

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.

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1.2 Purpose

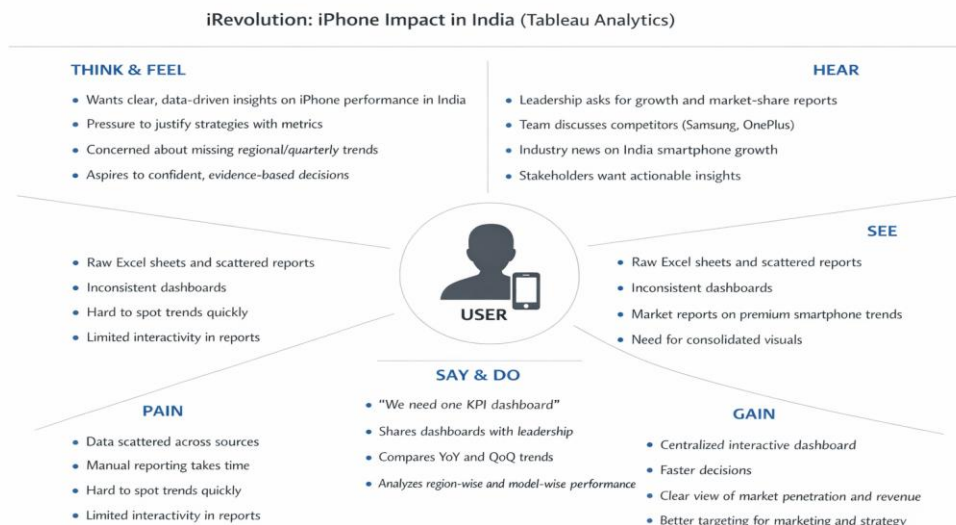
The purpose of this project is to investigate and visualize the influence of Apple's iPhone on the Indian market. Using Tableau's data visualization capabilities, the project explores market penetration, sales trends, user demographics, and cultural impact of iPhone adoption in India — providing insights 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

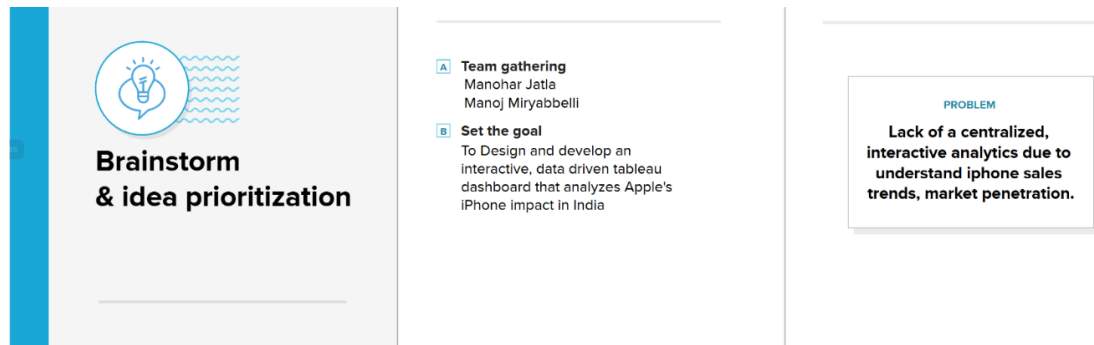
The Indian smartphone market lacks a comprehensive, interactive platform that consolidates Apple iPhone market data from 7 different datasets into a unified analytical view with interactive drill-down capabilities.

2.2 Empathy Map Canvas



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

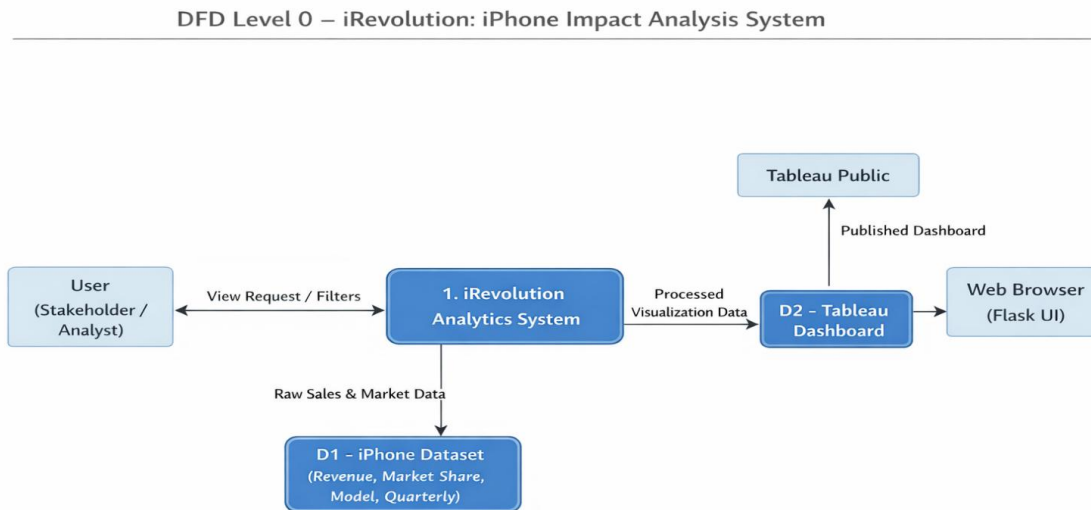
3.2 Solution Requirement

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



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

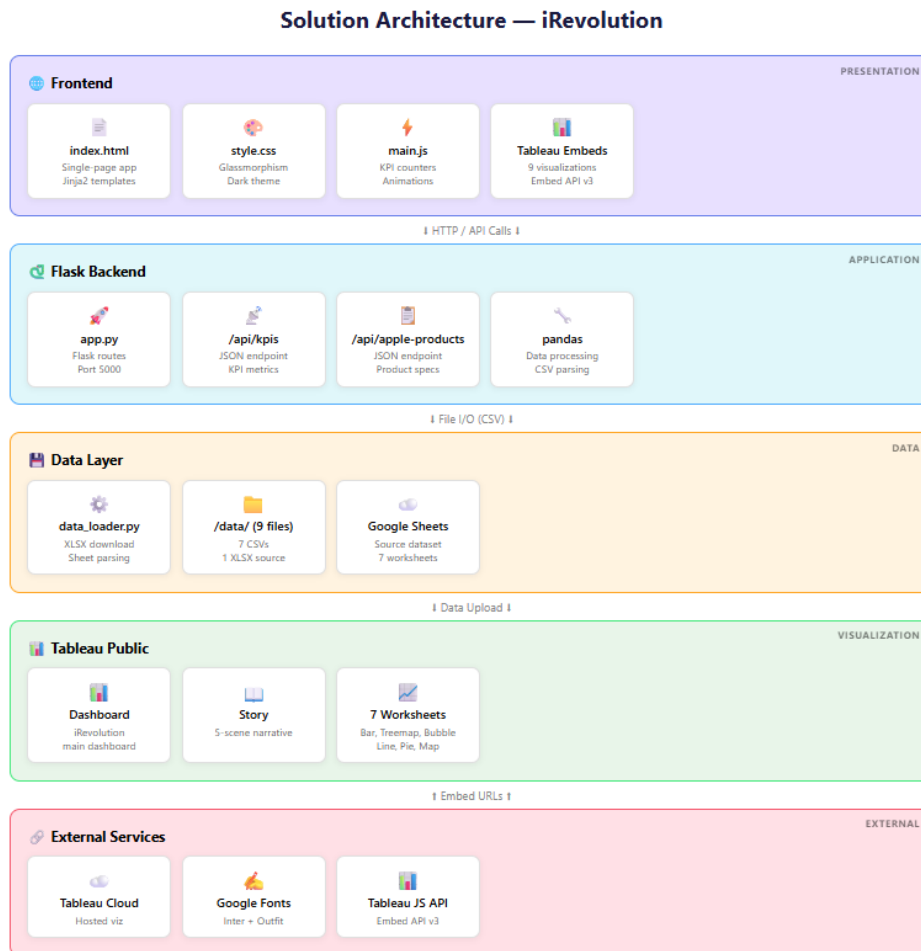
4.1 Problem Solution Fit

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)

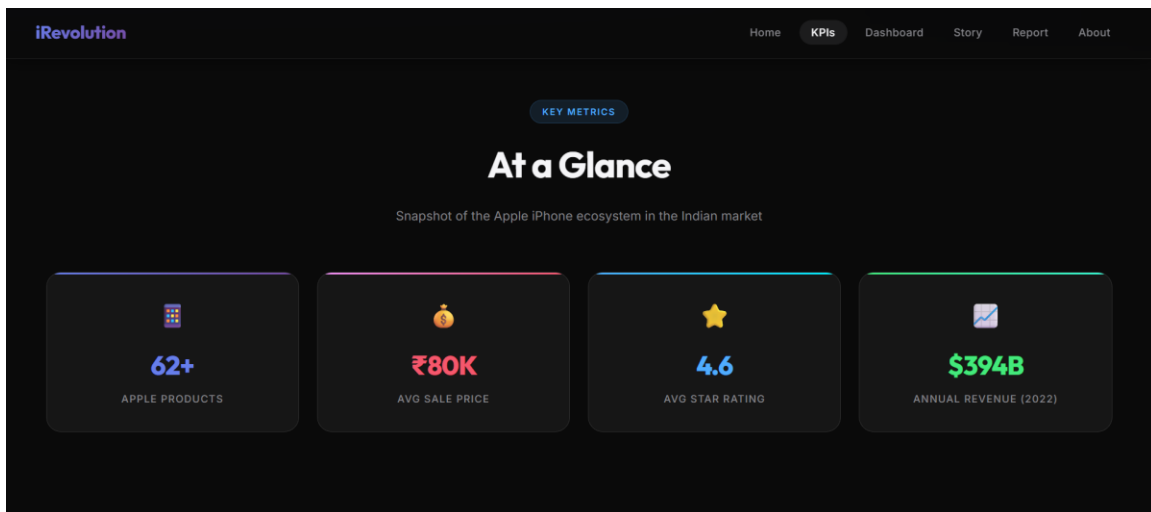
6. FUNCTIONAL AND PERFORMANCE TESTING

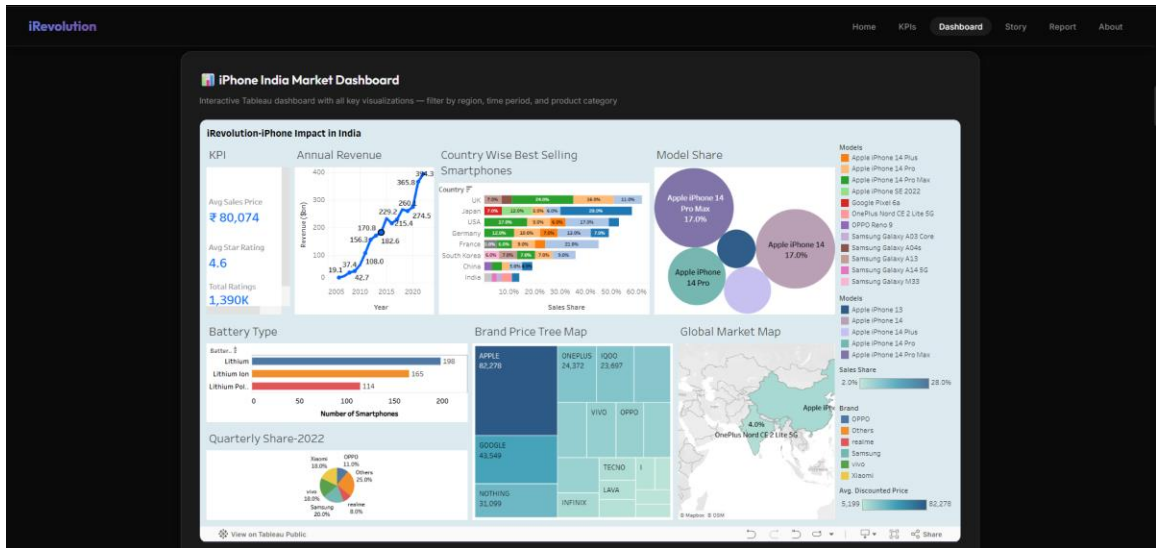
6.1 Performance Testing

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





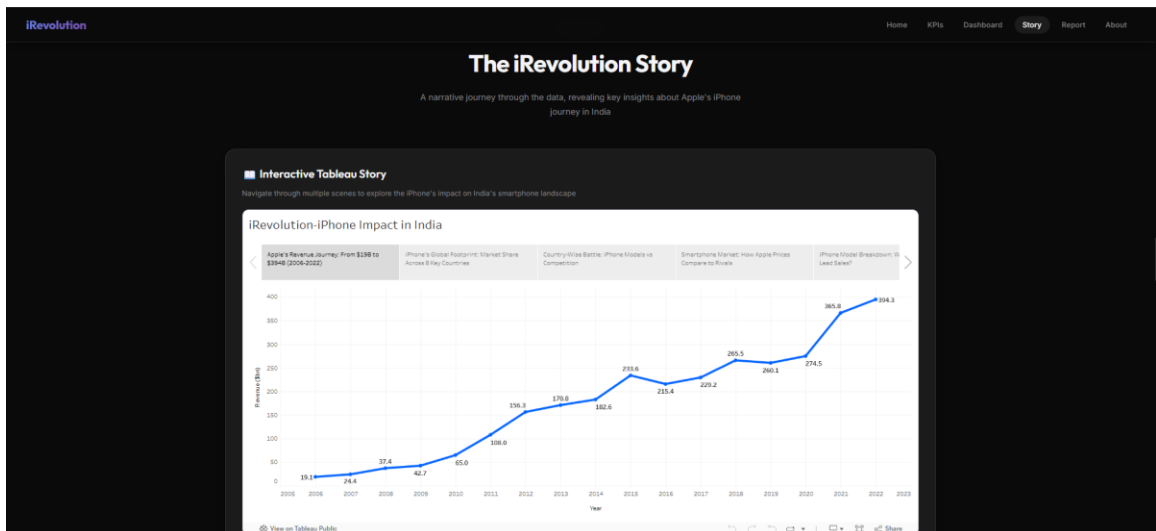
iRevolution Home KPIs Dashboard Story **Report** About

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
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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>