

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.

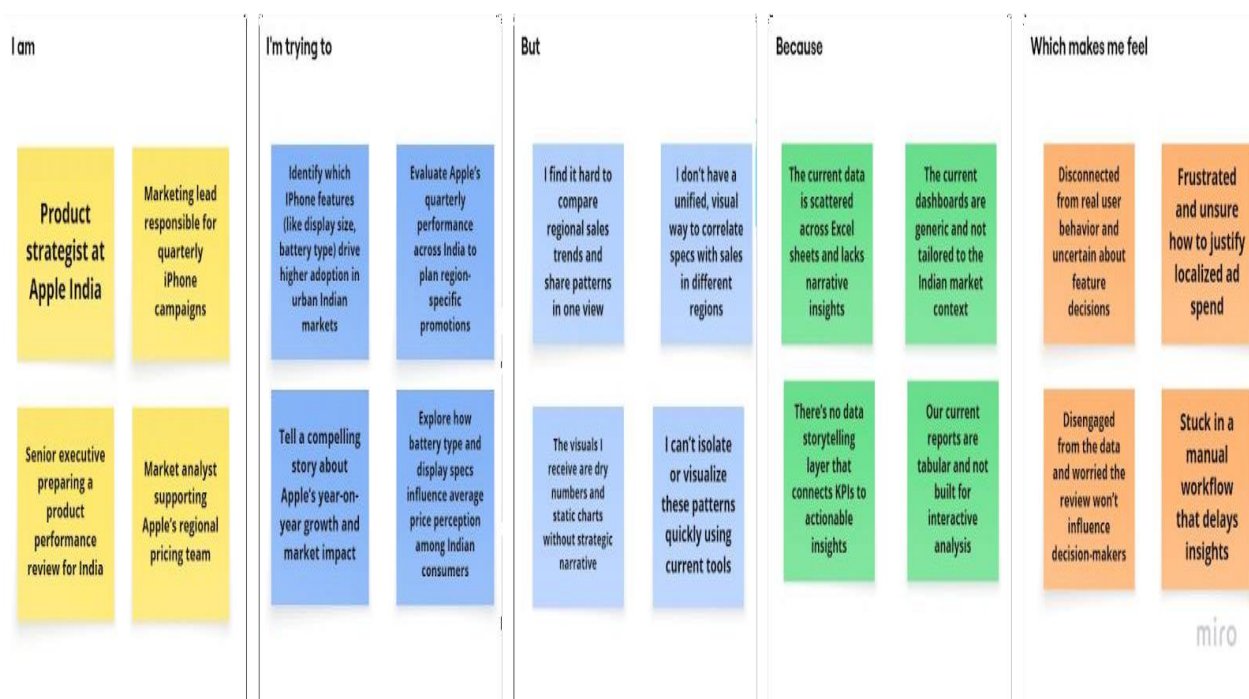
1.2 Purpose

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



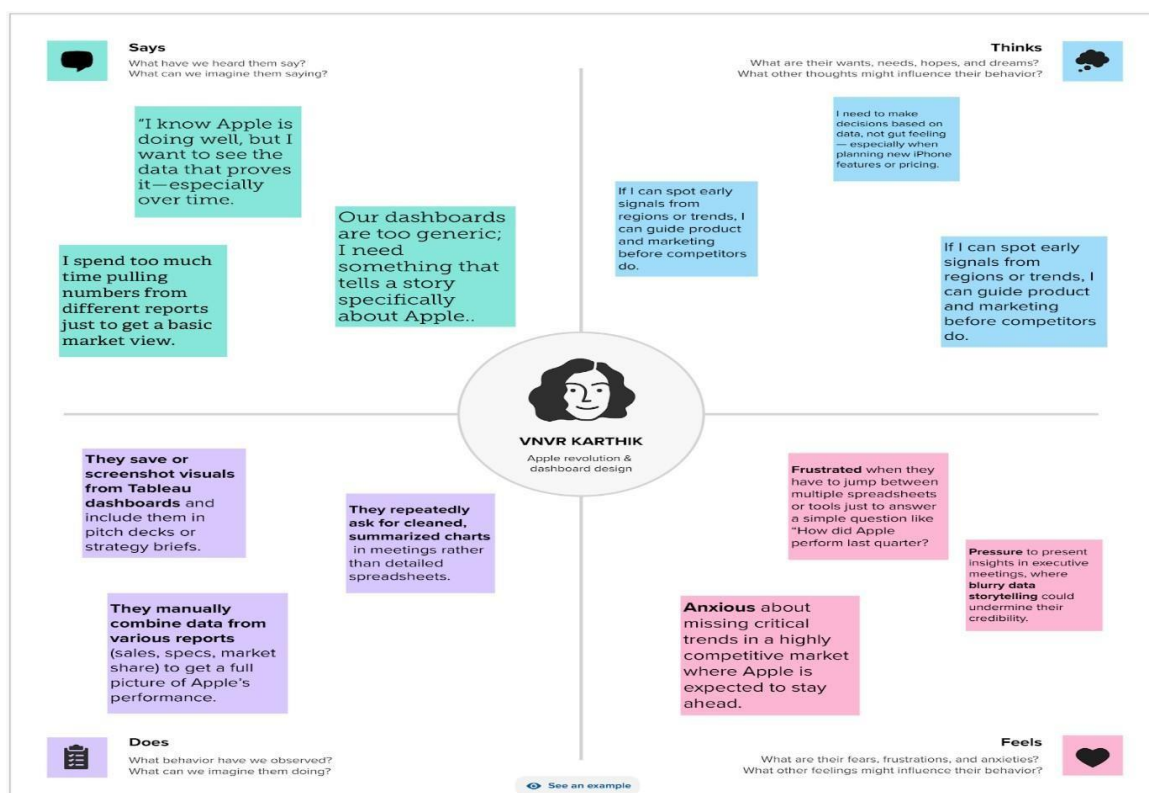
Team Members: Bandla Sathvik, Kandimalla Anitha, Katuri Siri Vennela, Kona Praveen Kumar Babu

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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

LTVIP2025TMIDS735



Brainstorm & idea prioritization

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 an smooth and productive session

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



Need some inspiration?

See a finished version of this template to kickstart your work.

[Open example](#) →

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2

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).

Use Tableau
parameters to simulate different market scenarios.

Highlight pricing
trends across flagship launches.

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 can 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

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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:

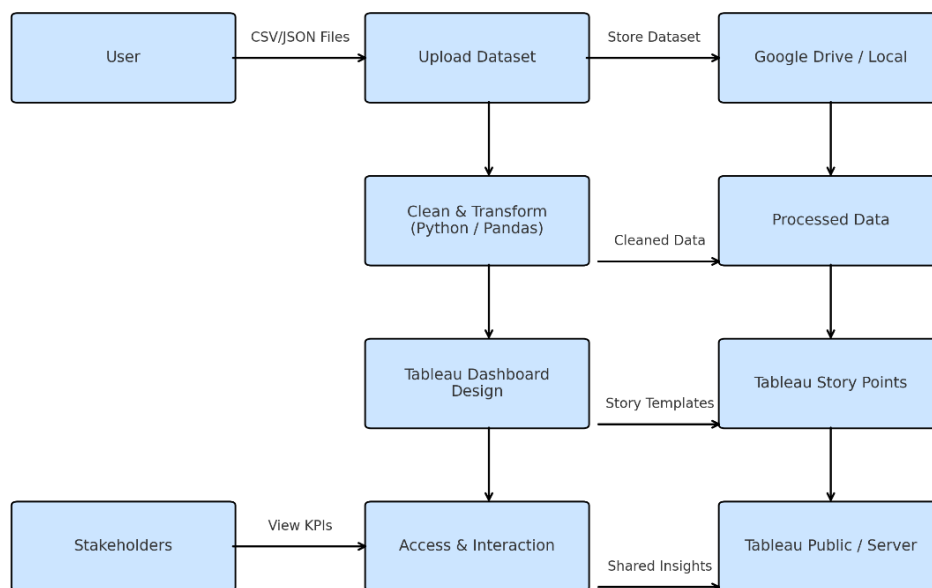
Following are the non-functional requirements of the proposed solution.

| 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

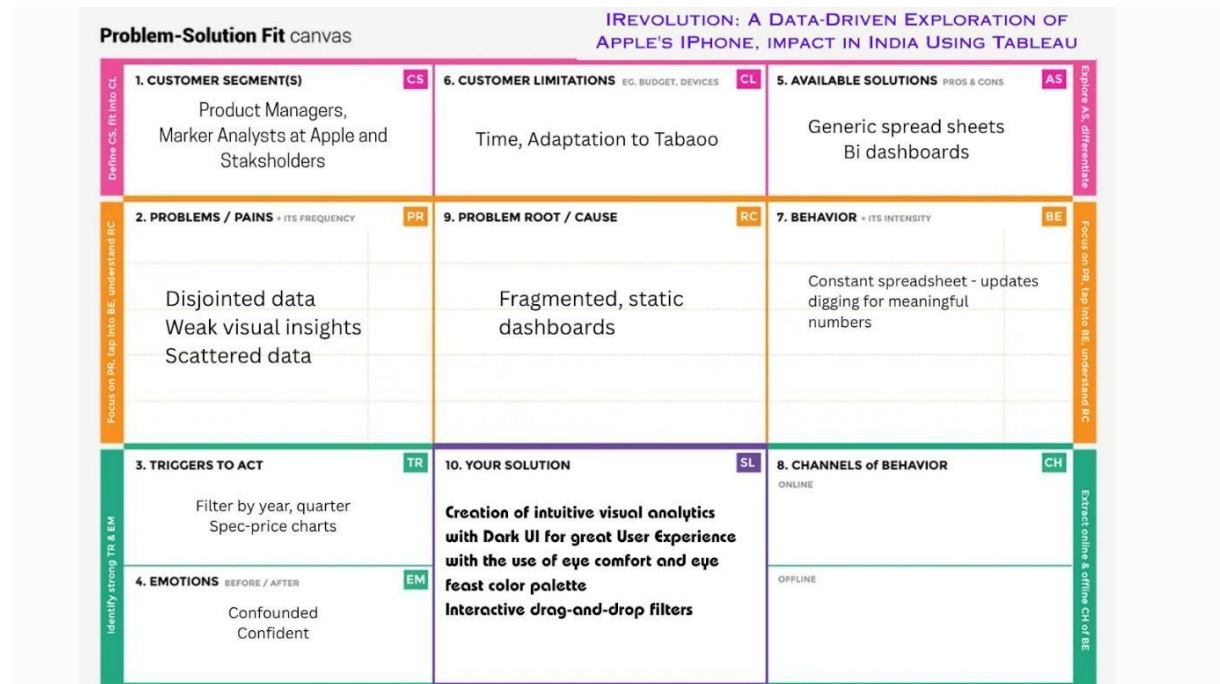
| Component | Tool/Technology | Purpose |
|---------------|-------------------------|---|
| Data Source | CSV, JSON files | Raw smartphone sales and specs data |
| Visualization | Tableau Desktop | Creating interactive dashboards and stories |
| Storage | Google Drive / Local | Storing raw and processed 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

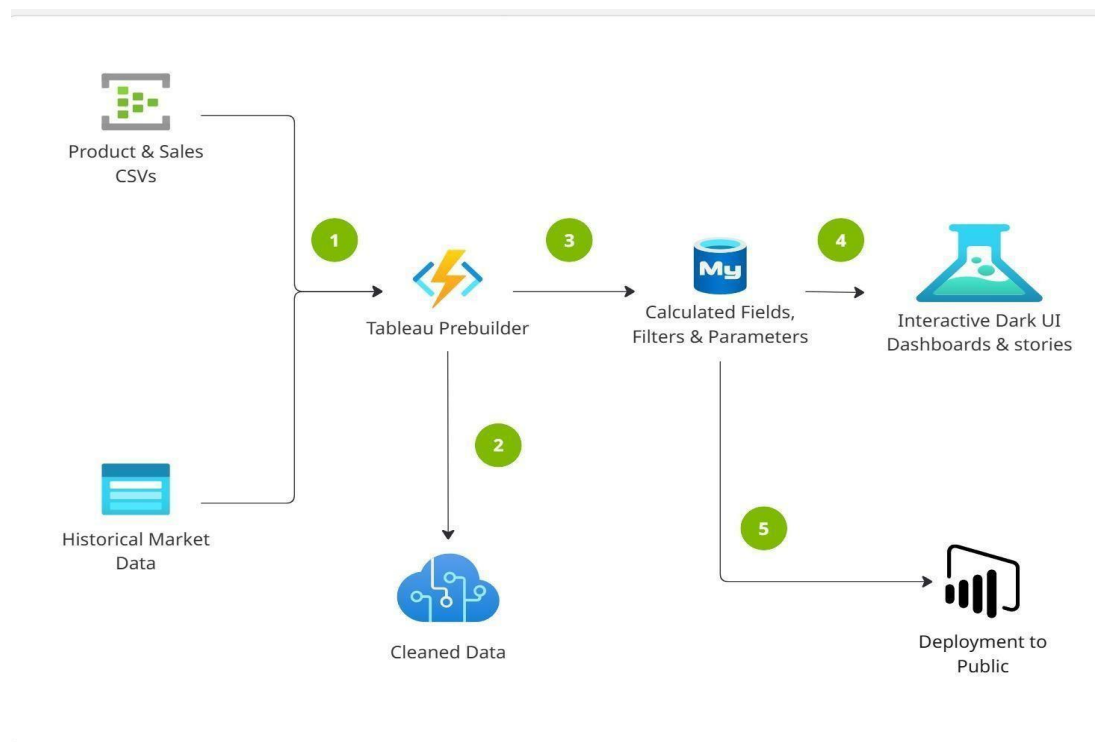
| S.No. | Parameter | Description |
|-------|--|---|
| 1. | Problem Statement (Problem to be solved) | Apple and its stakeholders lack a centralized, interactive, and story-driven way to understand iPhone's feature-wise, region-wise, and price-wise impact in India. This limits confident, data-backed 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 |

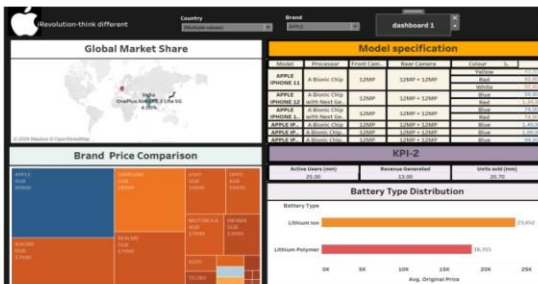
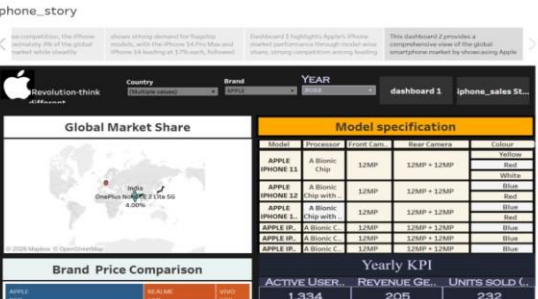
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6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing

| S.No. | Parameter | Screenshot / Values |
|-------|-------------------------|--|
| 1. | Data Rendered |  |
| 2. | Data Preprocessing |  |
| 3. | Utilization of Filters |  |
| 4. | Calculation fields Used |  |
| 5. | Dashboard design | |

| | | |
|---|--------------|--|
| | |  |
| 6 | Story Design | <p>iphone_story</p>  |

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7. RESULTS

7.1 Output Screenshots

WORKSHEETS:

Model Specification-

| Model | Processor | Front Cam... | Rear Camera | Colour | |
|----------------------|--|--------------|-------------|--------|----------|
| APPLE IPHONE 11 | A Bionic Chip | 12MP | 12MP + 12MP | Yellow | 43,900 |
| | | | | Red | 92,800 |
| | | | | White | 92,800 |
| APPLE IPHONE 12 | A Bionic Chip with Next Generation Neural Engine | 12MP | 12MP + 12MP | Blue | 59,900 |
| | | | | Red | 1,34,800 |
| APPLE IPHONE 12 MINI | A Bionic Chip with Next Generation Neural Engine | 12MP | 12MP + 12MP | Blue | 74,900 |
| | | | | Red | 74,900 |
| APPLE IPHONE 13 | A Bionic Chip | 12MP | 12MP + 12MP | Blue | 1,49,800 |
| APPLE IPHONE 14 | A Bionic Chip, Core | 12MP | 12MP + 12MP | Blue | 1,89,800 |
| APPLE IPHONE 14 PLUS | A Bionic Chip, Core | 12MP | 12MP + 12MP | Blue | 99,900 |

BrandPriceComparision



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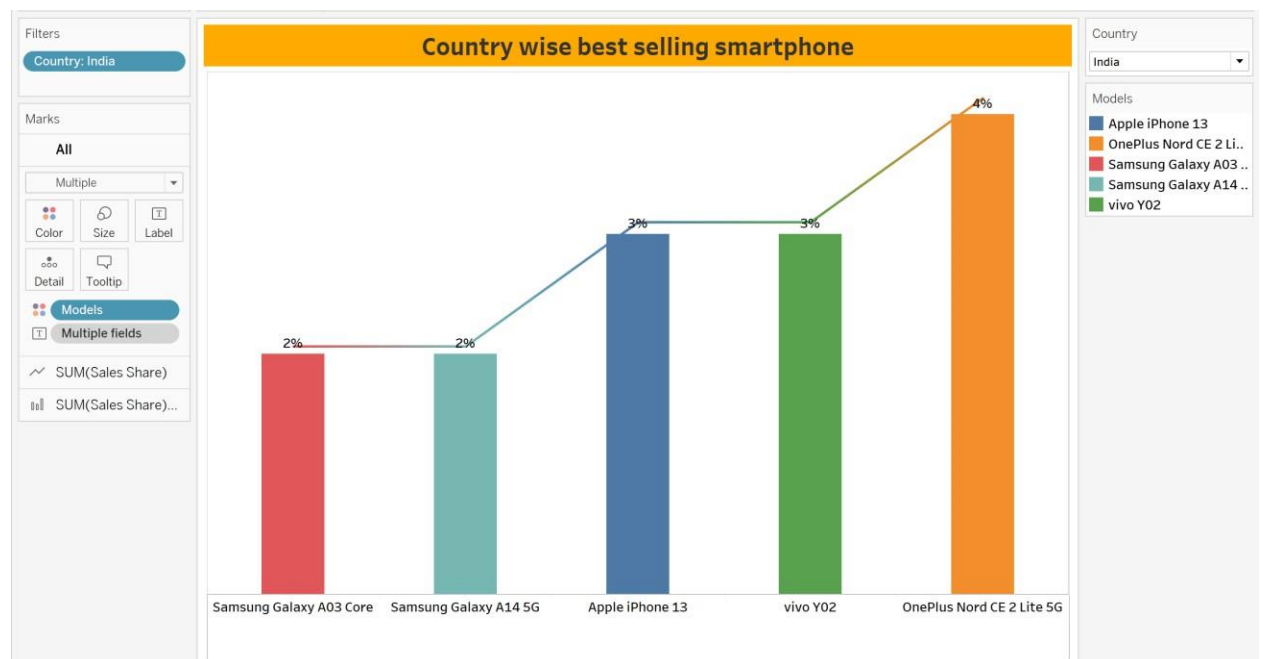
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ModelwiseShare



Countrywisebestselling

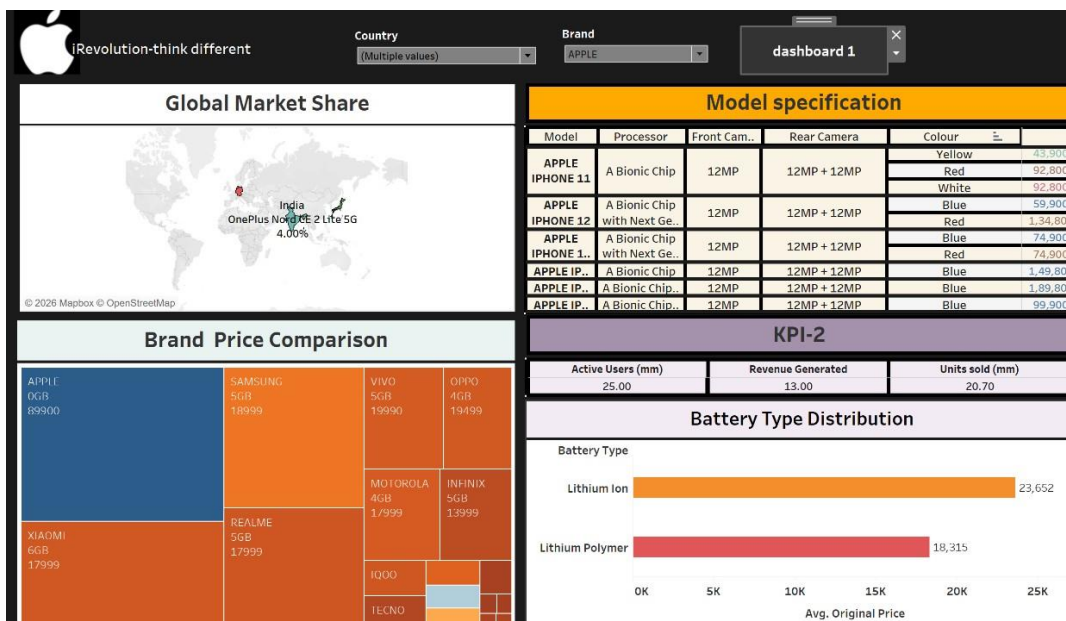
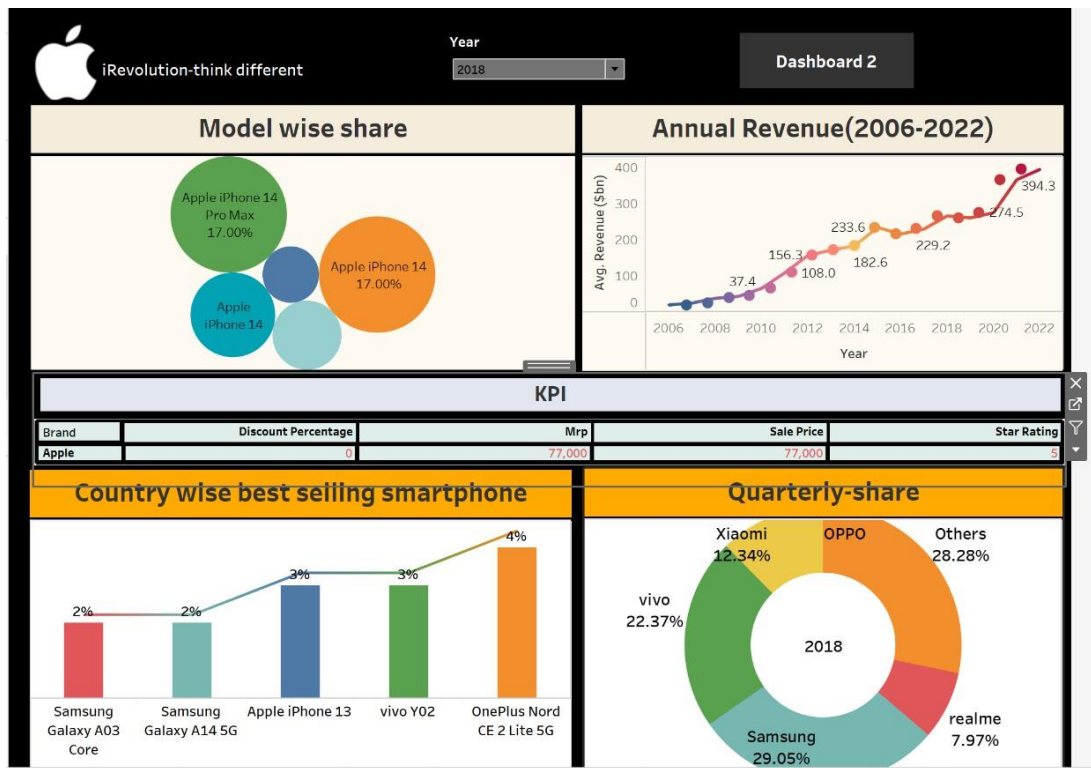


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DASHBOARDS:

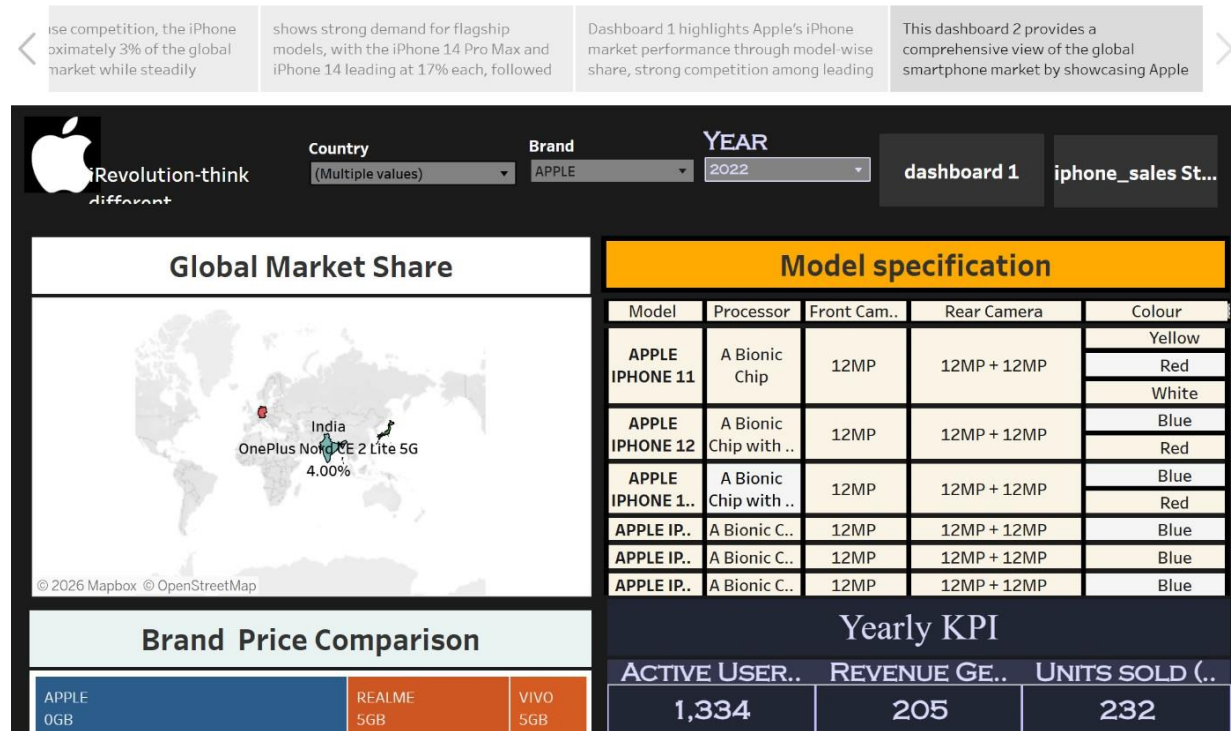


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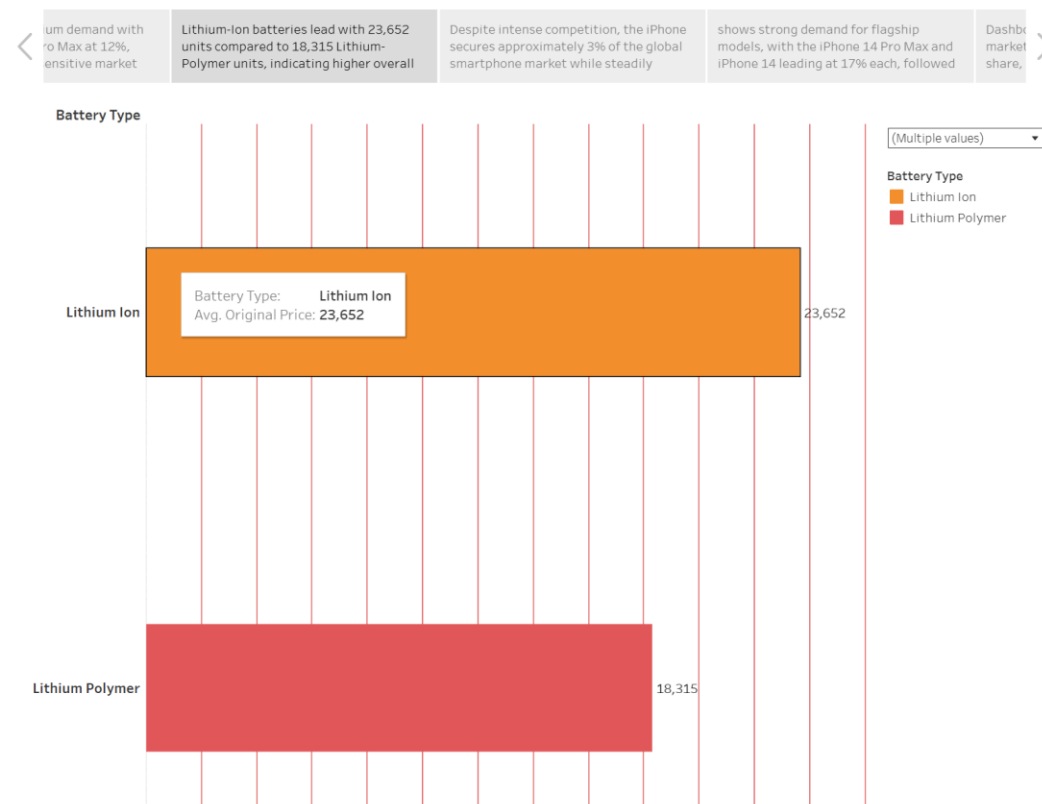
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STORY:

iphone_story



iphone_story

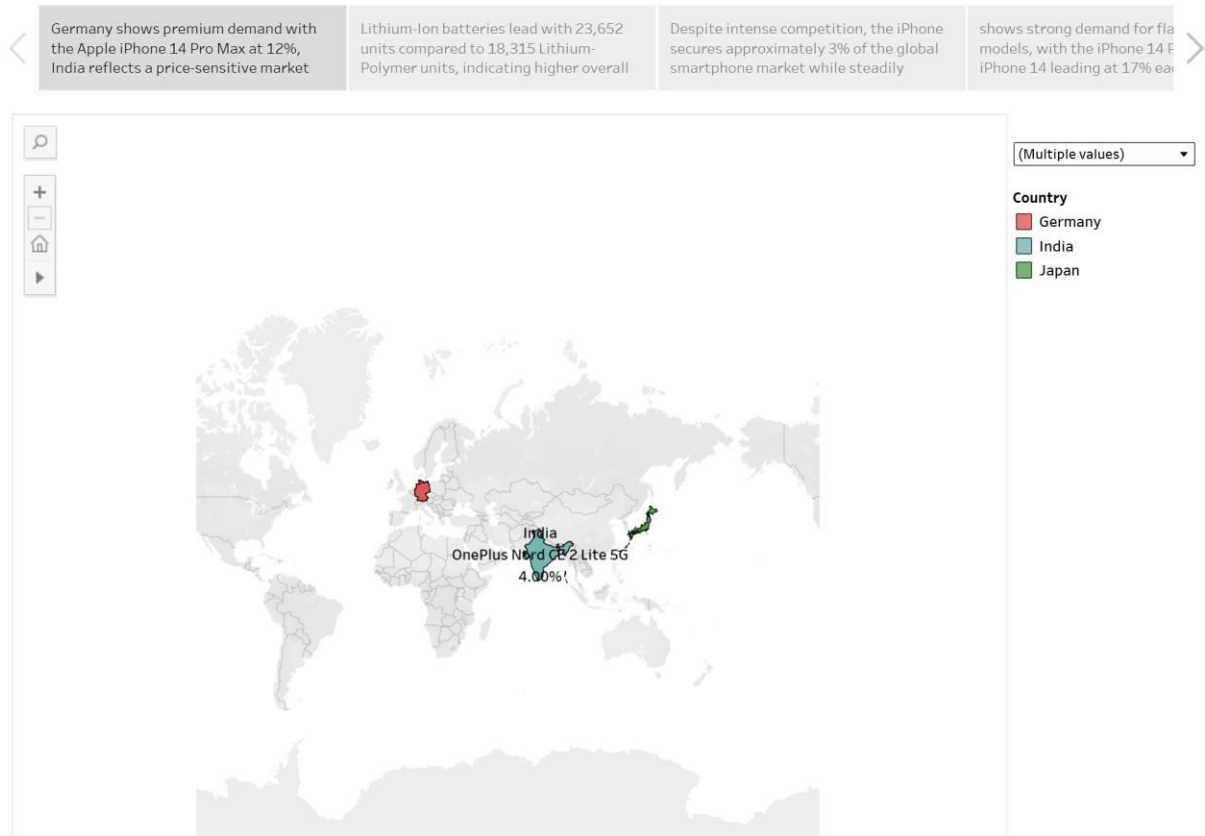


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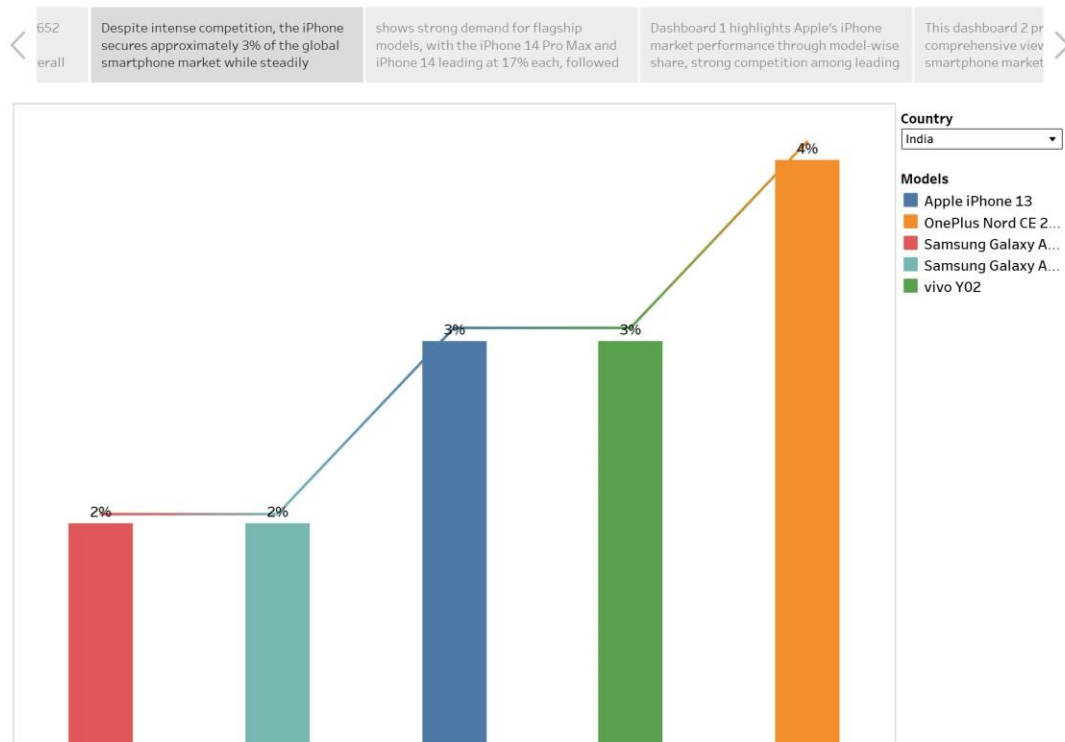
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iphone_story



iphone_story

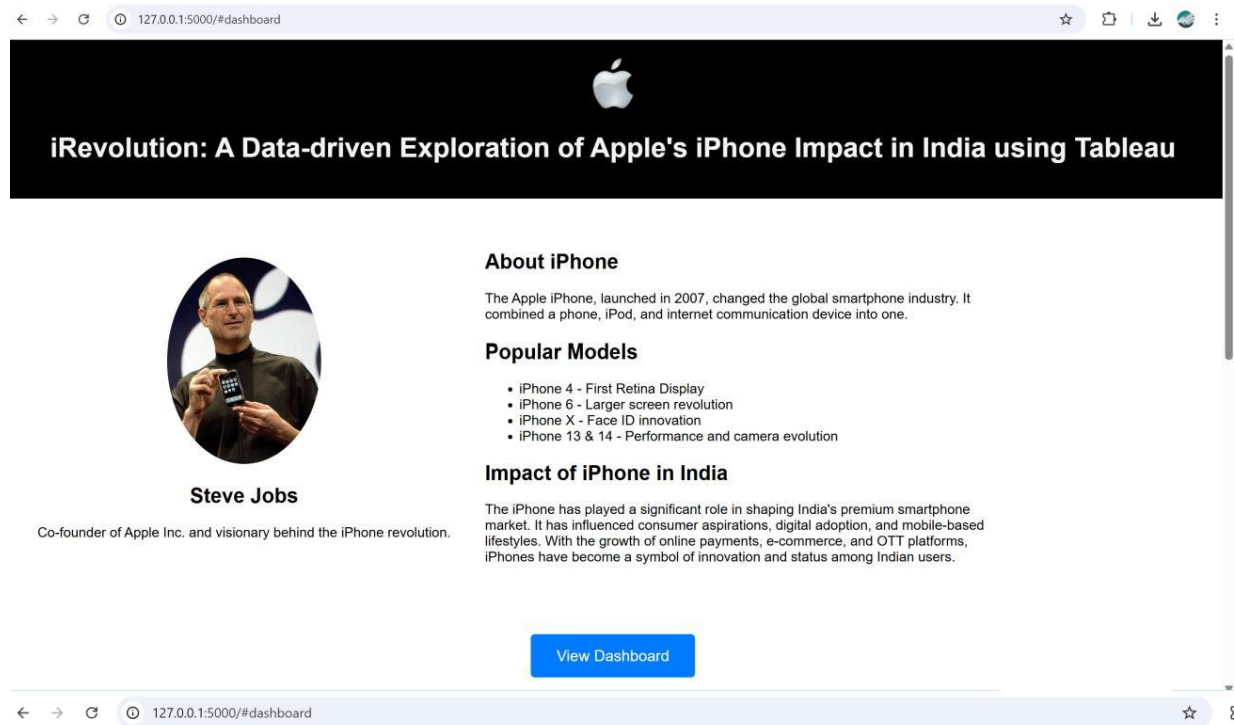


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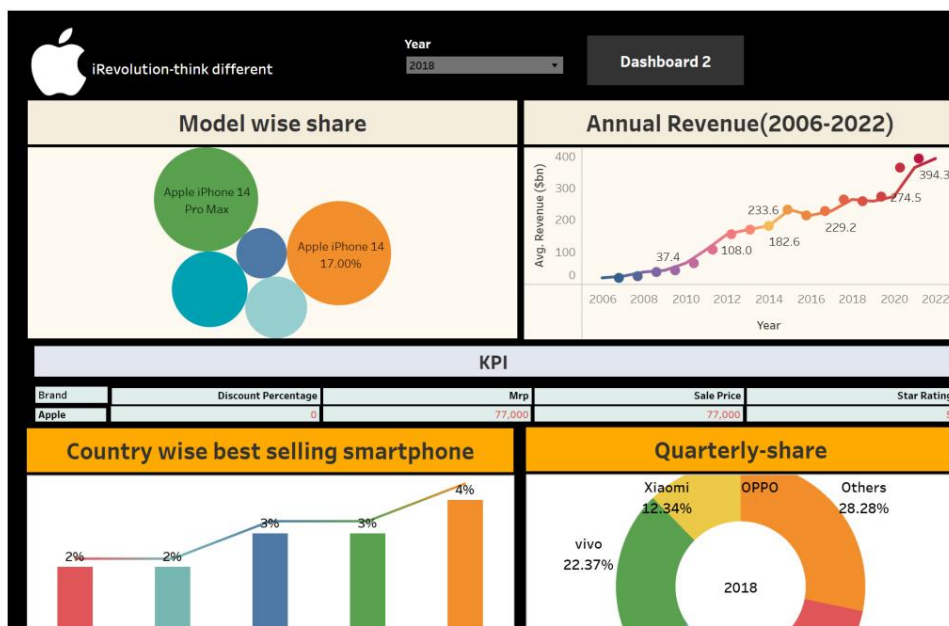
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FLASK AND UI INTEGRATION:



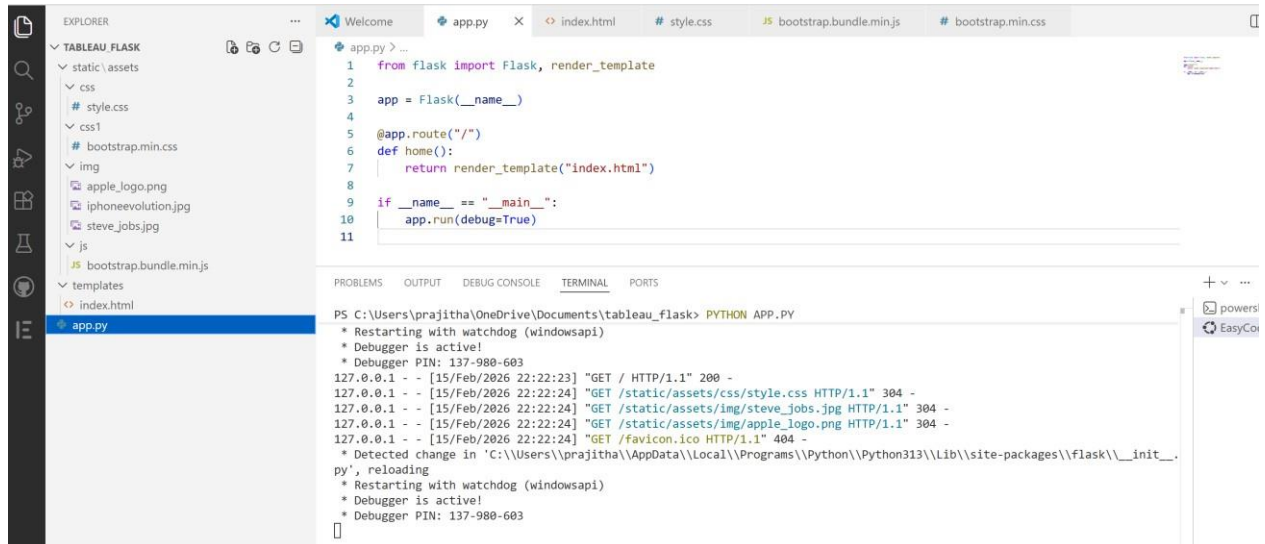
Apple iPhone Sales Dashboard



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CODE:
App.py



```

1 from flask import Flask, render_template
2
3 app = Flask(__name__)
4
5 @app.route("/")
6 def home():
7     return render_template("index.html")
8
9 if __name__ == "__main__":
10     app.run(debug=True)
11

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

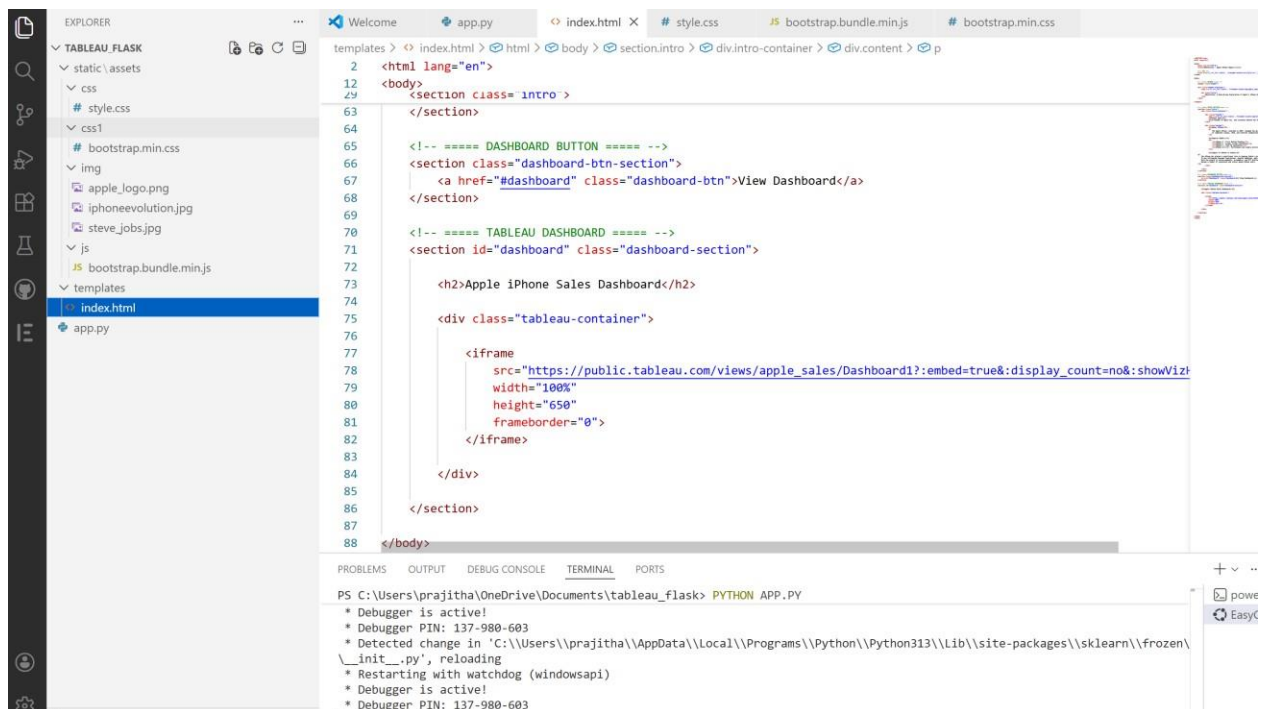
PS C:\Users\prajitha\OneDrive\Documents\tableau_flask> PYTHON APP.PY

* 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



```

2 <html lang="en">
12 <body>
13 <section class="intro">
63 </section>
64
65 <!-- ===== DASHBOARD BUTTON ===== -->
66 <section class="dashboard-btn-section">
67 <a href="#dashboard" class="dashboard-btn">View Dashboard</a>
68 </section>
69
70 <!-- ===== TABLEAU DASHBOARD ===== -->
71 <section id="dashboard" class="dashboard-section">
72
73 <h2>Apple iPhone Sales Dashboard</h2>
74
75 <div class="tableau-container">
76
77 <iframe
78   src="https://public.tableau.com/views/apple_sales/Dashboard1?:embed=true&display_count=no&showViz
79   width="100%"
80   height="650"
81   frameborder="0">
82 </iframe>
83
84 </div>
85
86 </section>
87
88 </body>

```

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PS C:\Users\prajitha\OneDrive\Documents\tableau_flask> PYTHON APP.PY

* Debugger is active!
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* Detected change in 'C:\Users\prajitha\AppData\Local\Programs\Python\Python313\Lib\site-packages\sklearn\frozen_init_.py', reloading
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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>