HealthKart Influencer Campaign Dashboard - Technical & Business Insights Summary

Executive Overview

The HealthKart Influencer Campaign Dashboard is a comprehensive web-based analytics platform built using Python Dash framework. It processes multi-platform influencer marketing data to provide real-time insights, performance tracking, and ROI analysis for HealthKart's influencer partnerships across Instagram, YouTube, and Facebook.

Technical Architecture

Technology Stack

- **Frontend Framework**: Dash (Python web framework)
- **Data Processing**: Pandas, NumPy
- **Visualization**: Plotly Express, Plotly Graph Objects
- **Export Capabilities**: WeasyPrint for PDF generation
- **Interactive Components**: 20+ callback functions for dynamic user interactions

Core Functionality

The dashboard serves as a centralized command center with the following capabilities:

1. **Real-time Data Visualization**: Interactive charts and graphs for campaign performance
2. **Multi-platform Analytics**: Consolidated view across Instagram, YouTube, and Facebook
3. **Financial Tracking**: Revenue, costs, ROAS, and payout calculations
4. **Performance Metrics**: Engagement rates, customer acquisition costs, conversion tracking
5. **Export Features**: PDF report generation with static chart conversions
6. **Data Tables**: Sortable, filterable tables for detailed analysis

Data Ingestion & Sources

Primary Data Files Processed

The dashboard ingests data from multiple CSV sources totaling 82 records across 7 key datasets:

1. **Payout Tracking Data** (20 influencers)

   o Influencer compensation details (post-based, commission-based, hybrid)

   o Revenue attribution and ROAS calculations

   o Total cost tracking including gifted products

2. **Instagram Performance Metrics** (12 influencers)

   o Engagement data: likes, comments, saves, reach, impressions

   o Calculated engagement rates

   o Platform-specific performance indicators

3. **Customer Acquisition Cost Analysis**

   o Platform-level CAC: Instagram (₹161.33), YouTube (₹336.69), Facebook (₹719.56)

   o Individual influencer CAC performance

   o Cost efficiency comparisons

4. **Category Performance Data** (7 categories)

   o Fitness (dominant with 9 influencers, 22.7M followers)

   o Beauty, Bodybuilding, Health, Lifestyle, Doctor, Sports

   o Follower distribution and influencer concentration

5. **Revenue & Order Tracking**

   o Individual campaign performance

   o Order volume and revenue attribution

   o Platform-wise sales distribution

Dashboard Outputs & Key Metrics

Financial Performance Summary

- **Total Campaign Revenue**: ₹178,798,153

- **Total Orders Processed**: 107,154

- **Overall ROAS**: 11.24x return on ad spend

- **Total Influencer Network**: 20 active partnerships

Platform Performance Analysis

- **Instagram**: Dominates with 12 influencers, lowest CAC at ₹161.33

- **YouTube**: 7 influencers, moderate CAC at ₹336.69

- **Facebook**: Limited presence (1 influencer), highest CAC at ₹719.56

Top Performance Insights

Highest ROI Performers

1. **Varsha Thapa** (Beauty/Instagram): 45.90x ROAS, ₹6.4M revenue

2. **Sangram Chougule** (Bodybuilding/Instagram): 28.74x ROAS, ₹17M revenue

3. **Sahil Khan** (Fitness/Instagram): 19.79x ROAS, ₹49.6M revenue (highest absolute revenue)

Compensation Model Analysis

The dashboard tracks three distinct payout structures:

- **Post-based**: Fixed fee per content piece

- **Commission-based**: Percentage of sales generated

- **Hybrid**: Combination of fixed fee + commission percentage

Dashboard User Interface Components

Interactive Elements

- **Dynamic Charts**: Revenue trends, ROAS comparisons, platform performance

- **Filterable Tables**: Sortable by performance metrics, categories, platforms

- **Real-time Calculations**: Automatic metric updates based on data changes

- **Export Functions**: One-click PDF report generation

- **Multi-view Analytics**: Campaign, influencer, and platform-level insights

Key Visualizations Generated

1. Platform distribution pie charts

2. Revenue performance bar charts

3. ROAS comparison graphs

4. Customer acquisition cost analysis

5. Category performance breakdowns

6. Influencer ranking tables

7. Time-series trend analysis

Business Intelligence Capabilities

Strategic Insights Delivered

- **Budget Optimization**: Identifies highest ROI influencer partnerships

- **Platform Strategy**: Data-driven platform allocation recommendations

- **Performance Benchmarking**: Category and individual influencer comparisons

- **Cost Management**: CAC tracking and optimization opportunities

- **Revenue Attribution**: Clear linkage between influencer activity and sales

Decision Support Features

- Performance ranking algorithms

- Cost-efficiency calculations

- ROI projections and trend analysis

- Platform-specific strategy recommendations

- Influencer partnership optimization guidance

Technical Implementation Highlights

Data Processing Pipeline

1. **Data Ingestion**: Automated CSV file processing

2. **Data Validation**: Error handling and data quality checks

3. **Metric Calculation**: Real-time ROAS, CAC, and performance computations

4. **Visualization Rendering**: Dynamic chart generation with Plotly

5. **Report Generation**: PDF export with formatted layouts

Scalability Features

- Modular callback architecture (20 interactive functions)

- Efficient data handling with Pandas

- Responsive design for multiple screen sizes

- Export capabilities for offline analysis

- Error handling for data inconsistencies

Operational Impact

Campaign Management Enhancement

The dashboard enables HealthKart to:

- Monitor real-time campaign performance across all platforms

- Identify top-performing influencers and categories for budget reallocation

- Track ROI and optimize spending based on data-driven insights

- Generate comprehensive reports for stakeholder communication

- Make informed decisions on influencer partnership renewals