Finance KPI Analysis Report (Sample Queries & Insights)

◆ 1. Total Profit (Overall)

📌 **Definition**: Total company profit over all departments and months (Actual Revenue − Actual Expense).
🧮 **SQL:**

```
SELECT
    SUM(actual_revenue - actual_expense) AS total_profit
FROM finance_data;


+--------------+
| total_profit |
+--------------+
|       -13000 |
+--------------+
1 row in set (0.00 sec)
```

◆ 2. Average Expense Variance (%)

📌 **Definition**: Measures how much actual expenses deviated from budgeted expenses, on average.
🧮 **SQL:**

```
mysql> SELECT
    ->    ROUND(AVG((actual_expense - budgeted_expense) / budgeted_expense) * 100, 2) AS
avg_expense_variance_percent
    -> FROM finance_data;
+------------------------------+
| avg_expense_variance_percent |
+------------------------------+
|                         3.13 |
+------------------------------+
```

1 row in set (0.00 sec)

◆ 3. Average Revenue Variance (%)

📌 **Definition**: Average deviation between actual and budgeted revenue across all records.
🧮 **SQL:**

```
mysql> SELECT
    ->    ROUND(AVG(
    ->      CASE
    ->        WHEN budgeted_revenue = 0 THEN NULL
    ->        ELSE (actual_revenue - budgeted_revenue) / budgeted_revenue * 100
    ->      END
    ->    ), 2) AS avg_revenue_variance_percent
    -> FROM finance_data;
+------------------------------+
| avg_revenue_variance_percent |
+------------------------------+
|                        -0.14 |
+------------------------------+
1 row in set (0.00 sec)
```

◆ 4. Total Budgeted Expense vs. Actual Expense

📌 **Definition**: Comparison between total planned and actual spend.
🧮 **SQL:**

```
mysql> SELECT
    ->    SUM(budgeted_expense) AS total_budgeted_expense,
    ->    SUM(actual_expense) AS total_actual_expense
    -> FROM finance_data;
+------------------------+----------------------+
| total_budgeted_expense | total_actual_expense |
+------------------------+----------------------+
|                 397000 |               408000 |
+------------------------+----------------------+
1 row in set (0.00 sec)
```

◆ 5. Department with Highest Profit

📌 **Definition**: Identifies which department generated the most profit.
🧮 **SQL:**

```
mysql> SELECT
    ->    department,
    ->    SUM(actual_revenue - actual_expense) AS total_profit
    -> FROM finance_data
    -> GROUP BY department
    -> ORDER BY total_profit DESC
    -> LIMIT 1;
+------------+--------------+
| department | total_profit |
+------------+--------------+
| Marketing  |        97000 |
+------------+--------------+
1 row in set (0.00 sec)
```

◆ 6. Total Budgeted vs. Actual Revenue

📌 **Definition**: Overall planned vs actual earned revenue.
🧮 **SQL:**

```
mysql> SELECT
    ->    SUM(budgeted_revenue) AS total_budgeted_revenue,
    ->    SUM(actual_revenue) AS total_actual_revenue
    -> FROM finance_data;
+------------------------+----------------------+
| total_budgeted_revenue | total_actual_revenue |
+------------------------+----------------------+
|                 395000 |               395000 |
+------------------------+----------------------+
1 row in set (0.00 sec)
```

◆ 7. Profit Margin (%) by Department

📌 **Definition**: Profit margin is the percentage of profit relative to actual revenue for each department.

🧮 **SQL:**

```
mysql> SELECT
    ->    department,
    ->    ROUND(SUM(actual_revenue - actual_expense) / SUM(actual_revenue) * 100, 2) AS profit_margin_percent
    -> FROM finance_data
    -> WHERE actual_revenue > 0
    -> GROUP BY department;
+------------+-----------------------+
| department | profit_margin_percent |
+------------+-----------------------+
| Marketing  |                 46.19 |
| Sales      |                 52.43 |
+------------+-----------------------+
2 rows in set (0.00 sec)
```

Summary

This report analyzes key financial KPIs to assess the company's performance. It covers overall profit, expense and revenue variances, budget vs. actual comparisons, top-performing departments, and profit margins. These metrics provide clear insights into financial health and help guide better budgeting and decision-making.