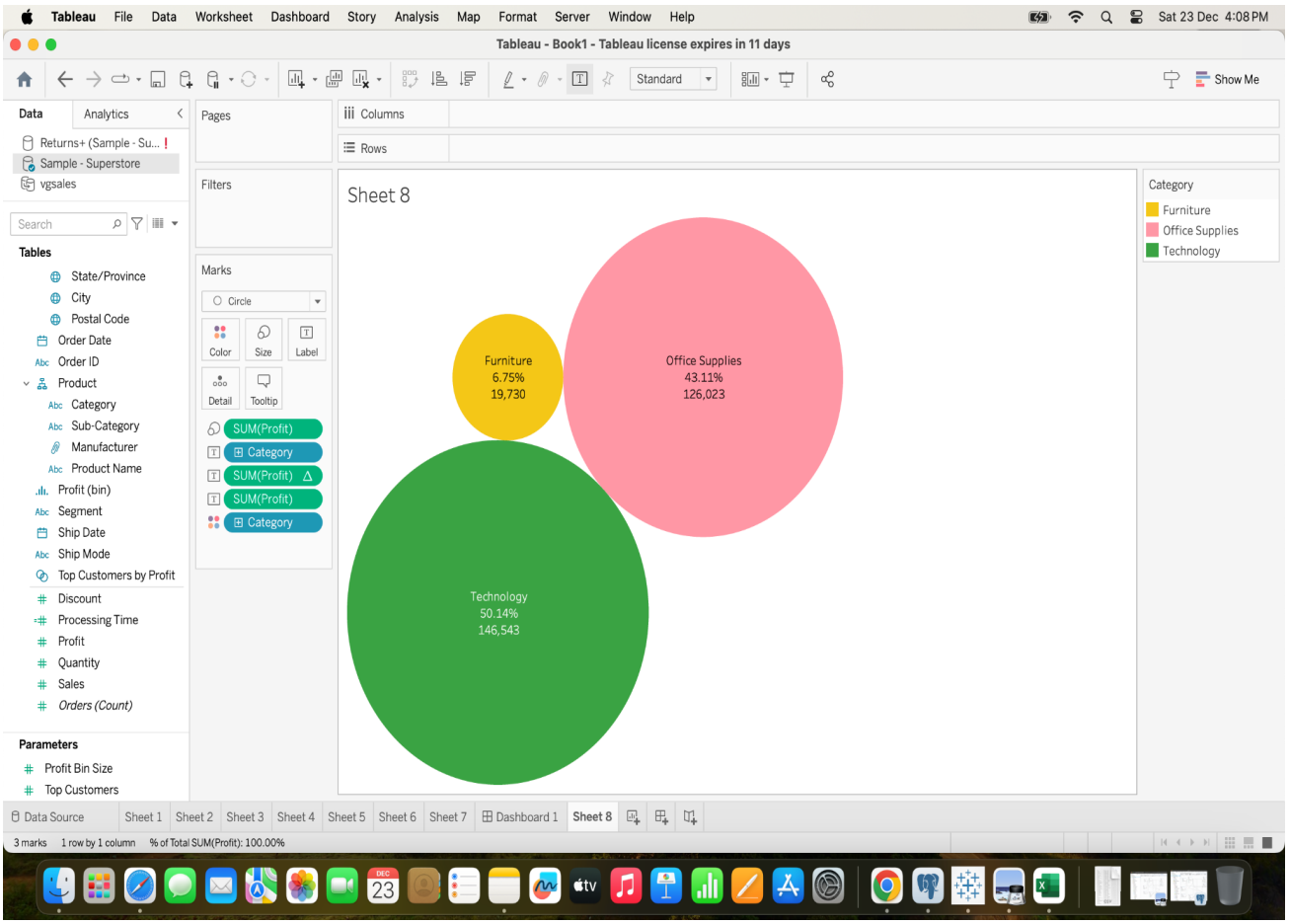


The comprehensive overview provided by the chart, considering a total order count of 10,194, facilitates informed decision-making and targeted efforts to meet customer demand effectively.

Question. 15 How do the profit distributions vary across different product categories?

Answer 15: As we can see from the chart around 50 percent of the profit came from Technology category, 43 percent from the Office Supplies and around 7 percent from Furniture.

The selected chart type, a bubble chart, is instrumental in visually conveying the profit contribution of different categories. The size of each bubble directly correlates with the magnitude of profit generated by the respective category, providing an intuitive visual.

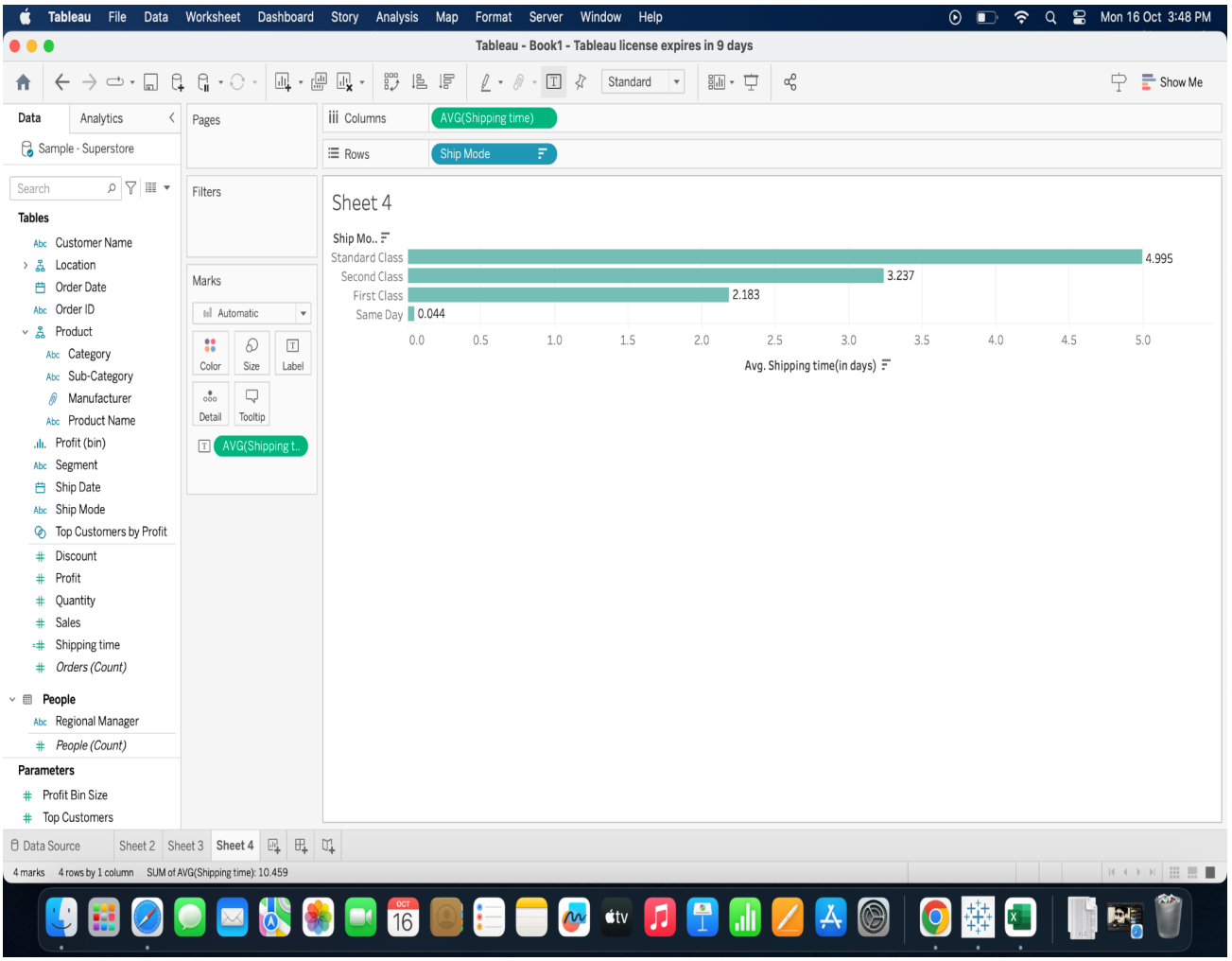


This chart allows for quick and clear identification of the most profitable category, enabling Superstore to focus on key areas for strategic decision-making and resource allocation.

Question 16. Can we compare the shipping time distributions for different shipping modes?

Answer 16: In order to determine average processing time in days , we need to create Calculated field by the name of "**Shipping Time**" by calculating the difference in days between the **order date** and the **ship date**. After analysing the chart, it is evident that average shipping time of **same day** ship mode is least, followed by **First class**, **Second class** and **Standard class**.

The choice of a horizontal bar chart is apt for presenting the relationship between categorical data, specifically the "Ship mode," and a numerical variable, represented by the "avg shipping time." This chart type effectively communicates the variations in shipping times across different modes, offering a clear comparison and facilitating a quick understanding of the data distribution.

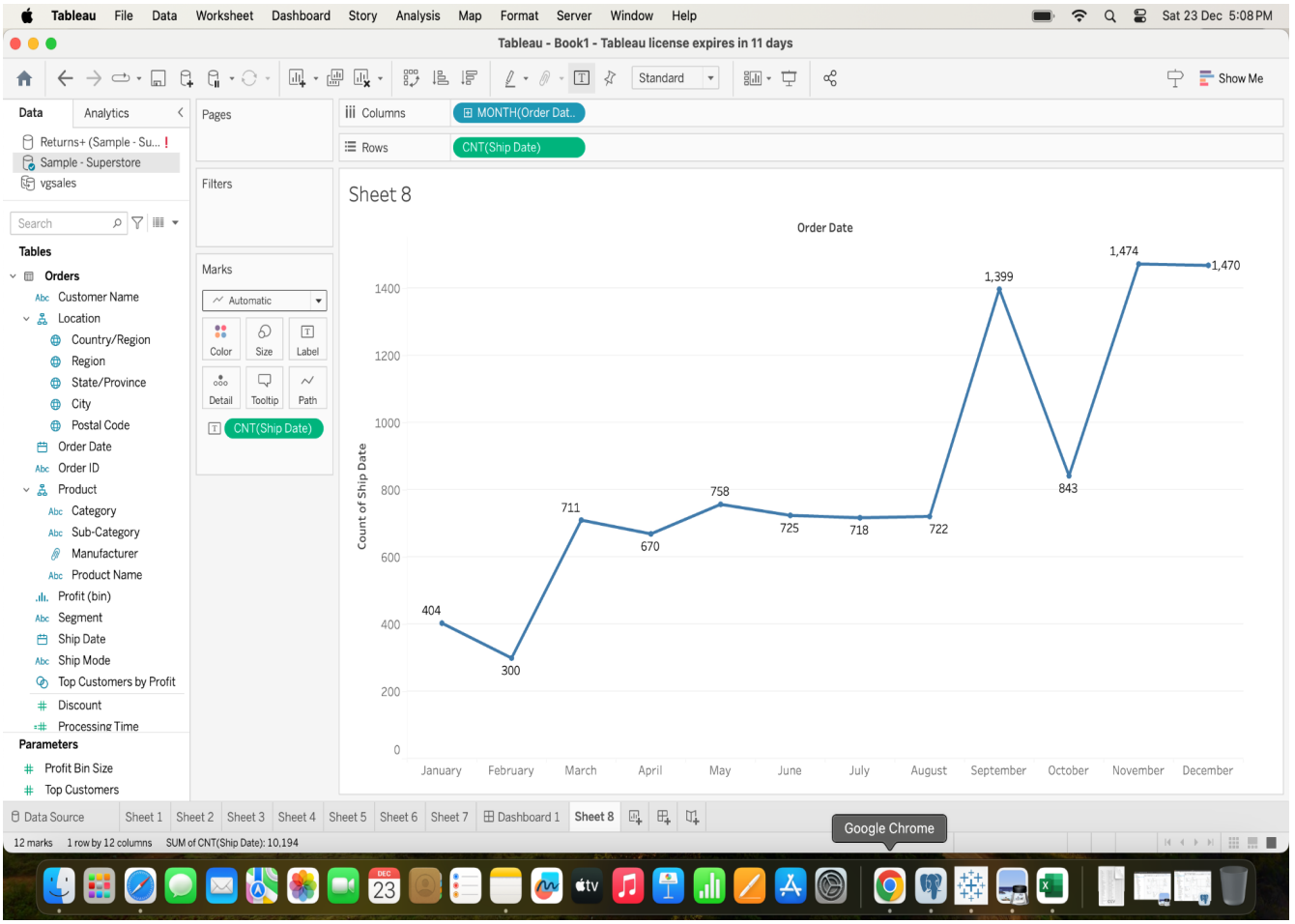


The above chart is useful for logistics and supply chain management enabling Superstore to optimise shipping methods for efficiency and customer satisfaction.

Question 17. What is the monthly trend in the number of orders shipped?

Answer 17: The chart reveals distinct patterns in order shipments throughout the year. Notably, the months of **September**, **November**, and **December** stand out with the **highest** number of orders shipped. Conversely, **January** and **February** depict the **lowest** shipment volumes. The remaining months exhibit a consistent and steady level of order shipments.

The chart used here is a line chart because it is an excellent tool for visualising trends over the time.Here as we wanted to see trends of sales over the years of different product categories so the line chart is ideal for it.

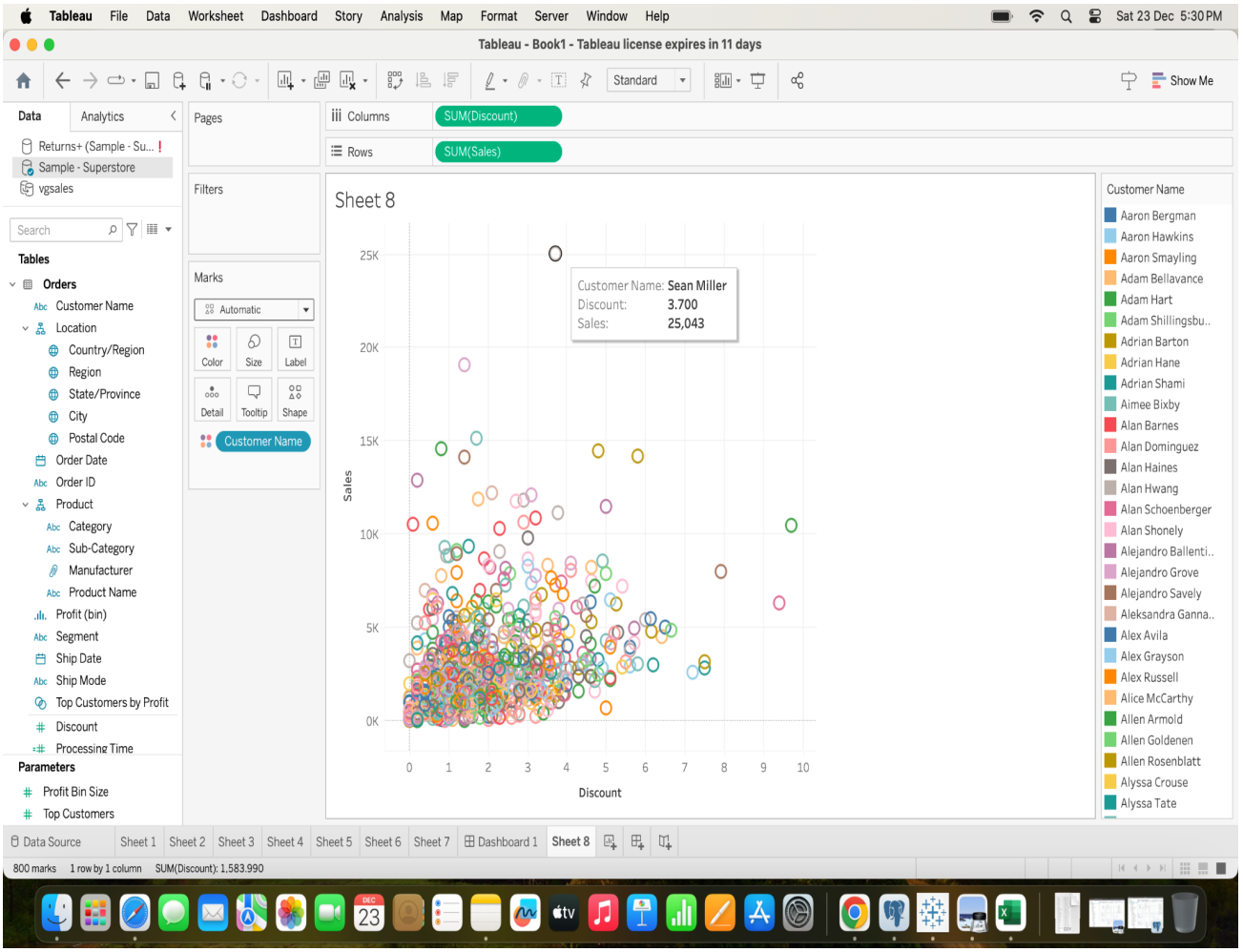


This chart is invaluable for Superstore in terms of resource planning, inventory management, and understanding seasonal variations in customer demand, enabling them to optimise operations and meet customer expectations effectively.

Question 18. How do different customer segments perform in terms of sales and discount rates?

Answer 18: The chart underscores a predominant customer presence within the sales bracket of less than **$5K**, accompanied by a corresponding discount bracket of less than **$4**. This observation suggests a concentration of customer transactions at lower sales and discount values.

The chart used here is a scatter plot, as it is useful for visualising the interplay between two numerical variables, discount and total sales, within a distinct customer segment. The utilisation of varied colours effectively distinguishes each category, enhancing the clarity and comprehension of the data, providing a concise and informative representation.

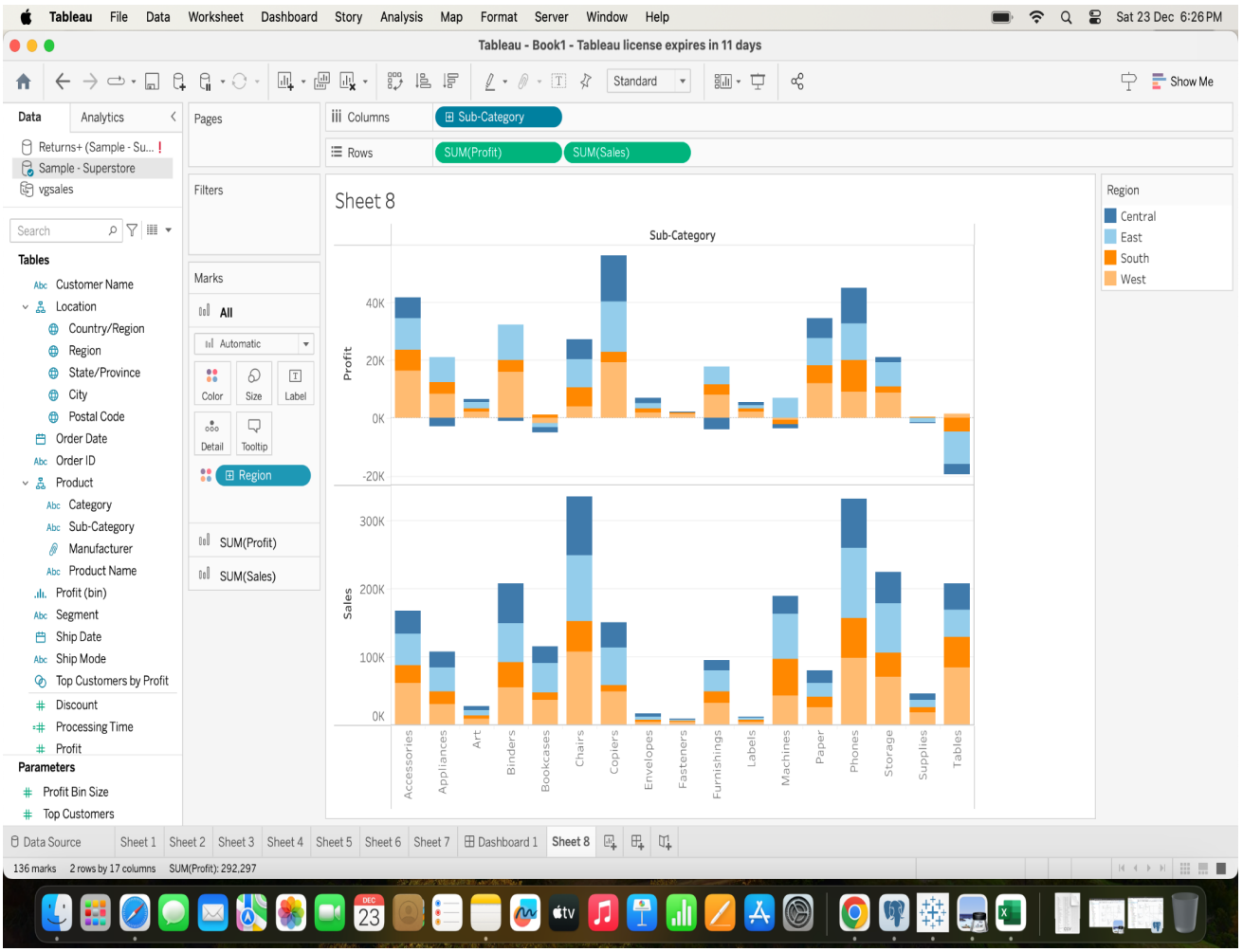


This chart is crucial for tailoring marketing strategies, pricing models, and discount structures to align with customer preferences and behaviour in order to optimise sales and enhance overall customer satisfaction.

Question 19. What are the sales and profit trends across different product subcategories and regions in the Superstore dataset?

Answer 19: The chart below highlights key insights into profitable sub-categories and top-selling products. Notably, **Copiers**, **Phones, Accessories**, **Papers**, and **Binders** emerge as the most profitable sub-categories, while **Chairs**, **Phones**, **Storage**, **Binders**, and **Tables** lead in terms of sales. Additionally, the regional analysis indicates that the West region dominates both in terms of sales and profits, followed by the **East**, **Central**, and **South** regions, respectively.

The chart used here is a stacked bar chart because it is optimal for the comparison of profit margins and total sales across different product sub-categories throughout the regions, enabling a comprehensive understanding of profit margins and total sales over the course of the regions.

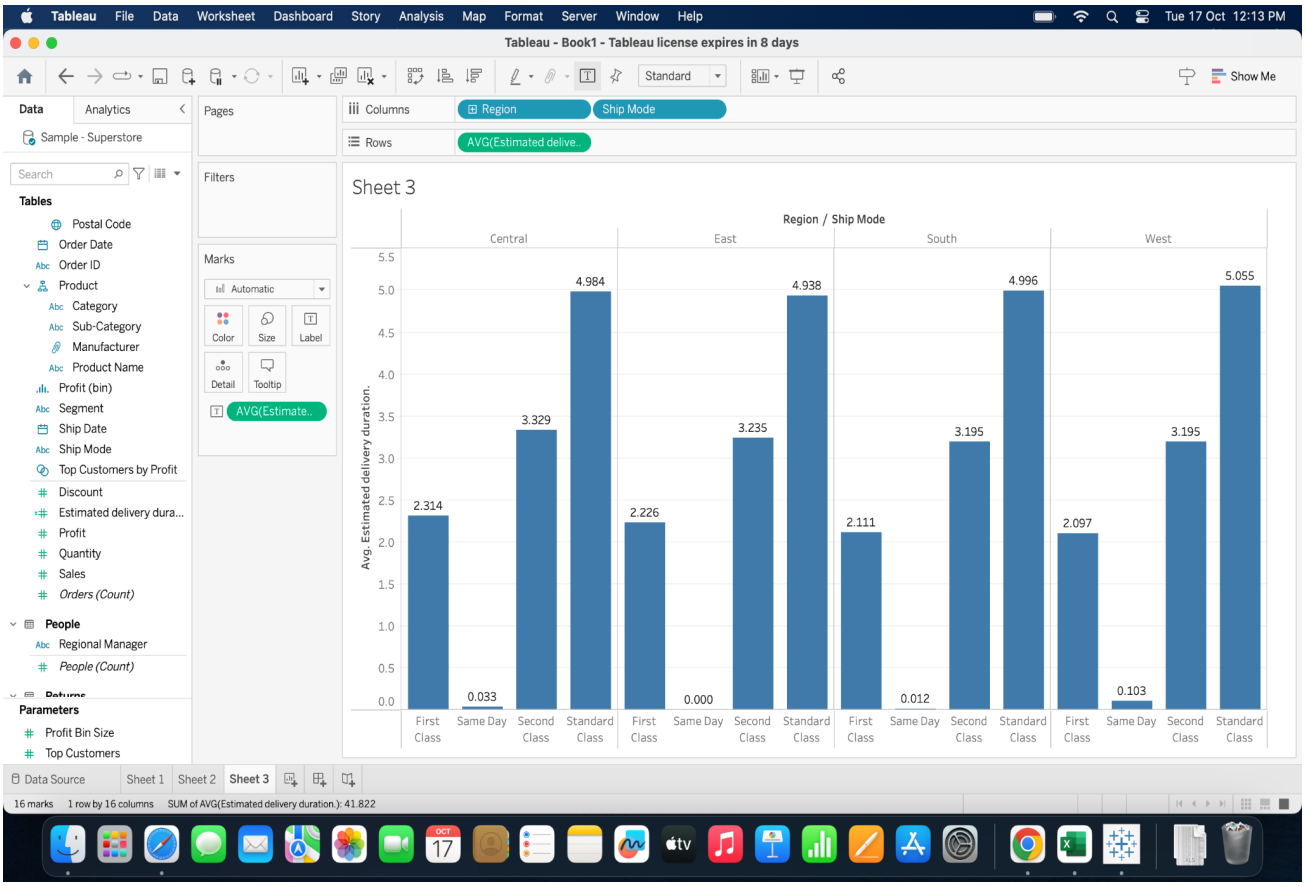


This chart provides valuable guidance for businesses in optimising product offerings and focusing marketing efforts in regions with the highest sales potential and profitability.

Question 20.What is the average delivery duration for different regions and ship modes?

Answer 20: In order to determine the average estimated delivery duration time in days , we need to create a calculated field by the name of "**Estimated delivery duration**" by calculating the difference in days between the **order date** and the **ship date.**After analysing in the chart it becomes clear that the average delivery duration is least for the same day,followed by First Class,Second Class and Standard Class.Delivery duration varies marginally across the regions.

The chart used here is a bar chart as it is a combination of categorical(ship mode/Region) to the numerical data(average estimated delivery time in days).

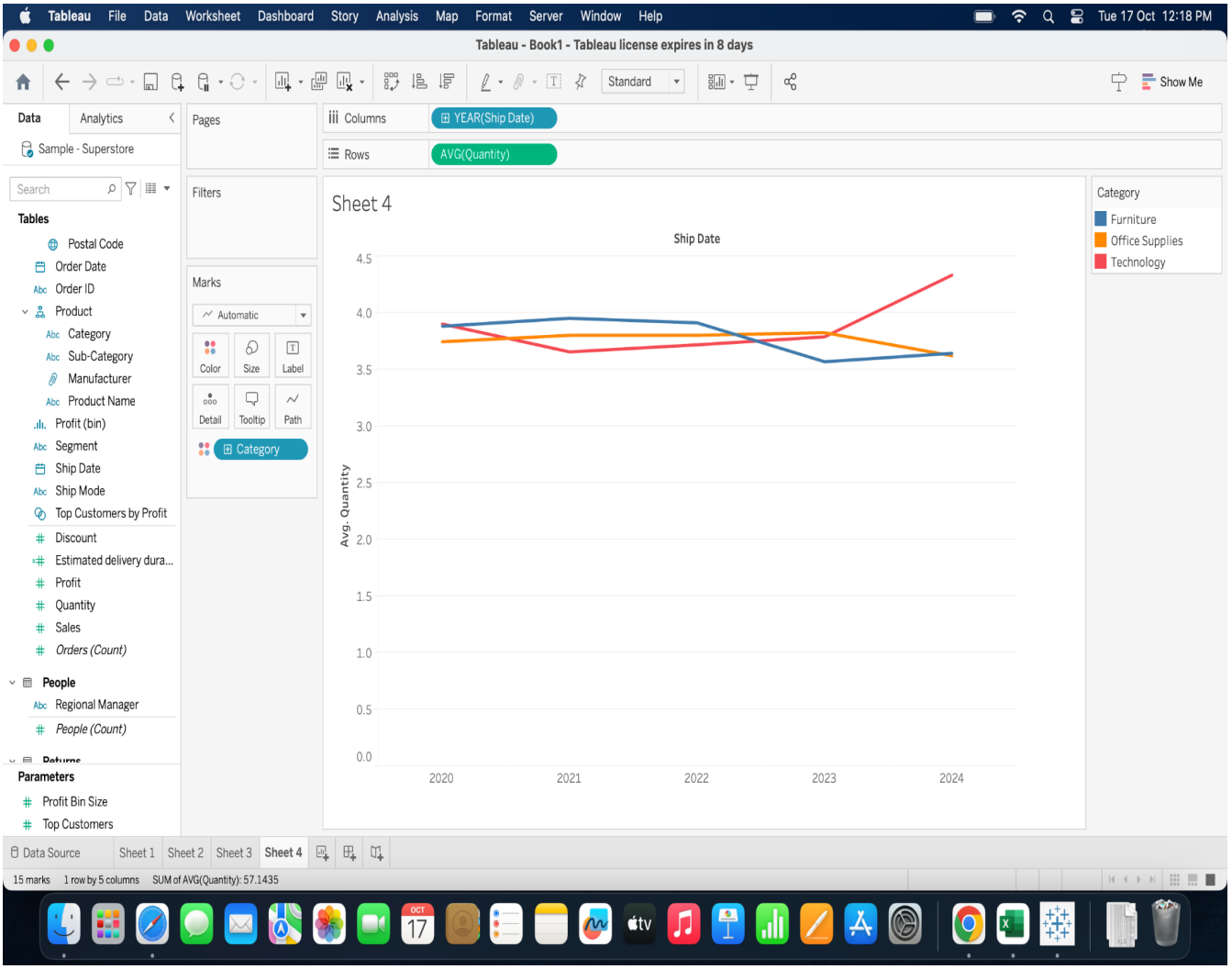


The above chart is useful for logistics and supply chain management enabling Superstore to optimise shipping methods for efficiency and customer satisfaction across the different regions.

Question 21. How has the average order quantity changed over the years for various product categories?

Answer 21: The chart below vividly depicts notable trends in average order quantity for different categories over time. Specifically, there is a substantial increase in average order quantity for **Technology** in the **2023-2024** period. In contrast, **Office Supplies** witnessed a decline in average order quantity during the same timeframe. For **Furniture**, a sharp decline is evident in 2022-2023, with a marginal improvement observed in 2023-2024.

The chart used here is a line chart because it is an excellent tool for visualising trends over the time.Here as we wanted to see trends of average order quantity over the years of different product categories so the line chart is ideal for it.

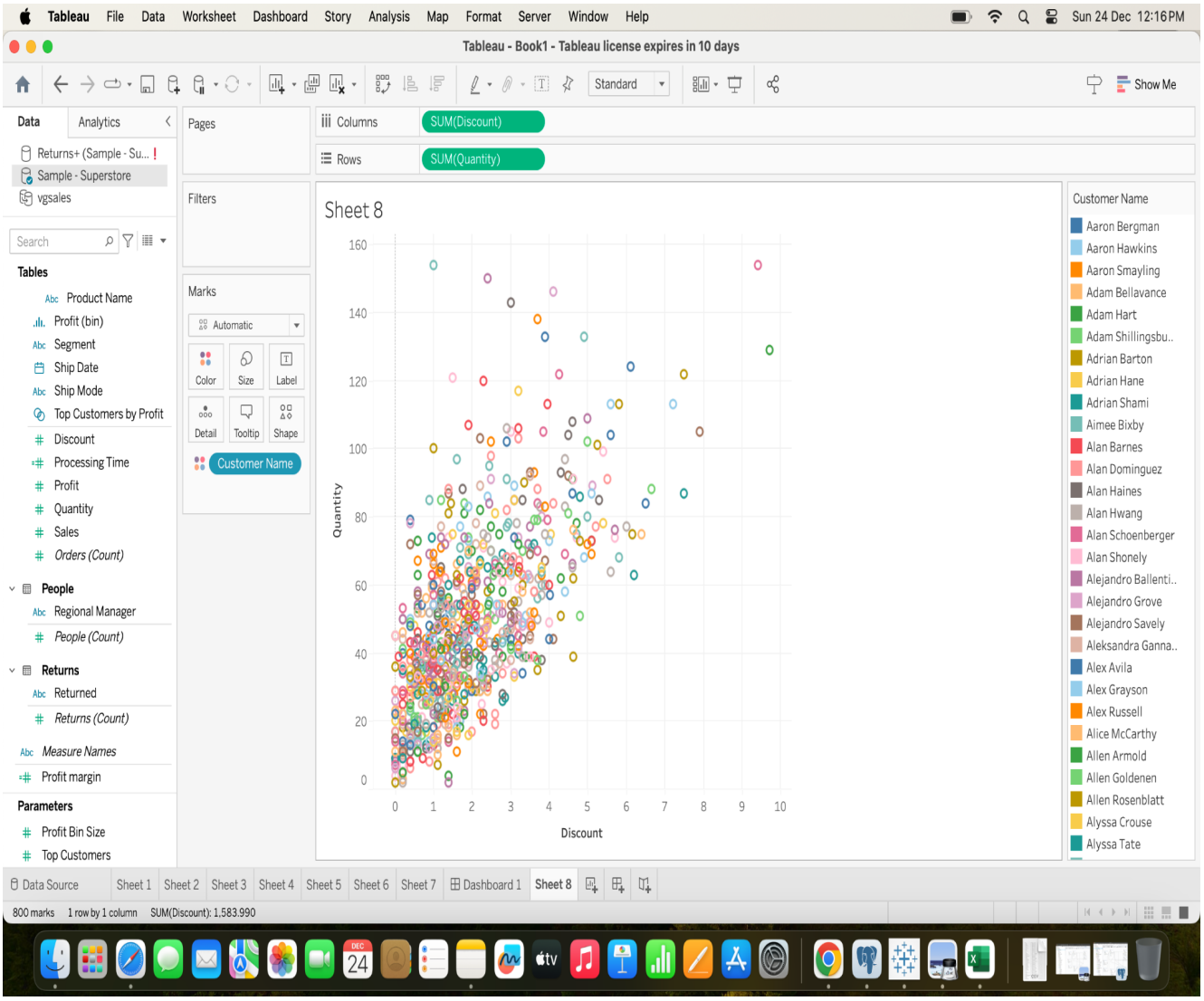


This chart is valuable for strategic planning, inventory management, and understanding changing customer preferences within each category over the specified time periods.

Question 22.Can we visualise the correlation between discount rates and order quantities for different customer segments?

Answer 22: According to the chart, the majority of customers tend to order **quantities** that fall within the range of **less than 60**, while the **discounts** offered for these orders are **less than $4.** This indicates that most customers place smaller orders and the discounts provided for those orders are relatively low.

The chart used here is a scatter plot, as it is useful for visualising the interplay between two numerical variables, discount and order quantities, within a distinct customer segment. The utilisation of varied colours effectively distinguishes each category, enhancing the clarity and comprehension of the data, providing a concise and informative representation.

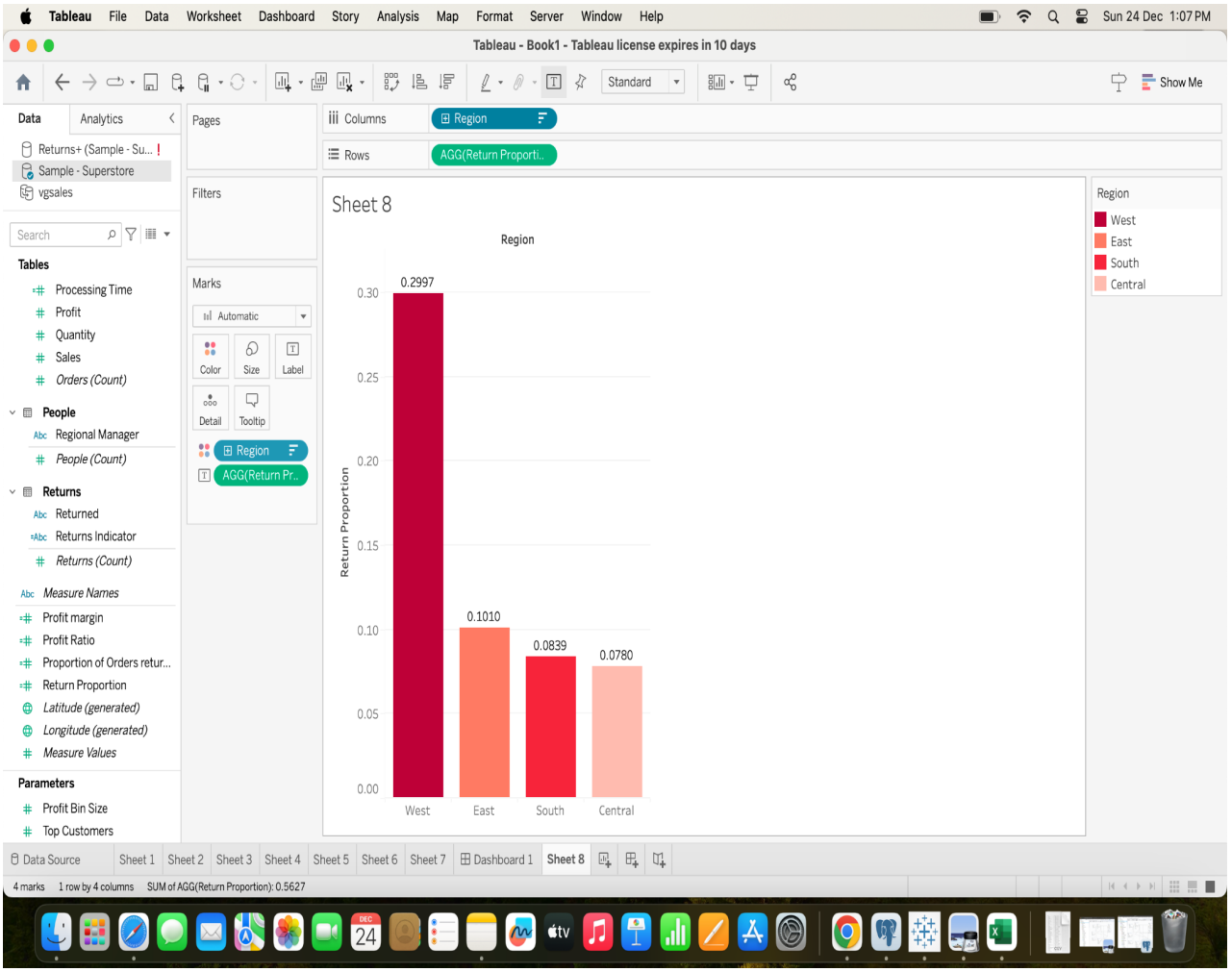


This chart can help Superstore optimise their pricing strategies, better understand customer preferences, and potentially identify opportunities to increase order quantities by adjusting discount rates.

Question 23. What is the proportion of orders returned in each region within the Superstore dataset?

Answer 23: To ascertain the proportion of returned orders, a calculated field named "**Returned Proportion**" was created using the formula: **SUM(IF [Returned] = 'Yes' THEN 1 ELSE 0 END) / COUNTD([Order ID])**. Upon chart analysis, it is evident that the **West** region has the highest return rate, accounting for nearly **30%** of orders returned. Following closely is the **East** region at **10%**, **South** at **8%**, and **Central** at **7%**.

The chart used here is a bar chart as it is a combination of categorical(Region) to the numerical data(proportion of orders returned)

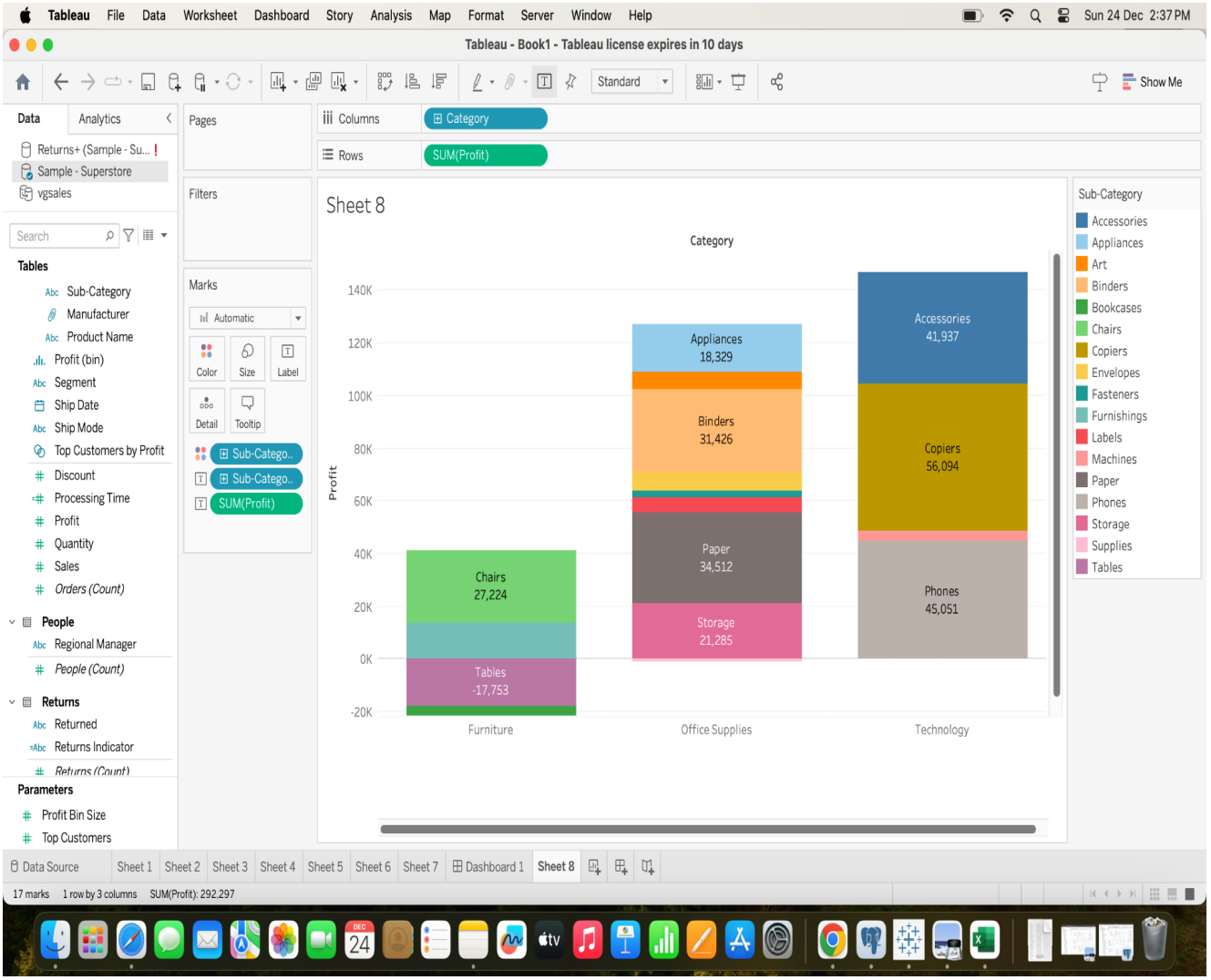


The above chart serves as a critical tool for understanding regional variations in order returns, allowing Superstore to tailor strategies, improve customer satisfaction, and optimise logistics in response to specific regional trends.

Question 24. Can you compare the profit of different products for different subcategories?

Answer 24: The chart below illustrates the financial performance of **Furniture**, **Office Supplies**, and **Technology** categories. **Tables** and **Bookcases** within **Furniture** incur **losses**, while **Chairs** and **Furnishing** are **profitable**. In **Office Supplies**, only **Supplies** show losses. **Technology** exhibits **no losses**, with **Copiers** being the most profitable sub-category,followed by **Phones** and **Accessories**. In **Office Supplies, Papers**, **Binders**, and **Storage** lead in profitability.

The chart used here is a stacked bar chart because it is optimal for the comparison of profit margins and different product sub-categories throughout the categories, enabling a comprehensive understanding of profit margins and sub categories.

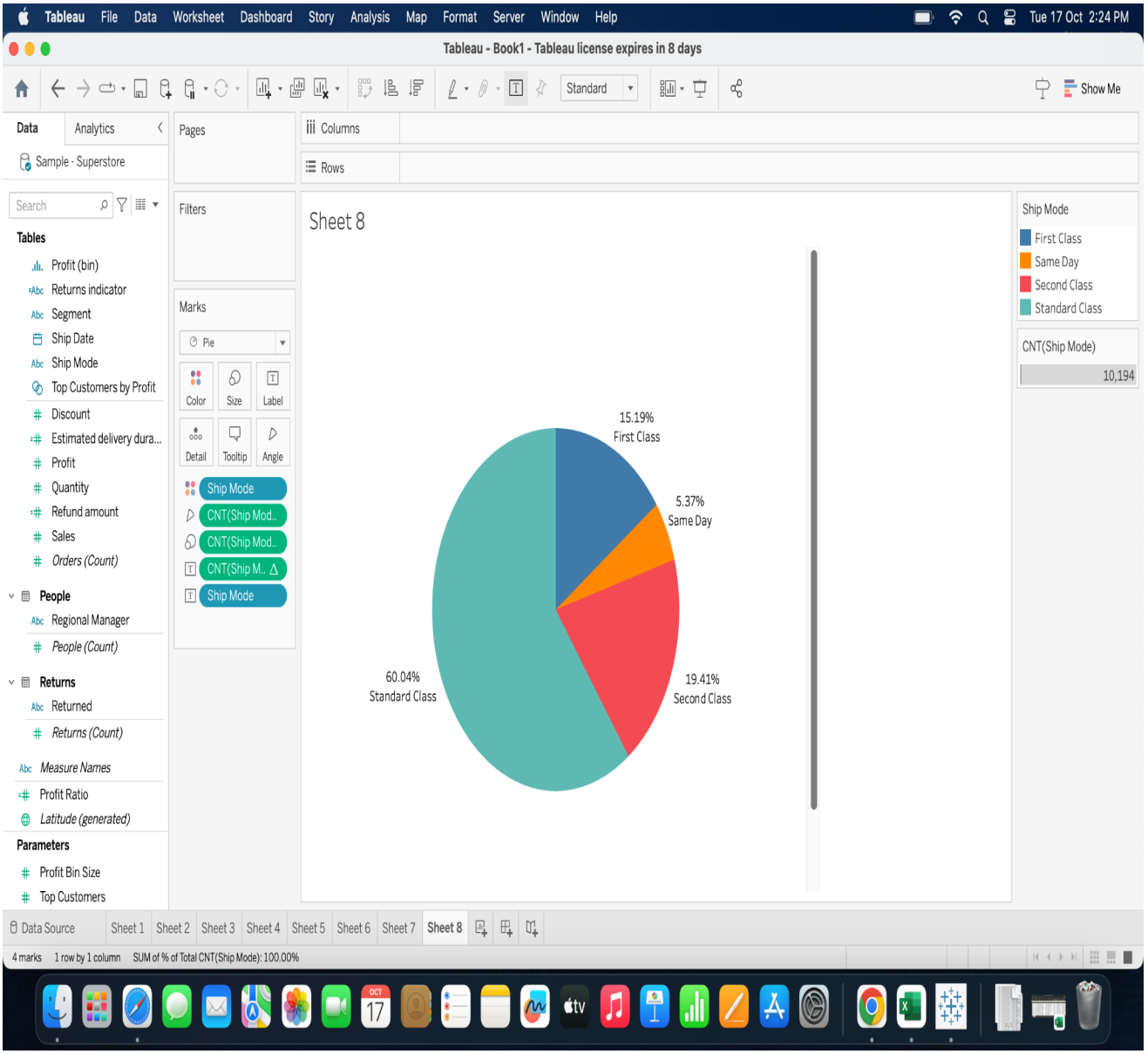


This chart will help Superstore in optimising product portfolios and focusing on high-performing categories and sub-categories.

Question 25. Which shipping mode is the most commonly used in the Sample Superstore dataset?

Answer 25:The chart below reveals a distribution in ship modes, with Standard Class comprising approximately 60 percent, followed by Second Class at around 19.5 percent. First Class represents approximately 15 percent, while Same Day Ship mode accounts for around 5.5 percent.

The chart used here is a Pie chart ,as it provides an effective way to represent the distribution of ship modes among different categories. This type of chart is well-suited for showcasing orders as a percentage of the whole, making it an ideal choice in this context.

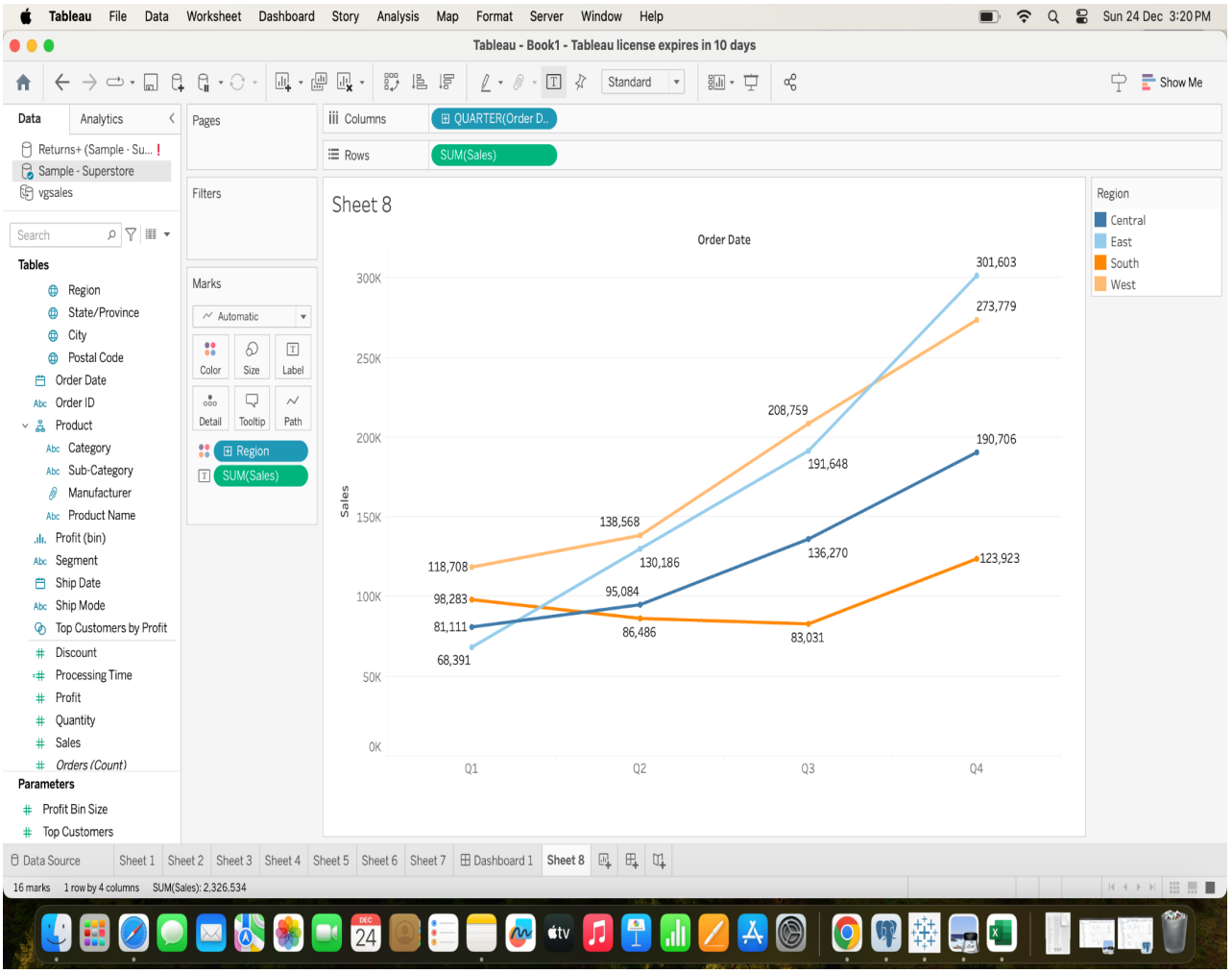


This chart provides insights into the preferred shipping methods, aiding superstore in optimising logistics and meeting customer expectations effectively.

Question 26. How does the sales performance of different regions evolve throughout the quarters of a year?

Answer 26: The chart below illustrates distinct sales trends across regions from **Quarter 1** to **Quarter 4**. **West, East** and **Central regions** exhibit consistent **upward trends**, reaching **peak** quarterly sales in **Quarter 4**. Conversely, the **Southern Region** experiences a **dip** in sales during **Quarters 2 and 3**, followed by a substantial **increase**, achieving its **highest sales in Quarter 4**.

The chart used here is a line chart because it is an excellent tool for visualising trends over the time.Here as we wanted to see trends of quarterly sales over the years of different regions so the line chart is ideal for it.

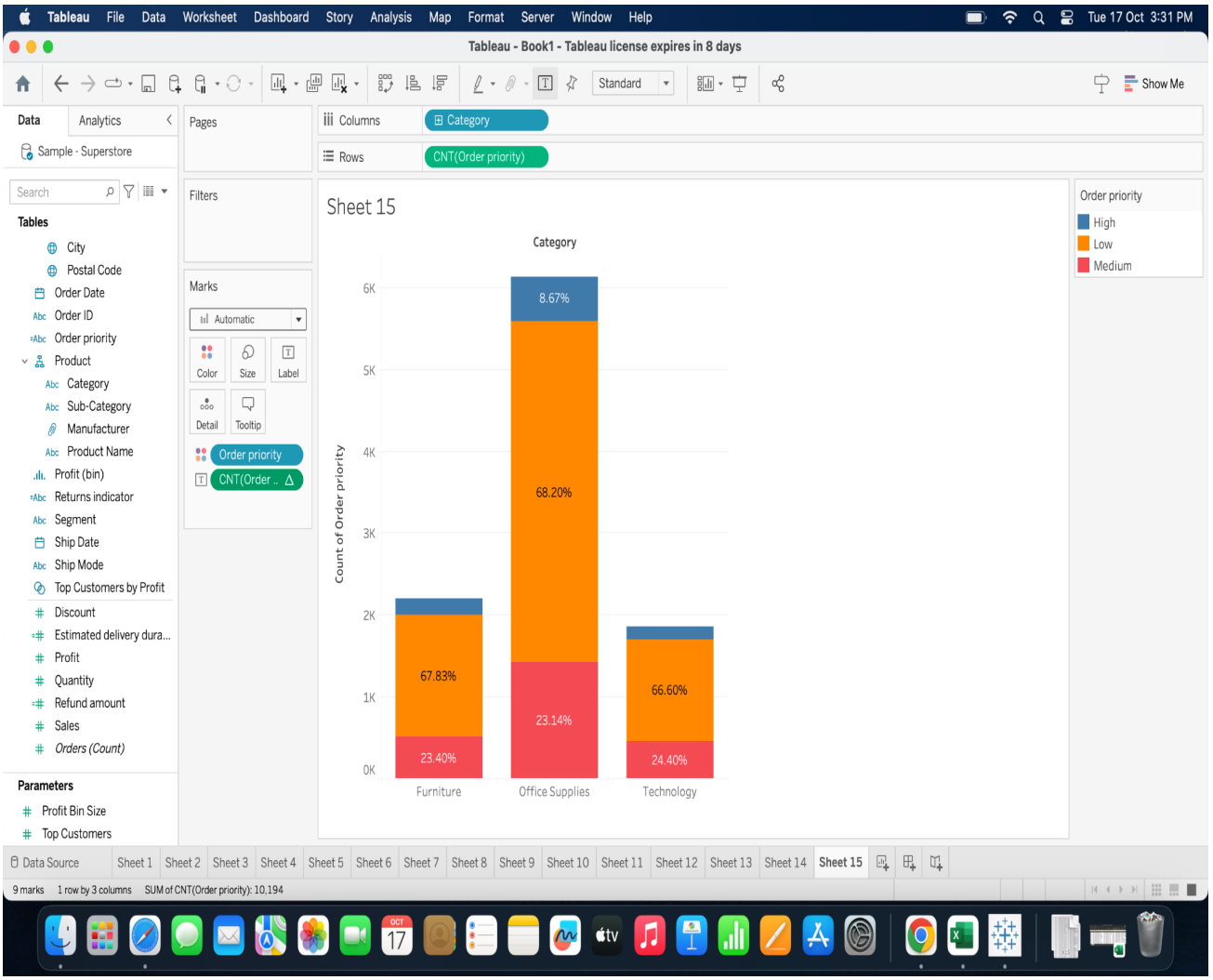


This chart offers valuable insights into regional sales dynamics and can lead to better strategic planning and resource allocation.

Question 27. What is the distribution of order priorities across different product categories?

Answer 27: To determine order priorities across various product categories, begin by generating a calculated field named "Order Priority" using the formula: **IF [Ship Mode] = 'Same Day' THEN 'High Priority' ELSEIF [Ship Mode] = 'First Class' THEN 'Medium Priority' ELSE 'Low Priority' END**. This establishes three priority categories: High, Medium, and Low. Upon chart analysis, it becomes evident that the majority of orders in all three product categories fall under the **Low priority,** followed by **Medium priority**, with **High priority** representing the **least** volume.

The chart used here is a stacked bar chart because it is optimal for the comparison of Order Priorities and different product categories, enabling a comprehensive understanding of Order Priorities for different categories.

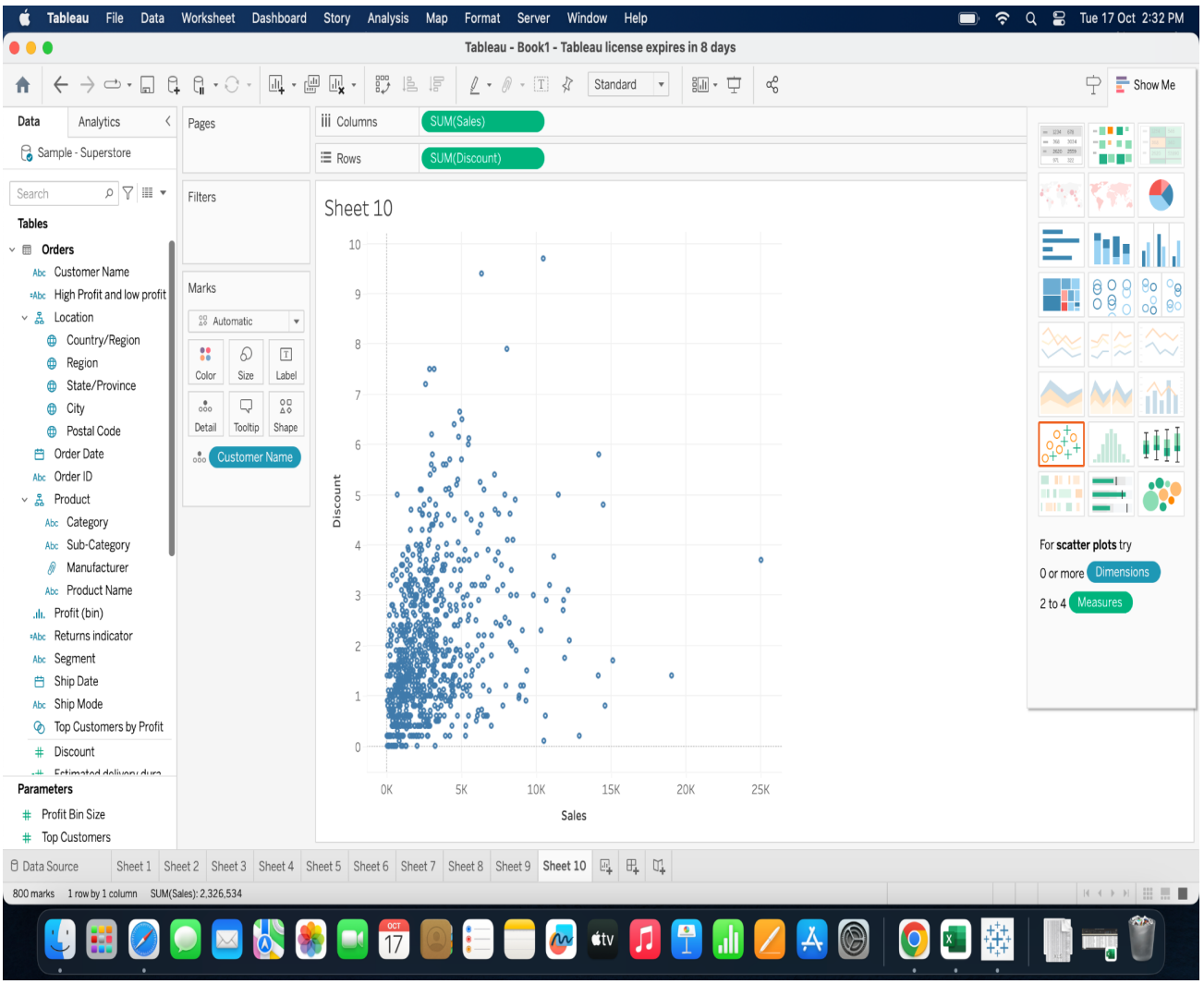


By visualising the proportion of orders categorised as High, Medium, and Low priority, Superstore can gain insights into their fulfilment strategies. This chart guides decisions related to resource allocation, logistics optimization, and service level agreements, ultimately enhancing efficiency and customer satisfaction.

Question 28. What is the relationship between discounts and sales?

Answer 28: The chart underscores a predominant customer presence within the sales bracket of less than 5K, accompanied by a corresponding discount bracket of less than 4. This observation suggests a concentration of customer transactions at lower sales and discount values.

The chart used here is a scatter plot, as it is useful for visualising the interplay between two numerical variables, discount and total sales, within a distinct customer segment. The utilisation of varied colours effectively distinguishes each category, enhancing the clarity and comprehension of the data, providing a concise and informative representation.

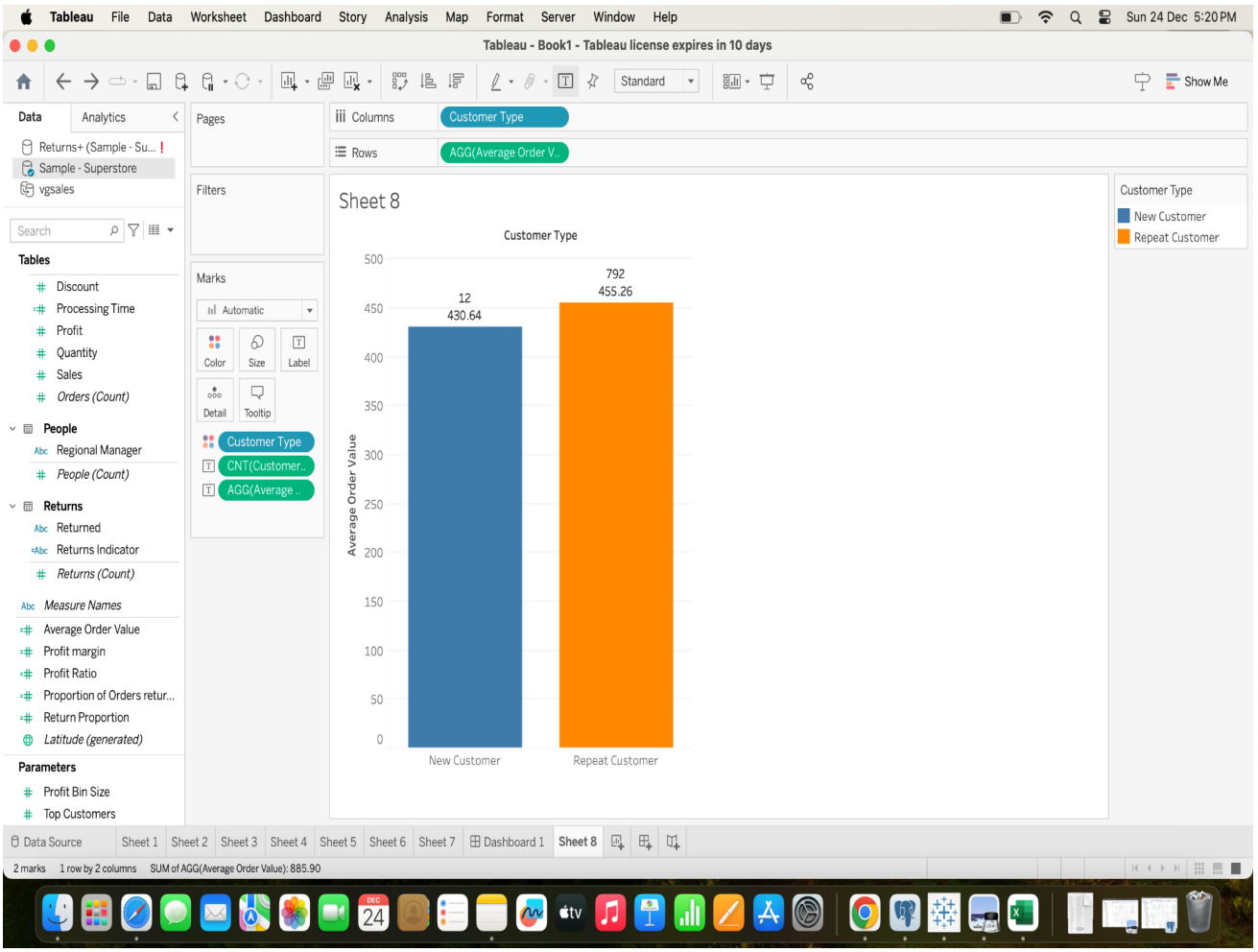


This chart is crucial for tailoring marketing strategies, pricing models, and discount structures to align with customer preferences and behaviour in order to optimise sales and enhance overall customer satisfaction.

Question 29. How does the average order value differ between repeat customers and new customers?

Answer 29:To assess the distinction in **average order values** between **repeat** and **one-time customers**, two calculated fields are first created. The "**Customer Type**" field, differentiating between repeat and new customers, is determined using the formula: **IF {FIXED [Customer ID] : COUNTD([Order ID]) > 1} THEN 'Repeat Customer' ELSE 'New Customer' END**. Simultaneously, the **average order value** is calculated with the formula: **SUM([Sales]) / COUNTD([Order ID])**. The chart below reveals **792 repeat customers** compared to only **12 one-time customers**, with average order values of approximately **455** for **repeat customers** and around **431** for **one-time customers**.

The chart used here is a bar chart as it is a combination of categorical(Customer Type) to the numerical data(Average order value).

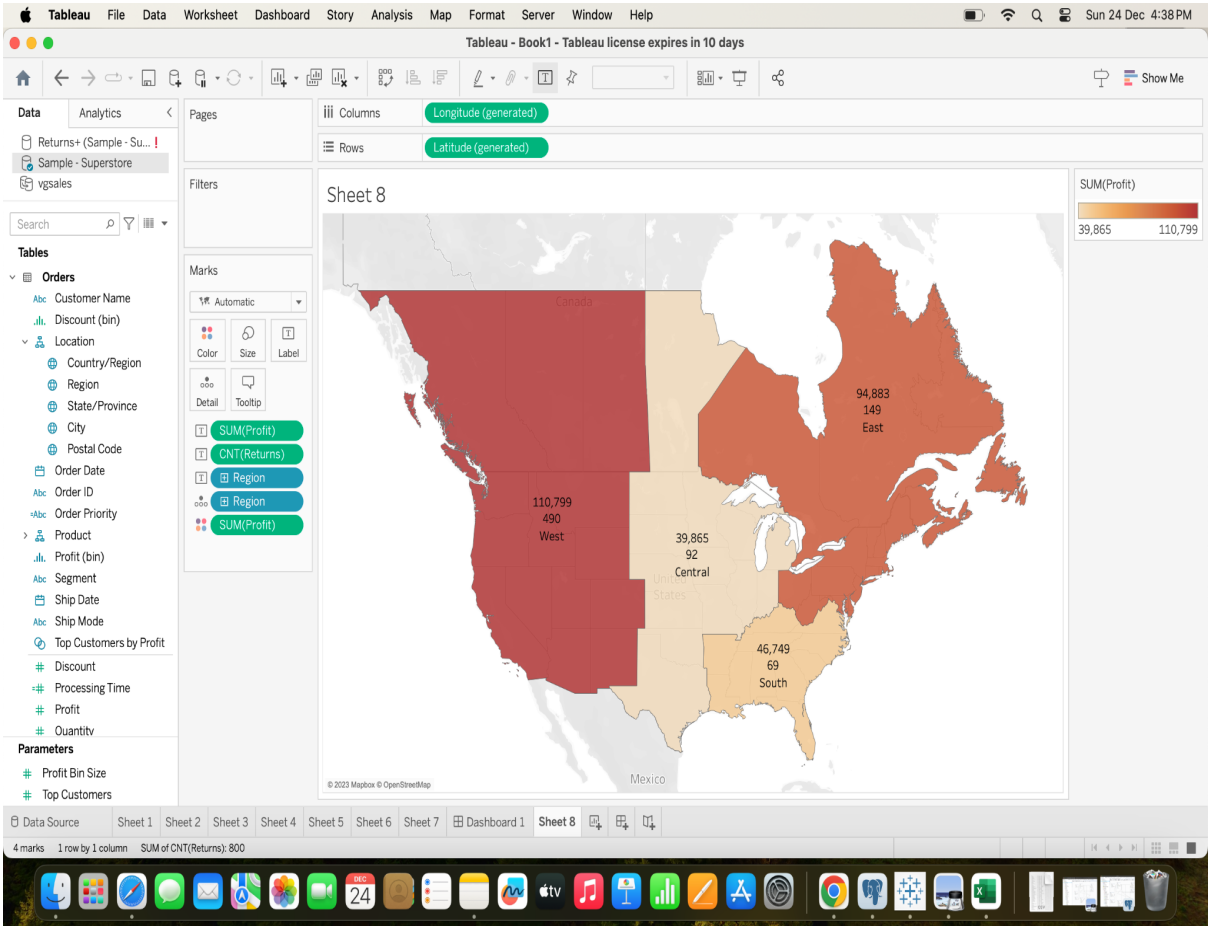


This chart is invaluable for Superstore for crafting targeted marketing strategies, optimising customer retention efforts, and tailoring promotional activities.Superstore can leverage these insights to enhance customer satisfaction, refine product offerings, and maximise revenue generation from both repeat and new customer segments.

Question 30. What is the geographical distribution of returns and its impact on overall profitability?

Answer 30: The chart indicates a higher volume of returned orders(490) in the **West** region but profitability is also highest in this region. Notably, while the **East** region has fewer return orders(149) compared to profitability, both the **Central**(92) and **Southern**(69) regions exhibit fewer than **100 return orders**. However, their combined profitability remains below **100K**.

The chart used here is a choropleth map.The above is tied to geographic locations(Regions here).A choropleth map is a good choice for displaying how a measurement varies across a geographic area or for showing the level of variation within the regions.



This chart serves as a valuable tool for aligning return patterns with profitability across different regions. It enables Superstore to identify potential correlations between returns and financial performance, guiding strategic decisions. This insight is crucial for optimising customer satisfaction, refining operational efficiency, and formulating targeted strategies to mitigate returns and enhance overall profitability.

Conclusion:

In the course of this mid-course Summative Assessment project on data visualisation, I delved into the Superstore dataset using Tableau, addressing 30 scenario-based questions. Throughout my responses, I provided insights into chart findings, rationale for selecting specific chart types, and included visual evidence through screenshots of Tableau creations. These visualisations offer valuable insights, contributing to an enhanced understanding of Superstore performance and providing a foundation for strategic improvements.