

## **EDA Using Power BI**

### **Project Title: Marketing Campaign Effectiveness**

#### **Problem Statement:**

The marketing team runs campaigns across email, social media, TV, and Search Ads. Although marketing spend is increasing, management is unsure whether campaigns are delivering a good return on investment (ROI).

The leadership team wants to know:

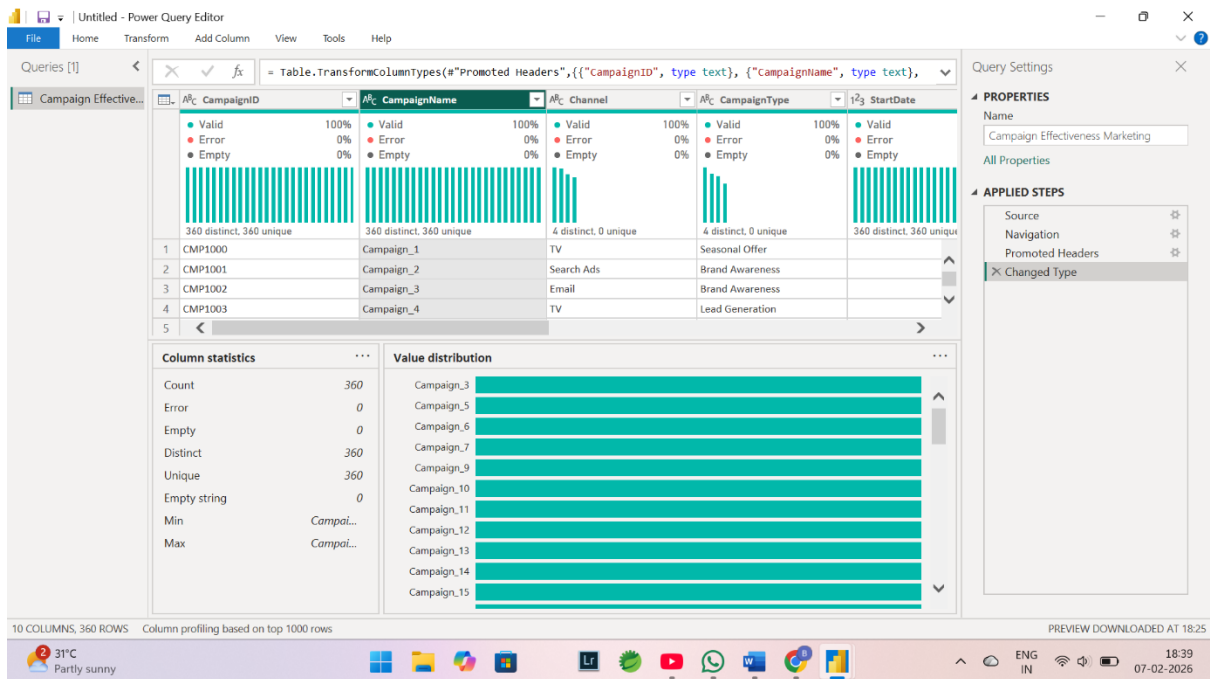
- Which channels generate the highest revenue
- Which campaigns underperform
- How efficiently marketing money is spent

You are responsible for building a campaign performance analytics solution to support smarter marketing investments.

#### **Questions:**

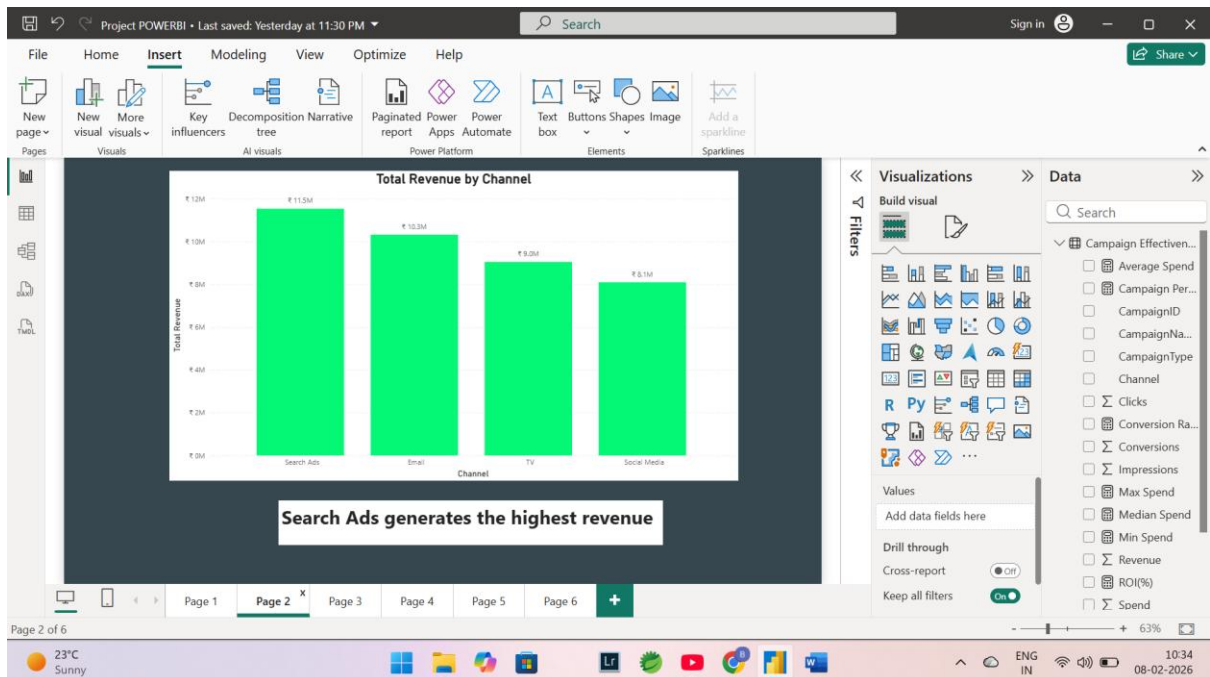
- Identify missing or inconsistent marketing data.
- Which marketing channels generate the highest revenue?
- Calculate ROI for each campaign using DAX.
- Analyze conversion rates across channels.
- Perform univariate analysis on campaign spend.
- Identify underperforming campaigns.
- Design a campaign performance dashboard.
- Which channels should receive increased investment?
- How can insights improve future marketing strategy?

## Identify missing or inconsistent marketing data:



- There will be no error, missing or inconsistent marketing data

## Which marketing channels generate the highest revenue?



- Search Ads generates the highest revenue

Calculate ROI (Return on Investment) for each campaign using DAX:

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Name: ROI(%) Format: General Data category: Uncategorized

Home table: Campaign Effective... Structure Formatting Properties Calculations

1 ROI(%) = DIVIDE([Total Revenue]-[Total Spend],[Total Spend])\*100

CampaignID	CampaignName	Channel	CampaignType	StartDate	Spend	Impressions	Clicks	Conversions	Revenue	Spend (bins)
P1000	Campaign_1	TV	Seasonal Offer	45292	₹ 11,833.00	413704	21993	4157	₹ 62,326.00	10000
P1010	Campaign_11	TV	Seasonal Offer	45302	₹ 37,320.00	145504	11553	759	₹ 61,047.00	35000
P1011	Campaign_12	TV	Seasonal Offer	45303	₹ 43,304.00	105257	22616	3776	₹ 81,626.00	40000
P1013	Campaign_14	TV	Seasonal Offer	45305	₹ 22,450.00	220176	3917	4043	₹ 1,90,858.00	20000
P1015	Campaign_16	Email	Seasonal Offer	45307	₹ 25,764.00	399744	15255	96	₹ 1,27,832.00	25000
P1016	Campaign_17	Search Ads	Seasonal Offer	45308	₹ 48,404.00	482930	26281	3409	₹ 1,40,406.00	45000
P1020	Campaign_21	Social Media	Seasonal Offer	45312	₹ 17,161.00	485774	2354	4040	₹ 1,70,326.00	15000
P1022	Campaign_23	Social Media	Seasonal Offer	45314	₹ 32,122.00	121317	5162	4395	₹ 1,12,215.00	30000
P1025	Campaign_26	Social Media	Seasonal Offer	45317	₹ 32,472.00	300843	3208	4480	₹ 1,66,755.00	30000
P1032	Campaign_33	Search Ads	Seasonal Offer	45324	₹ 5,417.00	276765	4712	1550	₹ 1,08,511.00	5000
P1033	Campaign_34	Social Media	Seasonal Offer	45325	₹ 46,576.00	156106	13724	3344	₹ 21,653.00	45000
P1035	Campaign_36	Email	Seasonal Offer	45327	₹ 8,267.00	408342	25650	984	₹ 91,941.00	5000
P1036	Campaign_37	Search Ads	Seasonal Offer	45328	₹ 22,209.00	146194	17420	3092	₹ 43,662.00	20000
P1038	Campaign_39	Email	Seasonal Offer	45330	₹ 43,513.00	354982	10814	1516	₹ 1,97,518.00	40000
P1040	Campaign_41	TV	Seasonal Offer	45332	₹ 16,338.00	458874	9077	664	₹ 1,05,081.00	15000
P1041	Campaign_42	TV	Seasonal Offer	45333	₹ 5,412.00	48638	8570	1232	₹ 46,877.00	5000
P1044	Campaign_45	Search Ads	Seasonal Offer	45336	₹ 38,496.00	115977	25493	180	₹ 82,715.00	35000
P1045	Campaign_46	Search Ads	Seasonal Offer	45337	₹ 28,548.00	98869	23374	3033	₹ 1,51,398.00	25000
P1047	Campaign_48	TV	Seasonal Offer	45339	₹ 49,425.00	306818	7283	4509	₹ 1,42,632.00	45000
P1048	Campaign_49	Social Media	Seasonal Offer	45340	₹ 43,756.00	176926	13726	88	₹ 89,148.00	40000

Table: Campaign Effectiveness Marketing (360 rows) Column: ROI(%) (0 distinct values)

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Search

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New page Visuals Key influencers Decomposition tree Narrative view Paginated report Power Apps Power Automate Text box Buttons Shapes Image Add a sparkline

Visuals

CampaignName	Total Revenue	Total Spend	ROI(%)
Campaign_58	12,920.00	49,912.00	-74.11
Campaign_211	11,969.00	42,732.00	-71.99
Campaign_292	16,471.00	42,441.00	-61.19
Campaign_70	18,946.00	46,555.00	-59.30
Campaign_215	20,225.00	45,080.00	-55.14
Campaign_34	21,653.00	46,576.00	-53.51
Campaign_349	13,654.00	28,061.00	-51.34
Campaign_205	22,115.00	41,487.00	-46.69
Campaign_65	26,082.00	48,236.00	-45.98
Campaign_338	22,289.00	41,034.00	-45.68
Campaign_203	19,110.00	34,703.00	-44.93
Campaign_201	16,570.00	28,958.00	-42.78
Campaign_8	19,078.00	33,074.00	-42.32
Campaign_327	17,151.00	29,214.00	-41.29
Campaign_165	19,847.00	33,016.00	-39.89
Campaign_295	11,777.00	18,051.00	-38.06
Campaign_178	10,281.00	16,003.00	-35.76
Campaign_219	23,669.00	36,471.00	-35.10
Campaign_163	25,563.00	38,962.00	-34.42
Campaign_298	31,636.00	47,289.00	-33.10
Campaign_357	22,149.00	31,326.00	-29.30
Campaign_310	34,596.00	48,088.00	-28.06
Campaign_268	35,537.00	49,238.00	-27.83
Campaign_207	32,911.00	45,231.00	-27.27
Campaign_274	37,723.00	48,125.00	-21.61
Total	3,90,04,659.00	1,02,53,614.00	280.40

Visualizations

Build visual

Filters

Values

Add data fields here

Drill through

Cross-report

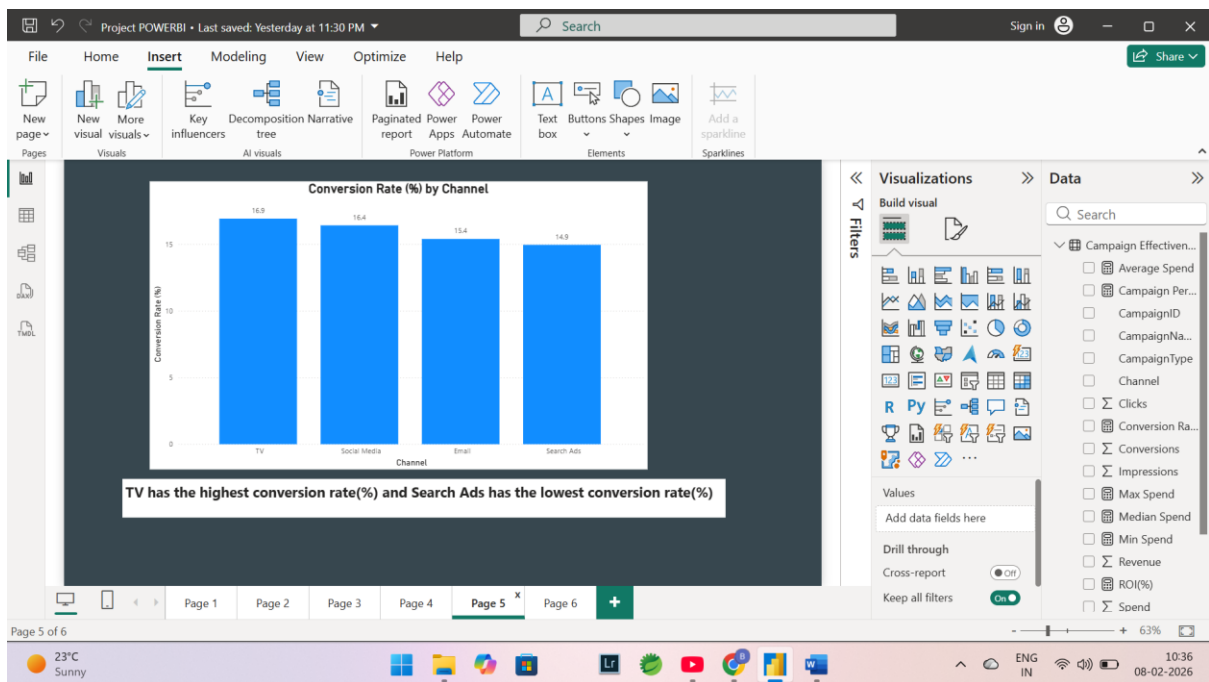
Keep all filters

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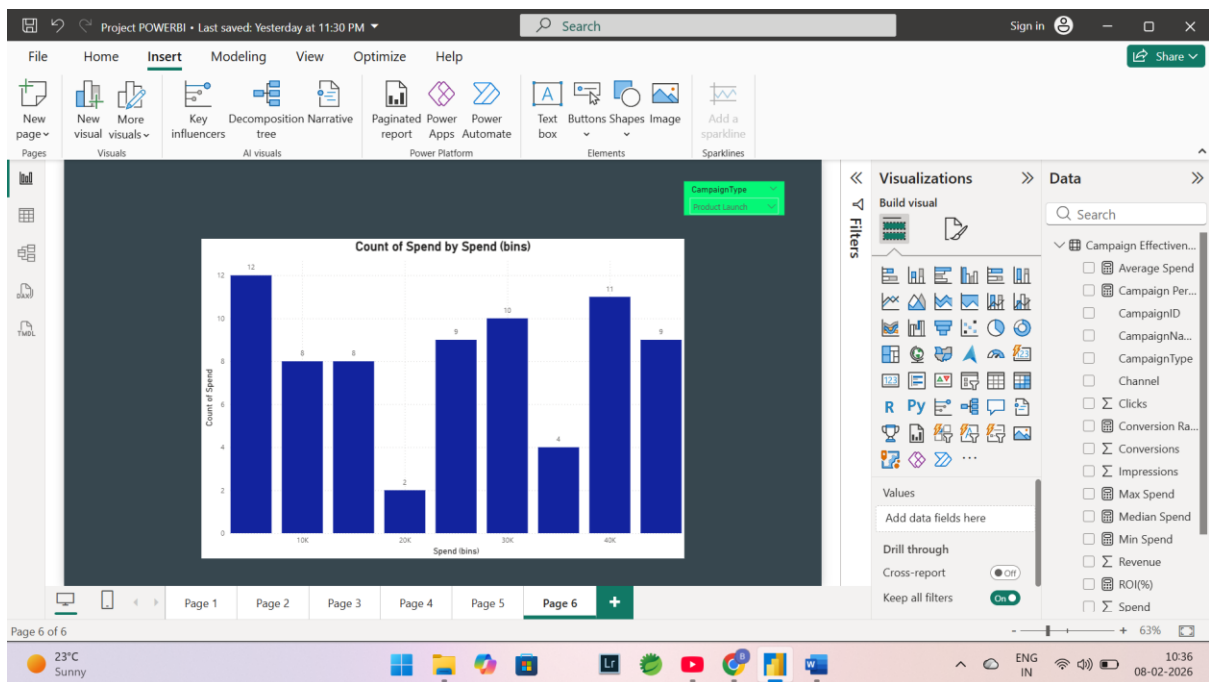
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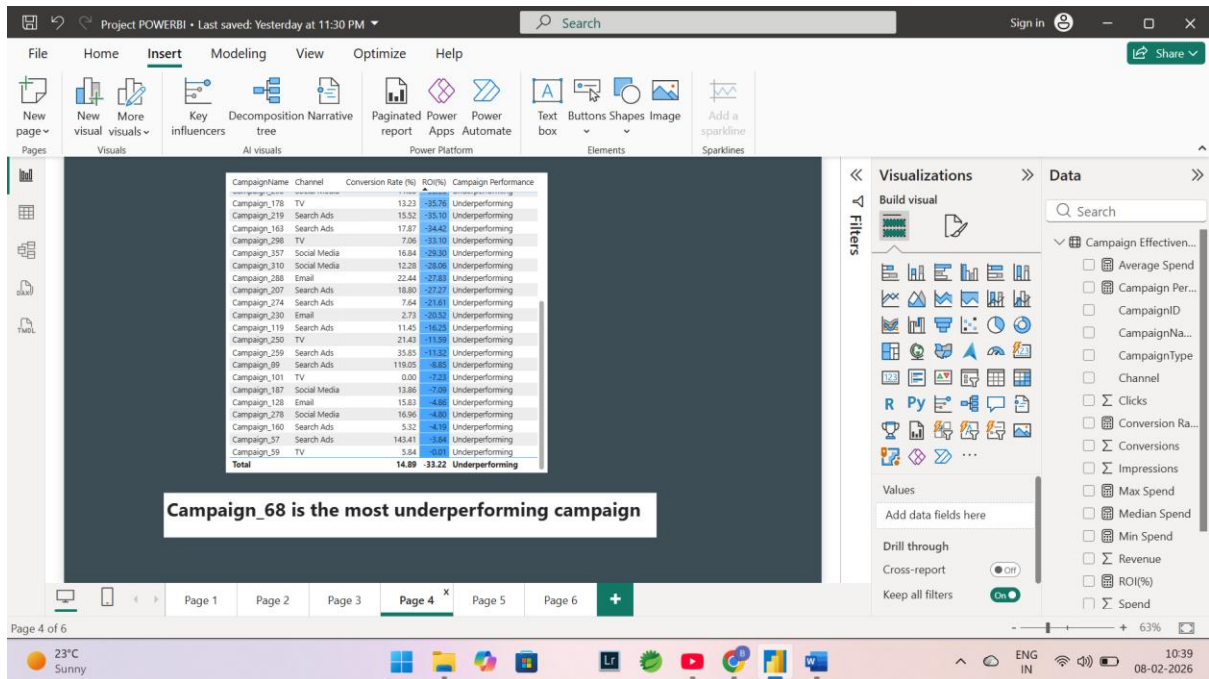
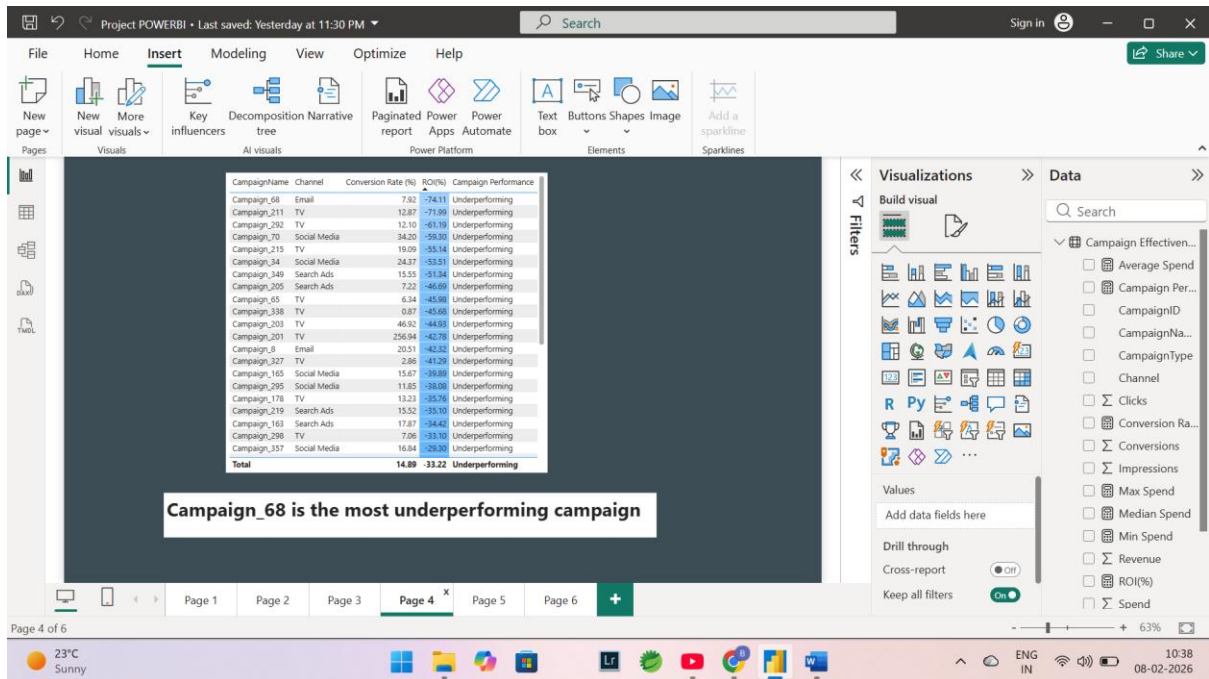
## Analyse conversion rates across channels:



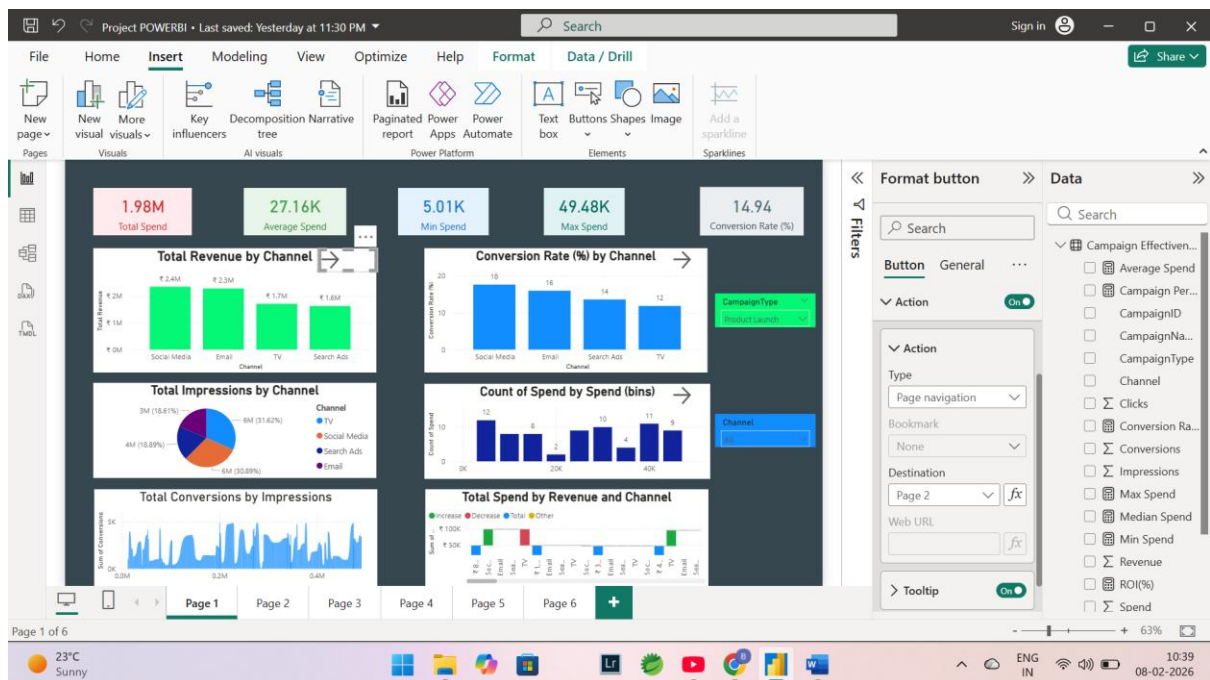
## Perform univariate analysis on campaign spend:



## Identify underperforming campaigns:



## Design a campaign performance dashboard with page navigation:



## Which channels should receive increased investment?

**Social Media and Email** marketing should receive increased investment due to their higher conversion rates and positive ROI. **TV campaigns** show lower efficiency and should be optimized or allocated a reduced budget.

## How can insights improve future marketing strategy?

Campaign performance insights enable data-driven budget allocation, identification of inefficient campaigns, improved targeting, and ongoing performance monitoring. These actions help **maximize ROI** and support more effective marketing strategies in the future.