Data Analyst Internship

Internship Project Phase

Prepared for: Elevate Labs

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Selected Project: 7. Financial KPI Analysis for a Startup

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

Tools Used: Excel, Power Query, Power BI

Happy Street: 2023 Performance Analysis & Dashboard Report

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1. Introduction

Happy Street (HS) is an innovative social entrepreneurship platform dedicated to empowering street food vendors. Its mission is to enhance vendors' earnings and alleviate operational challenges by providing space management, customer support, and brand identity, notably through a "Buy Now, Pay Later" (BNPL) revenue model. This project aims to provide Happy Street with a robust data-driven solution to monitor its 2023 performance, identify key trends, and assess the effectiveness of its operations and customer acquisition strategies, thereby facilitating informed decision-making and rapid growth.

2. Abstract

This report details the development of a comprehensive analytics framework for Happy Street, culminating in an interactive Power BI dashboard. The project involved generating a simulated dataset for customer and financial data, followed by rigorous data preparation using Power Query. The Power BI dashboard visualizes critical Key Performance Indicators (KPIs) such as Total Revenue, New Entrepreneurs Acquired, Customer Acquisition Cost (CAC), Lifetime Value (LTV), and LTV:CAC Ratio. It also presents vital trends in revenue, expenses, and customer acquisition over time, empowering Happy Street to gain actionable insights into its operational efficiency, customer value, and overall financial health for the year 2023.

3. Tools Used

- **Microsoft Excel:** For initial data housing, basic organization, and as the primary data source.
- **Power Query (within Excel/Power BI):** For data ingestion, cleaning, transformation, and ensuring data quality and appropriate data types.
- **Power BI Desktop:** For advanced data modeling, creating calculated measures (DAX), designing interactive dashboards, and visualizing key performance indicators and trends.

4. Steps Involved in Building the Project

The project was executed through a structured, multi-phase approach:
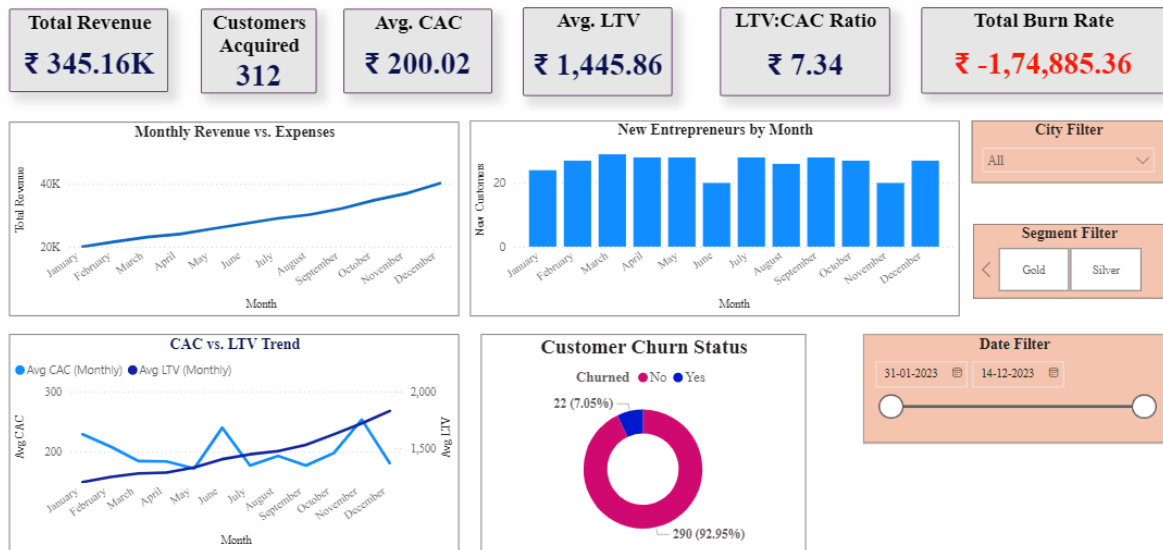
Phase 1: Data Generation & Preparation

- **Data Simulation:** Given the project's improvisational nature, a realistic dataset was generated from scratch. This involved creating Customer Data (including customer demographics, signup details, revenue, LTV, and churn status) and Monthly Financials (detailing monthly revenue, expenses, new customer acquisition, CAC, LTV, burn rate, and LTV:CAC ratios). A KPI Summary table was also created for annual aggregated metrics.
- **Data Loading & Initial Transformation (Power Query):** The generated Excel file (Happy_Street_Data_2023_Complete.xlsx) was loaded into Power Query. Each sheet (Customer Data, Monthly Financials, KPI Summary) was inspected, and data types for columns (e.g., Date, Currency, Number, Text) were correctly assigned to ensure data integrity and compatibility for analysis. Connections were established to the Data Model.

Phase 2: Power BI Dashboard Creation

- **Data Ingestion to Power BI:** The prepared Excel data was imported into Power BI Desktop, leveraging the established Power Query connections.
- **DAX Measure Creation:** Crucial custom measures were defined using Data Analysis Expressions (DAX) to calculate Total Monthly Expenses, Avg CAC (Monthly), Avg LTV (Monthly), and Avg LTV:CAC Ratio (Monthly). This ensures accurate and dynamic calculations within the dashboard.
- **Currency Formatting:** All relevant numerical fields were formatted to display Indian Rupee (₹) currency symbols and appropriate decimal places for clarity and professional presentation.
- **Dashboard Layout Design:** A clean, uncluttered, and intuitive dashboard layout was designed to effectively communicate insights. This involved:
  - **Header:** Featuring the "Happy Street" logo and a clear main title: "Happy Street: 2023 Performance Overview."
  - **Key Performance Indicators (KPIs):** A top row of prominent Card visuals displaying 2023's aggregated Total Revenue, New Entrepreneurs, Average CAC, Average LTV, LTV:CAC Ratio, and Net Profit / (Loss) from the KPI Summary table.
  - **Key Trends:** A middle section featuring line and column charts to visualize Monthly Revenue & Expenses, New Entrepreneurs by Month, and CAC vs. LTV Trend over time using the Monthly Financials data.
  - **Core Slicers & Essential Customer Insights:** A right sidebar containing interactive slicers for Date, City, and Segment, alongside a Churn Status donut chart to provide essential filtering capabilities and a key customer insight.
- **Interactivity and Formatting:** Visuals were meticulously arranged and formatted for consistency in colors, fonts, and labels. Crucial interactivity was enabled, allowing users to filter data across the dashboard by date, city, or customer segment, ensuring dynamic and exploratory analysis.

Happy Street: 2023 Performance Overview

Total Revenue	Customers Acquired	Avg. CAC	Avg. LTV	LTV:CAC Ratio	Total Burn Rate
₹ 345.16K	312	₹ 200.02	₹ 1,445.86	₹ 7.34	₹ -1,74,885.36

Monthly Revenue vs. Expenses

New Entrepreneurs by Month

City Filter — All

Segment Filter — Gold | Silver

CAC vs. LTV Trend — Avg CAC (Monthly), Avg LTV (Monthly)

Customer Churn Status — Churned ● No ● Yes — 22 (7.05%), 290 (92.95%)

Date Filter — 31-01-2023 | 14-12-2023

5. Conclusion

The developed Power BI dashboard provides Happy Street with a powerful, centralized tool for monitoring its 2023 performance. By presenting key financial metrics and customer acquisition trends in an interactive and digestible format, the dashboard enables quick identification of successes and areas for improvement. Stakeholders can now easily track the business's profitability, efficiency of customer acquisition, and overall unit economics (LTV:CAC ratio), which are vital for sustainable growth. This data-driven approach supports strategic decision-making, such as optimizing marketing spend, identifying high-value customer segments, and addressing churn, ultimately contributing to Happy Street's mission of empowering street food entrepreneurs. The project demonstrates a strong understanding of data analysis workflows, from data preparation to impactful visualization, which can be confidently explained in future interviews.