**MID TERM – PRACTICAL**

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**PART III:**

1. A screenshot of a computer

   Description automatically generated with medium confidence**Total Profit: Two- Year Overview**

**Type of Chart and it’s explanation:**

* To analyze the total profit across various categories, a Circle chart was employed. Circle charts are effective in emphasizing the idea of entirety and offer a simple and clear means of interpreting and comparing profitability among different categories.
* The screenshot of the chart above clearly highlights the relative contribution of profit from each year, making it easy to identify and compare the profit distribution.

**Picture Description:**

* The profit circle chart visually represents the combined profit across all categories over two years: 2020 and 2021. The size of each circle indicates the total profit for each year, while the colors differentiate between the two years. The circles are depicted with a light teal color for 2020 and blue for 2021.

**Business Insights:**

* In 2020, the total profit amounted to $256,065,426 as shown by the larger circle. This indicates a significant profit level for the year.
* However, in 2021, the total profit decreased to $106,316,277 as depicted by the smaller circle. This decrease in profit suggests a decline in business performance or external factors impacting profitability.
* The notable disparity between the two years indicates a need for further investigation into the factors that led to the decline in profit in 2021.
* Identifying the specific categories contributing to the decline can help management focus on implementing strategies to improve profitability in those areas.
* It is important to assess the potential causes for the high profit in 2020 and replicate successful strategies to drive business growth and maintain a positive profit trajectory.

1. **Profit by Category: Two-Year Analysis**

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**Type of Chart and it’s explanation:**

* The bar chart was used to analyze the profit by category over two years. Bar charts visually compare profits across product categories and years, enabling quick identification of trends and variations. They present profit distribution intuitively, promoting better understanding, analysis, and decision-making, including identifying profitable categories and potential areas for improvement or investment.

**Picture Description:**

* The bar chart illustrates the profits of each product category for the years 2020 and 2021. The upper section displays the profit data for 2020, using light tale bars. In contrast, the lower section represents the profits for 2021, using blue bars. The height of each bar indicates the level of profit achieved by each category in the respective year.

**Business Insights:**

* 1.In 2020, the clothing brand Forever 21 recorded the highest profit among all categories and subcategories, amounting to $39,898,236. Athleta, another clothing brand, closely followed with a profit of $36,367,740.
* 2.Sephora experienced significant profitability in 2020, generating impressive profits of $25,769,931 specifically in the beauty products category. Likewise, AT&T phones achieved notable success in the phone category, with profits reaching $21,682,256.
* 3.In 2021, Forever 21 recorded a higher profit of $15,539,704 compared to all other categories and subcategories. However, it experienced a decline in profits compared to the previous year, 2020.
* 4.Comparing the profits between 2020 and 2021, there was an almost 50% decrease in profits in 2021 compared to 2020.
* 5.In both years, certain brands experienced lower profits, including Aveda, Bath & Body, Express, PacSun, T-Mobile, and Verizon. On the other hand, some brands saw higher profits, such as Forever 21, Sephora, Athleta, and AT&T Phones.

**PART IV:**

1. **A screenshot of a computer

   Description automatically generated with medium confidenceTotal Sales: Two-Year Overview - All categories and Regions**

**Type of Chart and it’s explanation:**

* The bar chart was used to analyze the total sales for all the categories over two years. Bar charts allow for visual comparisons of sales across regions and years, making it easy to identify trends and variations.
* They provide trend analysis of sales over time and intuitively represent the distribution of sales, facilitating better understanding, analysis, and decision-making. This includes identifying regions with higher sales and areas that have potential for improvement or investment.

**Picture Description:**

* The bar chart depicts total sales in a specific region over two years. Colors represent each region: yellow for central, purple for east, pink for south, and light teal for west. Bar sizes indicate sales magnitude. The chart includes regional details, order dates (years), and total sales figures, providing a clear and concise representation of the data.

**Business Insights:**

* In 2020, the West region dominated with the highest total sales of $8,079,870, showcasing its superior sales volume compared to other regions.
* The East region displayed a strong market presence in 2020, achieving total sales of $6,947,060.
* Total sales in the Central region experienced a significant decline from $5,599,702 in 2020 to $2,310,511 in 2021, indicating a potential issue or market issues.
* Similarly, the South region witnessed a decrease in sales from $3,926,461 in 2020 to $1,591,576 in 2021.
* Comparing the sales between 2020 and 2021, there was an almost 50% decrease in profits in 2021 compared to 2020.
* Overall, the West region consistently outperformed other regions, maintaining the highest total sales in both years, and highlighting its significant role within the business.

1. A screenshot of a computer

   Description automatically generated with medium confidence**Sales by category and region: Two-Year Analysis**

**Type of Chart and it’s explanation:**

* The bar chart was used to analyze the total number of sales by the categories and regions over two years.
* Bar graphs allow for effortless sales comparison across categories and regions, providing a clear understanding of sales levels based on bar lengths. Additionally, they help capture seasonal or cyclical sales patterns and promptly identify both profitable areas and areas that require attention.

**Picture Description:**

* The bar chart illustrates total sales in various categories within specific regions for two different years. Each region is represented by a distinct color: yellow for central, purple for east, pink for south, and light teal for west. The bar sizes indicate the sales volume. The chart contains details about the regions, order dates (years), categories, and total sales figures, presenting the data in a clear and concise manner.

**Business Insights:**

* In the beauty products category, the west region achieved the highest sales of 1,811,178 in 2020, followed by the east region with sales of 1,505,950. The south region had the lowest sales of 838,985.
* In 2021, the east region surpassed the west region in terms of profits in the beauty products category, while the south region had the lowest sales of 317,485. However, both profits decreased by half compared to 2020.
* For the clothing category, the west region had the highest sales of 4,808,314 in 2020, followed by the east region with sales of 4,205,490. The south region had the lowest sales of 2,411,035.
* In 2021, the east region outperformed the west region in terms of profits for the clothing category. However, both regions experienced a significant drop in profits compared to 2020.
* In the phones category, the west region had the highest sales of 1,406,378, while the south region had the lowest sales of 676,747 in 2020. In 2021, although the same regions had higher sales, the number of sales decreased compared to 2020.
* Overall, the west region dominated in terms of sales for the clothing category in 2020. However, across all categories, sales decreased by half in 2021.

**PART V:**

1. **Total Profit: Two-Year Overview- All Categories and Customer Reward Levels**

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**Type of Chart and it’s explanation:**

* The bar chart was used to analyze total profit for combining all the categories and reward levels of customers over two years. It offers clear comparisons, a visual hierarchy, and concise representation of data. It enables efficient analysis, effective communication, and decision-making support, while also allowing for trend identification and impactful presentations.

**Picture Description:**

* The bar chart depicts profits for all categories in the years 2020 and 2021. The upper section shows profit data and reward levels for 2020, while the lower section represents profits for 2021. The bar height indicates the profit level achieved based on the corresponding reward level in each year. Different reward levels are color-coded: green for essential award, orange for fan award, and red for one award.

**Business Insights:**

* In both 2020 and 2021, the Customer reward level generated higher profits compared to other rewards. Specifically, in 2020, it recorded a profit of $129,853,152, while in 2021, it reached $56,224,038.
* Conversely, the Essential reward level had lower profits compared to the other rewards. In 2020, it generated a profit of $45,765,300, which decreased to $18,617,739 in 2021.
* Overall, profits for all rewards decreased and were halved in 2021 compared to 2020.

1. **A screenshot of a graph

   Description automatically generated with medium confidenceProfit by Category and customer Reward level**

**Type of Chart and it’s explanation:**

* The bar chart was used to analyze total profit by Category and customer Reward level.
* The chart contains details about the reward levels, categories, and total profits presenting the data in a clear and concise manner.

**Picture Description:**

* The bar chart depicts profits for all the three categories in the years 2020 and 2021. The upper section shows profit data for all the categories and reward levels for 2020, while the lower section represents profits for 2021. The bar height indicates the profit level achieved based on the corresponding reward level and category in each year. Different reward levels are color-coded: green for essential award, orange for fan award, and red for one award.

**Business Insights:**

* In 2021, the Clothing category again had the highest profit, but it decreased to $32,464,164 for the One reward level. On the other hand, the Essential reward level had the lowest profit in the Phone category, which was $3,363,448.
* In 2020, the Clothing category had the highest profit among all categories, specifically $79,207,338 for the One reward level, $49,373,352 for the Fan reward level, and $27,535,840 for the Essential reward level.
* In both 2020 and 2021, the One customer reward level consistently generated higher profits across all categories, while the Essential customer reward level had the lowest profits.
* The highest profit in 2020 was observed in the Clothing category for the One reward level, reaching $79,207,338. Conversely, the Essential reward level had the least profit in the Beauty Products category, amounting to $9,114,655.
* There was a significant decrease in profits in 2021 compared to 2020.
* The Phone category consistently had the lowest profits across all three customer reward levels in both years.