SOCIAL MEDIA AD CAMPAIGN

OPTIMIZING SOCIAL MEDIA AD CAMPAIGN PERFORMANCE

TRENDWAVE

ABOUT OUR
COMPANY

A digital marketing agency that enhances online branding by helping businesses appear in local search results, run targeted online advertising, and engage past customers. They position themselves as partners in guiding businesses through the entire process

BUSINESS FRAME

WHY

WHAT

HOW

TrendWave is investing heavily in paid ads but lacks clarity on which platforms, creatives, and demographics give the best RO

- Identify the most effective platforms, creatives, and audience segments.
- Optimize spend to maximize conversions and minimize CPA

- Define key metrics (CTR, CR, CPA, CPM,).
- Segment results by platform, creative type, demographics, and time.
- Perform comparative analysis to spot high-ROI segments.
- Recommend budget reallocation and targeting strategy based on insights

BUSINESS OBJECTIVE

Identify the most profitable demographic segments and ad platforms to optimize budget allocation, reduce CPA, and improve overall conversion efficiency within the next quarter.

DATA OVERVIEW

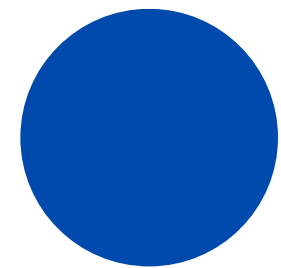**Period Covered:** 3 months of campaign data.

Plateforms: Facebook, Instagram, Twitter, LinkedIn

Granularity: Daily-level data.

Key Variable:
- Impressions
- Clicks
- Conversions (Total & Approved)
- Ad Spend
- Demographics (Age, Gender, Interest)
- Campaign/Creative IDs

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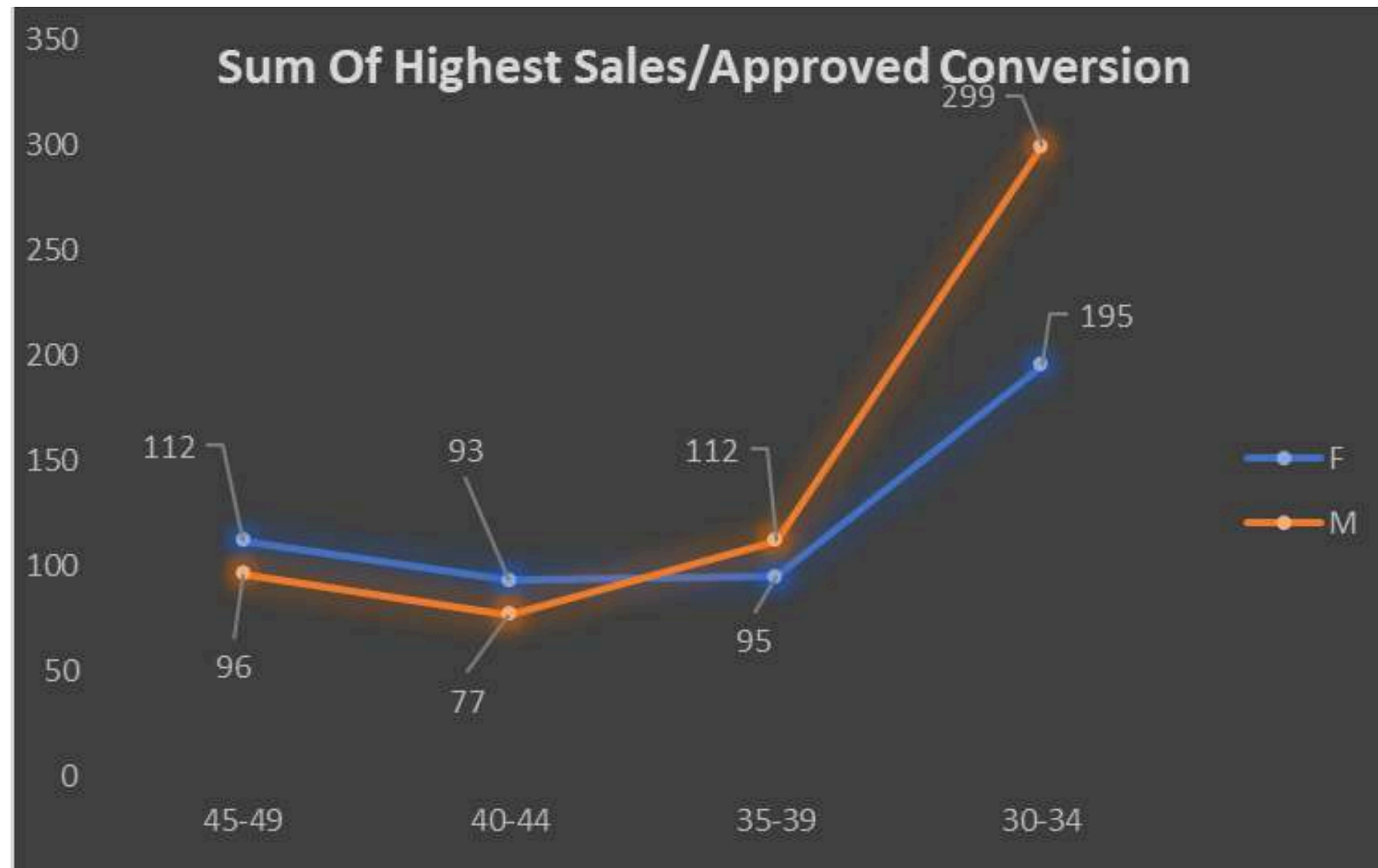- Campaign/Creative IDs

EDA (Exploratory Data Analysis)

Problem Statement I

- Which age and gender groups are responsible for the highest sales and ad spend, and how does their conversion efficiency compare?

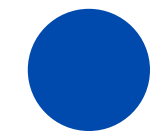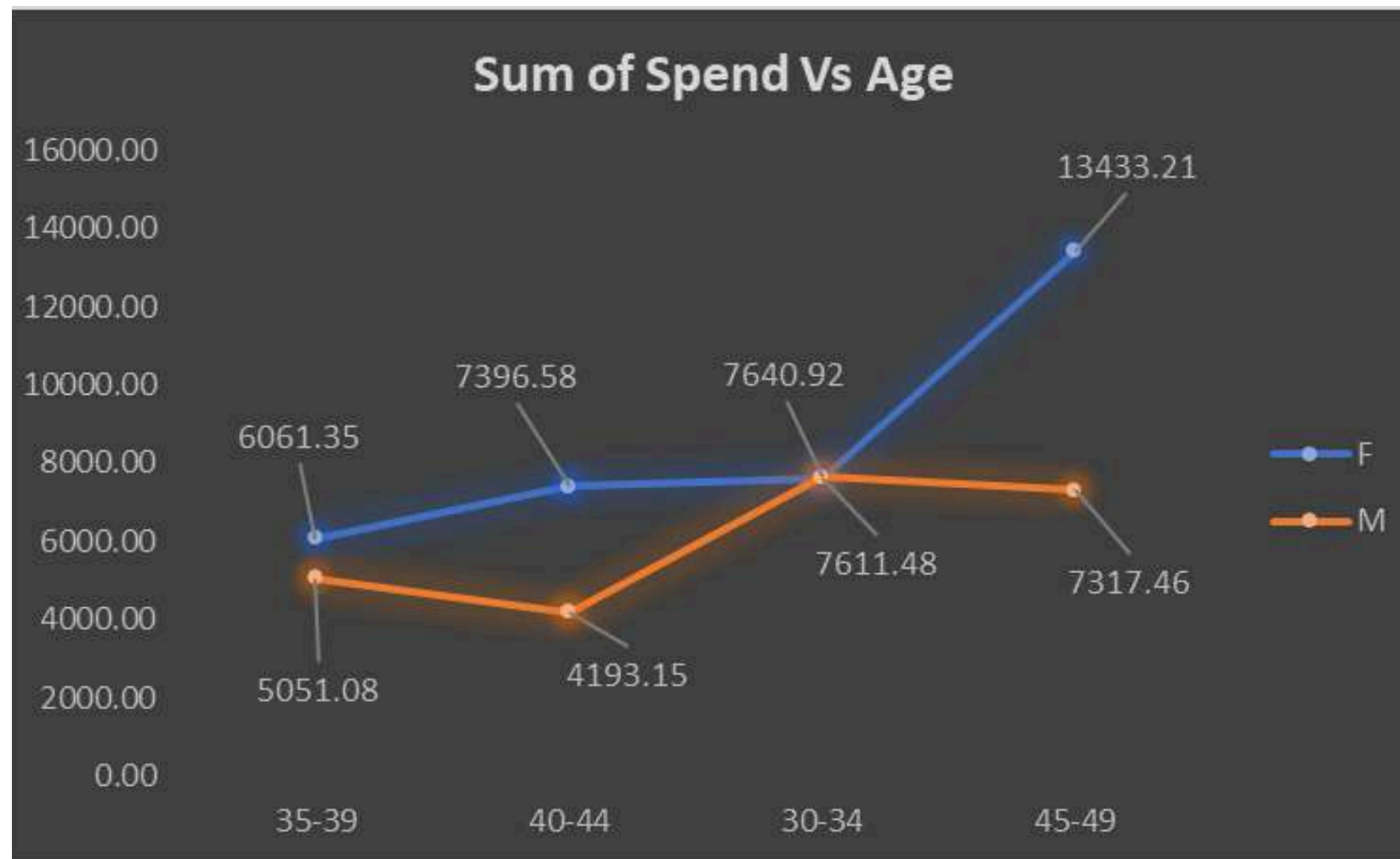# Analysis Problem Statement I

INSIGHTS

● Males have Highest approived Conversion (584) and especially Males having Age Group 30-34 (299)

● Other Group did significantly lower then this 30-34 age bin
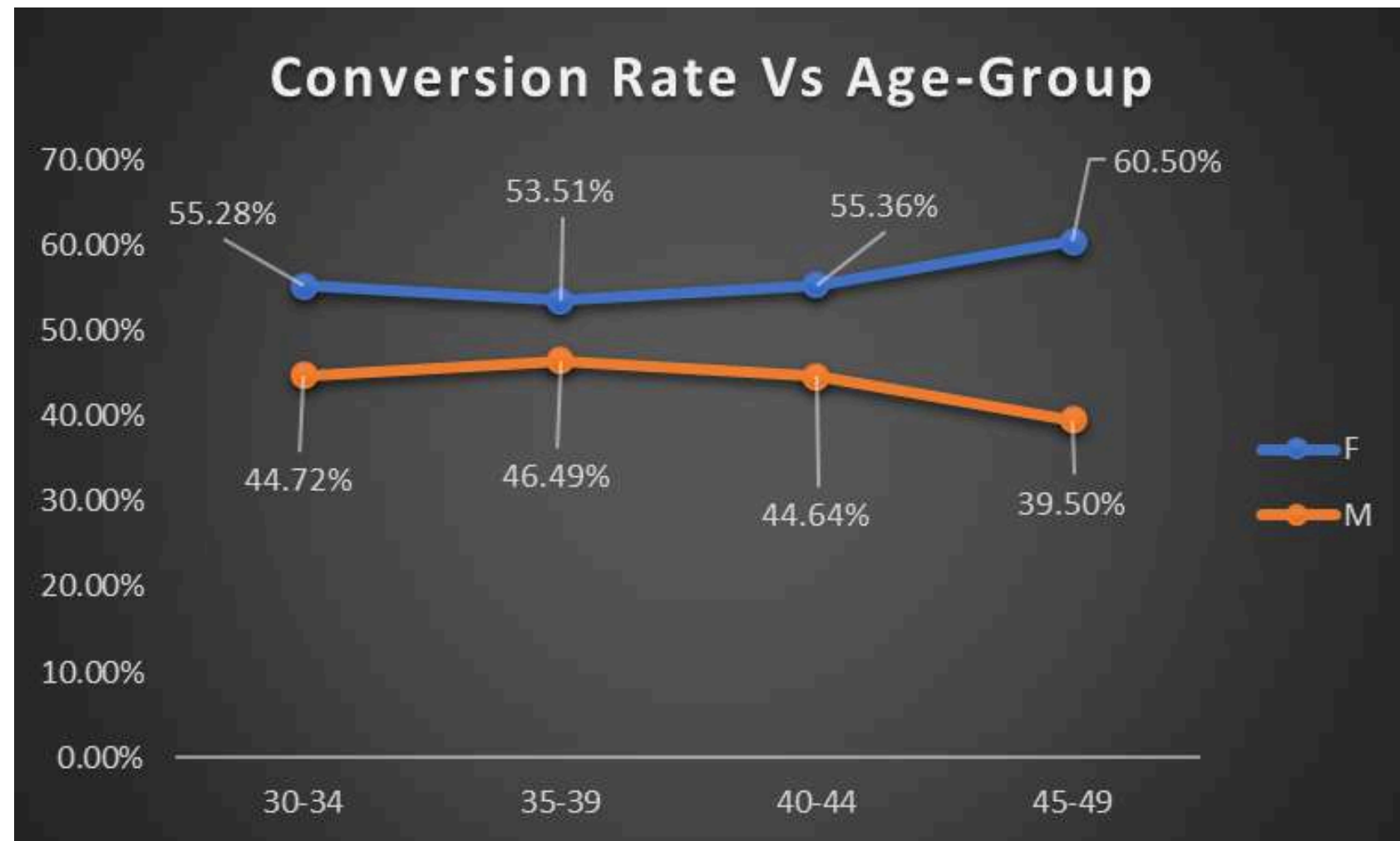
Analysis Problem Statement I

INSIGHTS

Sum of Spend Vs Age

- The Highest Spend is on Age Group 45-49,F (~13433.21) but the contribution is extreamly low (112)->very inefficient Spending

- 30-34 Male and Female are having Balance spend (~7640) their Total
Approved_conversion is also Very High(494)->best ROI

Analysis Problem Statement I

INSIGHTS

Conversion Rate Vs Age-Group

- (35-39) Males (46.49%) and (30-34) Males (44.72%) (show Strong Efficieny because low spend high CPA)

- female(45-49)(60.50%) in comparision to spent/CPA Quite Low -> overspent

EDA (Exploratory Data Analysis)
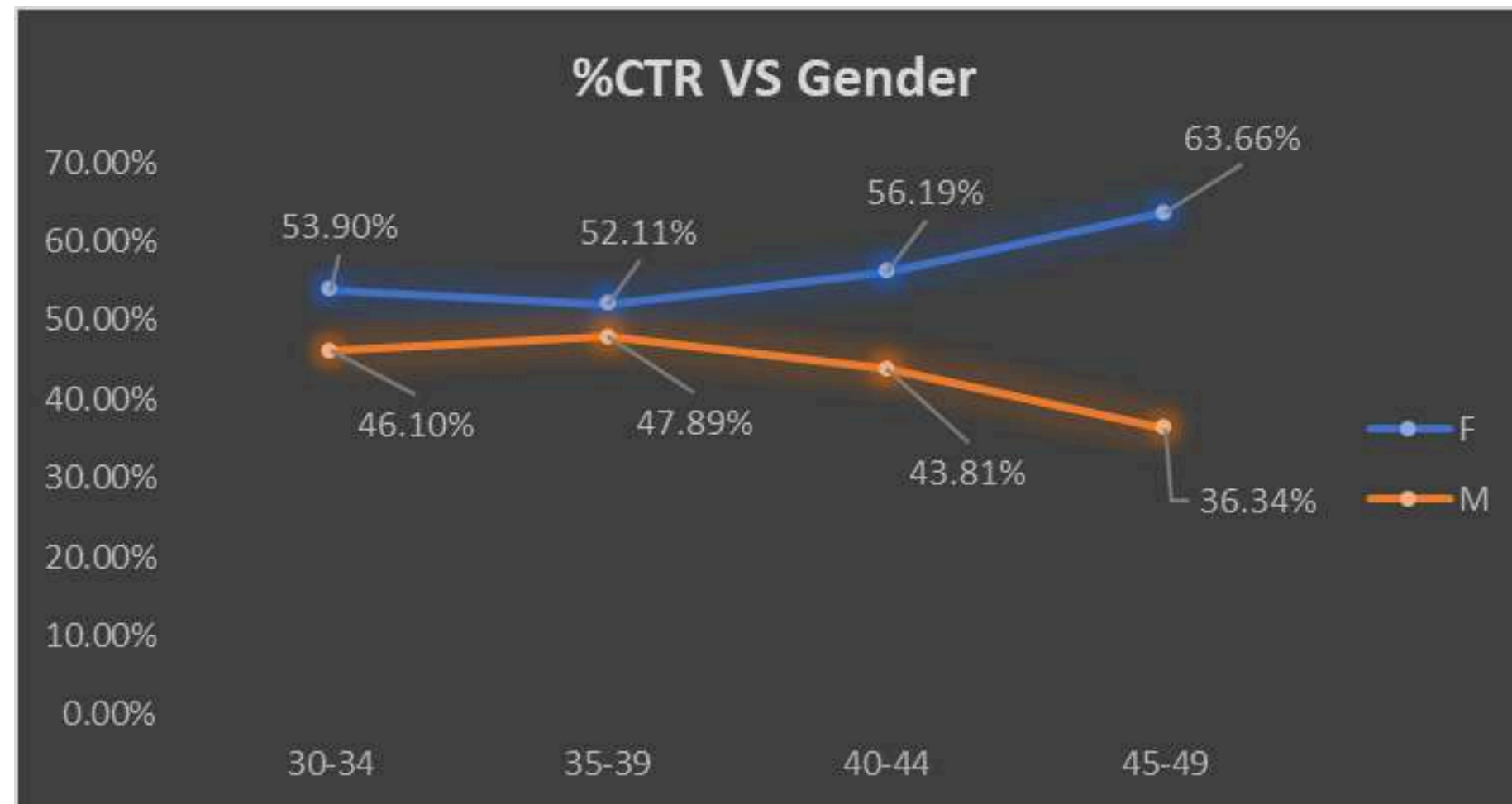
Problem Statement II

How effective is the campaign in converting impressions into clicks and clicks into sales, as demonstrated by CTR (Click Through Rate) and conversion rate?

Analysis Problem Statement II

INSIGHTS

%CTR VS Gender

	30-34	35-39	40-44	45-49
F	53.90%	52.11%	56.19%	63.66%
M	46.10%	47.89%	43.81%	36.34%

Females 45–49 record the highest CTR (63.7%), while males in the same group have the lowest (36.3%) — showing ads resonate more with women. Female CTR rises from 53.9% (30–34) to 63.7% (45–49), whereas male CTR declines from 46.1% to 36.3% over the same ages.

Analysis Problem Statement II

INSIGHTS
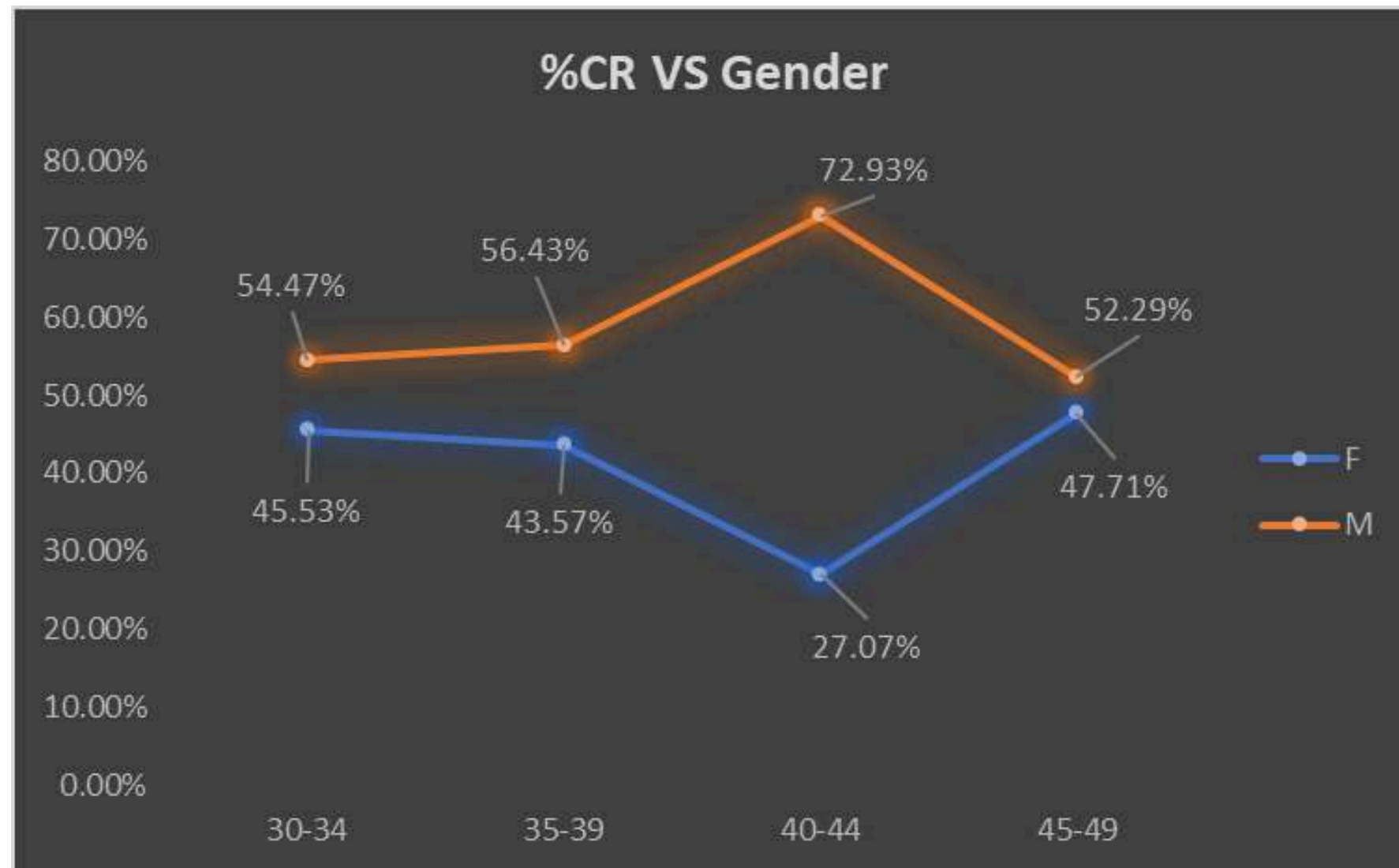
Males drive higher conversions (57.1%) than females (42.9%), despite females clicking more. Across all age groups, men outperform women, with the 40–44 segment showing the widest gap (72.9% vs 27%). Ads attract women's attention, but men are more likely to complete purchases.
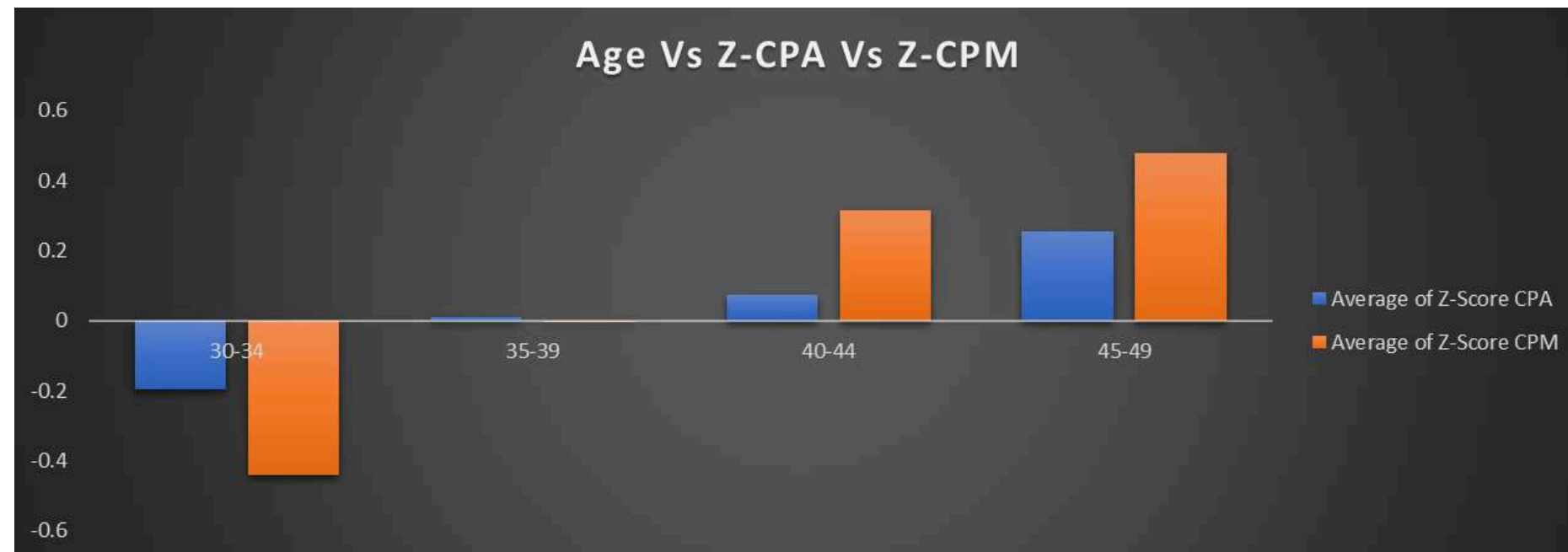
EDA (Exploratory Data Analysis)

Problem Statement III

- Are there significant differences in Cost per Action (CPA) and Cost per Mille (CPM) between different demographic segments, and what does this imply for budget optimization?
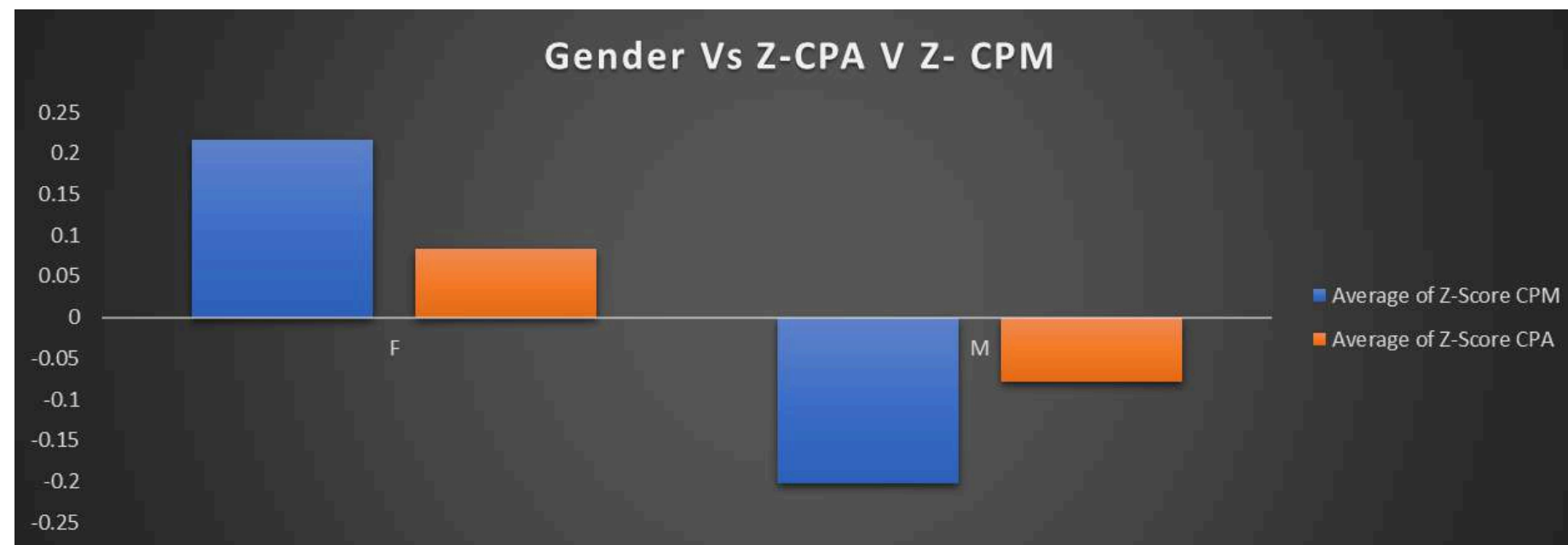
Analysis Problem Statement III

INSIGHTS

Age 30–34 has below-average CPA & CPM → cheapest to reach and convert. Age 35–39 is near average in cost and efficiency. Age 45–49 shows above-average CPA & CPM → costly to reach with poor conversion efficiency.

Analysis Problem Statement III

INSIGHTS

Males show below-mean CPM and CPA, meaning lower cost and better ROI. Females face higher CPM and CPA, making them costlier to convert with lower ROI.

KPI (Key Performance Indicator)

	MEN	WOMEN
CPM	0.024553235	0.030038103
CPC	1.694030237	1.44495435
CTR	0.014493977	0.020788271
CPA	41.44282533	69.70226255

RECOMMENDATIONS

- **Prioritize 30–34 (M/F): Best ROI → increase budget.**
- **Focus 35–44 Males: Strong conversion rates → profitable segment.**
- **Support 45–49 Females: Good CTR + CR → allocate moderate extra budget.**
- **Maintain 35–39 (Males): Stable ROI → keep budget same, test scaling.**
- **Reduce 40–44: Lower efficiency → cut budget but monitor performance.**
- **Minimize/Stop 45–49 Males: High cost, weak ROI.**

TOOLS USED

MS-EXCEL