

iRevolution: A Data-driven Exploration of Apple's iPhone Impact in India using Tableau

Team ID: LTVIP2026TMIDS24238

1. INTRODUCTION

1.1 Project Overview

The iRevolution project aims to explore and analyze the impact of Apple's iPhone in the Indian market using powerful visual analytics. By leveraging Tableau, this project brings together multiple dimensions of iPhone-related data such as pricing, specifications, reviews, discounts, and market share to deliver clear, interactive dashboards. It transforms complex datasets into intuitive visual stories, helping stakeholders derive insights faster and more effectively.

1.2 Purpose

The main purpose of this project is to assist product analysts, marketing teams, and decision-makers in understanding how various iPhone models perform across different Indian regions and quarters. By using a data-driven approach, the project provides a platform to explore trends in sales, user preferences, and key performance indicators, thus encouraging smarter decision-making in pricing, promotion, and feature planning.

2. IDEATION PHASE

2.1 Problem Statement

Customer Problem Statement

I am	I'm trying to	But	Because	Which makes me feel
Product strategist at Apple India	Identify which iPhone features (like display size, battery type) drive higher adoption in urban Indian markets	I find it hard to compare regional sales trends and share patterns in one view	The current data is scattered across Excel sheets and lacks narrative insights	Disconnected from real user behavior and uncertain about feature decisions
Marketing lead responsible for quarterly iPhone campaigns	Evaluate Apple's quarterly performance across India to plan region-specific promotions	I don't have a unified, visual way to correlate specs with sales in different regions	The current dashboards are generic and not tailored to the Indian market context	Frustrated and unsure how to justify localized ad spend
Senior executive preparing a product performance review for India	Tell a compelling story about Apple's year-on-year growth and market impact	The visuals I receive are dry numbers and static charts without strategic narrative	There's no data storytelling layer that connects KPIs to actionable insights	Disengaged from the data and worried the review won't influence decision-makers
Market analyst supporting Apple's regional pricing team	Explore how battery type and display specs influence average price perception among Indian consumers	I can't isolate or visualize these patterns quickly using current tools	Our current reports are tabular and not built for interactive analysis	Stuck in a manual workflow that delays insights

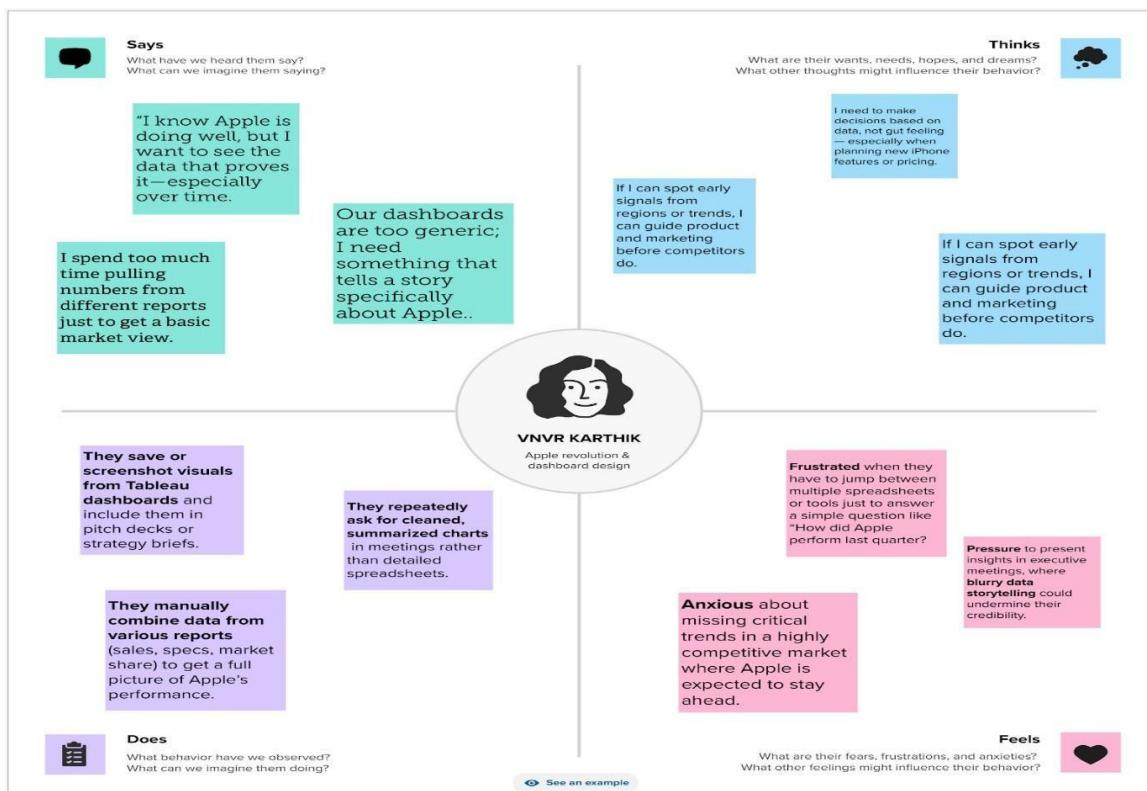
miro

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Problem Statement (PS)	I am	I'm trying to	But	Because	Which makes me feel
PS-1	a product strategist	find which iPhone features drive adoption in urban India	data is scattered and not visual	there's no unified dashboard	unsure about feature decisions
PS-2	a marketing lead	track regional performance for iPhone campaigns	I can't compare trends across quarters and states	dashboards aren't India-specific	frustrated and uncertain on promotions
PS-3	Senior executive	present iPhone growth in India clearly	reports lack storytelling and visual appeal	there's no narrative-driven dashboard	disengaged and ineffective
PS-4	market analyst	link features like battery/display to price	I can't visualize patterns easily	tools are static and not interactive	slowed down and stuck

2.2 Empathy Map Canvas



Team Members: Bandla Sathvik, Kandimalla Anitha, Katuri Siri Vennela, Kona Praveen Kumar Babu

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2.3 Brainstorming

IREVOLUTION

1 Define your problem statement
What problem are you trying to solve? Frame your problem as a **How Might We** statement. This will be the focus of your brainstorm.

⌚ 5 minutes

PROBLEM
How might we [your problem statement]?

How might we help
Apple and stakeholders explore iPhone sales, features, and market performance in India more effectively using interactive dashboards and storytelling?

Key rules of brainstorming
To run a smooth and productive session

- Stay in topic.
- Defer judgment.
- Go for volume.
- Encourage wild ideas.
- Listen to others.
- If possible, be visual.

Need some inspiration?
See a finished version of this template to kickstart your work.
[Open example →](#)

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1

Brainstorm

Write down any ideas that come to mind that address your problem statement.

10 minutes

State-wise
Create an interactive map showing iPhone sales state-wise in India.

Build story dashboards explaining Apple's quarterly growth.

Visualize price vs. battery type preferences among Indian consumers.

Add toggle to view premium models only (iPhone 13+, 14 Pro).

Highlight pricing trends across flagship launches.

Use Tableau parameters to simulate different market scenarios.

Include competitor comparison (Xiaomi vs Apple vs Samsung).

2

Brainstorm

Write down any ideas that come to mind that address your problem statement.

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Use Tableau parameters to simulate different market scenarios.

Include competitor comparison (Xiaomi vs Apple vs Samsung).

3

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

20 minutes

State-wise sales map

Tier 1 vs Tier 2 city performance

North vs South India breakdown

Battery type vs Avg Price

Display size vs Market Demand

RAM/ Camera vs Price band

Year-wise growth timeline

Quarterly market share donut + bar combo

Executive summary with KPIs

AR-based visualizations

Voice-activated insights

Customer sentiment analysis overlay

4

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3. REQUIREMENT ANALYSIS

3.1 Customer Journey map

Stage	Need	Action	Touchpoint	Pain Point	Opportunity
Discover	Wants iPhone market trends	Searches Excel/market data	Emails, Files	Data is scattered	Single dashboard entry point
Explore	Needs regional & feature insights	Browses charts manually	Spreadsheets, BI tools	Time-consuming	Filter-enabled Tableau dashboard
Engage	Wants to compare specs vs pricing	Tries custom visualizations	Excel formulas	Lacks interactivity	Pre-built price/spec dashboard
Decide	Prepares pitch for leadership	Screenshots graphs	Presentations	Dry data storytelling	Use Tableau story points with captions

3.2 Solution Requirement

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Interactive KPI Dashboard	Displays revenue, units sold, active users, and discount percentage filtered by year and region.
FR-2	Model & Spec Analytics	Allows users to compare iPhone models based on features like display size, battery type, RAM, and camera.
FR-3	Quarterly Market Share Visualization	Displays brand-wise share in India across four quarters using donut and bar charts.
FR-4	Pricing Pattern Insights	Visualizes average price distribution and discount trends by feature and battery type.
FR-5	Geo-Map Representation	Shows Apple's regional performance across Indian states.
FR-6	Story-Based Dashboard Navigation	Sequential story view explaining Apple's performance journey with narrative captions.

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Non-functional Requirements:

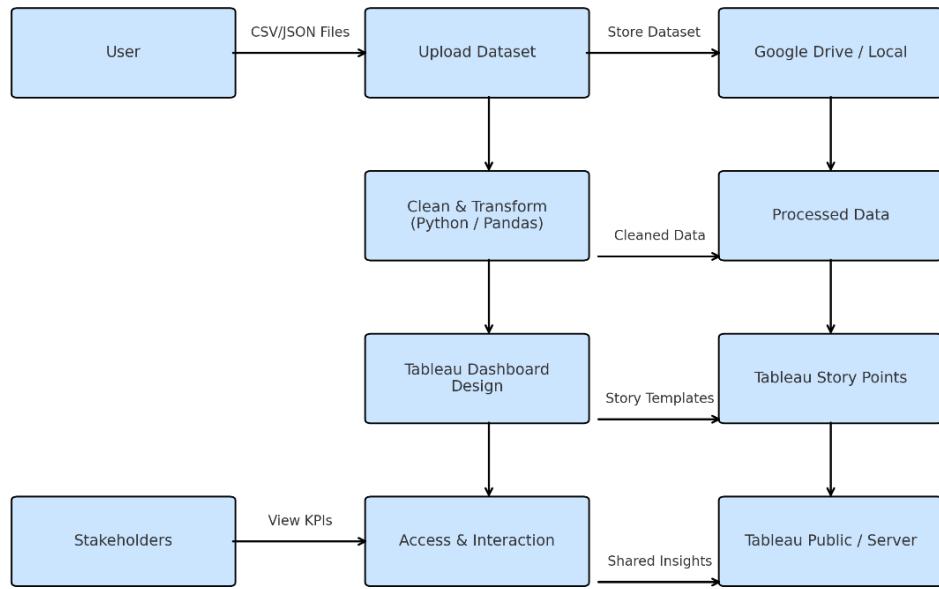
Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	Performance	Dashboards must load within 3–5 seconds even with filters applied.
NFR-2	Scalability	The framework should support future data addition (e.g., new models or regions).
NFR-3	Responsiveness	Dashboard layout should be usable on laptops and projectors during presentations.
NFR-4	Performance	The interface must be simple, readable, and require no technical background to explore.
NFR-5	Usability	Use a dark theme with eye-comfort colors and clear legends to reduce user fatigue.
NFR-6	Data Accuracy	Ensure calculations (KPIs, averages, comparisons) are correctly validated against source files.

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3.3 Data Flow Diagram



3.4 Technology Stack

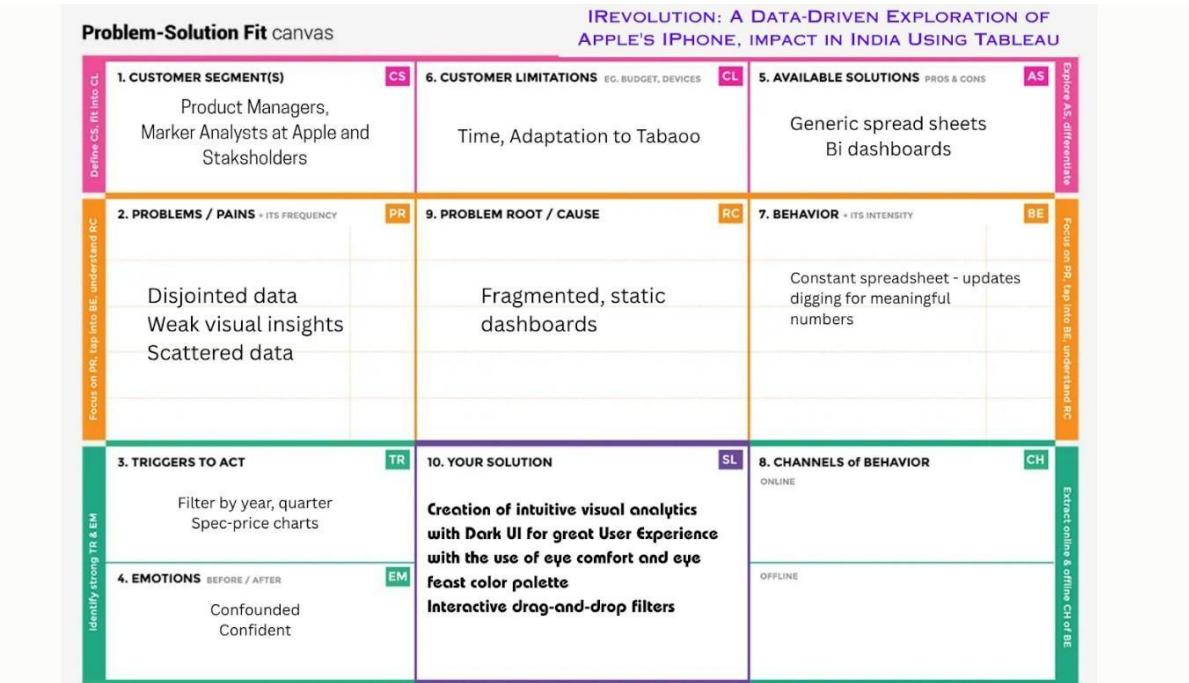
Component	Tool/Technology	Purpose
Data Source	CSV, JSON files	Raw smartphone sales and specs data
Visualization	Tableau Desktop	Creating interactive dashboards and stories
Storage	Google Drive / Local	Storing raw and processed datasets
Collaboration	Google Docs, Slack	Team communication and report writing
Deployment	Tableau Public / Server	Dashboard sharing and stakeholder access

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4. PROJECT DESIGN

4.1 Problem Solution Fit



4.2 Proposed Solution

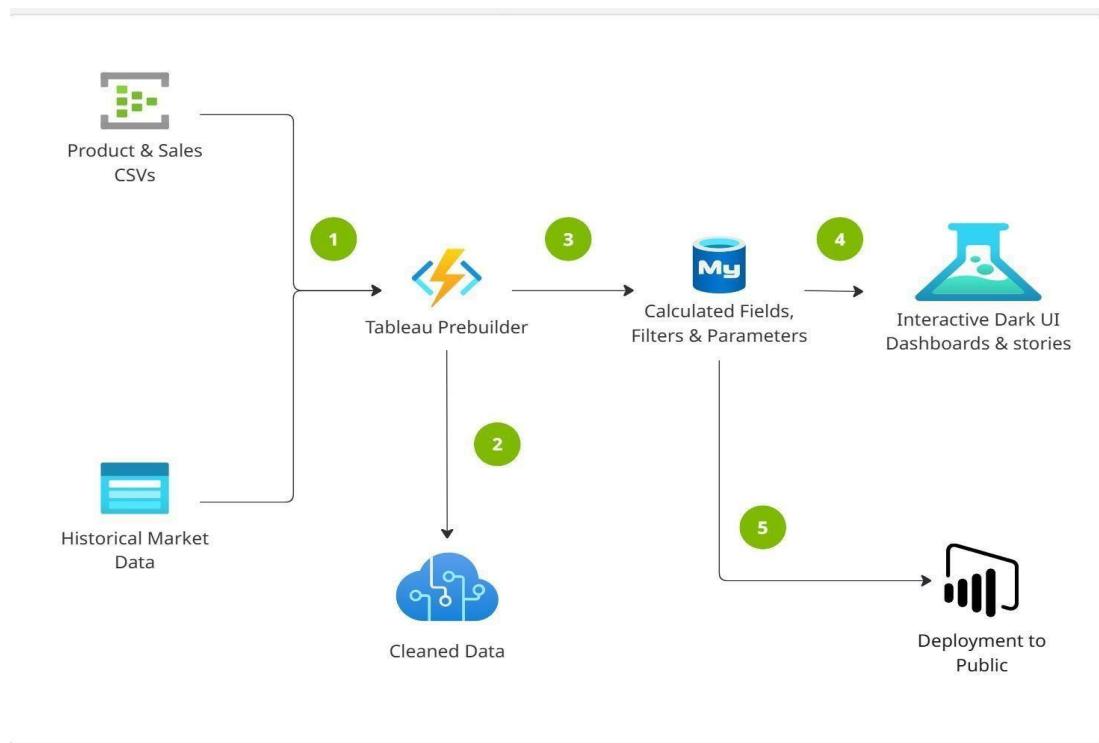
S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Apple and its stakeholders lack a centralized, interactive, and story-driven way to understand iPhone's feature-wise, region-wise, and price-wise impact in India. This limits confident, data-backed decisions.
0.	Idea / Solution description	Creation of intuitive visual analytics with Dark UI for great User experience with the use of eye comfort and eye feast color palette Interactive drag-and-drop filters
0.	Novelty / Uniqueness	Instead of traditional static reports, this solution uses story-driven dashboards with real-time interactivity. The dark UI is thoughtfully chosen to reduce eye strain and improve focus. KPIs are dynamically aligned to user-selected filters — not just fixed charts.

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0.	Social Impact / Customer Satisfaction	Helps product and marketing teams make better decisions that align with consumer needs, especially in varied Indian markets. Encourages a data-first mindset, improves visibility, and cuts analysis time
0.	Business Model (Revenue Model)	This solution can be packaged as a subscription-based internal tool or consultancy model where other OEMs or market agencies can adopt the dashboard framework tailored to their brand data.
0.	Scalability of the Solution	The dashboard framework is scalable to other countries, brands, or product categories. Only the dataset and labels need to be updated — the core logic and layout remain reusable across contexts.

4.3 Solution Architecture



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5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

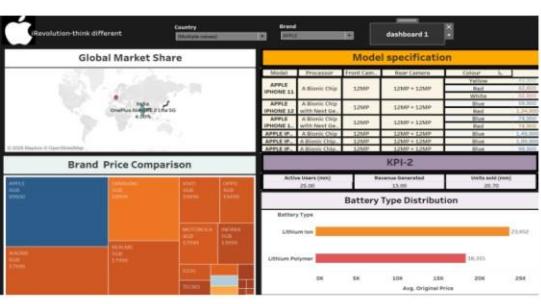
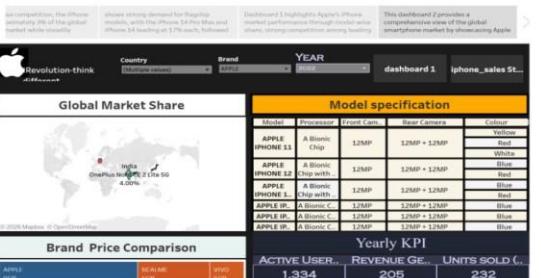
Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Data Collection	USN-2	As a user, I can load data into the processing environment	1	High	All
Sprint-2	Data Preprocessing	USN-3	As a user, I can handle missing values in the dataset	3	Medium	Katikolu Prajitha
Sprint-2	Data Preprocessing	USN-4	As a user, I can encode or map categorical variables appropriately	2	Medium	Katikolu Prajitha
Sprint-3	Making Graphs / Visualizations	USN-5	As a user, I can build the initial model based on processed data	5	High	Mupparaju Yedukondalu, Meesala Sai
Sprint-4	Dashboard & Stories	USN-6	Dark UI with eye-feasted color palette	6	High	Kodali Madhu Kanth
Sprint-5	Report & Documentation	USN-7	The step-by-step guide documentation	7	Medium	All

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6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing

S.No.	Parameter	Screenshot / Values
1.	Data Rendered	 A screenshot of a Tableau data grid titled "Product Name". It lists several iPhone models with their respective Sale Price, Discount Percentage, Number Of Ratings, Number Of Reviews, and Star Rating. The data includes rows for iPhone 11 Pro Max, iPhone 11 Pro, iPhone 11, iPhone Xs Max, iPhone Xs, iPhone Xr, iPhone X, iPhone 8 Plus, iPhone 8, iPhone 7 Plus, iPhone 7, and iPhone 6s Plus.
2.	Data Preprocessing	 A screenshot of the Tableau data source editor. It shows the "Tables" section with various measures listed: Brand, Product Name, Product URL, Ram, Model, Measure Names, Discount Percentage, Mrp, Number Of Ratings, Number Of Reviews, Sale Price, Star Rating, and a calculated field "Upc". Below this, the "Measure Values" section contains calculated fields like SUM(Discount Pe., SUM(Mrp), etc.
3.	Utilization of Filters	 A screenshot of a Tableau filter interface. It shows a "Filters" section with a dropdown for "Measure Names" set to "Upc: MOBEXRGV..". To the right, there are two dropdowns: one for "Brand" which is currently set to "Apple" and another for "Model" which is currently set to "iPhone 11 Pro Max".
4.	Calculation fields Used	 A screenshot of a Tableau dashboard titled "KPI". It features a single card with the following data: Brand (Apple), Discount Percentage (10%), Mrp (₹12999), Sale Price (₹11699), and Star Rating (4.6).
5.	Dashboard design	 A screenshot of a complex Tableau dashboard titled "dashboard 1". It includes several cards: "Global Market Share" (map of India with data for OnePlus, iPhone, Samsung, and Vivo), "Brand Price Comparison" (stacked bar chart comparing prices of various brands), "Model specification" (table of iPhone model details), "KPI-2" (table of KPIs), and "Battery Type Distribution" (bar chart showing battery types).
6.	Story Design	 A screenshot of a Tableau dashboard titled "iphone_story". It features a card for "Global Market Share" (map of India with data for OnePlus, iPhone, Samsung, and Vivo) and a "Model specification" table for iPhone 11 Pro Max. The dashboard also includes a "YEAR" filter and a "dashboard 1" header.

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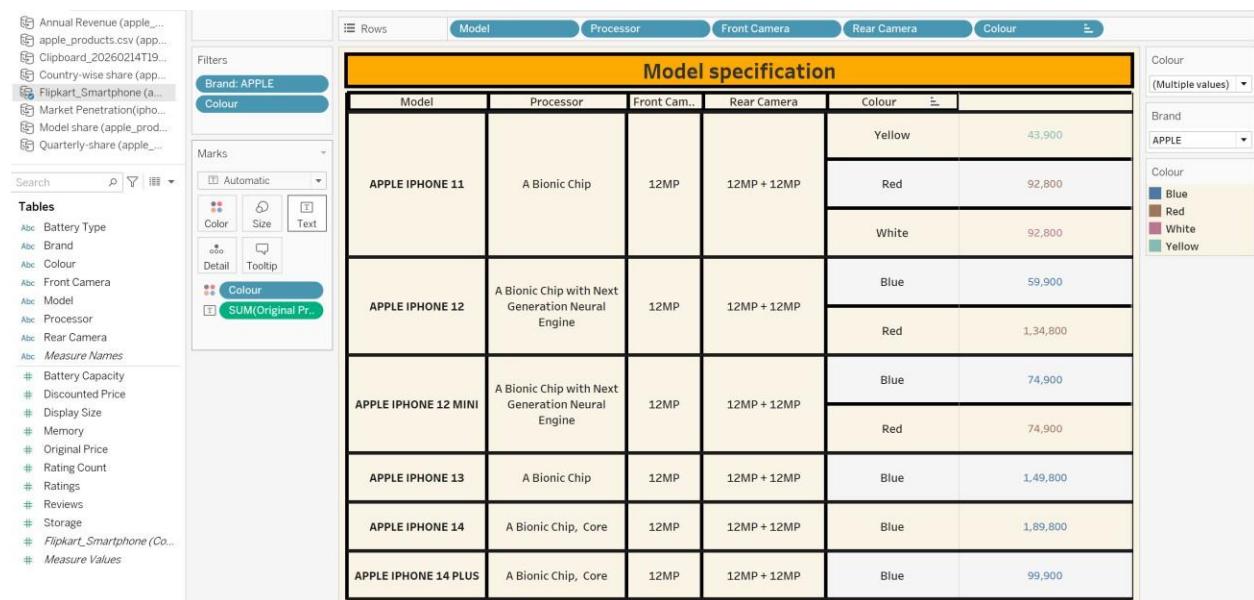
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7. RESULTS

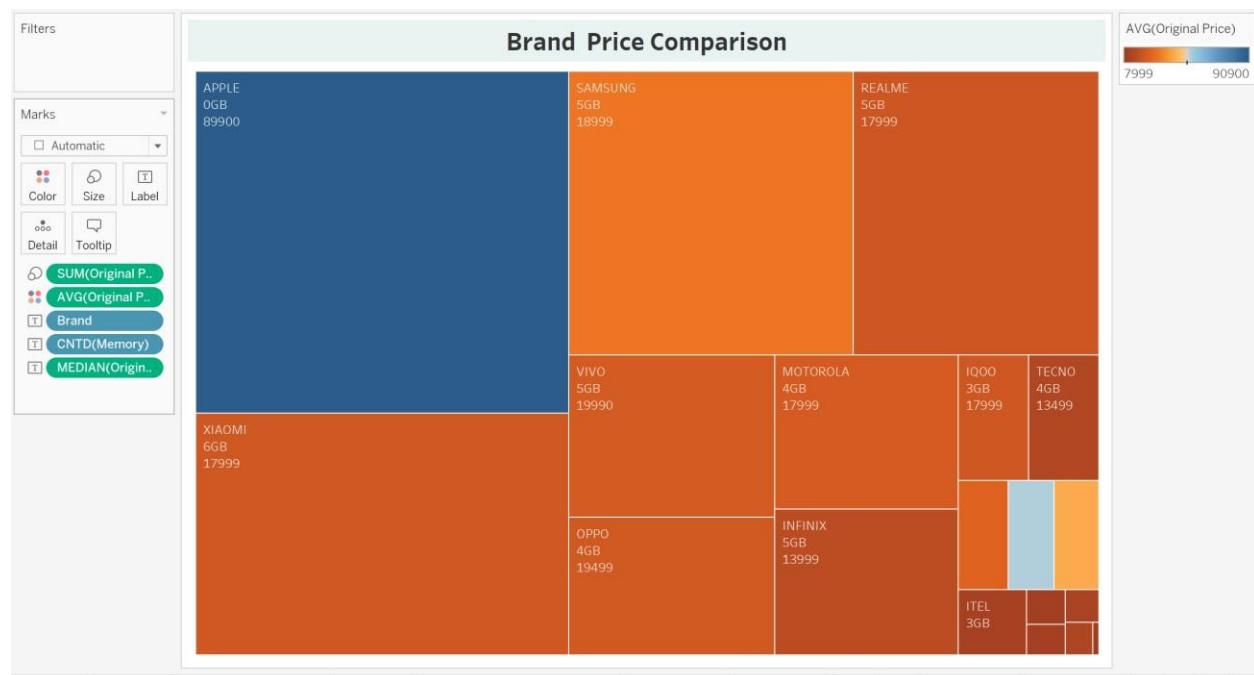
7.1 Output Screenshots

WORKSHEETS:

Model Specification-



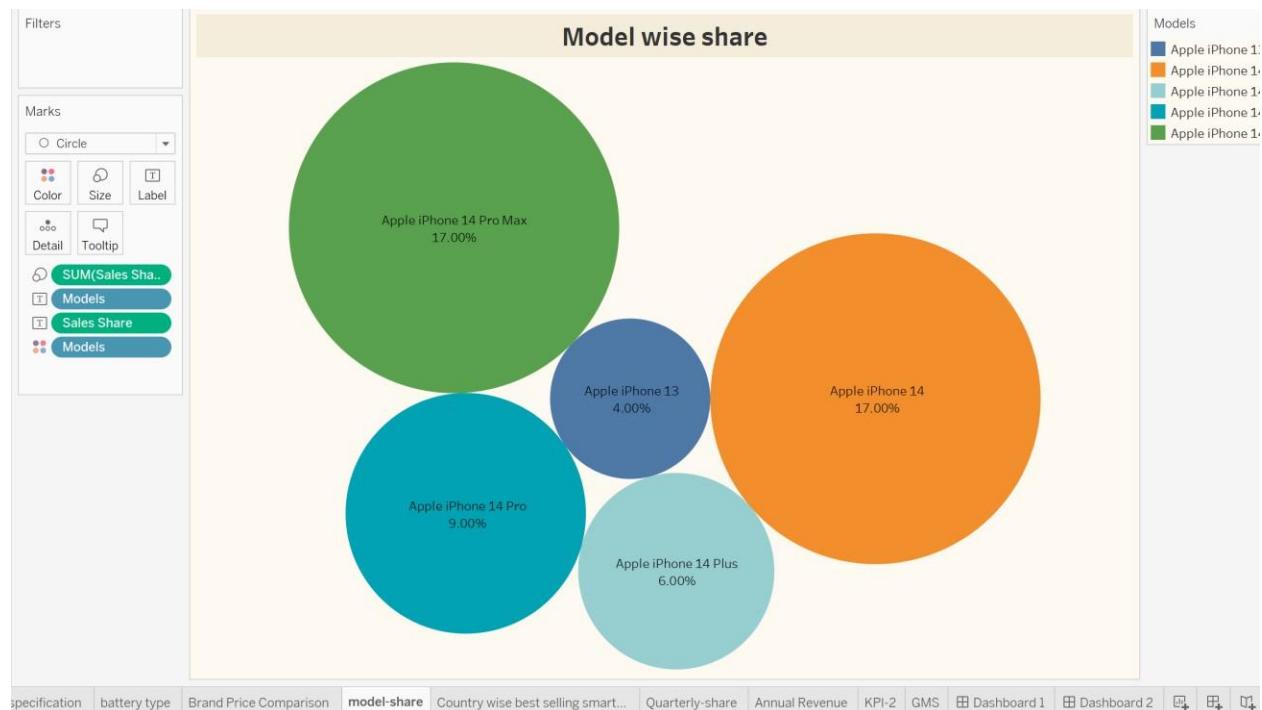
BrandPriceComparsion



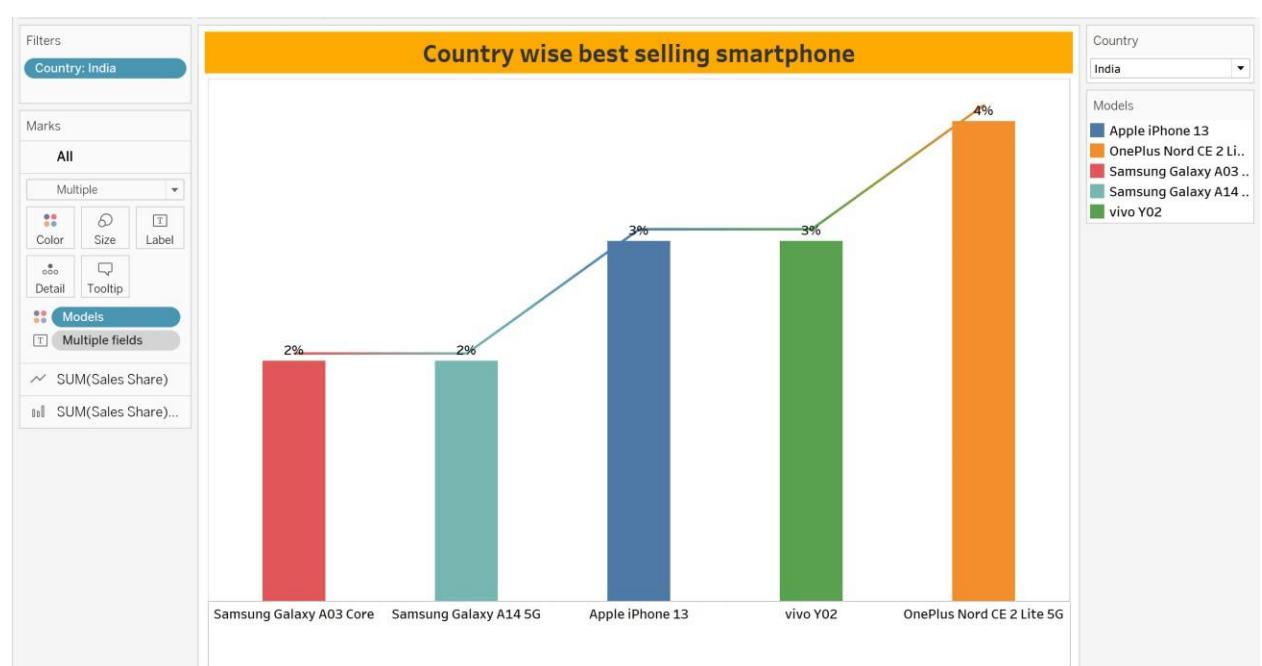
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ModelwiseShare



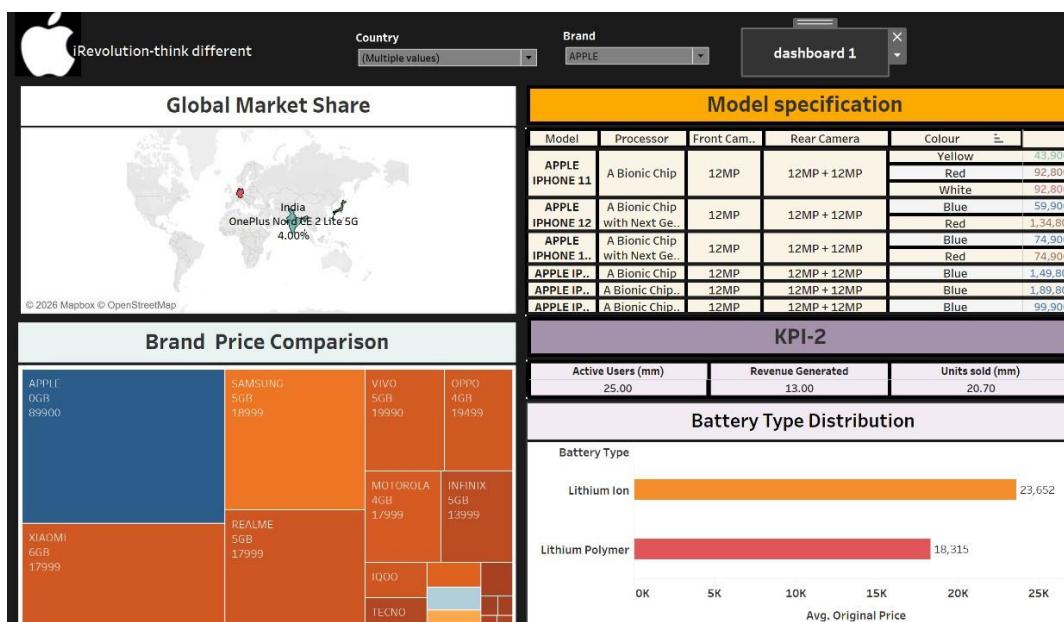
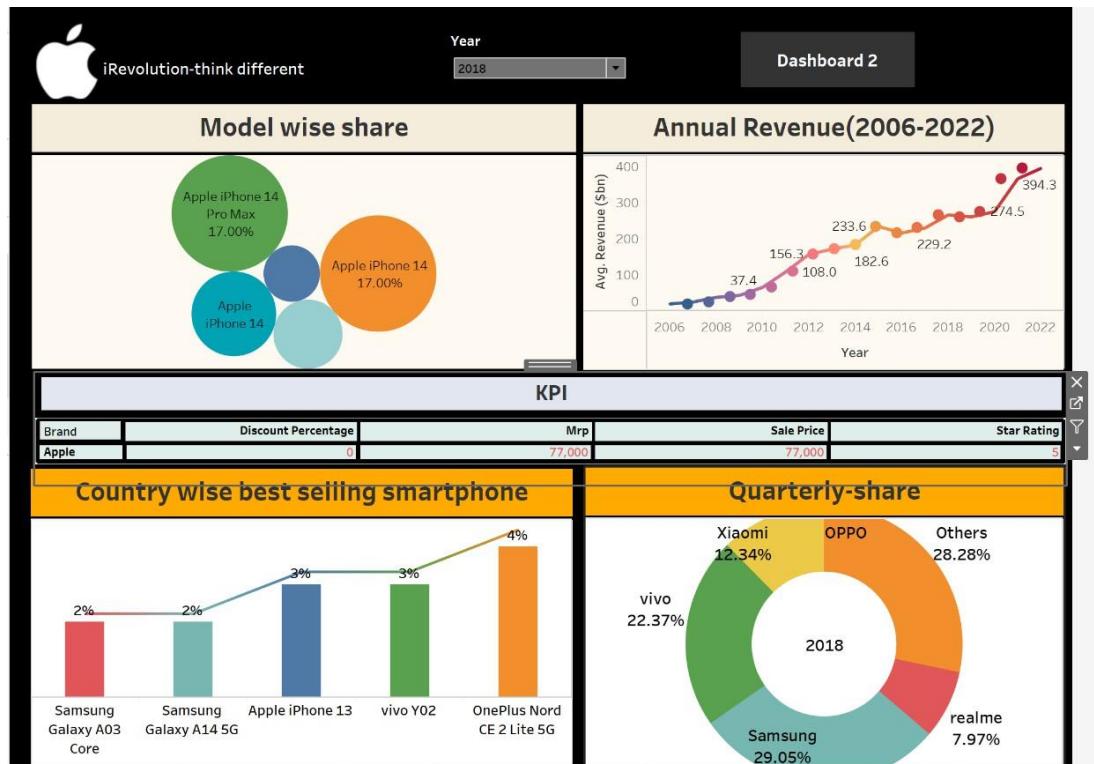
Countrywisebestselling



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DASHBOARDS:

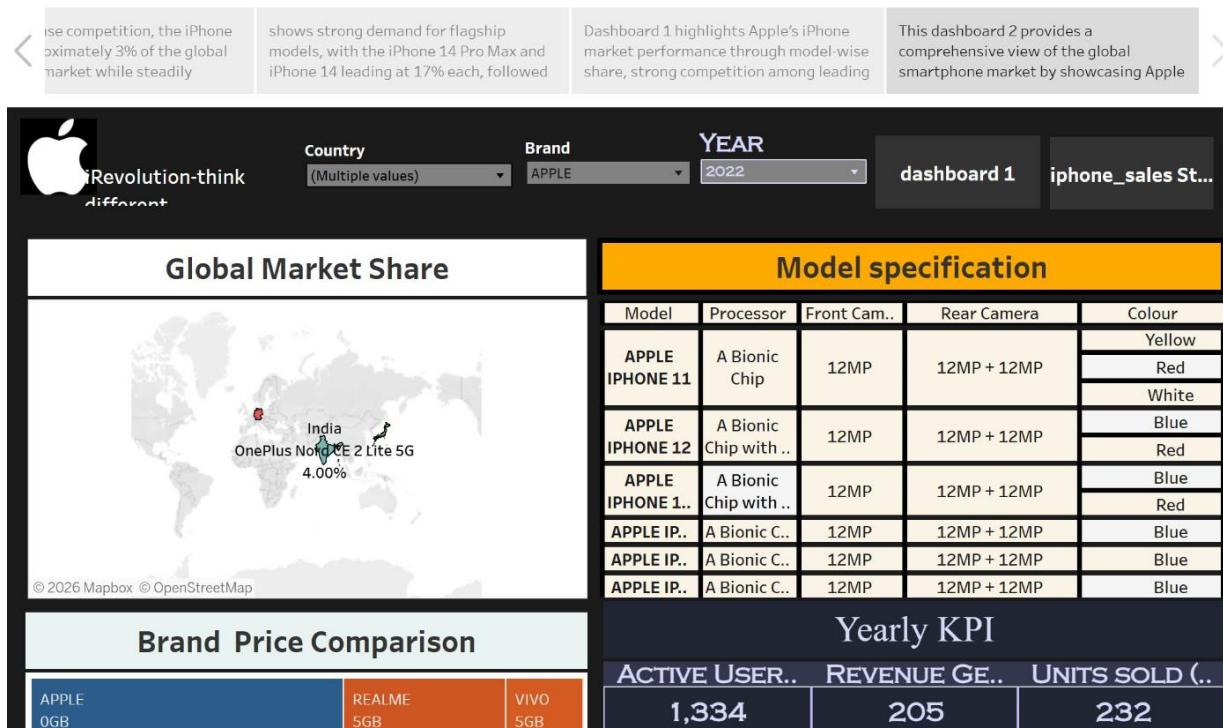


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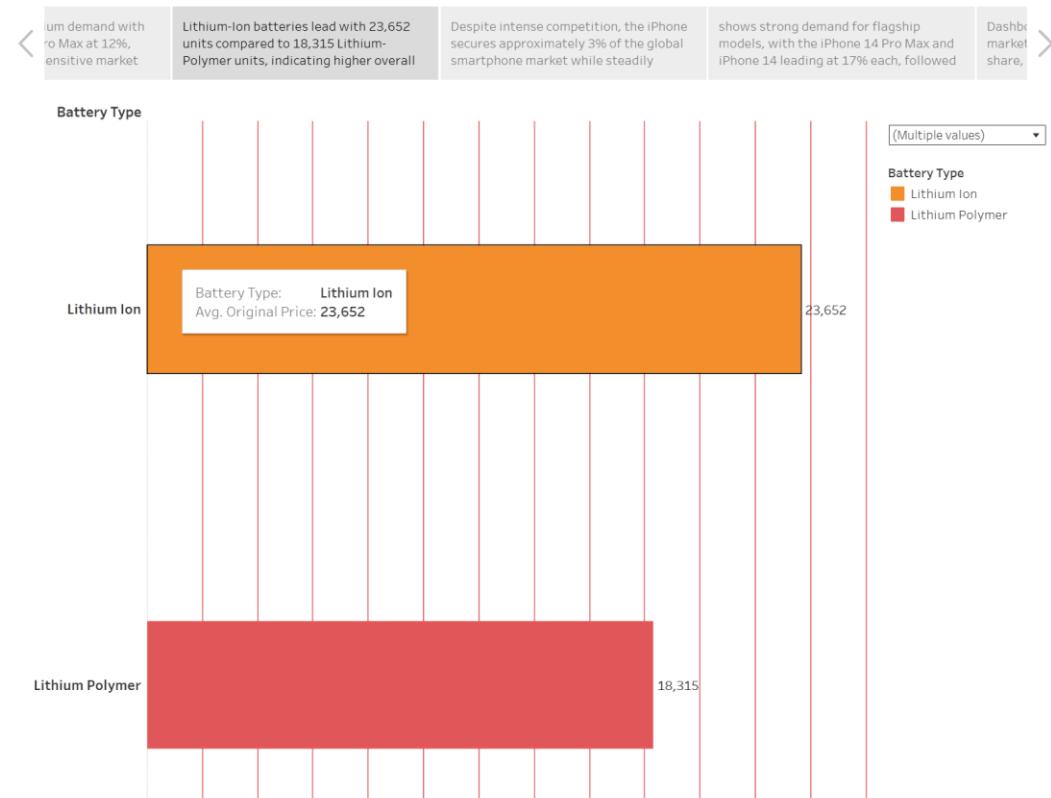
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STORY:

iphone_story



iphone_story

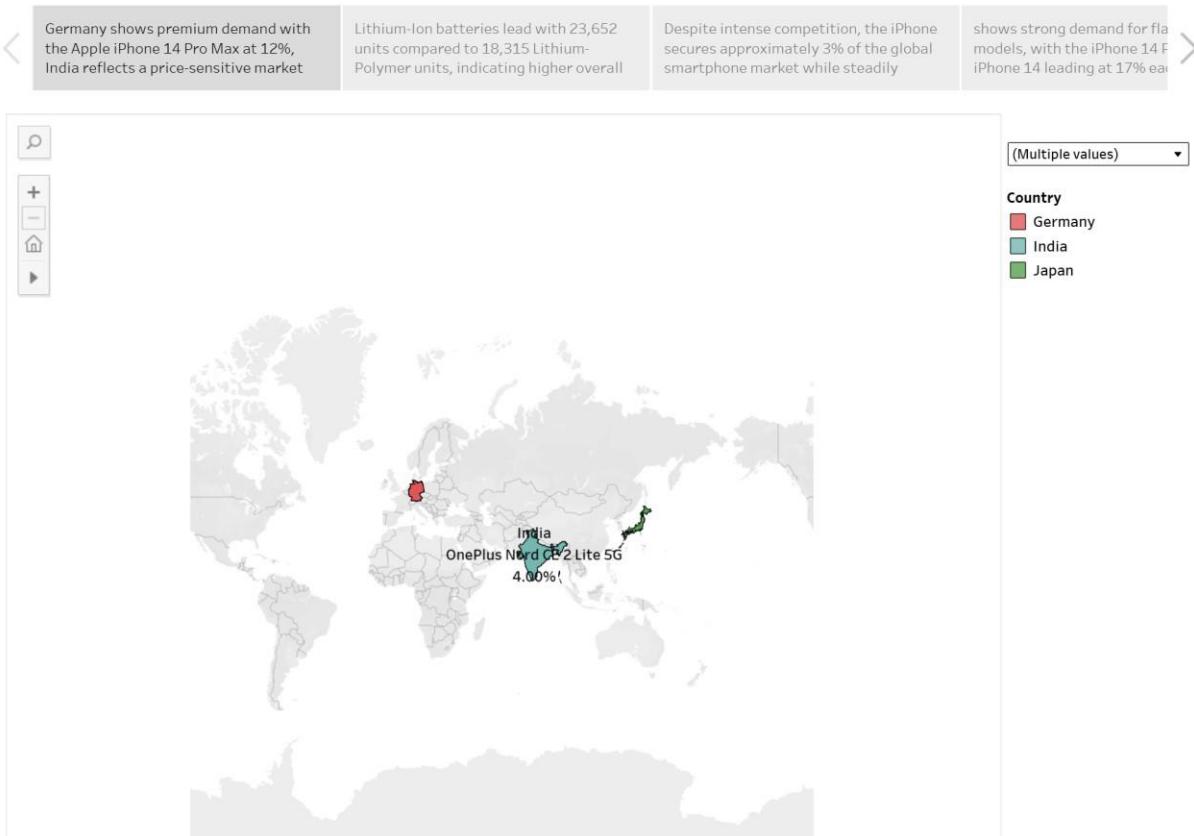


Team Members: Bandla Sathvik, Kandimalla Anitha, Katuri Siri Vennela, Kona Praveen Kumar Babu

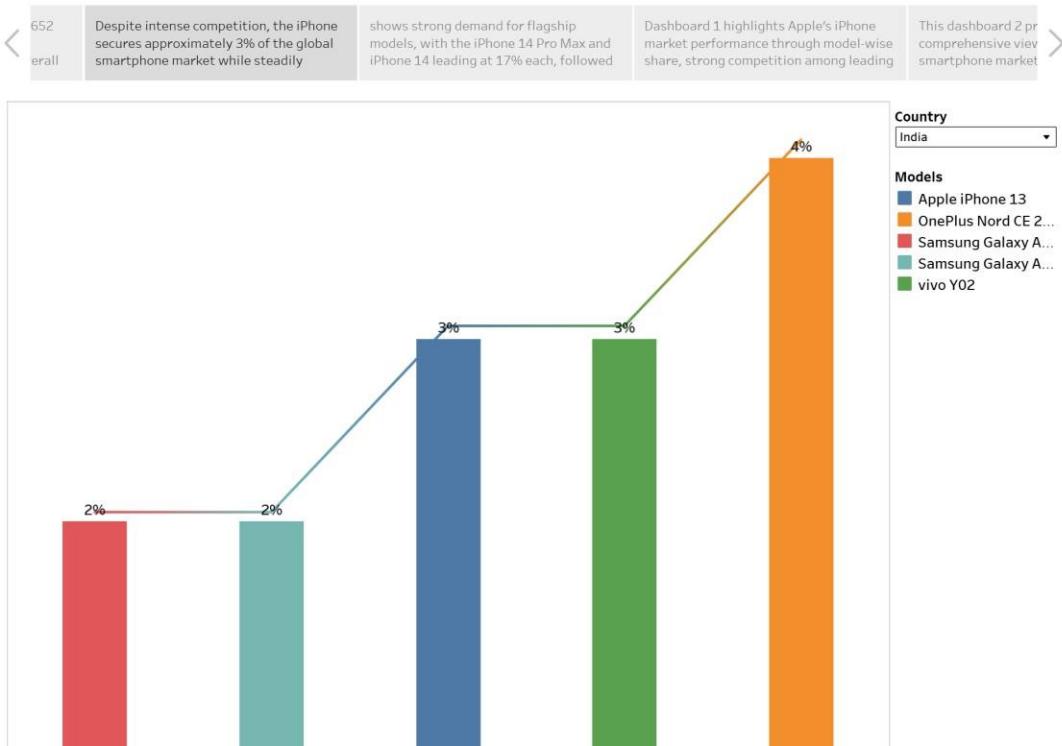
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iphone_story



iphone_story



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FLASK AND UI INTEGRATION:

About iPhone

The Apple iPhone, launched in 2007, changed the global smartphone industry. It combined a phone, iPod, and internet communication device into one.

Popular Models

- iPhone 4 - First Retina Display
- iPhone 6 - Larger screen revolution
- iPhone X - Face ID innovation
- iPhone 13 & 14 - Performance and camera evolution

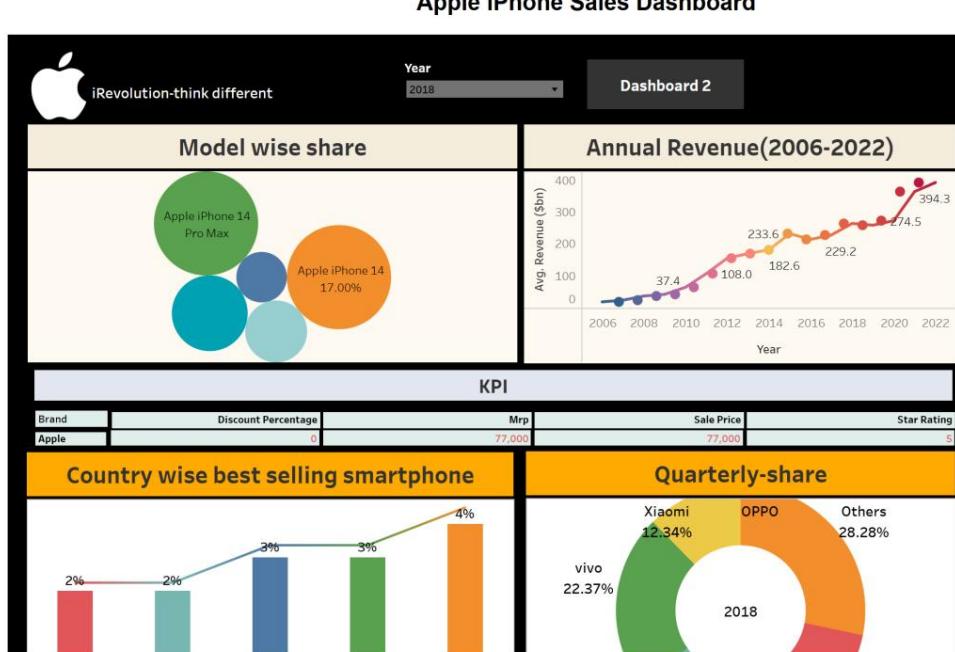
Impact of iPhone in India

The iPhone has played a significant role in shaping India's premium smartphone market. It has influenced consumer aspirations, digital adoption, and mobile-based lifestyles. With the growth of online payments, e-commerce, and OTT platforms, iPhones have become a symbol of innovation and status among Indian users.

Steve Jobs

Co-founder of Apple Inc. and visionary behind the iPhone revolution.

View Dashboard



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CODE:

App.py

```

EXPLORER          ...      Welcome   app.py    index.html # style.css    bootstrap.bundle.min.js # bootstrap.min.css
static\assets
css
# style.css
css1
# bootstrap.min.css
img
apple_logo.png
iphonevolution.jpg
steve_jobs.jpg
js
bootstrap.bundle.min.js
templates
index.html
app.py

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\prajitha\OneDrive\Documents\tableau_flask> PYTHON APP.PY
* Restarting with watchdog (windowsapi)
* Debugger is active!
* Debugger PIN: 137-980-603
127.0.0.1 - - [15/Feb/2026 22:22:23] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [15/Feb/2026 22:22:24] "GET /static/assets/css/style.css HTTP/1.1" 304 -
127.0.0.1 - - [15/Feb/2026 22:22:24] "GET /static/assets/img/steve_jobs.jpg HTTP/1.1" 304 -
127.0.0.1 - - [15/Feb/2026 22:22:24] "GET /static/assets/img/apple_logo.png HTTP/1.1" 304 -
127.0.0.1 - - [15/Feb/2026 22:22:24] "GET /favicon.ico HTTP/1.1" 404 -
* Detected change in 'C:\Users\prajitha\AppData\Local\Programs\Python\Python313\Lib\site-packages\flask\__init__.py', reloading
* Restarting with watchdog (windowsapi)
* Debugger is active!
* Debugger PIN: 137-980-603

```

Index.html

```

EXPLORER          ...      Welcome   app.py    index.html # style.css    bootstrap.bundle.min.js # bootstrap.min.css
static\assets
css
# style.css
css1
# bootstrap.min.css
img
apple_logo.png
iphonevolution.jpg
steve_jobs.jpg
js
bootstrap.bundle.min.js
templates
index.html
app.py

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\prajitha\OneDrive\Documents\tableau_flask> PYTHON APP.PY
* Debugger is active!
* Debugger PIN: 137-980-603
* Detected change in 'C:\Users\prajitha\AppData\Local\Programs\Python\Python313\Lib\site-packages\sklearn\frozen\_init_.py', reloading
* Restarting with watchdog (windowsapi)
* Debugger is active!
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```

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8. ADVANTAGES & DISADVANTAGES

- **ADVANTAGES:**

- **User-Friendly Dashboards:** Intuitive interface with dark-themed visuals that reduce eye strain and enhance readability.
- **Interactive Insights:** Real-time filtering and data slicing allow users to extract exactly what they need without manual intervention.
- **Reusable Framework:** The dashboard model can be reused for other smartphone brands or markets by simply updating the dataset.
- **Data-Driven Decision Making:** Helps strategists, marketers, and executives make smarter, evidence-based decisions.
- **Time-Saving:** Reduces the manual workload for analysts by providing ready-to-explore visualizations.

- **DISADVANTAGES:**

- **Platform Limitation:** Tableau Public may limit some functionality such as real-time backend connection and publishing privacy.
- **Dependence on Data Accuracy:** Insights are only as good as the quality of input data; inaccurate or outdated datasets could mislead.
- **Static Structure in Story:** While dashboards are interactive, Tableau stories have limited flexibility in dynamic narration.

9. CONCLUSION

The *iRevolution* project successfully demonstrates how data visualization, combined with user-centered design, can drive meaningful insights into Apple's iPhone performance in India. By integrating sales, pricing, feature-based specs, and regional market data into interactive Tableau dashboards, the project not only simplifies complex analytics but also empowers decision-makers to act with confidence. This end-to-end effort—from ideation to deployment—shows the real-world value of design thinking and data storytelling in business intelligence.

10. FUTURE SCOPE

- **Multi-brand Integration:** Extend the current dashboard to include competitor analysis (e.g., Samsung, Xiaomi).
- **Real-Time Data Connection:** Integrate live data sources (APIs or Google Sheets) to keep the dashboards updated automatically.
- **Mobile Optimization:** Redesign dashboards for optimal viewing on tablets and mobile devices.
- **AI-Powered Forecasting:** Use predictive analytics to project future sales, pricing trends, or regional performance.
- **Sentiment Analysis Layer:** Add customer feedback and review analysis to supplement numeric insights with qualitative data.

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11. APPENDIX

Dataset Link

<https://docs.google.com/spreadsheets/d/1p1ZWaYcEuFI5UNFcmNvpkXi3JnoHamut/edit?gid=1877446487#gid=1877446487>

GitHub & Project Demo Link

<https://github.com/praveen-kona/iRevolution-A-Data-driven-Exploration-of-Apple-s-iPhone-Impact-in-India-using-Tableau2>