Project Development Phase Model Performance Test

Date	10 February 2025
Team ID	LTVIP2025TMID49338
Project Name	iRevolution: A Data-driven Exploration of Apple's iPhone Impact in India using Tableau
Maximum Marks	

Model Performance Testing:

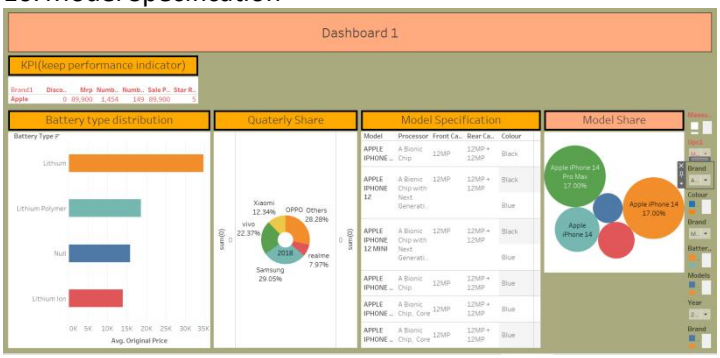
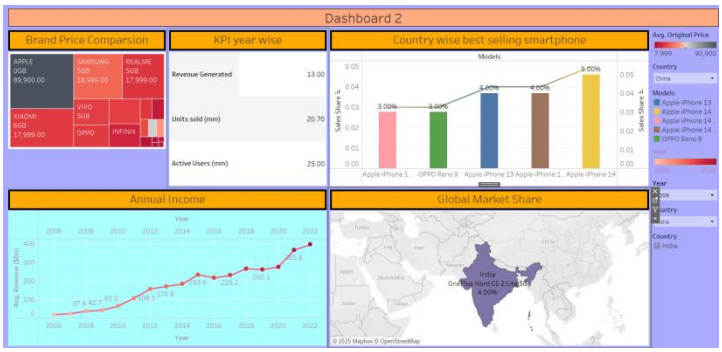
Project team shall fill the following information in model performance testing template.

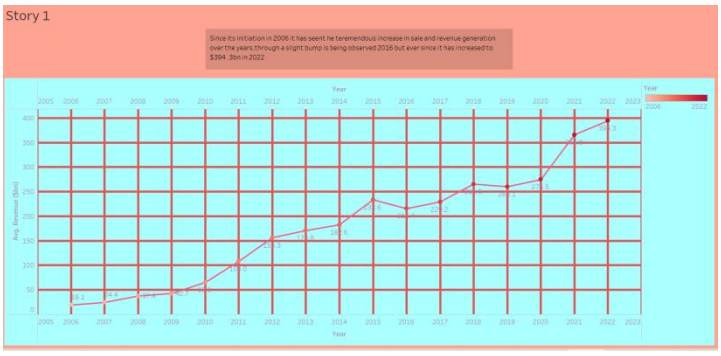
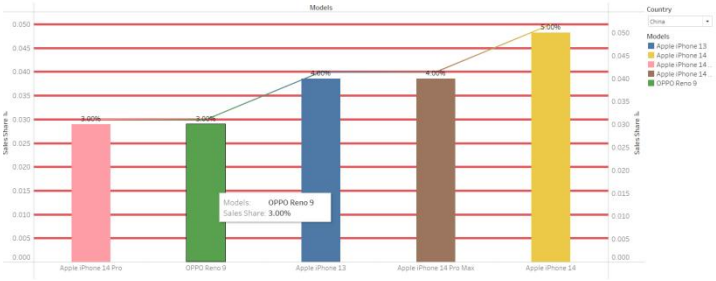
S.No.	Parameter	Screenshot / Values
1.	Data Rendered	The Dataset which is used in this project is based on Apple Iphone sales in india was curated from publicly available sources that reflect real-world market data for Apple products in India,It was supplemented with like “iPhone Sales by State,” “Launch Timeline,” “Platform Comparison,” and “Market Share Insights,” to enrich the analysis.The Dataset Contains of Total 836 rows and 16 columns.The following are key attributes which are in dataset **Key attributes:** 1. Product name-The name of the iPhone variant listed (e.g., iPhone 13 Pro Max 128GB Blue). 2. Product price-The listed or discounted price of that specific iPhone on eCommerce platforms. 3. Battery Type 4. Models-Different variants of Apple iphone 5. Sales share 6. Country 7. Quarter 8. Revenue

	A	B	C	D	E	F	G	H	I	J	K
	Product Name	Product Url	Brand	Sale Price	Mrp	Discount Percentag	Number Of Ratir	Number Of Rev	Upc	Star Ratin	Ram
	APPLE iPhone 8 Plus (Go	https://www.fli	Apple	49900	49900	0	3431	356	MOBEXRGV7EHH	4.6	2 GB
	APPLE iPhone 8 Plus (Sp	https://www.fli	Apple	84900	84900	0	3431	356	MOBEXRGVAC6T	4.6	2 GB
	APPLE iPhone 8 Plus (Sil	https://www.fli	Apple	84900	84900	0	3431	356	MOBEXRGVGETA	4.6	2 GB
	APPLE iPhone 8 (Silver, 2	https://www.fli	Apple	77000	77000	0	11202	794	MOBEXRGVMZWI	4.5	2 GB
	APPLE iPhone 8 (Gold, 2(	https://www.fli	Apple	77000	77000	0	11202	794	MOBEXRGVPK7P	4.5	2 GB
	APPLE iPhone 8 Plus (Sil	https://www.fli	Apple	49900	49900	0	3431	356	MOBEXRGVQGYY	4.6	2 GB
	APPLE iPhone 8 Plus (Sp	https://www.fli	Apple	49900	49900	0	3431	356	MOBEXRGVQKBF	4.6	2 GB
	APPLE iPhone 8 (Space (	https://www.fli	Apple	77000	77000	0	11202	794	MOBEXRGVZFZG	4.5	2 GB
	APPLE iPhone XS Max (S	https://www.fli	Apple	89900	89900	0	1454	149	MOBF944E2XAH	4.6	4 GB
	Apple iPhone XR ((PRODU	https://www.fli	Apple	41999	52900	20	79512	6796	MOBF9Z7ZHQC2	4.6	4 GB
	Apple iPhone XR (Black, 6	https://www.fli	Apple	39999	47900	16	79512	6796	MOBF9Z7ZPHGV	4.6	4 GB
	Apple iPhone XR (Coral, 1	https://www.fli	Apple	41999	52900	20	79582	6804	MOBF9Z7ZS6GF	4.6	4 GB
	Apple iPhone XR (Black, 1	https://www.fli	Apple	41999	52900	20	79512	6796	MOBF9Z7ZYWNF	4.6	3 GB
	Apple iPhone XR (White,	https://www.fli	Apple	41999	52900	20	79512	6796	MOBF9Z7ZZY3HC	4.6	4 GB
	APPLE iPhone 11 Pro Ma	https://www.fli	Apple	131900	131900	0	1078	101	MOBFKCTS7HCH	4.7	4 GB
	APPLE iPhone 11 Pro Ma	https://www.fli	Apple	117100	117100	0	1078	101	MOBFKCTSAPAY	4.7	4 GB
	APPLE iPhone 11 Pro Ma	https://www.fli	Apple	131900	131900	0	1078	101	MOBFKCTSCAAK	4.7	4 GB
	APPLE iPhone 11 Pro Ma	https://www.fli	Apple	117100	117100	0	1078	101	MOBFKCTSKDMK	4.7	4 GB
	APPLE iPhone 11 Pro (Mi	https://www.fli	Apple	74999	106600	29	7088	523	MOBFKCTSN3TG	4.6	4 GB
	APPLE iPhone 11 Pro (Sp	https://www.fli	Apple	117900	140300	15	7088	523	MOBFKCTSRTHR	4.6	4 GB
	APPLE iPhone 11 Pro Ma	https://www.fli	Apple	117100	117100	0	1078	101	MOBFKCTSRYPA	4.7	4 GB
	APPLE iPhone 11 Pro (Mi	https://www.fli	Apple	117900	140300	15	7088	523	MOBFKCTSSJCW	4.6	4 GB
	APPLE iPhone 11 Pro (Sp	https://www.fli	Apple	99900	121300	17	7081	522	MOBFKCTSWGYS	4.6	4 GB
	Apple iPhone SE (White, :	https://www.fli	Apple	44999	54900	18	95909	8161	MOBFRFXHPZCH	4.5	2 GB
	APPLE iPhone 12 Pro (Sil	https://www.fli	Apple	140900	149900	6	542	42	MOBFWBYZ5UY6	4.5	4 GB
	APPLE iPhone 12 Pro Ma	https://www.fli	Apple	130900	139900	6	580	45	MOBFWBYZBSTJ	4.6	6 GB
	APPLE iPhone 12 Mini (W	https://www.fli	Apple	64900	74900	13	740	64	MOBFWBYZAGXJ	4.5	4 GB
	APPLE iPhone 12 Pro (Gr	https://www.fli	Apple	120900	129900	6	545	42	MOBFWBYZBA36	4.5	6 GB
	APPLE iPhone 12 Mini (W	https://www.fli	Apple	59900	69900	14	740	64	MOBFWBYZBH4C	4.5	4 GB
	APPLE iPhone 12 (White,	https://www.fli	Apple	75900	84900	10	2101	180	MOBFWBYZBTZF	4.6	6 GB
	APPLE iPhone 12 Pro (Gr	https://www.fli	Apple	110900	119900	7	545	42	MOBFWBYZBZ7Y	4.5	6 GB
	APPLE iPhone 12 Pro Ma	https://www.fli	Apple	130900	139900	6	580	45	MOBFWBYZE6X	4.6	6 GB
	APPLE iPhone 12 Pro Ma	https://www.fli	Apple	120900	129900	6	580	45	MOBFWBYZFDGC	4.6	6 GB
	APPLE iPhone 12 Mini (B	https://www.fli	Apple	64900	74900	13	730	63	MOBFWBYZH2AM	4.5	4 GB
	APPLE iPhone 12 Mini (B	https://www.fli	Apple	64900	74900	13	730	63	MOBFWBYZHU68	4.5	4 GB
	APPLE iPhone 12 (Black,	https://www.fli	Apple	75900	84900	10	2101	180	MOBFWBYZK3HA	4.6	6 GB
	APPLE iPhone 12 (Blue, 1	https://www.fli	Apple	75900	84900	10	2101	180	MOBFWBYZKPTZ	4.6	6 GB
	APPLE iPhone 12 Pro Ma	https://www.fli	Apple	120900	129900	6	580	45	MOBFWBYZNSNV	4.6	6 GB
	APPLE iPhone 12 Mini (R	https://www.fli	Apple	59900	69900	14	740	64	MOBFWBYZNVWK	4.5	6 GB
	APPLE iPhone 12 Pro Ma	https://www.fli	Apple	120900	129900	6	580	45	MOBFWBYZQVKT	4.6	6 GB
	APPLE iPhone 12 (Green,	https://www.fli	Apple	75900	84900	10	2092	178	MOBFWBYZQXUE	4.6	6 GB
	APPLE iPhone 12 Pro (Pa	https://www.fli	Apple	140900	149900	6	545	42	MOBFWBYZTHSX	4.5	4 GB
	APPLE iPhone 12 (White,	https://www.fli	Apple	70900	79900	11	2101	180	MOBFWBYZTK33	4.6	6 GB

2.	Data Preprocessing	The following steps are done during the data pre processing **1. Handling Missing Values** We inspected the dataset for null or missing values in key columns such as Sale Price, MRP, Ratings, and Reviews. For numerical fields like Sale Price or MRP, rows with missing values were dropped, as pricing is critical to the analysis. For optional fields like Star Rating or Number of Reviews, missing values were either filled with the median or zero, depending on context. **2. Data Cleaning** Removed duplicate rows to avoid bias in visualizations. Standardized formats: Converted Ram from strings like "2 GB" to integer 2. Ensured all price-related columns (Sale Price, MRP) are in numeric format. Trimmed extra spaces and unified casing for text fields like Product Name or Brand. **3. Feature Engineering** Created new fields to enhance insights: Sales Difference = MRP - Sale Price to measure discount amount. Discount Percentage = ((MRP - Sale Price) / MRP) * 100 to analyze percentage discount. Derived RAM category r grouped analysis. Extracted Storage size from Product Name using text parsing. **4. Data Type Conversion** Converted all numerical features (Ratings, Prices, Reviews) to appropriate numeric types. Date fields (if any) were converted to datetime format for time-based analysis.
3.	Utilization of Filters	Below are the following filters used in the dashboard creating **1. Brand Filter** Type: Categorical filter (single or multiple select) Field Used: Brand Purpose: Restrict the dataset to Apple products only Use Case: Ensure the analysis focuses solely on Apple devices by excluding other brands if present **2. RAM Filter** Type: Categorical or grouped filter (e.g., 2GB, 4GB, 6GB) Field Used: RAM Purpose: Segment iPhones based on memory capacity Use Case: Analyze how performance, price, or user ratings vary by RAM size **3. Sales Difference Filter** Type: Numeric range slider Field Used: Sales Difference (MRP - Sale Price) Purpose: Highlight devices with significant price cuts Use Case: Identify aggressively discounted models to study marketing

		strategies **4. Star Rating Filter** Type: Numeric range slider Field Used: Star Rating Purpose: Focus on customer-rated products Use Case: Explore how product popularity and sales are influenced by user feedback **5. Price Range Filter** Type: Numeric range slider Fields Used: Sale Price, MRP Purpose: Compare product segments (budget vs premium) Use Case: Study pricing strategy and how it relates to features or ratings
4.	Calculation fields Used	The Sales Difference field, calculated as MRP - Sale Price, shows the exact price reduction offered on each iPhone model. It helps identify which products have the highest flat discounts, giving insights into promotional strategies. By analyzing this field, we can detect trends such as which models are heavily discounted or how discounts vary by storage or RAM variant.

5.	Dashboard design	No of Visualizations / Graphs - 1. Battery type distribution 2. Brand Price Comparsion 3. Model Share 4. Country wise best selling smartphone 5. Quaterly share 6. Annual Income 7. KPI year wise 8. Global Market Share 9. KPI 10. Model Specification  

6	Story Design	No of Visualizations / Graphs - 1.Since its initiation in 2006 it has seent he teremendous increase in sale and revenue generation over the years,through a slight bump is being observed 2016 but ever since it has increased to $394 .3bn in 2022 .  2.Apple contunies to strengthen its standing in the smartphone market.The brand has risen to a position of  3.Comparative analysis amogst various other leading brands in the smartphone industry shows that iphone is yet to make its impact in India.ITS 3% market share in the global market is depicted in the line-bar graph.  4.More than 1 billon consumers currentlu use iphones .Since its intial launch more than 1.9 billon iphones have been sold iphone sales in 2021 surpassed the 2015 peak,but declined in 2022 to 232.2 million units

5. Although the iphone isnt far behind in the competition,it is yet to scale-up its marketing strategies and policy formulations for Indian audience.