

Financial KPI Analysis for a Startup

Objective: Analyze monthly revenue, burn rate, CAC, LTV, and run rate for an early-stage startup.

Introduction

In the fast-paced world of startups, understanding financial performance and customer acquisition efficiency is crucial for sustainable growth. This project focuses on analyzing the key financial metrics of an early-stage startup, including Revenue, Expenses, Burn Rate, Customer Acquisition Cost (CAC), Customer Lifetime Value (LTV), and Run Rate. By breaking down these indicators month-by-month and across customer cohorts, the project aims to provide actionable insights into the company's financial health, operational efficiency, and growth potential. The analysis is driven by real or simulated data and visualized using tools like Excel and Tableau, enabling a clear view of both short-term fluctuations and long-term trends in customer and revenue behavior.

Abstract

This project undertakes a rigorous financial performance analysis of an early-stage startup, employing advanced metrics to evaluate revenue generation, operational efficiency, and customer acquisition effectiveness. Key performance indicators—including CAC, LTV, burn rate, and run rate—are systematically computed and visualized to uncover strategic insights. A cohort-based framework is utilized to examine customer retention dynamics, while time-series analyses provide perspective on financial volatility and growth sustainability. Leveraging industry-standard tools such as Excel, Tableau, and Python, the study delivers a data-driven foundation for assessing business scalability, capital allocation efficiency, and long-term viability.

Project Explanation

My project is about understanding how a startup is performing in terms of its money and customers. I focused on a few important things. First, I looked at how much money the company earns each month, how much it spends, and how quickly it is using up its funds. Then I worked on figuring out how much it costs the company to get one new customer, and how much money each customer brings in over time. I used tools like Excel, Tableau, and Python to organize the data, do the calculations, and create interactive charts and dashboards to see everything more clearly. I also grouped customers based on the month they joined the company and tracked how long they continued using the service. This helped me

understand how loyal the customers were. Through this project, I learned how businesses use numbers and data to make better decisions, manage their spending, and grow in a smarter way.

Tools Used

- Microsoft Excel: Served as the foundational platform for financial modeling, KPI computation
- Tableau: Deployed for building high-fidelity, interactive visualizations
- Python (Pandas, NumPy, Matplotlib): Utilized for robust data preprocessing

Steps Involved in Building the Project

The process was iterative and methodologically rigorous, combining both technical precision and business intuition to drive meaningful outcomes.

1. Requirement Scoping and KPI Framework Design
2. Data Acquisition and Cleaning
3. Metric Engineering and Validation
4. Cohort Structuring and Retention Modelling
5. Exploratory Data Analysis and Pattern Discovery
6. Dashboard Development and Iteration
7. Insight Synthesis and Strategic Interpretation
8. Report Writing and Executive Documentation

Conclusion

This project provided a data-driven assessment of a startup's financial and customer performance by focusing on key metrics such as Revenue, Expenses, Burn Rate, Customer Acquisition Cost (CAC), Lifetime Value (LTV), and Run Rate.

Through a combination of cohort analysis, trend visualization, and KPI computation, the project uncovered meaningful insights into the company's growth dynamics, customer retention behavior, and cost efficiency. The analysis highlighted both strengths—such as consistent customer value and strong early retention—as well as areas for improvement, including volatility in spending and acquisition efficiency. By leveraging tools like Excel, Tableau, and Python, the project not only delivered a robust analytical framework but also demonstrated how quantitative insights can guide smarter decision-making.

In summary, this project translates raw financial data into strategic clarity—empowering the startup to scale with confidence and control.