Let’s talk about using SQL, Excel, and Tableau to create and monitor metrics.

Monitoring these metrics will enable you to make informed decisions about budgeting and resource allocation. Here are some important financial metrics to consider:

Revenue: The total income generated by a business through sales of products or services. Keep track of revenue growth and trends to understand the overall performance of your business.

Gross Profit Margin: The percentage difference between revenue and cost of goods sold (COGS). This indicates the efficiency of your production process and helps identify areas for cost reduction.

Net Profit Margin: The percentage of revenue left after accounting for all business expenses, including COGS and operating expenses. This metric measures the overall profitability of your business.

Operating Cash Flow: The cash generated through core business operations, excluding any investments or financing activities. It indicates the business's ability to generate cash through operations to cover liabilities and fund growth.

Current Ratio: A liquidity ratio calculated by dividing current assets by current liabilities. It gauges a business's ability to meet short-term obligations.

Quick Ratio: Similar to the current ratio, but it excludes inventory from current assets. This metric helps assess the business's liquidity without relying on inventory, which may not be as easily convertible to cash.

Debt-to-Equity Ratio: A solvency ratio calculated by dividing total debt by total equity. This metric helps evaluate the financial leverage and risk exposure of a business.

Return on Assets (ROA): A measure of how effectively a business utilizes its assets to generate profits. Calculated by dividing net income by total assets.

Return on Equity (ROE): The percentage of net income relative to shareholder equity, which measures a business's ability to generate returns for its shareholders.

Customer Acquisition Cost (CAC): The cost of acquiring a new customer, which helps evaluate the efficiency of marketing and sales efforts.

To make informed decisions about budgeting and resource allocation, compare these metrics with industry benchmarks and historical data. Identify areas that require improvement or are performing well. Monitor trends over time and adjust your strategies accordingly to optimize financial performance and allocate resources where they will generate the most significant returns.

Here are some examples as well of each;

Revenue:

Revenue represents the total income generated by a business through sales of products or services.

SQL:

SELECT SUM(sales\_amount) as Total\_Revenue

FROM sales;

Excel:

=SUM(Sales!B2:B100)

(Assuming Sales Amounts are in column B of the 'Sales' sheet)

Tableau:

Drag "Sales Amount" from your data source into the Rows section, then change the aggregation to SUM.

Gross Profit Margin:

The gross profit margin measures the percentage difference between revenue and cost of goods sold (COGS). It indicates the efficiency of your production process.

SQL:

SELECT (SUM(sales\_amount) - SUM(cogs)) / SUM(sales\_amount) \* 100 as Gross\_Profit\_Margin

FROM sales;

Excel:

=(SUM(Sales!B2:B100) - SUM(COGS!C2:C100)) / SUM(Sales!B2:B100) \* 100

(Assuming COGS are in column C of the 'COGS' sheet)

Tableau:

Create a calculated field: SUM([Sales Amount]) - SUM([COGS]), then divide this by SUM([Sales Amount]), and finally multiply by 100.

Net Profit Margin:

The net profit margin measures the percentage of revenue left after accounting for all business expenses, including COGS and operating expenses.

SQL:

SELECT (SUM(sales\_amount) - SUM(expenses)) / SUM(sales\_amount) \* 100 as Net\_Profit\_Margin

FROM sales, expenses;

Excel:

=(SUM(Sales!B2:B100) - SUM(Expenses!D2:D100)) / SUM(Sales!B2:B100) \* 100

(Assuming Expenses are in column D of the 'Expenses' sheet)

Tableau:

Create a calculated field: SUM([Sales Amount]) - SUM([Expenses]), then divide this by SUM([Sales Amount]), and finally multiply by 100.

Operating Cash Flow:

Operating cash flow measures the cash generated by a business from its core operations.

SQL:

SELECT SUM(cash\_inflow) - SUM(cash\_outflow) as Operating\_Cash\_Flow

FROM cash\_flow

WHERE activity\_type = 'Operating';

Excel:

=SUMIF(CashFlow!A2:A100, "Operating", CashFlow!B2:B100) - SUMIF(CashFlow!A2:A100, "Operating", CashFlow!C2:C100)

(Assuming Activity Type is in column A, Cash Inflows in column B, and Cash Outflows in column C of the 'CashFlow' sheet)

Tableau:

Create a calculated field using the following formula: IF [Activity Type] = 'Operating' THEN [Cash Inflow] - [Cash Outflow] END. Drag this field into the Rows section and aggregate as SUM.

Current Ratio:

Current ratio measures a company's ability to pay its short-term liabilities using its short-term assets.

SQL:

SELECT SUM(current\_assets) / SUM(current\_liabilities) as Current\_Ratio

FROM balance\_sheet;

Excel:

=SUM(Assets!B2:B100) / SUM(Liabilities!C2:C100)

(Assuming Current Assets are in column B of the 'Assets' sheet and Current Liabilities are in column C of the 'Liabilities' sheet)

Tableau:

Create two calculated fields: one for SUM([Current Assets]) and another for SUM([Current Liabilities]). Then, create a third calculated field that divides the first field by the second.

Quick Ratio:

The quick ratio measures a company's ability to pay its short-term liabilities without relying on inventory.

SQL:

SELECT (SUM(current\_assets) - SUM(inventory)) / SUM(current\_liabilities) as Quick\_Ratio

FROM balance\_sheet;

Excel:

=(SUM(Assets!B2:B100) - SUM(Assets!C2:C100)) / SUM(Liabilities!C2:C100)

(Assuming Inventory is in column C of the 'Assets' sheet)

Tableau:

Create three calculated fields: one for SUM([Current Assets]), another for SUM([Inventory]), and the last for SUM([Current Liabilities]). Then, create a fourth calculated field that subtracts the second field from the first and divides the result by the third field.

Please let me know if you need examples for the remaining metrics or if you have any questions about the examples provided so far.

Debt-to-Equity Ratio:

The debt-to-equity ratio measures a company's financial leverage by comparing its total debt with its total equity.

SQL:

SELECT SUM(total\_debt) / SUM(total\_equity) as Debt\_to\_Equity\_Ratio

FROM balance\_sheet;

Excel:

=SUM(Debt!B2:B100) / SUM(Equity!C2:C100)

(Assuming Total Debt is in column B of the 'Debt' sheet and Total Equity is in column C of the 'Equity' sheet)

Tableau:

Create two calculated fields: one for SUM([Total Debt]) and another for SUM([Total Equity]). Then, create a third calculated field that divides the first field by the second.

Return on Assets (ROA):

ROA measures a company's profitability relative to its total assets.

SQL:

SELECT SUM(net\_income) / SUM(total\_assets) as Return\_on\_Assets

FROM financial\_statements;

Excel:

=SUM(Income!B2:B100) / SUM(Assets!D2:D100)

(Assuming Net Income is in column B of the 'Income' sheet and Total Assets are in column D of the 'Assets' sheet)

Tableau:

Create two calculated fields: one for SUM([Net Income]) and another for SUM([Total Assets]). Then, create a third calculated field that divides the first field by the second.

Return on Equity (ROE):

ROE measures a company's ability to generate returns for its shareholders.

SQL:

SELECT SUM(net\_income) / SUM(shareholder\_equity) as Return\_on\_Equity

FROM financial\_statements;

Excel:

=SUM(Income!B2:B100) / SUM(Equity!C2:C100)

(Assuming Shareholder Equity is in column C of the 'Equity' sheet)

Tableau:

Create two calculated fields: one for SUM([Net Income]) and another for SUM([Shareholder Equity]). Then, create a third calculated field that divides the first field by the second.

Customer Acquisition Cost (CAC):

CAC measures the cost of acquiring a new customer.

SQL:

SELECT SUM(marketing\_and\_sales\_expenses) / COUNT(new\_customers) as Customer\_Acquisition\_Cost

FROM marketing\_sales\_data;

Excel:

=SUM(Expenses!E2:E100) / COUNT(NewCustomers!F2:F100)

(Assuming Marketing and Sales Expenses are in column E of the 'Expenses' sheet and New Customers are in column F of the 'NewCustomers' sheet)

Tableau:

Create two calculated fields: one for SUM([Marketing and Sales Expenses]) and another for COUNT([New Customers]). Then, create a third calculated field that divides the first field by the second.

These examples should give you an idea of how to calculate the different financial metrics using SQL, Excel, and Tableau. Keep in mind that the structure and column names in your dataset may vary, so adjust the examples accordingly.