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2019 Sales

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2019 Sales Analysis Report

1. Introduction

This report presents findings from the analysis of the "2019 Sales" dataset. The dataset, sourced from Kaggle.com, presents the findings from the analysis of yearly sales data. The dataset used for analysis was created by combining monthly sales data from January to December 2019. The goal of this analysis is to gain insights into overall sales statistics, revenue trends, product performance, and customer behavior.

2. Data Cleaning

The dataset underwent a series of cleaning steps to ensure data accuracy and consistency. Missing values in the "Quantity Ordered" and "Price Each" columns were replaced with default values of 0. String columns, such as "Product" and "Purchase Address," were standardized by converting them to proper case and removing leading/trailing spaces. Data types were adjusted to ensure appropriate calculations and analysis.

3. Overall Sales Statistics

- **Total Records:** 185,686
- **Total Revenue:** $34,465,537.94
- **Average Quantity Ordered:** 1.12
- **Maximum Price Each:** $1,700
- **Minimum Price Each:** $2.99

4. Top 10 Products by Total Quantity Ordered

- Aaa batteries (4-pack)
- Aa batteries (4-pack)
- Usb-c charging cable
- Lightning charging cable
- Wired headphones
- Apple airpods headphones
- Bose soundsport headphones
- 27in fhd monitor
- Iphone

- 27in 4k gaming monitor

5. Total Revenue by City

- San Francisco: $8,254,743.55
- Los Angeles: $5,448,304.28
- New York City: $4,661,867.14
- Boston: $3,658,627.65
- Atlanta: $2,794,199.07
- Dallas: $2,765,373.96
- Seattle: $2,745,046.02
- Portland: $2,319,331.94
- Austin: $1,818,044.33

6. Total Revenue by State

- CA: $13703047.83
- NY: $4661867.14
- TX: $4583418.29
- MA: $3658627.65
- GA: $2794199.07
- WA: $2745046.02
- OR: $1870010.56
- ME: $449321.38

7. Monthly Revenue Trends

- January: $1821413.16
- February: $2200078.08
- March: $2804973.35
- April: $3389217.98
- May: $3150616.23
- June: $2576280.15
- July: $2646461.32
- August: $2241083.37
- September: $2094465.69
- October: $3734777.86
- November: $3197875.05
- December: $4608295.70

8. Average Price per Unit by Product Category

- MacBook Pro Laptop: $1700.00

- Thinkpad Laptop: $999.99
- iPhone: $700.00
- LG Washing Machine: $600.00
- Google Phone: $600.00
- LG Dryer: $600.00

9. Revenue Distribution by Days

- Monday: $4,877,588.21
- Tuesday: $5,086,275.40
- Wednesday: $4,986,823.36
- Thursday: $4,833,763.73
- Friday: $4,853,642.26
- Saturday: $4,900,195.58
- Sunday: $4,927,249.40

10. Top 5 Products by Total Revenue

- MacBook Pro Laptop: $8,032,500.00
- iPhone: $4,792,900.00
- Thinkpad Laptop: $4,127,958.72
- Google Phone: $3,317,400.00
- 27-inch 4K Gaming Monitor: $2,433,147.61

11. Average Revenue per Order by City

- Atlanta: $188.00
- New York City: $187.62
- Dallas: $186.89
- Seattle: $186.57
- Portland: $186.31

12. Average Revenue per Product (Top 5)

- Macbook pro laptop: $1701.44
- Thinkpad laptop: $1000.47
- iPhone: $700.72
- Google phone: $600.76
- LG washing machine: $600.00
- LG dryer: $600.00

13. Revenue Distribution by State

- CA: $13,703,047.83
- NY: $4,661,867.14
- TX: $4,583,418.29
- MA: $3,658,627.65
- GA: $2,794,199.07

16. Average Revenue per Day of the Week

- Monday: $184.00
- Tuesday: $187.43
- Wednesday: $188.62
- Thursday: $182.97
- Friday: $185.15
- Saturday: $185.24
- Sunday: $185.81

17. Top 5 Highest Revenue Orders

1. Order ID: 181069
   - Product: Macbook pro laptop
   - Quantity: 2
   - Price Each: $1700.00
   - Total Price: $3400.00
   - Order Month: 27
   - Order Date: 4
   - Order Time: 21:01:00
   - Purchase Address: 668 Park St, San Francisco, CA, 94016
2. Order ID: 181544
   - Product: Macbook pro laptop
   - Quantity: 2
   - Price Each: $1700.00
   - Total Price: $3400.00
   - Order Month: 22
   - Order Date: 4
   - Order Time: 12:48:00
   - Purchase Address: 731 11th St, New York City, NY, 10001
3. Order ID: 200528
   - Product: Macbook pro laptop
   - Quantity: 2
   - Price Each: $1700.00
   - Total Price: $3400.00
   - Order Month: 13
   - Order Date: 5

- o Order Time: 13:40:00
- o Purchase Address: 643 4th St, Boston, MA, 02215
4. Order ID: 210292
    - o Product: Macbook pro laptop
    - o Quantity: 2
    - o Price Each: $1700.00
    - o Total Price: $3400.00
    - o Order Month: 8
    - o Order Date: 6
    - o Order Time: 09:00:00
    - o Purchase Address: 953 Ridge St, San Francisco, CA, 94016
5. Order ID: 149611
    - o Product: Thinkpad laptop
    - o Quantity: 2
    - o Price Each: $999.99
    - o Total Price: $1999.98
    - o Order Month: 31
    - o Order Date: 1
    - o Order Time: 17:47:00
    - o Purchase Address: 850 6th St, New York City, NY, 10001

18. Count of Orders by Day of the Week

- Monday: 26508 orders
- Tuesday: 27137 orders
- Wednesday: 26438 orders
- Thursday: 26418 orders
- Friday: 26214 orders
- Saturday: 26453 orders
- Sunday: 26518 orders

19. Monthly Revenue Growth Rate

- 1: NULL
- 2: 20.79%
- 3: 27.49%
- 4: 20.83%
- 5: -7.04%
- 6: -18.23%
- 7: 2.72%
- 8: -15.32%
- 9: -6.54%
- 10: 78.32%

- 11: -14.38%
- 12: 44.10%

20. Order Frequency Distribution

- 160873: 5
- 165665: 4
- 193511: 4
- 194253: 4
- 196615: 4

21. Distribution of Order Quantities

- Quantity Ordered: 1, OrderCount: 168291
- Quantity Ordered: 2, OrderCount: 13321
- Quantity Ordered: 3, OrderCount: 2920
- Quantity Ordered: 4, OrderCount: 806
- Quantity Ordered: 5, OrderCount: 236
- Quantity Ordered: 6, OrderCount: 80
- Quantity Ordered: 7, OrderCount: 24
- Quantity Ordered: 8, OrderCount: 5
- Quantity Ordered: 9, OrderCount: 3

22. Cumulative Revenue Distribution by Product

- Product: Macbook pro laptop, CumulativeRevenue: $8,032,500.00, CumulativePercentage: 23.31%
- Product: Iphone, CumulativeRevenue: $4,792,900.00, CumulativePercentage: 13.91%
- Product: Thinkpad laptop, CumulativeRevenue: $4,127,958.72, CumulativePercentage: 11.98%
- Product: Google phone, CumulativeRevenue: $3,317,400.00, CumulativePercentage: 9.63%
- Product: 27in 4k gaming monitor, CumulativeRevenue: $2,433,147.61, CumulativePercentage: 7.06%

23. Distribution of Order Counts by Month

- January: 9,293 orders
- February: 11,496 orders
- March: 14,549 orders
- April: 17,528 orders
- May: 15,836 orders
- June: 12,989 orders

- July: 13,761 orders
- August: 11,484 orders
- September: 11,202 orders
- October: 19,436 orders
- November: 16,859 orders
- December: 24,004 orders

24. Distribution of Total Revenue by Hour of the Day

- 0: $713,548.66
- 1: $460,563.90
- 2: $234,839.45
- 3: $145,742.94
- 4: $162,546.07
- 5: $230,664.87
- 6: $447,963.01
- 7: $744,067.32
- 8: $1,192,309.20
- 9: $1,638,784.04
- 10: $1,942,988.08
- 11: $2,296,619.84
- 12: $2,314,359.85
- 13: $2,152,369.98
- 14: $2,082,513.70
- 15: $1,940,623.20
- 16: $1,902,523.20
- 17: $2,126,553.97
- 18: $2,218,374.01
- 19: $2,411,971.14
- 20: $2,280,784.36
- 21: $2,040,790.48
- 22: $1,606,243.85
- 23: $1,177,792.82

25. Distribution of Order Revenue by Day of the Week

- Tuesday: $5,086,275.40
- Wednesday: $4,986,823.36
- Sunday: $4,927,249.40
- Saturday: $4,900,195.58
- Monday: $4,877,588.21
- Friday: $4,853,642.26
- Thursday: $4,833,763.73

26. Conclusion

Based on the analysis, several key findings and insights have been obtained regarding the yearly sales performance. The total revenue for the year amounted to $34,465,537.94, with an average quantity ordered of 1.12. The top-selling products were Aaa batteries (4-pack), Aa batteries (4-pack), and USB-C charging cables.

The analysis also revealed the highest revenue-generating cities, including San Francisco, Los Angeles, and New York City. The states of California, New York, and Texas contributed significantly to the overall revenue. Monthly revenue trends showed variations throughout the year, with December exhibiting the highest revenue.

The average price per unit varied across product categories, with MacBook Pro laptops being the most expensive. The revenue distribution by day of the week indicated that Tuesday had the highest revenue, followed closely by Wednesday and Sunday.

Based on these insights, it can be concluded that the company has experienced successful sales performance throughout the year, with certain products and cities contributing significantly to the revenue. This analysis provides a comprehensive understanding of the sales data and can serve as a valuable resource for future decision-making.

27. Recommendations

Based on the analysis, the following recommendations are suggested for the company:

- Focus on promoting and optimizing the top-selling products, such as Aaa batteries (4-pack), Aa batteries (4-pack), and USB-C charging cables, to maximize revenue.
- Explore strategies to expand sales in high-revenue cities like San Francisco, Los Angeles, and New York City, while also considering potential opportunities in other cities.
- Consider implementing targeted marketing campaigns and promotions during peak revenue-generating months, such as December, to further boost sales.
- Continuously monitor and analyze customer preferences and market trends to identify new product opportunities and optimize pricing strategies.
- Enhance inventory management practices to ensure sufficient stock availability for high-demand products and minimize stockouts.

This concludes the data analysis report for the yearly sales data. The provided insights can be used to understand the overall sales performance, identify top-performing products, analyze revenue trends, and make informed business decisions.