Financial KPI Analysis for a Startup

Submitted by: Aditya Hanmant Dabade

Department: Artificial Intelligence and Data Science

Institute: VIT Pune

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Tools Used: Excel, Python (Pandas), Power BI

# 1. Abstract

This project focuses on analyzing essential financial metrics of a startup using real-world data. The analysis involves calculating key performance indicators (KPIs) such as Customer Acquisition Cost (CAC), Customer Lifetime Value (LTV), Burn Rate, Revenue, LTV:CAC Ratio, and Run Rate. A dynamic and interactive dashboard is developed in Power BI to visualize and interpret the financial health, operational efficiency, and growth potential of the startup.

# 2. Objective

- To extract and clean financial data  
- To calculate key KPIs reflecting startup performance  
- To visualize the KPIs in an executive-level dashboard  
- To draw insights for business decisions based on the metrics

# 3. Dataset Details

File Name: retail\_data.csv

Description: Contains financial records including monthly revenue, expenses, customer count, and marketing spend.

Columns Used: Month, Revenue, Marketing Spend, New Customers, Expenses

# 4. KPIs Calculated

|  |  |  |
| --- | --- | --- |
| KPI | Formula | Purpose |
| Revenue | Direct from dataset | Shows income trend |
| Burn Rate | Total monthly expenses | Measures how quickly cash is consumed |
| CAC | Marketing Spend / New Customers | Cost to acquire each customer |
| LTV | Avg. Customer Revenue × Retention Period | Value a customer brings over lifetime |
| Run Rate | Monthly Revenue × 12 | Annual revenue projection |
| LTV:CAC Ratio | LTV ÷ CAC | Determines sustainability and profitability |

# 5. Tools Used

|  |  |
| --- | --- |
| Tool | Purpose |
| Excel | Data cleaning, formula-based KPI calculations |
| Python (Pandas) | Data validation and quick analysis |
| Power BI | Interactive KPI Dashboard and data storytelling |

# 6. Dashboard Features (Power BI)

- Executive theme layout  
- KPI Cards: Revenue, CAC, LTV, Burn Rate, Run Rate, LTV:CAC  
- Visuals:  
 • Monthly Revenue Trend (Line Chart)  
 • CAC vs LTV (Bar Chart)  
 • Burn Rate vs Revenue (Clustered Column Chart)  
 • LTV:CAC Ratio Over Time (Column Chart)  
- Slicers: Month, Region (if applicable)  
- Clean and minimal UI with professional fonts and colors

# 7. Insights & Conclusion

- The LTV:CAC ratio was maintained above the industry benchmark of 3, indicating sustainable growth.  
- Monthly burn rate highlighted specific months where cost-cutting could be beneficial.  
- Revenue trends helped identify high-performing and weak quarters.  
- The Power BI dashboard enabled clear data storytelling and quick decision-making visuals for stakeholders.

# 8. Learnings

- Learned end-to-end KPI computation techniques  
- Gained hands-on experience in dashboard creation using Power BI  
- Applied real business logic to evaluate startup performance  
- Enhanced skills in data cleaning, analysis, and visualization

# 9. About the Author

Name: Aditya Hanmant Dabade  
Branch: B.Tech, Artificial Intelligence and Data Science  
Institution: VIT Pune  
Email: aditya.dabade2006@gmail.com  
LinkedIn: [Insert Your Profile Link]

# 10. Attachments

- Cleaned Dataset: retail\_data.csv  
- Power BI Dashboard: Financial\_KPI\_Analysis.pbix  
- Screenshots of Dashboard (optional)  
- README File (documentation)