

# OPTIMIZING SOCIAL MEDIA AD CAMPAIGN PERFORMANCE



# Business Overview

The company launched a social media ad campaign targeting multiple audience segments. Despite high spend, performance clarity is lacking across platforms, creatives, and demographics. With quarterly goals approaching, a data-driven framework is needed to guide budget decisions and future launches.

## Key Objectives:

1. Identify high-performing audience segments
2. Optimize budget using CPA and CPM
3. Flag underperforming groups for reallocation
4. Detect seasonal trends
5. Provide actionable insights for next campaign

# Preprocessing Steps

## Data Cleaning:

Removed duplicates, handled missing values, and standardized formats

## Metric Calculation:

Computed CTR, CPA, CPM, and conversion rates using consistent formulas

## Data Structuring:

Organized data into analysis-ready tables for visualization and insights

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## Data Filtering:

Selected relevant age-gender segments and approved conversion records

## Currency Normalization:

Ensured all monetary values were in USD for consistency

# Tools & Methodology

## Tools Used:

### **Microsoft Excel**

- Data cleaning and transformation
- Metric calculations (CTR, CPA, CPM, Conversion Rate)
- Chart creation for visual insights

### **PowerPoint**

- Documentation and presentation formatting
- Visual storytelling of insights and recommendations

## Methodology:

- Defined key performance indicators
- Applied consistent formulas across segments
- Visualized trends to uncover cost-efficiency clusters
- Interpreted metrics to guide strategic decisions

# Exploratory Data Analysis (EDA)

## Key Visual Insights:

### 1. CTR vs Conversion Rate:

- 45–49 F had highest CTR (0.025%) but lowest conversion rate (1%)
- 30–34 M had balanced CTR and highest conversion rate (6%)

### 2. CPA Comparison:

- Lowest CPA: 30–34 M (\$29.05)
- Highest CPA: 45–49 F (\$123.56)

### 3. CPM Comparison:

- Lowest CPM: 30–34 M (\$0.21)
- Highest CPM: 45–49 F (\$0.35)
- CPA vs CPM Scatter Plot:
  - Clear cost-efficiency clusters
  - Younger male segments outperform older female groups

# Insights

The analysis revealed clear differences in performance across age-gender segments, highlighting both cost-effective and inefficient audience groups. These insights guide strategic budget allocation and campaign optimization.

## Key Insights:

- 30–34 M segment had the best cost-efficiency:
- Lowest CPA (\$29.05) and CPM (\$0.21)
- Highest conversion rate (6%)
- 45–49 F segment showed poor ROI:
- Highest CPA (\$123.56) and CPM (\$0.35)
- Lowest conversion rate (1%) despite highest CTR
- High CTR doesn't guarantee high conversion — creative or targeting mismatch suspected

# Major Roadblocks Or Obstacles

Spending heavily on audiences like 45–49 F with poor conversion rates drains budget without returns.



High CPA in Low-  
Converting Segments

High engagement (CTR) doesn't always translate to conversions — signals a disconnect in messaging or landing page experience.



CTR–Conversion  
Mismatch

Generic ad creatives may not resonate across age-gender groups, reducing effectiveness



Limited Creative  
Personalization

Segments like 30–34 M may not be fully scaled despite strong ROI — missing growth opportunities.



Underutilized High-  
Performing Segments



Target



# CHARTS & GRAPHS

## CPA Vs Conversion Rate

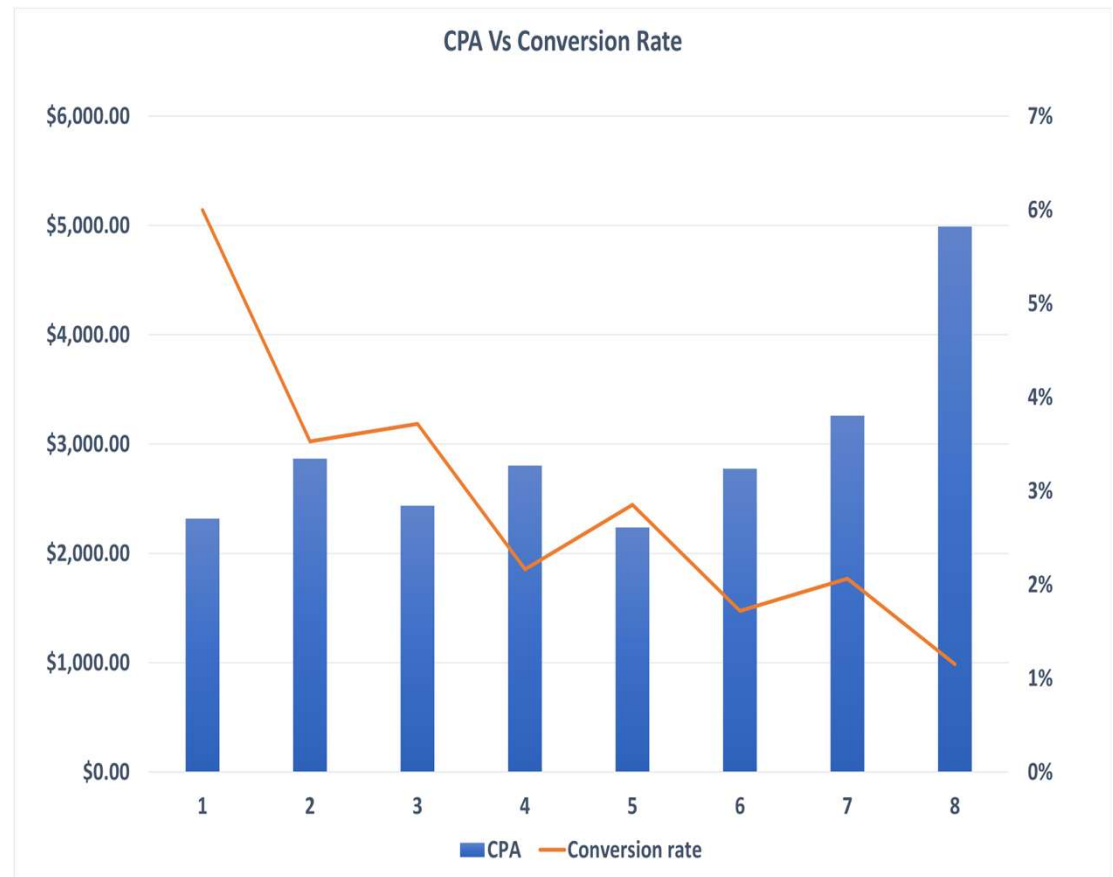


### > High Conversion, Low CPA = Ideal Segments

30–34 M stands out with 6% conversion rate and CPA of \$29.05 — most cost-effective segment

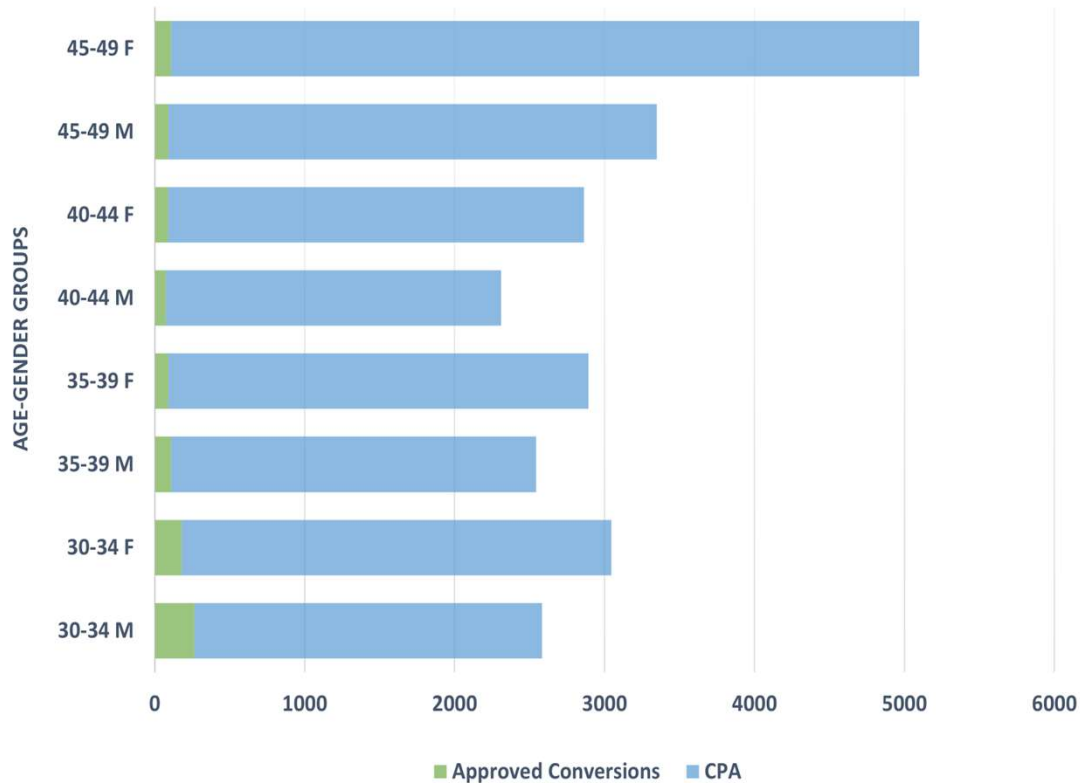
### > High CPA, Low Conversion = Inefficient Spend

45–49 F has a CPA of \$123.56 but only a 1% conversion rate — indicating high spend with poor returns





APPROVED CONVERSIONS VS CPA BY AGE-GENDER



## APPROVED CONVERSIONS VS CPA BY AGE-GENDER



> 30–34 M segment had the highest approved conversions with the lowest CPA (\$29.05) — most cost-efficient group

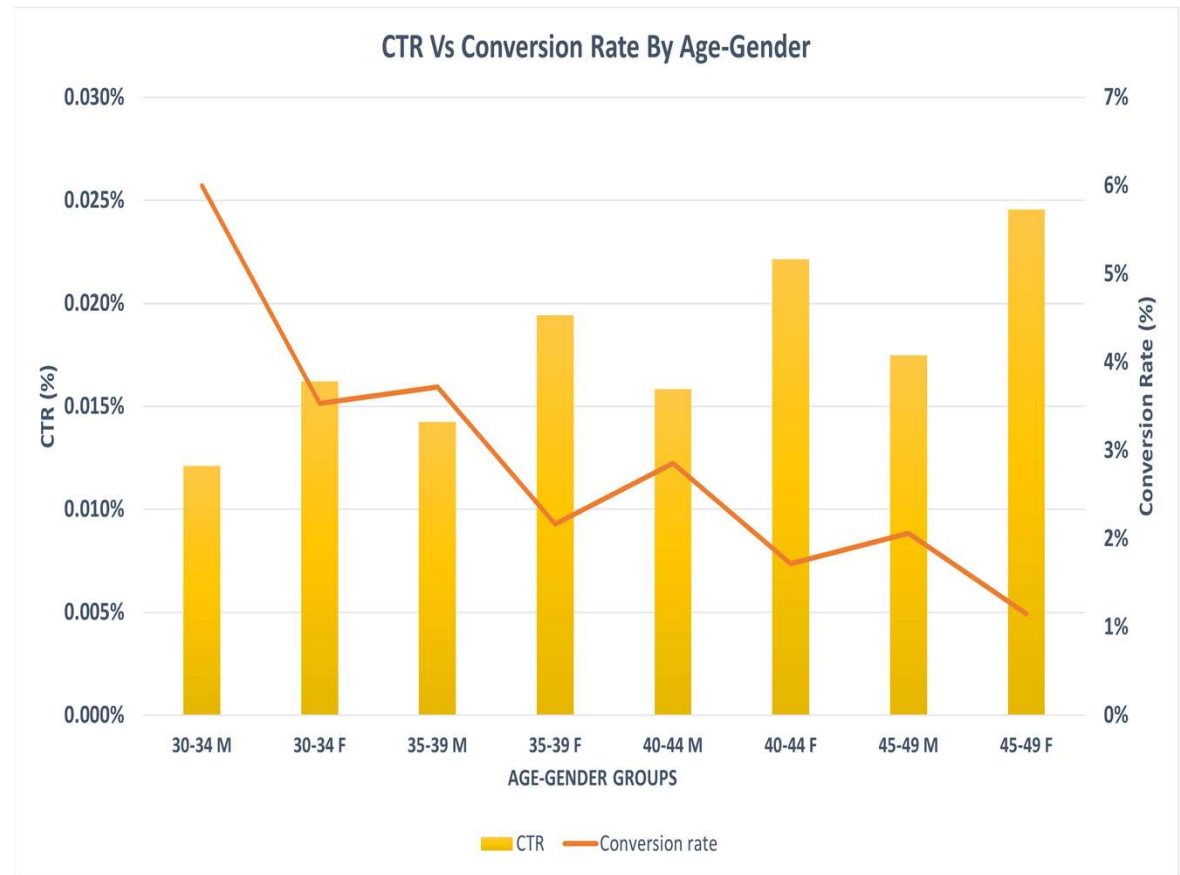
> 45–49 F segment had minimal conversions and the highest CPA (\$123.56)— indicating poor return on investment

# CTR Vs Conversion Rate By Age-Gender

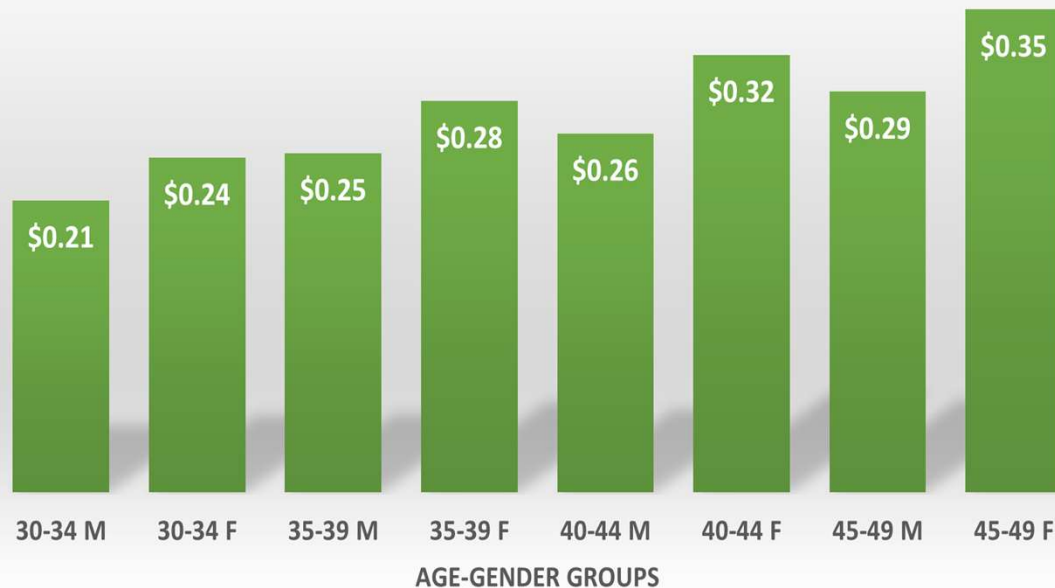


> 45–49 F had the highest CTR (0.025%) but lowest conversion rate (1%), showing strong engagement but poor conversion.

> 30–34 M had balanced CTR with the highest conversion rate (6%), making it the most efficient segment.



CPM By Age-Gender



## CPM By Age-Gender



- > 30–34 M had the lowest CPM (\$0.21) — most efficient in terms of cost per thousand impressions
- > 45–49 F recorded the highest CPM (\$0.35) — expensive reach with limited conversion impact
- > Mid-range CPMs seen in 35–39 M and 30–34 F — decent reach efficiency, worth monitoring
- > CPM helps assess ad delivery cost, but must be paired with conversion metrics to evaluate true ROI

# CPA By Age-Gender

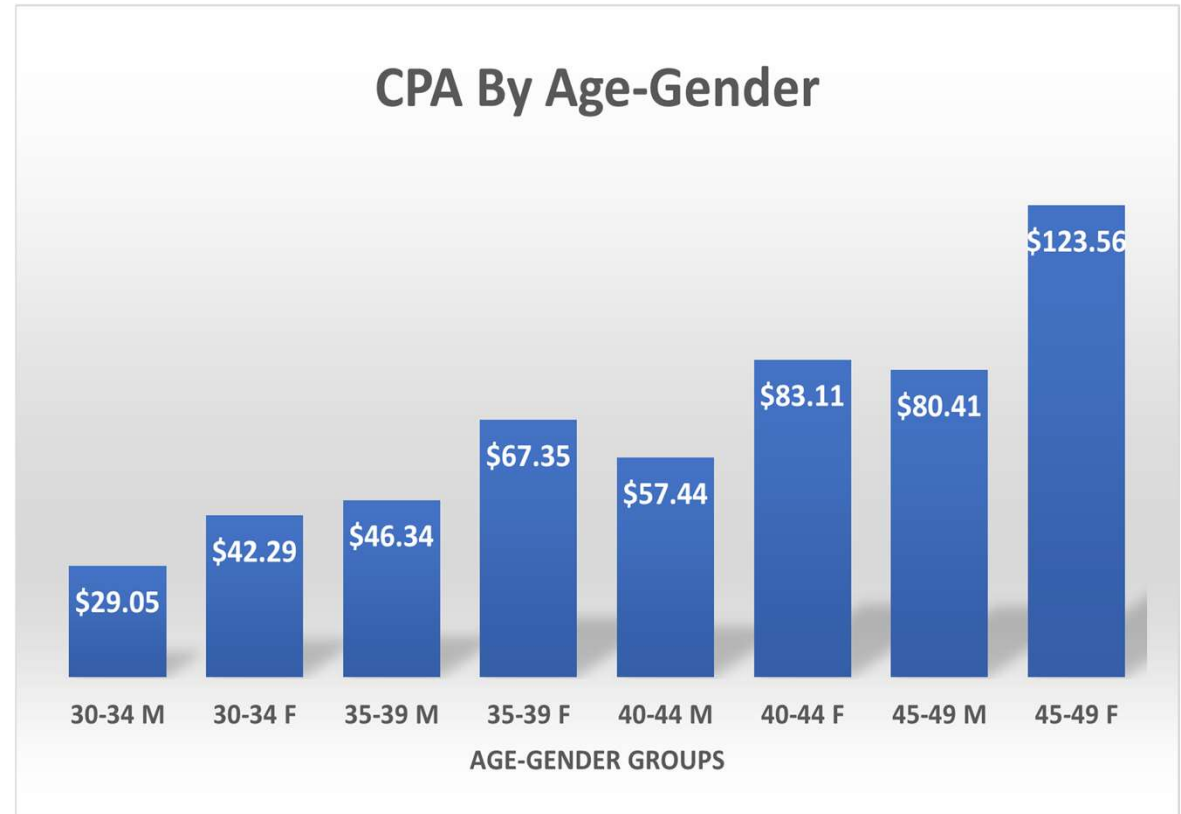


> 30–34 M had the lowest CPA (\$29.05)  
— most cost-efficient segment for conversions

> 45–49 F recorded the highest CPA (\$123.56) — high spend with minimal returns

> 35–39 M and 30–34 F showed moderate CPA — potential for scaling with optimization

> Segments with high CPA and low conversion should be deprioritized or retargeted



# Conclusion & Next Steps

## Conclusion:

- 30–34 M segment is the most cost-effective
- 45–49 F segment shows poor conversion despite high CTR
- CTR alone isn't a reliable success metric — conversion matters more
- Data-driven targeting improves campaign impact

## Next Steps:

- Prioritize high-performing segments in future campaigns
- Test new creatives for low-converting groups
- Monitor weekly trends to catch seasonal shifts
- Expand analysis to include platform-level performance
- Build predictive models for audience targeting

# Target For Next Product Launch



**Top Performer:** 30–34 M segment consistently leads with highest conversions, lowest CPA (\$29.05), and lowest CPM (\$0.52) — ideal for scaling



Prioritize segments with high conversion and low CPA



Reassess or retarget segments with high spend and low conversion

thank you

