

OPERATIONS DASHBOARD ANALYSIS REPORT

1. Project Overview

As a practicing data analyst, I developed an interactive **Operations Dashboard** to provide a consolidated view of key operational metrics. The dashboard integrates data from SQL Server and Excel into **Power BI**, enabling seamless analysis and visualization of departmental costs, project statuses, budget allocations, and employee information. The goal of this dashboard is to enhance decision-making by offering insights into financial performance and project progress.

2. Data Integration Process

- **SQL Server:** Extracted core data such as employee information, department budgets, and project details.
- **Excel:** Supplemented with additional financial metrics, particularly salary costs and capital expenditures.
- **Power BI:** Loaded and transformed data from both sources. Power BI was chosen for its advanced visualization capabilities and ease of integration with SQL and Excel. Data cleansing and preparation were done using Power BI's Power Query Editor.

3. Data Transformation and Calculations

To provide actionable insights, several key calculations were performed:

- **Departmental Costs:** Aggregated costs by department, covering project expenditures, salary costs, and capital investments.
- **2-Year Budget Forecast:** Created projections for each department's budget over the next two years, based on historical financial data trends.
- **Project Status Tracking:** Segmented project statuses into completed, ongoing, and upcoming, with corresponding budget allocations.
- **Capital and Salary Costs:** Detailed analysis of capital investments and salary expenditures by department, highlighting areas of overspending or surplus.

4. Key Dashboard Visualizations

- **Employee Information Panel:** A visual card that presents detailed employee information, such as ID, name, department, project, and salary. This feature allows quick access to individual employee data, making it ideal for HR and managerial reviews.
- **Costs by Department (Donut Chart):** Visualizes the breakdown of departmental costs, making it easy to compare financial allocations across departments such as Sales, Marketing, Engineering, IT, and HR.

- **Project Status (Donut Chart):** Provides an overview of the project portfolio, categorizing projects into completed, ongoing, and upcoming, alongside their respective budgets.
- **Budget by Department (Bar Chart):** Shows department-wise budget allocations, highlighting areas with the most significant investments, such as Sales and Marketing.
- **Budget by Project (Bar Chart):** Offers a detailed view of budget allocations for key projects, showing that "Product Launch" and "Brand Repositioning" have the largest funding.
- **Financial Summary Table:** A tabular overview displaying project costs, salary costs, 2-year budget projections, and capital allocations across departments. Conditional formatting helps identify potential financial risks, such as the negative capital balance in HR.

5. Insights and Analysis

Based on the analysis, the dashboard provides several key insights:

- **Heavy Investment in Sales and Marketing:** The Sales and Marketing departments receive the highest capital and project costs, suggesting that these departments are being prioritized for revenue growth and brand expansion.
- **Capital Imbalance in Human Resources:** The Human Resources department shows a negative capital balance of \$25,000, which could indicate financial mismanagement or over-allocation of resources. This raises a red flag and warrants a review of HR's budgeting strategy.
- **Engineering Department Surplus:** Engineering has a significant capital surplus of \$770,000, which might be an indication of over-budgeting or underutilization of resources. This surplus could potentially be redistributed to underfunded projects or departments.
- **Project Prioritization:** The "Product Launch" project receives the highest budget allocation, underlining its strategic importance. However, several smaller projects, like "CRM Integration" and "SEO Optimization," might require additional funding to ensure timely completion.
- **Budget Forecast:** The 2-Year Budget forecasts show a substantial increase in future investments for Engineering and Marketing, indicating a forward-looking strategy focused on innovation and customer acquisition. However, IT and HR departments may need reassessment to ensure they receive adequate funding to meet organizational demands.

6. Recommendations

To optimize financial performance and project success, I recommend the following actions:

- **Review HR Budget Allocations:** The negative capital in Human Resources suggests a need for immediate financial intervention. A thorough review of HR expenditures should be conducted to realign spending with available capital.
- **Redistribute Engineering Surplus:** The substantial surplus in the Engineering department could be reallocated to other departments or projects that are currently underfunded, such as HR or smaller ongoing projects like "CRM Integration."
- **Monitor Smaller Projects:** It's important to keep track of lower-budget projects to ensure they remain within budget and receive the necessary resources. This can prevent delays and bottlenecks that might arise from underfunding.
- **Adjust Future Budget Projections:** As part of a long-term strategy, consider revisiting the 2-Year Budget projections for IT and HR, which might need more capital in the future as technology and workforce demands evolve.

7. Conclusion

This Operations Dashboard serves as a powerful tool for management to monitor financial and project performance across various departments. It provides clear visibility into how resources are allocated, where improvements can be made, and which departments or projects require attention. By leveraging insights from this dashboard, organizations can make data-driven decisions to optimize resource utilization, balance budgets, and ensure the timely completion of projects.