

iRevolution

Apple's iPhone Impact in India

Project Report

Team ID: LTVIP2026TMIDS82607

Team Members: Manohar, Manoj

Date: 20 February 2026

1. INTRODUCTION

1.1 Project Overview

iRevolution is a data-driven exploration of Apple's iPhone impact in India. The project uses Tableau Public for interactive data visualization and Flask (Python) for the web application backend. It consolidates 7 datasets covering Apple products, Flipkart smartphone listings, annual revenue, market penetration, country-wise share, quarterly share, and model-wise share into 9 unique visualizations presented through an interactive dashboard and a 5-scene data story.

Team ID: LTVIP2026TMIDS82607

Team Members: Manohar, Manoj

1.2 Purpose

The purpose of this project is to investigate and visualize the influence of Apple's iPhone on the Indian market. Using Tableau's data visualization capabilities, the project explores market penetration, sales trends, user demographics, and cultural impact of iPhone adoption in India — providing insights for Apple, local competitors, and market analysts. The web-based delivery via Flask ensures accessibility from any device with a browser.

2. IDEATION PHASE

2.1 Problem Statement

The Indian smartphone market lacks a comprehensive, interactive platform that consolidates Apple iPhone market data from 7 different datasets into a unified analytical view with interactive drill-down capabilities.

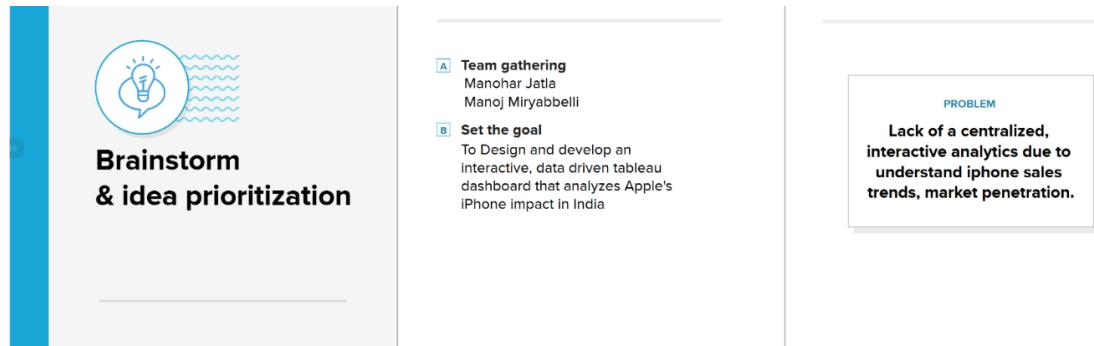
2.2 Empathy Map Canvas

iRevolution: iPhone Impact in India (Tableau Analytics)



The empathy map captures the perspective of a Market Analyst investigating Apple's smartphone market in India, covering what they Think & Feel, See, Say & Do, and Hear.

2.3 Brainstorming



Key areas explored: Market Analysis, Data Sources, Visualization Types, Technology Stack, and Platform Features.

3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

	ENTICE	ENTER	ENGAGE	EXIT	EXTEND
Interactions	Market Overview KPI Review Filter Setup	Data Import Data Filtering	Dashboard View Trend Analysis	Revenue Trends Model Share Insights Sharing	Ongoing Alerts Feature Updates Advanced Reports
	Sign Up Process Initial Setup Data Filtering	Initial Setup Data Filtering	Chart Exploration Custom Reports Drill Down Analysis	Comparative Views Sharing Insights KPI Alerts	Download Reports System Integration Survey Feedback
Goals & Motivations	Identify Opportunities Understand Trends Track Performance	Analyze Segments Generate Reports Track Performance	Analyze Segments Optimize Strategies Performance	Compare Models Share Findings Monitor KPIs	Export Insights Deploy to Web Gather Feedback
Positive Moments	Clear Insights Successful Setup Easy Filtering	Custom Dashboards	Detailed Reports Trend Discovery	Growth Charts Collaboration KPI Alerts	Seamless Export Deploy to Web Positive Feedback
Negative Moments	Setup Confusion Import Errors Data Overload	Slow Loading Complex Reports	Complete Reports Drill Challenges	Data Discrepancies Sharing Issues	Export Issues Integration Bugs User Response
Areas of Opportunity	Simplify Onboarding Improve Import Filter Enhancements	Custom Templates Faster Performance Drill Improvements	Advanced Comparisons Drill Improvements	Advanced Comparisons Better Sharing Automated Alerts	Proactive Alerts New Features User Education

3.2 Solution Requirement

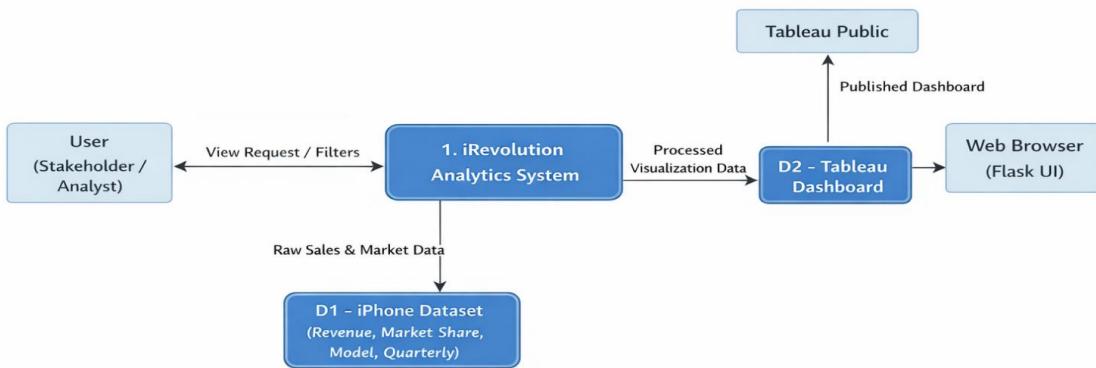
Functional Requirements:

- Interactive Tableau dashboard with 9 visualizations

- Flask REST APIs for KPI and product data
- Searchable product specification table
- 5-scene data story with narrative context
- Responsive single-page web application
- Data pipeline from Google Sheets to CSV

3.3 Data Flow Diagram

DFD Level 0 – iRevolution: iPhone Impact Analysis System



Data flows from Google Sheets → data_loader.py → CSV files → Tableau Public + Flask → Web Browser

3.4 Technology Stack

Component	Technology
Visualization	Tableau Public
Backend	Flask (Python)
Frontend	HTML, CSS, JavaScript
Data Processing	pandas, Tableau Public
Embed API	Tableau Embedding API v3
Fonts	Google Fonts (Inter, Outfit)

4. PROJECT DESIGN

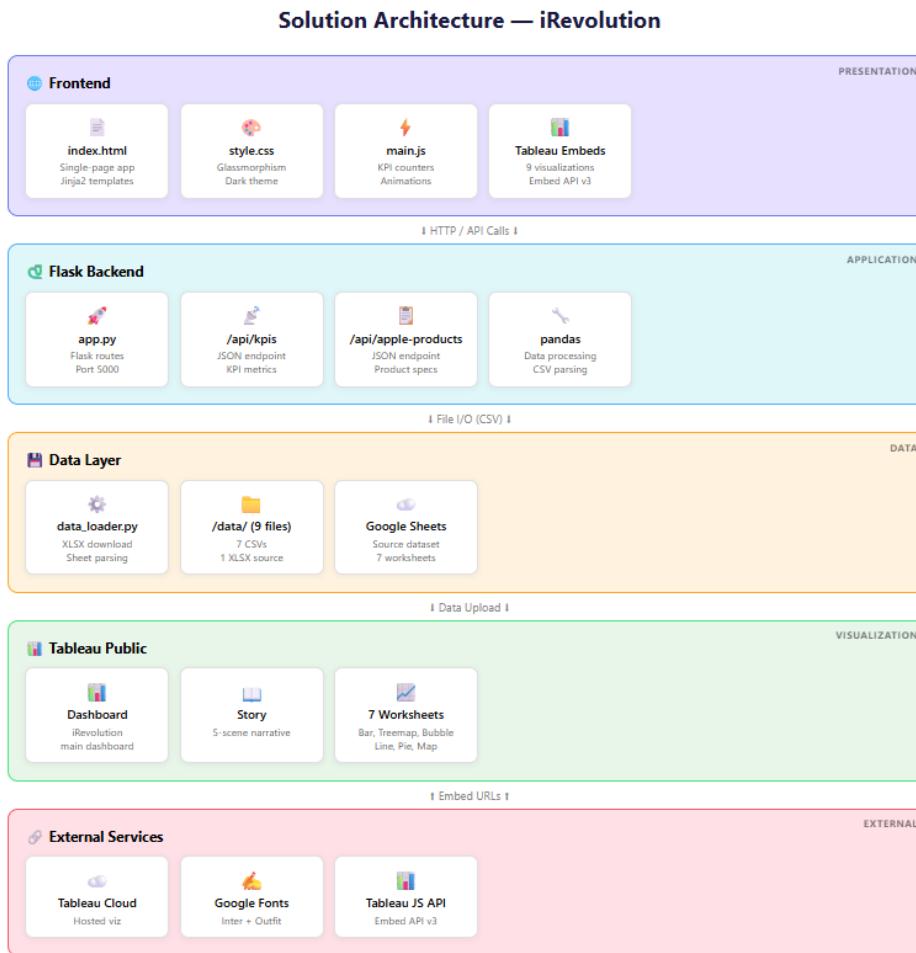
4.1 Problem Solution Fit

The solution addresses data fragmentation by consolidating 7 datasets into a unified web platform. Triggers include manual data compilation, lack of interactive analysis, and no web-based access. The solution provides Flask + Tableau integration with 9 visualizations.

4.2 Proposed Solution

A Flask-based web application integrated with Tableau Public that consolidates 7 datasets into 9 interactive visualizations, featuring an interactive dashboard, 5-scene data story, live KPI counters, and searchable product table.

4.3 Solution Architecture



Multi-layered: Presentation (HTML/CSS/JS) → Application (Flask) → Data (pandas/CSV) → Visualization (Tableau Public) → External Services (Tableau Cloud, Google Fonts)

5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

4 sprints of 5 days each. Total: 41 story points across 16 user stories.

Sprint 1: Data Pipeline Setup (10 pts)

Sprint 2: Flask Backend + Tableau Viz (10 pts)

Sprint 3: More Viz + Frontend (11 pts)

Sprint 4: Integration + Testing (10 pts)

6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing

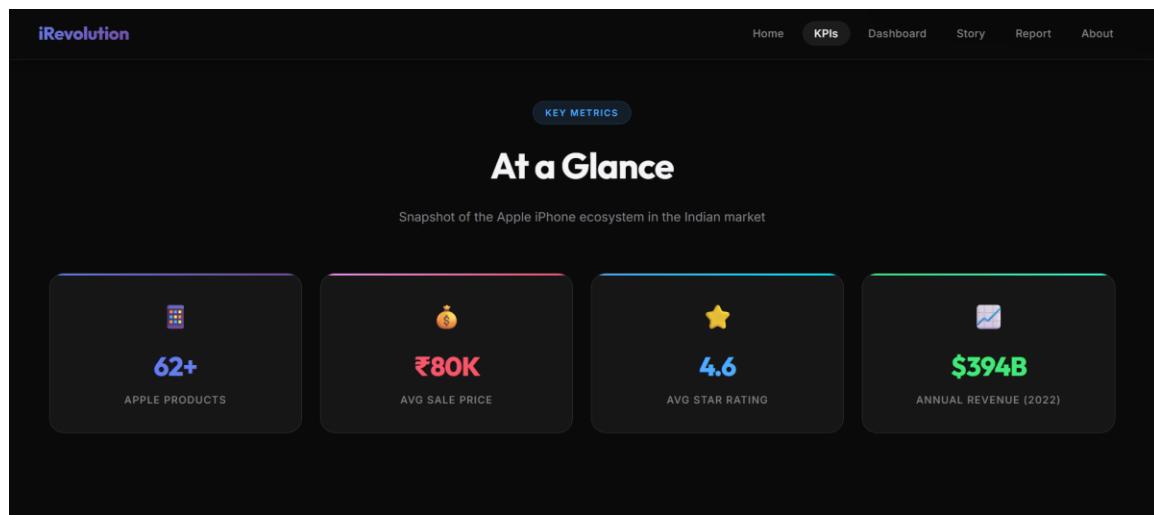
Testing covered: Data rendering (7 datasets), preprocessing validation, filter utilization, calculated fields, dashboard design (9 visualizations), and story design (5 scenes). All components verified functional.

7. RESULTS

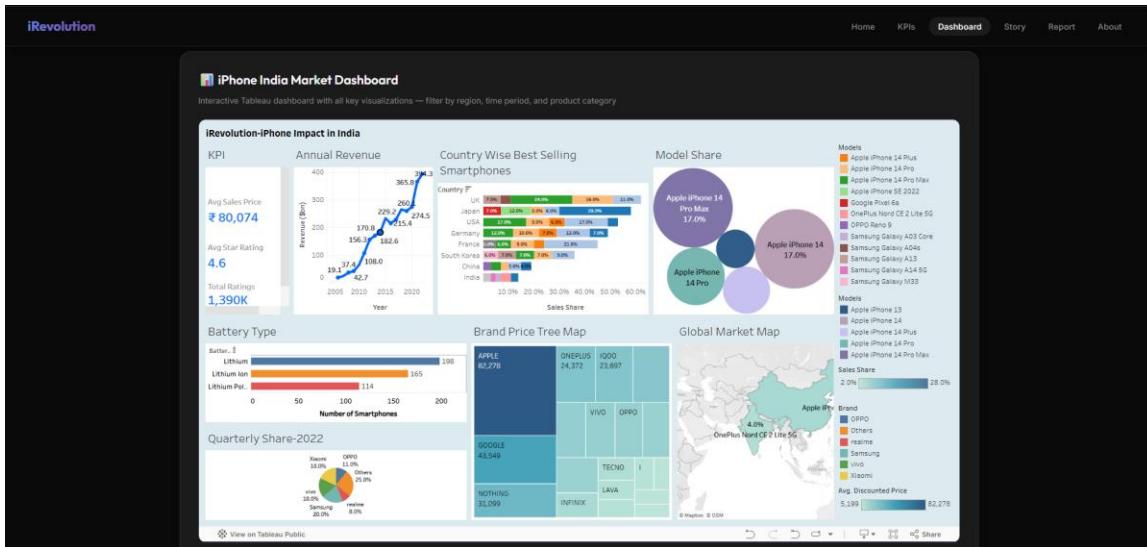
7.1 Output Screenshots



The screenshot shows the homepage of the iRevolution dashboard. The title "iRevolution" is at the top left, and the subtitle "Apple's iPhone Impact in India" is prominently displayed in the center. Below the subtitle, a description reads: "A data-driven exploration of market penetration, sales trends, user demographics, and the cultural impact of iPhone adoption across India — powered by Tableau visualizations." At the bottom are two buttons: "Explore Dashboard" and "View Story". The top navigation bar includes links for Home, KPIs, Dashboard, Story, Report, and About.



The screenshot shows the "At a Glance" section of the dashboard. It features four cards with key metrics: "62+" Apple products, "₹80K" Avg Sale Price, "4.6" Avg Star Rating, and "\$394B" Annual Revenue (2022). The top navigation bar includes links for Home, KPIs, Dashboard, Story, Report, and About. A "KEY METRICS" button is visible above the cards.



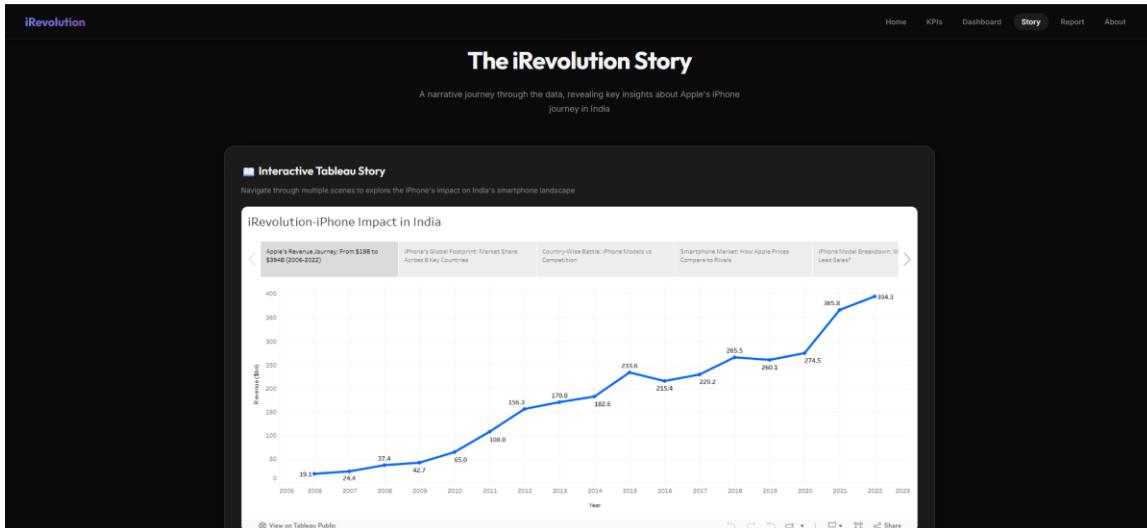
iRevolution

Apple Products – Model Specifications

Detailed specs comparison across iPhone models listed on Flipkart India

Search by product name...

#	PRODUCT NAME	SALE PRICE (₹)	MRP (₹)	DISCOUNT %	RATINGS	STARS	RAM
1	APPLE iPhone 8 Plus (Gold, 64 GB)	₹49,900	₹49,900	0%	3,431	★ 4.6	2 GB
2	APPLE iPhone 8 Plus (Space Grey, 256 GB)	₹84,900	₹84,900	0%	3,431	★ 4.6	2 GB
3	APPLE iPhone 8 Plus (Silver, 256 GB)	₹84,900	₹84,900	0%	3,431	★ 4.6	2 GB
4	APPLE iPhone 8 (Silver, 256 GB)	₹77,000	₹77,000	0%	11,202	★ 4.5	2 GB
5	APPLE iPhone 8 (Gold, 256 GB)	₹77,000	₹77,000	0%	11,202	★ 4.5	2 GB
6	APPLE iPhone 8 Plus (Silver, 64 GB)	₹49,900	₹49,900	0%	3,431	★ 4.6	2 GB
7	APPLE iPhone 8 Plus (Space Grey, 64 GB)	₹49,900	₹49,900	0%	3,431	★ 4.6	2 GB
8	APPLE iPhone 8 (Space Grey, 256 GB)	₹77,000	₹77,000	0%	11,202	★ 4.5	2 GB



8. ADVANTAGES & DISADVANTAGES

Advantages:

- Interactive drill-down with Tableau filters
- Real-time KPI computation via Flask API
- Responsive design works on all devices
- 7 datasets consolidated in one platform
- Premium, visually appealing UI

Disadvantages:

- Requires internet for Tableau Public embeds
- Static CSV data (not real-time updates)
- Limited to Tableau Public's free tier constraints

9. CONCLUSION

The iRevolution project successfully demonstrates how Tableau Public and Flask can be integrated to create a comprehensive, interactive data analytics platform. By consolidating 7 datasets into 9 visualizations, the project provides actionable insights about Apple's iPhone impact in India — covering market penetration (11.6M to 232M units), revenue growth (\$19.1B to \$394.3B), competitive landscape, and user preferences. The premium web interface makes these insights accessible to any stakeholder with a browser.

10. FUTURE SCOPE

- Real-time data feeds from market research APIs
- User authentication and personalized dashboards
- Predictive analytics using machine learning models
- Deployment to cloud platforms (AWS/Heroku)
- Additional markets beyond India

11. APPENDIX

Source Code:

- app.py — Flask application
- data_loader.py — Data pipeline
- templates/index.html — Frontend

- static/css/style.css — Styling
- static/js/main.js — JavaScript

Dataset Link:

<https://docs.google.com/spreadsheets/d/1p1ZWaYcEuFl5UNFcmNvpkXi3JnoHamut>

Tableau Public Link:

https://public.tableau.com/views/iRevolution_17710788040970/iRevolution

GitHub & Project Demo Link:

<https://github.com/Manohar-jatla/iRevolution-Apple-iPhone-s-Impact-in-India>