

# iRevolution: A Data-Driven Exploration of Apple's iPhone Impact in India

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## 1. Project Overview

The iRevolution project analyzes the impact of Apple's iPhone on the Indian smartphone market using data-driven techniques. The system collects datasets, preprocesses data, performs analytics, and presents insights through dashboards and storytelling visualizations.

## 2. Dataset Used

Datasets include iPhone sales statistics, pricing trends, regional adoption, consumer demographics, market share reports, and smartphone comparison datasets collected from public sources.

## 3. Data Preprocessing Steps

Data Collection – Importing datasets from CSV and public repositories.

Data Cleaning – Removing duplicate records and correcting inconsistent values.

Handling Missing Values – Filling or removing null entries using statistical methods.

Data Transformation – Converting formats, normalizing numerical values, and standardizing fields.

Feature Engineering – Creating new variables such as yearly growth rate and price segments.

Data Integration – Combining multiple datasets into a unified structure.

Outlier Detection – Identifying abnormal values affecting analysis.

Data Validation – Ensuring accuracy and consistency before analytics.

## 4. Flask Project Structure

The application backend is developed using Flask. The folder structure includes:

- app.py – Main Flask application
- templates/ – HTML dashboard pages
- static/ – CSS, JS, and visualization assets

- dataset/ – Stored CSV datasets
- models/ – Data analysis scripts

## 5. Dashboard Description

The dashboard displays interactive charts showing iPhone adoption trends, pricing comparison, regional growth, and market share visualization. Charts include bar graphs, line charts, and comparative analytics panels.

[Paste Dashboard Screenshot Here]

## 6. Data Story (Insights)

The story visualization explains how Apple's iPhone shifted from a premium niche device to a strong aspirational product in India. Insights highlight growth in Tier-1 and Tier-2 cities, increase in digital payments, and influence on competing smartphone brands.

[Paste Story Visualization Screenshot Here]

## 7. Conclusion

The iRevolution platform demonstrates how data analytics can reveal technological and economic impacts of smartphones in India. The solution supports research, business decision-making, and academic learning.