

NEBULON FINANCIAL DATA ANALYSIS REPORT

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CHAPTER 1

INTRODUCTION

Project Objective

The objective of the Nebulon Financial Data Analysis project was to clean and restructure Nebulon's financial data for efficient analysis and reporting. This transformation enabled comparative analysis between actual and budgeted financial performance, supported data-driven decision-making, and improved Nebulon's ability to manage its finances effectively.

Scope

The **Nebulon Financial Dashboard** offers a comprehensive view of the company's financial performance, focusing on key metrics related to revenue, expenses, and efficiency. It covers areas such as total actual revenue and expenses, variance analysis between actual and budgeted figures, item-level breakdowns of revenue and expenses, and efficiency metrics.

Key Deliverables include:

- **Interactive Visualizations:** Clear charts and graphs for quick interpretation of financial data.
- **Comprehensive Reports:** Detailed summaries of financial performance and analysis.
- **Insights and Recommendations:** Actionable insights highlighting concerns and opportunities for improvement.
- **Real-Time Data Updates:** Automated updates for current financial information.
- **Customization Options:** Features allowing users to tailor the dashboard to their specific needs.

CHAPTER 2

DATA PREPARATION

Data Source

The data was sourced internally from Nebulon's financial records, used primarily for budgeting and financial analysis purposes, allowing the comparison of actual outcomes against budgeted goals.

Data Cleaning

To clean the **Nebulon Financial Data**, the following steps were taken:

1. **Initial Organization:** The dataset was organized and loaded into Excel for review, identifying key columns and assessing the structure.
2. **Removing Totals:** Total Revenue, Total Expenses, and Net Income were excluded, as these figures would be calculated later.
3. **Transposing Data:** The dataset was transposed to fix formatting issues, particularly with month entries.
4. **Merging Columns:** Relevant columns were merged to facilitate unpivoting, allowing for better analysis.
5. **Unpivoting Data:** Revenue and expense data were separated through unpivoting, making the dataset more structured for analysis.
6. **Splitting Columns:** The attribute column was split to differentiate between month and actual/budget figures, while variance values were filtered out for future calculations.
7. **Final Review:** After cleaning, the data was checked for accuracy and completeness before being loaded into Power BI for further analysis.

Data Preparation

Before visualization, the following transformations and preparations were made to the **Nebulon Financial Data**:

1. **Data Restructuring:** The dataset was transformed from a wide format to a long format by unpivoting, allowing for easier analysis and visualization of revenue and expense categories over different months.
2. **Column Merging and Splitting:** Relevant columns were merged to facilitate analysis, and the attribute column was split to create distinct columns for Month and Actual/Budget, enabling clearer categorization.
3. **Calculating Key Metrics:** Total Revenue, Total Expenses, and Net Income were set up for calculation rather than being directly included in the dataset, allowing for more accurate and dynamic reporting.
4. **Data Filtering:** Variance values were filtered out, ensuring that only the necessary data for analysis and visualization was retained.

These transformations prepared the data for insightful visual representations, allowing for effective analysis of Nebulon's financial performance.

CHAPTER 3

DASHBOARD DESIGN AND FEATURES

Overview

The Nebulon Financial Dashboard provides a comprehensive overview of key financial metrics, designed to support decision-making and monitor business performance. The main features of the dashboard include:

1. **Total Actual Expenses & Revenues:** It shows the overall total of actual expenses and revenue for Nebulon for a selected time period (e.g., June and July). This is essential for tracking financial health and comparing it with the budgeted amounts.
2. **Variance Analysis by Item:** The variance between the actual and budgeted revenue and expenses is visualized for various items, such as fashion, office supplies, labor, and operational costs. This helps in identifying areas where there is overspending or underspending.
3. **Efficiency Metrics:** Two efficiency percentages are calculated for both revenue and expenses, highlighting how well the company is utilizing its resources relative to the budget.
4. **Month-by-Month Comparisons:** The dashboard includes month-to-month comparisons of actual vs. budgeted revenue and expenses, allowing Nebulon to analyze financial trends over time.
5. **Revenue and Expense Breakdown by Item:** A detailed breakdown of revenue and expenses by item category is also provided, giving insights into the contribution of various items to the overall financial figures.

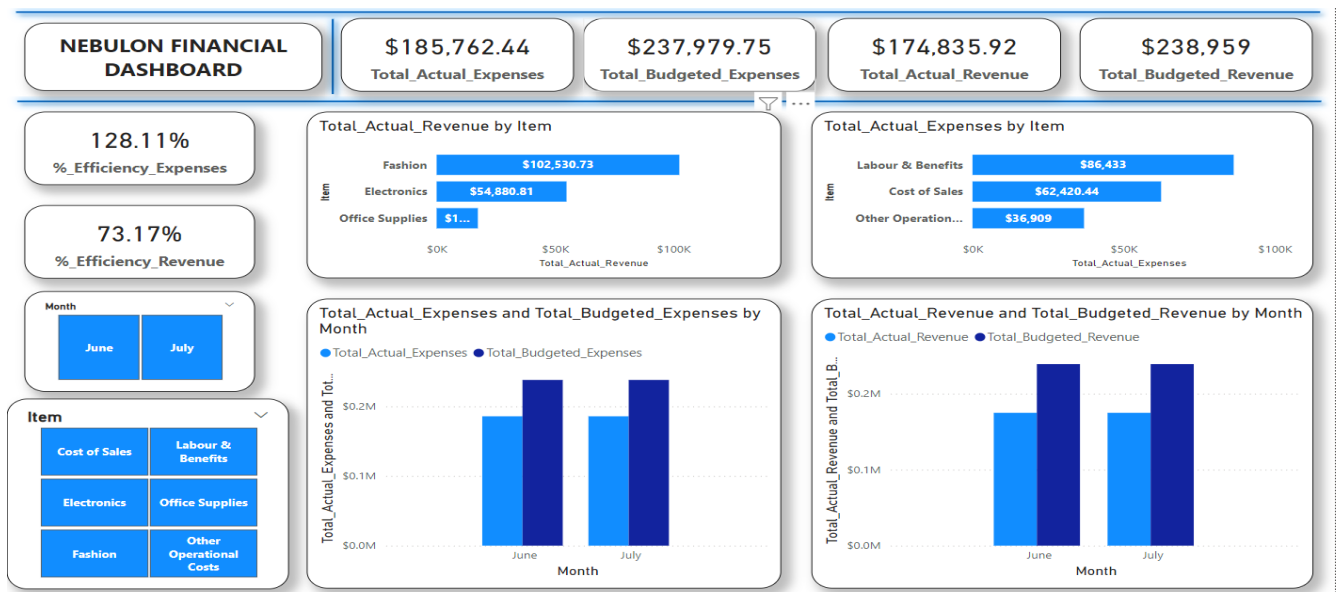


Figure 1: Nebulon Dashboard

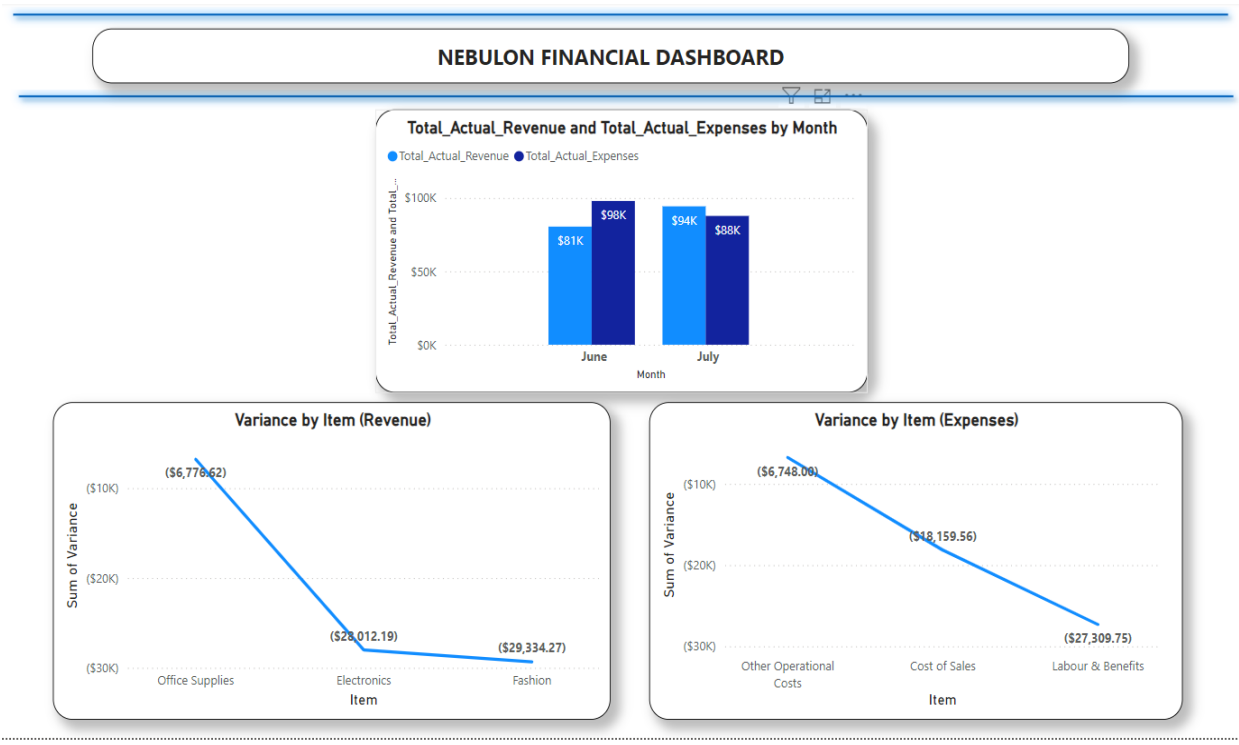


Figure 2: Nebulon Dashboard

Describe your visualization

1. Total Actual Revenue and Total Actual Expenses by Month

This bar chart compares the **Total Actual Revenue** against the **Total Actual Expenses** for two consecutive months, June and July. The bars for each month are split into two categories, with lighter shades representing revenue and darker shades representing expenses.

2. Variance by Item (Revenue)

This line chart shows the **Sum of Variance** for various revenue items (Office Supplies, Electronics, and Fashion). The variance measures the difference between actual and budgeted revenue, with points on the graph representing whether revenue was higher or lower than expected.

3. Variance by Item (Expenses)

This chart is similar in format to the revenue variance chart, but it focuses on expenses. It shows the **Sum of Variance** for various expense items (Labor & Benefits, Cost of Sales, and Other Operational Costs).

4. Total Actual Revenue by Item

This horizontal bar chart breaks down the **Total Actual Revenue** by specific items (Fashion, Electronics, and Office Supplies). Each bar represents the total revenue generated by these items for the selected period (June and July).

5. Total Actual Expenses by Item

This chart mirrors the revenue breakdown but focuses on expenses. It shows the **Total Actual Expenses** for different items, including Labor & Benefits, Cost of Sales, and Other Operational Costs.

6. Total Actual Expenses and Total Budgeted Expenses by Month

This bar chart compares **Actual Expenses** to **Budgeted Expenses** over the months of June and July. Each month has two bars, with one representing actual expenses and the other showing the budgeted amount.

7. Total Actual Revenue and Total Budgeted Revenue by Month

Similar to the expenses chart, this bar chart compares **Actual Revenue** to **Budgeted Revenue** for June and July.

8. Efficiency Metrics: % Efficiency for Expenses and Revenue

These two visual indicators display **Efficiency Percentages** for both revenue and expenses. Efficiency measures how well the company's actual results compare to its budget.

Each of these visualizations offers specific insights into Nebulon's financial performance. The combination of revenue and expense breakdowns, variance analysis, and efficiency metrics provides a holistic view of the company's financial health, identifying both strengths and areas requiring attention. The dashboard's visualizations empower Nebulon to track progress against its budget, make informed adjustments, and enhance decision-making in managing resources and financial strategies.

CHAPTER 6

KEY INSIGHTS

Analysis

1. Revenue vs. Expenses Comparison

In June, the revenue exceeded expenses by a comfortable margin, but in July, the gap narrowed significantly. This suggests that while the company is still profitable, rising expenses are eroding profitability, indicating the potential for future financial pressure if costs continue to rise or revenue growth stagnates.

2. Revenue Underperformance

Actual revenue fell short of budgeted revenue in both months, with the gap widening in July. This underperformance suggests that Nebulon's sales strategies, marketing efforts, or external factors (such as market conditions or demand) may be inadequate. In particular, the **fashion category**, which contributes the most revenue, shows a significant negative variance in revenue, underperforming by \$29,334.

3. Expense Overruns

The most significant expense overruns are seen in **Labor & Benefits**, which exceeded the budget by \$27,309, and **Cost of Sales**, which exceeded the budget by \$10,612. This suggests that staffing and sales-related costs are key areas of overspending. Overall, Nebulon's **Expense Efficiency** stands at 128.11%, highlighting that the company is spending 28% more than budgeted.

4. Item-Level Analysis

The **Fashion** category is the largest revenue generator, contributing \$102,530.73, followed by **Electronics** at \$54,880.81. However, **Office Supplies** contributes minimally to revenue, generating just \$17,424.38. The poor performance of office supplies, combined with the significant underperformance in fashion, suggests that Nebulon may need to reconsider its product mix.

The largest contributors to expenses are **Labor & Benefits** (\$86,433) and **Cost of Sales** (\$62,420). Other operational costs are comparatively lower but still exceeded the budget. This concentration of expenses in labor and sales-related costs emphasizes the need for cost management in these areas.

5. Variance Analysis

All items show negative revenue variance, meaning that the actual revenue generated fell below the budget. Fashion and electronics, the two largest revenue contributors, missed their targets by substantial amounts.

The expense variance analysis shows that Nebulon consistently overspent across all major categories, with labor and benefits showing the largest overrun. This consistent pattern of missing budget targets on both the revenue and expense sides is a red flag.

6. Efficiency Metrics

The **Expense Efficiency** stands at 128.11%, indicating that Nebulon's expenses are significantly over budget. Conversely, **Revenue Efficiency** is 73.17%, meaning that the company is generating only about 73% of its budgeted revenue. The combination of high expense efficiency (overspending) and low revenue efficiency (underperformance) signals financial inefficiency.

Trends

A key trend observed across multiple visualizations is that Nebulon's financial performance is deteriorating over time. In July, both revenue and expenses showed unfavorable trends, with revenue falling short of budget by a larger margin and expenses continuing to rise. The fact that Nebulon's financial performance worsened from June to July is concerning. If this trend continues, Nebulon could face profitability challenges and even potential losses in future months.

CHAPTER 7

RECOMMENDATIONS

Strategies

1. Revenue vs. Expenses Comparison

Nebulon should closely monitor its expenses and explore cost-reduction strategies, especially in areas where expenses are rising faster than revenue. It should also focus on improving sales to widen the profitability gap.

2. Revenue Underperformance

Nebulon should conduct a deeper analysis into why it is failing to meet revenue targets. Potential actions could include reevaluating pricing strategies, boosting marketing efforts, expanding into new customer segments, or adjusting product offerings to better align with market demand.

3. Expense Overruns

Nebulon must implement tighter cost controls, particularly in labor and sales-related costs. Conducting a cost-benefit analysis to identify inefficiencies in staffing and operations, renegotiating supplier contracts, and possibly restructuring labor costs are potential measures to bring expenses in line with the budget.

4. Item-Level Analysis

Nebulon should conduct a detailed product performance review, identifying high-performing and underperforming categories. For categories like office supplies that generate little revenue, Nebulon may consider reducing focus or finding ways to enhance their profitability. On the expense side, labor and cost of sales should be reviewed for potential inefficiencies and opportunities for savings.

5. Variance Analysis

Nebulon should conduct a root-cause analysis to understand the drivers behind its negative revenue variances. This might involve assessing market conditions, competition, customer preferences, and the effectiveness of its sales strategies. On the expense side, tightening financial discipline and improving budgeting accuracy will be critical in controlling costs and enhancing overall efficiency.

5. Efficiency Metrics

Nebulon must take immediate action to improve its financial efficiency. This may include revising the budget to reflect more realistic expectations, implementing tighter cost controls, and boosting efforts to meet revenue targets. Improved financial planning and closer monitoring of performance metrics will be essential to enhancing efficiency.

Improvements

To improve Nebulon Financial's data collection and analysis, it is recommended to focus on gathering more granular data. By breaking down expenses and revenue into specific categories and segments, Nebulon can conduct more targeted and detailed analyses. Additionally, automating the data collection process would streamline integration and ensure real-time updates, minimizing the need for manual inputs.

Expanding data collection to include external market trends and customer behavior insights would provide a clearer understanding of revenue drivers and potential opportunities for growth. Predictive analytics, using machine learning models, would enable the company to forecast future financial trends and make proactive business decisions.

Frequent budget reforecasting would help Nebulon adapt better to any changes in expenses or revenue, ensuring financial agility. Establishing key performance indicators (KPIs) for different business units can aid in monitoring specific areas of the business and assessing their performance. Furthermore, improving the current system for tracking expenses in real time would help identify inefficiencies, ensuring tighter financial control.

Analyzing revenue by cohort, such as customer segments and time periods, would also offer insights into patterns, which can inform strategic decisions about resource allocation.

Benchmarking Nebulon's performance against industry standards will provide a reference point for setting better goals and making improvements. Lastly, enhancing the clarity and design of visualizations will make the data easier to interpret, leading to more informed decision-making.

CHAPTER 8

CONCLUSION

The Nebulon Financial Dashboard provides a clear, visual representation of the company's financial performance, allowing for easy analysis of actual versus budgeted expenses and revenue. Key insights gathered from the dashboard include trends in revenue and expenses by category and month, variances that highlight underperforming areas, and efficiency metrics to assess operational performance.

The dashboard's value lies in its ability to offer real-time financial insights, enabling data-driven decisions that can lead to better budget management, increased profitability, and improved efficiency. By tracking key financial indicators and variances, the dashboard allows Nebulon to identify areas for cost-saving and revenue growth, while also highlighting where budget adjustments may be needed.

The report also recommends improvements for future data collection, including more granular data, automated collection processes, and the integration of external market insights. This would help Nebulon enhance its financial analysis capabilities, enabling more strategic and proactive decision-making.

Overall, the dashboard is a powerful tool for providing clarity on Nebulon's financial health, helping the company stay on track with its financial goals while continuously seeking opportunities for improvement.